Pediatric and Obstetric Emergency Preparedness Toolkit

A Guide for Pediatric and Obstetric Emergency Planning

New York State Department of Health
Office of Health Emergency Preparedness & Division of Family Health
Office of the Medical Director

Revised APRIL 2017

Pediatric and Obstetric Emergency Preparedness Toolkit

A Guideline for Hospitals—Preface

How well we respond to and recover from a disaster is the true test of emergency preparedness planning. New York State Department of Health (NYSDOH) recognizes that the level at which its hospitals are prepared to handle a mass casualty event is a critical part of emergency planning. Throughout the state, hospitals are diverse and often specialize in specific types of patient care. During a mass casualty event, hospitals may be required to treat specific patient care needs for which they may be unfamiliar. To a large degree, care of the newborn, pediatric and obstetric patient is such a specialty.

With this realization of a gap in care, NYSDOH collaborated with many local and state agencies to develop an emergency 'toolkit' for hospitals and again collaborated to achieve the current revisions. This 'toolkit' is to be used as guidance to hospitals throughout the state to develop their own unique emergency plan. The 'toolkit' is especially designed for those hospitals that do not have pediatric intensive care services or obstetric or newborn services and must prepare for such patients during the time of a disaster. It was our intent for the 'toolkit' to be simple to use, containing laminated cards for removal and easy reference.

Although this 'toolkit' is by no means comprehensive in the specialty areas of newborn, pediatric and obstetric care, it is our intention that in regards to planning for these specialty areas, this 'toolkit' will greatly reduce the amount of disaster plan development time spent by each hospital. Our goal is that the 'toolkit' will be an asset in the development of each hospital's unique emergency preparedness plan, thus allowing the hospital time to focus on its specific needs and abilities during the time of a mass casualty event and, ultimately, be capable and prepared to serve its community well. It is also hoped that facilities who experience natural or manmade disasters will share and incorporate lessons learned in order to improve their responses.

Since the publication of the original toolkit, there have been many new additions to state regulations and to regional protocols. Potential users of this edition of the toolkit should be aware that changes will inevitably continue to occur and be prepared to make changes to their own preparedness plans based on the evolution of the science.

Table of Contents

Section 14 – The Psychosocial Needs of Children during a Disaster

General Guidelines
How Children Can React to a Disaster
Psychological Triage following Disaster
Development-Specific Guidelines for Treating Children in the Hospital
When to Consult a Mental Health Professional
Legal Considerations
Supporting Families following a Disaster
Understanding Death – Developmental and Cultural Considerations
Obtaining Mental Health Services in the Community
After a Disaster – a Guide for Parents and Caregivers
Helping Children Cope with Fear and Anxiety
Online Resources for Pediatric Psychosocial Issues

Section 15 – Family Information and Support Center (FISC)

Introduction
FISC Objectives and Functions
Structure of the FISC
FISC Information Flow
FISC Equipment, Materials and Supplies
Training Staff in the FISC
FISC Activation
Interactions with Families
Identification of Identified or Unidentified Victims/Family Members
Day Care for Dependents of Hospital Staff Members
FISC Educational Tools for Staff #1 – Psychological First Aid for Disaster Survivors
FISC Educational Tools for Staff #2 – Normal Reactions to Disaster for Adults and Children
FISC Educational Tools for Staff #3 – Mental Health Consequences of Disaster – An Overview
FISC Educational Tools for Staff #4 – Helping Children Deal with Disasters

Purpose

The purpose of this "toolkit" is to provide guidance to hospitals throughout New York State in preparing their own unique emergency disaster plan. It is especially useful to the hospitals that do not routinely care for pediatric, newborn or obstetric patients. The 'toolkit' provides an outline for roles and actions of hospital personnel, volunteers, families and the community during an emergency, natural or manmade, and guides hospital emergency planning to ensure the pediatric and obstetric population will be well cared for during a mass casualty event.

The 'toolkit' is not meant to be a comprehensive document for the specialty areas of pediatrics, newborn care or obstetrics, but rather to be a checklist of ideas and situations the hospital should consider and plan for in the event of an emergency. It discusses strategies of how the medical staff would triage, care for and protect the pediatric patient until the legal guardians were located or proper authorities found safe placement. It discusses the probable need for extra staffing as well as the need for obtaining specialty equipment and nurses with specialty skills. Transportation and security of the patient is discussed along with the need for and importance of having a family information and support center.

Along with planning strategies, specific guidelines and practice standards are also provided in the 'toolkit'. These guidelines and standards pertain to such topics as pharmaceutical needs and dietary considerations as well as guidelines and standards for decontamination and infection control measures. Many of these specific guidelines are on laminated cards, which can be removed and posted for easy reference.

In providing guidance, standards and useful, proactive planning strategies for hospitals under one cover, it is our intention that the 'toolkit' will greatly reduce the amount of disaster plan development time spent by hospitals in preparing their own emergency plan. It will assist the hospital to focus on its locally specific needs and abilities so it is able to develop an emergency plan specific and unique to its community.

Section 1—Introduction

During a natural or manmade mass casualty event, it is recognized that all hospitals, even those that are not pediatric trauma centers or specialized pediatric hospitals, might receive critically ill or injured pediatric patients. Additionally, it is acknowledged by the healthcare community that there has been limited attention to the specific needs of the pediatric population and their families in disaster response preparation. The New York City Department of Health and Mental Hygiene (NYCDOHMH) and the New York State Department of Health (NYSDOH) recognized this planning gap. As a result, the NYCDOHMH and its Centers for Bioterrorism Preparedness Planning (CBPP) developed a document entitled *Hospital Guidelines for Pediatrics in Disasters*. This was the basis for the first edition of this document.

The goal of this effort was to provide hospitals, especially those that do not normally admit children, or have no Pediatric Intensive Care Services or Obstetric/Newborn services, with some useful, proactive planning strategies and tools for providing protection, treatment, and acute care for pediatric and obstetric patients during a disaster. The following hospital guidelines and recommendations for children in disasters initially developed by NYCDOHMH have been modified by the NYSDOH to address the needs of suburban and rural upstate hospitals and to address the needs of obstetric patients. The NYSDOH wishes to thank NYCDOHMH for their willingness to allow for adaptation of their work to provide a statewide perspective.

A number of changes have been made since the last revision of the document, including:

• Incorporation of recommendations based on new materials, including the 2011 CDC-funded report of the Pediatric Task Force on Pediatric Mass Critical Care; the updated 2015 Guidelines of the American Academy of Pediatrics on Ensuring the Health of Children in Disasters; the CDC's December 2015 Clinical Framework and Medical Countermeasure Use during an Anthrax Mass-Casualty Incident; The CHEST Consensus Statement on the Care of the Critically Ill and Injured during Pandemics and Disasters; and the EMS for Children Checklist of Essential Pediatric Domains and Considerations for Every Hospital's Disaster Preparedness Policies.   Updated information on infant and child feeding based on recommendations of the American Academy of Pediatrics.

• Recent changes in Part 405 of the NYS Public Health Law related to staff credentials, staff training, admission and discharge, imaging of children, equipment, emergency services, new PICU standards, weighing in metric and quality assurance.

• Changes in Food and Drug Administration/Centers for Disease Control and Prevention/Pandemic and All-Hazards Preparedness Reauthorization Act (PAHPRA) recommendations on medical countermeasures.

• Resource pages were updated to reflect new products and new links.

• Inclusion of 2016 Centers for Medicare and Medicaid Services Emergency Preparedness rules.

- The first edition of the Minimum Pediatric Care Standards for New York State Hospitals, Emergency Departments and Intensive Care Units: 2015 Guidance Document and its appendix, Pediatric Consultation and Interfacility Transfer Guidelines.

- 2009 Joint Policy Statement -Guidelines for Care of Children in the Emergency Department was also developed.

Focus of Guidelines

The intent of this toolkit is to provide hospitals without pediatric or obstetric services, hospitals without pediatric intensive care services, and hospitals without pediatric trauma services help in planning for the care of pediatric and obstetric patients in emergencies. Fifteen topics related to pediatric and obstetric disaster preparedness were selected:

- Decontamination of Children Planning Guidelines
- Dietary Needs of Children
- Emergency Department Surge Considerations and Inpatient Bed Assignment Security
- Emergency Preparedness for Childbirth
- Equipment for Pediatric Disasters
- Family Information & Support Center
- Infection Control Considerations
- Pharmaceutical Needs
- Psychological Needs of Children
- Planning Guidelines
- Staffing Recommendations
- Security
- Training Recommendations
- Transportation of Pediatric Patients
- Triage

General guidelines and suggested educational resources for each of these fifteen topics follow.

It is recognized that the toolkit is not comprehensive with respect to all aspects of planning for the special needs of the pediatric and obstetric population. What it does provide is useful, expert-reviewed guidance documents and planning tools that should greatly reduce the amount of plan development and preparation time for each individual hospital.

Acknowledgements

The authors wish to acknowledge those who were helpful in the formulation of this and past editions of this toolkit.

Contributors to the Original Edition

Christopher A. Kus, MD, MPH
Associate Medical Director
Division of Family Health
New York State Department of Health

Kathi J. Miller, CNM
Public Health Graduate Assistant
Division of Family Health
New York State Department of Health

Diana Volkman, RN
Health Systems Emergency Preparedness
Representative
Western Regional Office
New York State Department of Health

Gloria Hale, MPH
EMSC Coordinator
Bureau of Emergency Medical Services
New York State Department of Health

Marjorie Geiger, MPH
Assistant Director
Bureau of Emergency Management Systems
New York State Department of Health

Jeanne C. Behr, MSEd
Public Health Emergency Representative
Public Health Emergency Preparedness
New York State Department of Health

William M. Bullard
Former Associate Director
Public Health Preparedness Program
New York State Department of Health

Edward G. Horn, PhD
Director
Division of Environmental Health Assessment
New York State Department of Health

Lorie Liptak
Deputy Director
Health Systems Emergency Preparedness
New York State Department of Health

William Maliha, MD
Medical Director
Health Systems Emergency Preparedness
New York State Department of Health

Michael G. Perillo, DO, MPH
Associate Director
Health Emergency Preparedness
New York State Department of Health

Patrick J. Russell
Stockpile Coordinator
Center for Environmental Health
New York State Department of Health

Lisa Sweet, RD
Public Health Nutritionist
Bureau of Nutrition Risk Reduction
New York State Department of Health

Adela Salame-Alfie, PhD
Assistant Director
Division of Environmental Health Investigation
New York State Department of Health

Richard Aubrey, MD, MPH
Director
Central New York Regional Perinatal Center

Patricia E. Anders
Director of Emergency Preparedness Training
Public Health Preparedness Office
New York State Department of Health

Susan Cuomo-Whitney, RN, BSN
Public Health Representative
Office of Local Health Services
New York State Department of Health

Eileen M. Franko, DrPH, MPH
Director
Bureau of Occupational Health
New York State Department of Health

Anne Ryan, MS, RN, CEN
Emergency Preparedness Coordinator
University Hospital, Upstate Medical Center

Committee for the Current Edition

Marilyn A. Kacica, MD, MPH - Chair
Medical Director
Division of Family Health
New York State Department of Health

Michelle Cravetz, MS, RN-BC, APHN-BC
Primary Nurse Planner/Instructor
Center for Public Health Continuing Education
University at Albany School of Public Health

Assistance with public input:

Martha Gohlke, BA, EMT-B
Health Program Administrator
EMS for Children Program Manager
Bureau of EMS & Trauma Systems
New York State Department of Health

Debra Sottolano, PhD, MBA
Lead for Healthcare Preparedness and Response
Office of Primary Care and Health Systems Management
New York State Department of Health

For assistance with environmental sections:

Cynthia A. Costello, MS, MPH, CHP
Chief, Radiological Emergency Response Section and
Chief, Environmental Radiation/Radon Section
Bureau of Environmental Radiation Protection
New York State Department of Health

Contributors to the Current Edition

NYSDOH Commissioner's Emergency Medical Services for Children Advisory Committee:

- Tamer Ahmed, MD
  Upstate Medical University

- Kevin Albert, MD
  Hoosick Street Pediatrics

- Lucretia Bailey, BS
  Parent Representative

- Sharon Chiumento, BSN, EMT-P
  Emergency Medical Technician-Paramedic

- Edward Conway, Jr., MD
  Beth Israel Medical Center

- Arthur Cooper, MD, MS
  Harlem Hospital Center

- Allan Filler, MPH, MS
  Iroquois Healthcare Alliance

- George Foltin, MD
  Bellevue Hospital

- Walter Gould, RN
  Albany Medical Center

- Robert Kanter, MD
  National Center for Disaster Preparedness
  Columbia University

- Sergey Kunkov, MD, MS
  SUNY Stony Brook School of Medicine

- Rita Molloy, RN
  Mary G. Clarkson School Nurse

- Élise van der Jagt, MD, MPH
  Golisano Children's Hospital at University of Rochester Medical Center

Capital District Health Emergency Preparedness Pediatric Workgroup:

- Laura Stebbins, RN
  Director of Emergency Preparedness and Environment of Care
  Glens Falls Hospital

- Scott Heller, MBA, CHEP
  Director of Emergency Management
  Albany Medical Center

- Connie Finkle, RN
  ED Nurse Manager
  Bassett Healthcare Network- O'Connor Hospital

- Brian Forget
  Senior Director of Facilities and Support Services, Emergency Preparedness Coordinator
  Ellis Hospital

- Kent Faus
  Emergency Preparedness, Security
  University of Vermont Health Network - Champlain Valley Physicians Hospital

- Carrie Post, RN, BSN
  Director of Employee Health, Emergency Preparedness Coordinator
  Bassett Healthcare Network - A.O. Fox Hospital

- Trish Green, RN, BSN
  Director of Emergency Management
  St. Mary's Healthcare

- Patrice Delameter
  Director EMS, Emergency Management Coordinator
  Margaretville Hospital, Member of the Westchester Medical Center Health Network

- Patricia Richards, RN
  Infection Control & Emergency Preparedness Coordinator
  Bassett Healthcare Network

- Mary Riley -Jacome
  Program Coordinator
  The University at Albany Preparedness and Emergency Response Learning Center (PERLC)

- Carol Killian, RN
  Public Health Emergency Preparedness Representative
  NYSDOH Office of Health Emergency Preparedness

Section 2–Planning Guidelines

All hospitals should plan for pediatric or obstetric patients to arrive during a disaster. All hospitals need to recognize the potential for receiving pediatric and/or obstetric patients during a natural disaster, terror event or other public health emergency. In a public health emergency, the following may occur:

1. Pediatric and pregnant patients might present to ANY hospital, whether or not the facilities have pediatric or obstetric units;
2. Critically ill pediatric patients might present to the nearest or easiest to reach hospital; and
3. Transfer of patients to specialized hospitals might not be feasible.

Therefore, during disasters **all** hospitals and **all** providers must be prepared to deliver care to pediatric and obstetric patients.

During the 9/11 terrorist event, nearly 100 different hospitals received patients. While most of these patients walked, ran, or took buses, taxis or boats, the minority waited to be transported by ambulance. Self-evacuating pediatric victims and their caregivers and women in labor will go to the nearest hospital, the most convenient hospital, or the hospital they are most familiar with regardless of the capabilities of that hospital for specialty, obstetric or pediatric care.

All hospitals, *even those that are not pediatric trauma centers or specialized pediatric hospitals*, might receive critically ill or injured children in a mass casualty or disaster event. Pediatric patients may initially be brought to the nearest centers, as ambulances attempt to expedite their return to the disaster scene to maximize the care of patients. Even after on-scene triage is established, severely injured children may be brought to the nearest medical center because the patient is simply too unstable to survive a longer transport time. Additionally, due to traffic congestion, unsafe conditions, or lack of appropriate vehicles, ambulances may initially be unable to travel to hospitals that are more distant.

Pre-planning is critical. Each hospital, even hospitals that do not routinely provide pediatric or obstetric services, needs to plan for the possibility that pediatric or obstetric patients arriving at their hospital during a disaster might require emergency evaluation, critical care, surgical services, inpatient care, and/or psychosocial support and should be prepared to offer these services accordingly. Therefore, NYSDOH recommends the development of a committee or workgroup within **each hospital** to develop an annex to their Comprehensive Emergency Management Plan (CEMP) that addresses pediatric and obstetric patient needs in the event of a disaster. The general guidelines for the development of such a plan follow. Further, it is recommended that each institution collaborate with other facilities, upward and downward of their designated levels, in order to ensure that plans are consistent across regions and that necessary referral and technical assistance networks are in place and ready to function, should they be needed. Planning is needed not just to assure appropriate staffing and equipment, but also to address legal and ethical issues that may present in these situations. For instance, if shared staffing is in the plan, facilities will need to address how credentialing and liability will be handled. *All of these issues should be examined in advance of their need.*

CMS Rules/Technical Assistance Resources

In an effort to establish consistency in emergency preparedness requirements and ensure patient safety during emergencies, the Centers for Medicare & Medicaid Services (CMS) finalized a rule that applies to all health care providers participating in Medicare and Medicaid. The goal is to foster a well-coordinated response when challenged with natural and man-made disasters. The rule takes effect November 15, 2016, and regulations must be implemented by November 15, 2017. The rule applies to seventeen (17) different provider types, including hospitals, critical access hospitals, intermediate and long-term care facilities, psychiatric residential treatment facilities, transplant centers, ambulatory surgical centers, hospices, clinics and home health agencies. Requirements vary by provider type.

As a condition of participation in Medicare and Medicaid, the new rule has four specific requirements:

1. **Development of an "all hazards" emergency plan.** Indicated facilities must develop an emergency plan based on a risk assessment, taking into account facility capacity and capability. The plan must be updated at least annually.
2. **Development and implementation of policies and procedures based on the risk assessment and the emergency plan that are reviewed and updated at least annually.** The policies and procedures for hospitals, long-term care facilities and critical access hospitals must address how subsistence needs will be addressed if the facility is evacuated or if the facility has to shelter in place. This would include the need for food, water and supplies to address the needs of patients/residents and staff. There must also be policies and procedures for evacuation, sheltering, and tracking patients and staff during the emergency.
3. **Development and maintenance of an emergency preparedness communications plan that is reviewed and updated at least annually.** The plan must comply with all applicable federal, state and local laws and allow for the coordination of patient care within and among the various departments within a facility, across providers, and with state and local health departments and emergency response systems.
4. **Development and maintenance of a training and testing program.** Staff are required to be trained initially in the emergency policies and procedures, and must subsequently demonstrate their knowledge of emergency procedures and receive additional training at least annually. Facilities are required to conduct annual drills and exercises to test their emergency plan, policies and procedures or to participate in an actual event that test the plan.

Certain facilities have additional requirements for emergency and standby power systems. Hospitals, critical access hospitals and long-term care facilities are also required to have and locate generators in accordance with National Fire Protection Association (NFPA) guidelines; to conduct regular generator inspection, testing and maintenance; and to maintain sufficient fuel to sustain power during emergencies.

Interpretive guidelines for use during facility surveys are being developed by CMS and it is anticipated they will be available early in 2017. In the meantime, CMS has made these resources available:

- Link to the Final Rule: https://www.regulations.gov/document?D=CMS-2013-0269-0377

- A resource guide: https://asprtracie.hhs.gov/documents/cms-ep-rule-resources-at-your-fingertips.pdf

- A Quick Glance Table of the rule requirements by provider type, to highlight key points of the new Emergency Preparedness rule: https://asprtracie.hhs.gov/documents/aspr-tracie-ta-cms-rule-provider-type-definitions.pdf Please note: This table is not meant to be an exhaustive list of requirements nor should it serve as a substitute for the regulatory text.

Plan for Transport of Pediatric/Obstetric Patients

The first element to consider is the possibility that the number of pediatric or obstetric patients requiring admission might exceed the normal patient capacity or expertise of hospital staff. For those hospitals without specialty pediatric or obstetric services, transfer of patients to a center with specialty pediatric or obstetric services may be necessary. Therefore, these hospitals should establish relationships with appropriate hospital facilities that do admit pediatric and obstetric patients to facilitate transfer (in accordance with a signed Transfer and Affiliation Agreement), if conditions permit.

Consideration for transfer and affiliation agreements should go beyond traditional network relationships and should include geographical proximity due to the unpredictability of traffic obstructions during the acute phase of a disaster.

All hospitals must also consider the need for evacuation of pediatric/obstetric patients during a disaster that renders the hospital unsafe or inoperable. Plans need to be made that take into account the needs of current patients, as well as arriving patients.

"**The Pediatric Consultation and Interfacility Transfer Guidelines**" included in the *Minimum Pediatric Care Standards for New York State Hospitals, Emergency Departments and Intensive Care Units*,* includes information on physiologic, anatomic, burn, psychiatric, and additional criteria for transfer, information on how to select an appropriate care facility, selecting appropriate transport service and process for transfer. This may be a helpful resource to assist with planning.

*The Minimum Pediatric Care Standards for New York State Hospitals, Emergency Departments and Intensive Care Units: 2015 Guidance Document, including appendix, Pediatric Consultation and Interfacility Transfer Guidelines can be found here: http://www.health.ny.gov/publications/4121.pdf

Plan for Pediatric and Obstetric Inpatient Care if Transport is Delayed

During the first 24 to 48 hours of a disaster involving much of the region, transfer might be difficult or impossible due to local conditions, lack of transport vehicles and personnel, or lack of capacity at resource hospitals. Therefore, all hospitals must be prepared to provide emergent pediatric/obstetric care and inpatient admission, even for critically injured patients, until such time that safe transport can be arranged. For hospitals without pediatric intensivists or pediatric trauma surgeons, it is recommended that relationships be developed with pediatric intensive care specialists and pediatric trauma surgeons at outside hospitals to provide, at the minimum, telephone consultations or support for admitting physicians.

Facilities may need to plan carefully for locations where pregnant and laboring women, infants and small children can be safely accepted and housed in the event of disasters, including pandemics. Key considerations in planning for delivery of obstetric services must include how to keep healthy pregnant women and neonates separate from infectious patients, and how to ensure that staff members who care for pregnant or laboring women and their infants are not putting them at higher risk for infection. Separate entrances and treatment areas with adequate signage should be considered.

Survey Staff for Pediatric and Obstetric Expertise

Many levels of staffing are required, including the ability to provide emergency evaluation and treatment of children and pregnant and/or laboring women in the hospital setting. Yet, not every hospital has a full complement of pediatric specialists, obstetricians and pediatric/obstetric nurses. It is recommended, therefore, that hospitals survey their staff and admitting physicians to develop a database of personnel with pediatric and obstetric experience and training and update that database annually. Staff may have expertise in these areas though not included in their current professional roles within the organization.

For example, emergency department physicians may have considerable experience with children; anesthesiologists and/or otolaryngologists may be knowledgeable about intubations of children. The gaps identified by this survey should be addressed by providing physicians, nurses, social workers, and other staff the necessary skill, knowledge and training to provide timely efficient care in the event of a disaster.

Appoint a Pediatric/Obstetric Physician Coordinator and a Pediatric/Obstetric Nursing Coordinator

It is recommended that hospitals appoint both a physician and a nurse as planning coordinators for pediatrics and obstetrics. These coordinators should serve as liaisons between different internal hospital committees that are addressing emergency preparedness issues, as well as assist in the development and use of pediatric and obstetric hospital protocols and procedures. It is envisioned that these positions would advocate for the medical and nursing needs of children and pregnant or laboring women during the planning phase for a disaster.

When projecting implementation of the Incident Command System (ICS) during a disaster, the hospital's ICS chart should include a position for Pediatric Medical/Technical Specialist or similar role. It is important to list a specific person and alternates for this position before the incident occurs.

Increase Pediatric, Obstetric and Disaster Training

Increased numbers of medical and nursing staff should be trained to provide appropriate pediatric emergency care with courses such as Pediatric Advanced Life Support (PALS), Advanced Pediatric Life Support (APLS), Neonatal Advanced Life Support (NALS), and pediatric disaster drills. Updates and re-certifications should be arranged as well.

Recent amendments to the NYCRR Part 405.19 addressing Emergency Services of the NYS Public Health Law states that there must be at least one clinician on every shift who has the skills to assess and manage a critically ill or injured pediatric patient and be able to resuscitate an infant or a child. They must have successfully completed a current course in advanced cardiac life support (ACLS) and pediatric advanced life support (PALS) or have had current training and experience equivalent to ACLS and PALS.

Training and drills for handling emergency childbirth should also be initiated.

New versions of Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) Hazardous Materials Classes should include pediatrics and the specific needs of children and their families during a disaster involving hazardous materials.

Web-based courses are convenient and available, and should be considered. It is important to note that the 405 minimum standards for ED personnel require a competency component of resuscitation training (ACLS, ATLS & PALS), and some of the newer online trainings do not include this.

Section 3—Staffing Recommendations for Pediatrics during a Disaster

Purpose: The recommendations included in this section address the critical issue of hospital staffing for pediatric services during a disaster. Appropriate allocation of personnel and the delegation of responsibilities are critical to mitigate the confusion and chaos created by disaster situations. Staffing considerations for pediatric patients should be planned for prior to a disaster and is one of the important issues to be considered by the hospital's Emergency Preparedness Planning Committee and addressed in the hospital's emergency management plan. The following recommendations were created primarily to address needs of institutions that do not have significant pediatric services or pediatric staff. When applicable, Hospital Incident Command System (HICS) positions should also be utilized by hospitals.

General Guidelines

- Pre-identify hospital staff with specialty skills or experience in the treatment of pediatric patients.
- Develop a plan to utilize the specific skills of the above personnel, including call-down and notification procedures.
- Create key pediatric positions these persons will occupy in a disaster event.
- If necessary, train additional staff who are willing to care for pediatric patients or consider sources of staffing outside the facility.
- Integrate the pediatric staffing plan into your hospital's CEMP.

Planning: Survey Staff for Pediatric Experiences

One of the first steps in pediatric planning is identifying members of the hospital's staff with pediatric skills and/or training. These members will become the primary pediatric caregivers. Staff with pediatric training and skills will most likely list pediatric emergency medicine, emergency medicine, pediatrics, pediatric surgery or family medicine as their area of specialty.

Other staff may have some pediatric experience in their specialty training and should be considered as an additional source of staffing. These staff may include, but are not limited to, personnel trained in anesthesia, otolaryngology, trauma surgery, general surgery, orthopedics, urology, neurosurgery, and thoracic surgery. Staff with pediatric experience may also include family nurse practitioners.

Special attention must be paid to skills required for critical resuscitation procedures during the planning phase, especially for hospitals with limited pediatric specialty providers. Airway management, resuscitation, and critical care skills may be necessary during both pediatric and obstetric emergencies. Staff qualified to perform such procedures will be necessary during a disaster and should be identified in advance. For example, pediatric airway management may be performed by an anesthesiologist or otolaryngologist. Resuscitation and critical care medicine may be performed by anesthesiologists, Certified Registered Nurse Anesthetists (**CRNAs**) and general surgeons. Included in this cadre of staff are nurses, physician assistants, and nursing assistants who work in the hospital's emergency department (ED),

operating rooms (ORs), post anesthesia care units (PACUs), intensive care units (ICUs), inpatient units and outpatient clinics. If the facility has a home care arm or contracts with a home care agency, this can be a source for Registered Nurses (RNs) and Respiratory Therapists (RTs) with pediatric tracheostomy and ventilation skills, as they may be caring for children with special health care needs or technology-dependent children in their homes.

If qualified staff members are not available to perform such procedures, consideration should be given to training staff that are willing to provide these services. (See *Section 4–Training*.)

Once these primary pediatric caregivers are identified, their names and contact information should be maintained as a special call-down sheet for pediatric disasters. Regular survey updates are needed to maintain a current roster of experienced staff. The Emergency Preparedness Planning Committee should determine how that information is maintained and how that information is communicated to the Incident Command Center during a pediatric disaster.

It may also be useful to know if there are pharmacists, respiratory therapists, dieticians and social workers with pediatric experience, as well.

Mitigation: Create Pediatric Leadership Positions for Key Personnel and Qualified Staff

The following designated staff members should serve as key personnel to coordinate the various elements of pediatric care and planning and serve as regular members of the Emergency Preparedness Planning Committee. Following are two key positions suggested for assignment to qualified clinical personnel:

Physician Coordinator for Pediatric Emergency Care in a Disaster

- A qualified member of the medical staff nominated by the ED Medical Director and approved by the Emergency Preparedness Planning Committee to assume the following responsibilities:
  i. Ensure adequate skill and knowledge of hospital's medical staff and staff physicians in emergency care and resuscitation of infants and children.
  ii. Assist with development and periodic review of ED medications, equipment, supplies, policies, and procedures.
  iii. Lead and assist with the development and updating of the hospital's CEMP, granting special attention to the needs of pediatric patients.
  iv. Serve as a liaison to appropriate in-hospital and out-of-hospital pediatric care committees in the community (if they exist).
  v. Serve as a liaison to a definitive care hospital and trauma center, needed to integrate services or facilitate transfer for the continuum of care of the patient.
  vi. Facilitate pediatric emergency education for ED health care providers.
  vii. Identify, in advance, appropriately qualified staff that can/will accept responsibility for the immediate or extended care of pediatric patients during a disaster.

Nursing Coordinator for Pediatric Emergency Care in a Disaster

- A qualified member of the nursing staff nominated by the Director of Nursing and approved by the Emergency Preparedness Planning Committee to assume the following responsibilities:
  i. Ensure adequate skill and knowledge of hospital's nursing staff in emergency care and resuscitation of infants and children and routine care of pediatric patients.
  ii. Identify, in advance, appropriately qualified staff that can/will accept responsibility for the immediate or extended care of pediatric patients during a disaster.
  iii. Facilitate nursing continuing education in pediatrics.
  iv. Lead the development and updating of the hospital's policies and procedures for pediatric care.
  v. Serve as a liaison to appropriate in-hospital pediatric care committees.
  vi. Serve as a liaison to inpatient nursing as well as to facilitate transfer for the continuum of care of the patient.
  vii. Assist with development and periodic review of pediatric medications, equipment and supplies as a member of the Emergency Preparedness Planning Committee.

It has been suggested that small community hospitals may want to collapse these duties into the responsibilities of a single person. The disadvantage to having one person cover multiple responsibilities is the lack of diversity of perspective that may result.

Response: Staffing for a Coordinated and Comprehensive Emergency Management Plan

Since many levels of staffing are required to respond adequately to a disaster involving pediatric patients, it is important that the designated team that will look after the welfare of the pediatric patients be as all-encompassing as possible. A **Medical/Technical Specialist—Pediatric Care** should be identified for pediatric medical and nursing care. (See the *Sample Job Action Sheets* at the end of this chapter.)

While the team will include such clinical staff as physicians, nurses and ancillary ED and in-patient personnel to provide emergency evaluation and treatment to children of all ages, additional staff may be called upon to respond to non-clinical pediatric patient needs. Also included at the end of this chapter are Sample Job Action Sheets that may be used to distribute tasks to staff designated to ancillary leadership positions. Along with the Physician and Nursing Coordinators who will act as the point persons for clinical care, a general **Pediatric Logistics Unit Leader** and a **Pediatric Services Unit Leader** should also be assigned to monitor non-clinical areas. These Unit Leaders will facilitate accurate communication between non-clinical areas and oversee disaster response in areas such as Procurement, Transportation, Materials/Supplies and Nutrition.

In planning to meet the immediate physical needs of the pediatric patient population during a disaster, hospitals may further prepare for child victims by considering psychological treatment that addresses their possible reactions to disaster including acute stress disorder, grief and anger. With this in mind, it is recommended that hospitals prepare for the mental health needs of pediatric patients and coordinate a response plan that incorporates the skills of psychiatrists, psychiatric nurses, social workers and a hospital chaplain. (See *Section 14– The Psychosocial Needs of Children during a Disaster* for additional information).

It is important to note that recent changes to 10 NYCRR Section 405 of the NYS Public Health Law addressed credentialing and added requirements for caring for pediatric patients. To summarize, the amendments to the regulations:

- Added a requirement that Quality Assurance Programs review that the hospital is admitting only patients for whom it has appropriate staff and equipment, and that when a facility does not have the correct resources, the patient is transferred to an appropriate facility *except during disasters or an emergency surge that requires admission of those patients.*

- Required distribution and posting of a "Parent's Bill of Rights" that advises parents or guardians of their rights and allows, to the extent available and possible given the patient's health and safety, one parent or guardian to remain with the pediatric patient at all times;

- Added requirements that, prior to discharge, all laboratory and diagnostic tests with "critical value" (meaning that the results could suggest a significant or life-threatening condition requiring immediate attention) are addressed and communicated to the patient, prior to patient discharge, by a physician, physician assistant or nurse practitioner familiar

with the patient's condition, and that all laboratory and diagnostic test results are forwarded to the patient's primary care provider after review;

- Added a requirement that all practitioners, regardless of their board-eligibility or – certification be current in Pediatric Advanced Life Support (PALS) or its equivalent;

- Added a requirement that, for the purposes of medication dosing, all weights be calculated in metric measurement, and that pediatric pharmacy resources must include up-to-date, age- and size-appropriate fluid and medication administration and dosing. Dosing must be calculated in metric, based on weight (or in emergencies, may be based on length); should include the calculated dose, the dosing determination (dose per weight or by body surface area) in order to facilitate a double-check of the dose calculation by an independent party; and must not exceed the maximum dosage for adults;

- Defined a Pediatric Intensive Care Unit (PICU) and specified requirements for the PICU director, staffing, training, minimum annual admissions, quality assurance and physical plant;

- Added requirements that all radiology units have staff properly trained in radiation safety for patients of all ages, that policy and procedures are in place regarding imaging studies for newborns and pediatric patients, and that the facility document staff familiarity with radiation safety, policies and procedures; and

- Clarified in the section on Outpatient Services the need for appropriate equipment to meet the needs of all patients of all ages and added that the parent or guardian may receive discharge instructions, in addition to the patient; and

- Affirmed the requirement for facilities to provide written notice the New York State Education Department (SED) when enumerated health professions licensed by SED lose hospital employment or privileges for certain reasons and added a requirement for hospitals to provide to the New York State Department of Health (NYSDOH) within 30 days of its occurrence any time there is a denial, curtailment, withholding, restriction, suspension, or termination of professional privilege of employment or any other type of affiliation with a hospital relating to an individual who is a health profession student serving in a clinical clerkship, an unlicensed health professional serving in a clinical fellowship or residency, or an unlicensed health professional practicing under a limited permit or a state license due to alleged mental or physical impairment, incompetence, malpractice, misconduct or endangerment of patient welfare and safety; or for voluntary or involuntary resignation or withdrawal of association in order to avoid being disciplined; or for receipt of information concerning felony or misdemeanor conviction.

Sample HICS Job Action Sheet—Pediatric Services Unit Leader

You report to: _____ (Operations Chief)

Command Center: _____

Mission: To ensure that the pediatric treatment and holding areas are properly assigned, equipped, and staffed during an emergency.

Immediate (Operational Period 0-2 Hours):

_____Receive appointment from Unit Leader

_____Read this entire job action sheet

_____Obtain briefing from Unit Leader

_____Gather external information from Treatment Area Supervisor/ED Charge Nurse regarding:
     _____Number of expected pediatric patients and their conditions
     _____Current total number of ED patients
     _____Expected time of patient arrival

_____Determine number of available pediatric/crib beds [inpatient] and report to Operations Chief for planning purposes

_____Determine qualified, on-site pediatric staff members

_____Determine additional staff needed based on expected patient volume

_____Alert Discharge Unit Leader to institute early discharge/transfer of patients

_____Initiate Pediatric Response Team as per plan

_____Predetermined Physicians for Pediatric Response (Pediatric/Family/Practice/Staff/Community)

_____Predetermined Nurses (with pediatric experience and/or PALS/ENPC certification)

_____Predetermined ancillary technicians with pediatric experience

_____Others as predetermined

_____Determine need for opening of a Pediatric Safe Area (dependent on expected number of unaccompanied children during the disaster)

_____Assign Pediatric Safe Area Coordinator

_____Communicate with Operations Chief to assure coordination of non-pediatric ancillary/support personal are assigned to each area

_____Assure preparation of a pre-designated Pediatric Disaster Care Area

_____Clear area

_____Designate each specific area per plan and based on expected casualties

_____Assure support personnel are assigned to each area

_____Assure delivery of medical and non-medical pediatric equipment

_____Assure set-up of pediatric equipment by clinical staff

_____Receive pediatric patients

_____Communicate findings to Treatment Area Supervisor for dissemination as per disaster plan

_____Following triage of all children, move uninjured/unaffected children to pre-designated
Pediatric Safe Area

Intermediate (Operational Period 2-12 Hours):
_____Assess ongoing staffing needs based on patient status report form:
_____Pediatric healthcare personnel (emergency department, inpatient, and OR)
_____Non-pediatric ancillary/support personnel
_____Pediatric Safe Area Coordinator

_____Assess additional medical and non-medical equipment/supply needs

_____Communicate with Pediatric Logistics Unit Leader via Operations Chief to Logistics Chief

_____Assure delivery of needed supplies to pediatric designated areas

_____Assess Pediatric Response Team basic needs:
_____Food
_____Rest
_____Psychological support

_____Obtain status of pediatric casualties (discharges, admissions, transfers, and Pediatric
Safe Area) and report of Operations Chief

_____Hold information sessions with Public Information Officer as needed

_____Obtain Child Survey Forms (See *Section 5–Security*) from all pediatric patient areas

_____Report any unidentified or unaccompanied pediatric patients to Operations Chief

Extended (Operational Period Beyond 12 Hours):
_____Debrief Pediatric Response Team and Pediatric Safe Area Coordinator regarding:
_____Summary of Incident
_____Review of areas of success
_____Identify opportunities of success
_____Thank and congratulate team

Sample HICS Job Action Sheet–Medical/Technical Specialist-Pediatric Care

Mission: Advise the Incident Commander or Operations Section Chief, as assigned, on issues related to pediatric emergency response.

Date: _____ Start: _____ End: _____ Position Assigned to: _____ Initial: _____

Position Reports to: _____ Signature: _____

Hospital Command Center (HCC) Location: _____ Telephone: _____

Fax: _____ Other Contact Info: _____ Radio Title: _____

Immediate (Operational Period 0-2 Hours)	Time	Initial
Receive appointment and briefing from the Incident Commander or Operations Section Chief, as assigned.		
Read this entire Job Action Sheet and review incident management team chart (HICS Form 207). Put on position identification.		
Notify your usual supervisor of your HICS assignment.		
Document all key activities, actions, and decisions in an Operational Log (HICS Form 214) on a continual basis.		
Meet with the Command staff, Operations and Logistics Section Chiefs and the Medical Care Branch Director to plan for and project pediatric patient care needs.		
Communicate with the Operations Section Chief to obtain: • Type and location of incident • Number and condition of expected pediatric patients • Estimated arrival time to facility • Unusual or hazardous environmental exposure		
Request staffing assistance from the Labor Pool and Credentialing Unit Leader, as needed, to assist with rapid research as needed to determine hazard and safety information critical to treatment and decontamination concerns for the pediatric victims.		
Provide pediatric care guidance to Operation Section Chief and Medical Care Branch Director based on incident scenario and response needs.		
Ensure pediatric patient identification and tracking practices are being followed.		
Communicate and coordinate with Logistics Section Chief to determine pediatric: • Medical care equipment and supply needs • Medications with pediatric dosing • Transportation availability and needs (carts, cribs, wheelchairs, etc.)		
Communicate with Planning Section Chief to determine pediatric: • Bed availability • Ventilators • Trained medical staff (MD, RN, PA, NP, etc.) • Additional short and long range pediatric response needs		
Ensure that appropriate pediatric standards of care are being followed in all clinical areas.		

Immediate (Operational Period 0-2 Hours)	Time	Initial
Collaborate with the PIO to develop media and public information messages specific to pediatric care recommendations and treatment.		
Participate in briefings and meetings and contribute to the Incident Action Plan, as requested.		
Document all communications (internal and external) on an Incident Message Form (HICS Form 213). Provide a copy of the Incident Message Form to the Documentation Unit.		

Immediate (Operational Period 2-12 Hours)	Time	Initial
Continue to communicate and coordinate with Logistics Section Chief the availability of pediatric equipment and supplies.		
Coordinate with Logistics and Planning Section Chiefs to expand/create a Pediatric Patient Care area, if needed.		
Continue to monitor pediatric care activities to ensure needs are being met.		
Meet regularly with the Operations Section Chief and Medical Care Branch Director for updates on the situation regarding hospital operations and pediatric needs.		

Extended (Operational Period Beyond 12 Hours)	Time	Initial
Ensure the provision of resources for pediatric mental health and appropriate event education for children and families.		
Continue to ensure pediatric related response issues are identified and effectively managed.		
Continue to meet regularly with the Operations Section Chief or Incident Commander, as appropriate, for situation status updates and to communicate critical pediatric care issues.		
Ensure your physical readiness through proper nutrition, water intake, rest and stress management techniques.		
Observe all staff and volunteers for signs of stress and inappropriate behavior. Report concerns to the Mental Health Unit Leader. Provide for staff rest periods and relief.		
Upon shift change, brief your replacement on the status of all ongoing operations, issues and other relevant incident information.		

Demobilization/System Recovery	Time	Initial
Ensure return/retrieval of equipment and supplies and return all assigned incident command equipment.		
Upon deactivation of your position, ensure all documentation and Operational Logs (HICS Form 214) are submitted to the Operations Section Chief or Incident Commander, as appropriate.		
Upon deactivation of your position, brief the Operations Section Chief or Incident Commander, as appropriate, on current problems, outstanding issues and follow-up requirements.		
Submit comments to the Operations Section Chief or Incident Commander, as appropriate, for discussion and possible inclusion in the after-action report; topics include: • Review of pertinent position descriptions and operational checklists • Recommendations for procedure changes • Section accomplishments and issues		
Participate in stress management and after-action debriefings. Participate in other briefings and meetings as required.		

Documents/Tools
Incident Action Plan
HICS Form 207 - Incident Management Team Chart
HICS Form 213 - Incident Message Form
HICS Form 214 - Operational Log
Hospital emergency operations plan
Hospital organization chart
Hospital telephone directory
Radio/satellite phone
Local public health reporting forms

Sample HICS Job Action Sheet – Pediatric Logistics Unit Leader

You report to: _____ (Logistics Chief)

Command Center: _____

MISSION: To ensure that the pediatric needs are addressed by Procurement, Transportation, Materials Supply, and Nutritional Supply during an emergency.

IMMEDIATE:

_____Receive appointment from Logistics Chief

_____Read this entire job action sheet

_____Obtain briefing from Logistics Chief

_____Number of expected pediatric patients and their conditions

_____Timeline for supply needs

_____Depending on the extent of HEICS activation, meet with Logistics Chief and

_____Distribute tasks to the following Unit Leaders:

_____**Procurement Unit Leader:**
     _____Receive briefing from Logistics Chief and Pediatric Logistics Unit Leader
     _____Initiate Procurement Disaster Call list if warranted
     _____Work with vendors for pediatric supplies including hospital vendors and
          community resources (local pharmacies and grocery stores) for back-up
          resources

_____**Transportation Unit Leader:**

     _____Receive briefing from Logistics Chief and Pediatric Logistics Unit Leader
     _____Initiate Transportation Disaster Call list if warranted
     _____Count open stretchers, carts, cribs, and wheelchairs for pediatric transportation
     _____If adult transport equipment options are used, ensure all are appropriately
          modified and safe for pediatric transport
     _____Report transportation options to Logistics Chief
     _____Coordinate delivery of transportation options to designated pediatric area or ED
          depending on scenario
     _____Designate transporters as needed from CS staff or Labor pool
     _____Ensure that all transporters are aware of pediatric safety issues and are not to
          leave pediatric patients unattended (see *Section 9–Transportation* for more
          information)

_____Materials/Supplies Unit Leader:

      _____Receive briefing from Logistics Chief and Pediatric Logistics Unit Leader

      _____Initiate Materials/Supplies Disaster Call list if warranted

      _____Collect and coordinate essential pediatric medical equipment and supplies

      _____Assist in preparation of pre-designated Pediatric Disaster Care Areas with Pediatric Services Unit Leader (See *Section 4–Equipment Recommendations* for more information)

      _____Assist in preparation of pre-designated Pediatric Safe Area with Pediatric Services Unit Leader (See *Section 5–Security* for more information)

_____Nutritional Supply Unit Leader: (See *Section 12–Pediatric Dietary Needs* for additional information)

      _____Receive briefing from Logistics Chief and Pediatric Logistics Unit Leader

      _____Initiate Nutritional Call list if warranted

      _____Estimate number of pediatric meals needed for 48 hours (See *Section 12–Pediatric Dietary Needs* for more information)

      _____Estimate pediatric food/snacks/hydration needs for Pediatric Safe Area

INTERMEDIATE:

_____Obtain regular updates from Logistics Chief

_____Assess additional equipment/supply needs for pediatrics

_____Address pediatric concerns, questions and issues as needed

EXTENDED:

_____Document actions and decisions, submit reports to Logistics Chief

_____Participate in debriefing

_____Review areas of success

_____Identify opportunities for improvement

_____Thank and congratulate team

Staffing Recommendations for Obstetrics during a Disaster

Purpose: The recommendations included in this section address the critical issue of hospital staffing for obstetrics services during a disaster. Appropriate allocation of personnel and the delegation of responsibilities are critical to mitigating the confusion and chaos created by disaster situations. Staffing considerations for obstetric patients should be planned prior to a disaster and are important issues to be considered by the hospital's Emergency Preparedness Planning Committee and addressed in the hospital's CEMP. The following recommendations were created primarily to address needs of institutions that do not have significant obstetric services or staff. When applicable, hospital ICS positions should also be utilized or adapted by hospitals.

General Guidelines

The volume of pregnant and laboring patients that present at a non-birthing hospital is not likely to match the demand for pediatric services. Consequently, the facility may not need to plan for as many staff dedicated to obstetrics as to pediatrics. However, it is necessary for facilities to consider carefully how the needs of prenatal, laboring, birthing and fresh postpartum cases will be handled should the situation arise where women cannot access their usual provider or planned birthing hospital during an emergency.

Planning steps are similar to those taken in planning for the needs of pediatric patients:

- Pre-identify hospital staff with specialty skills or experience in the treatment of obstetric patients.
- Survey staff for obstetric and newborn care expertise.
- Develop a plan to utilize the specific skills of the above personnel, including call-down and notification procedures.
- Establish leadership roles for obstetric services in disasters.
- Determine how obstetric medical and nursing service coordinators will interact with pediatric medical and nursing service coordinators.
- If necessary, train additional staff who are willing to care for obstetric patients and neonates.
- Integrate an obstetric staffing plan into your hospital's CEMP.
- Appoint medical and nursing staff coordinators for emergency obstetric care.
- Review current policies and procedures for emergency childbirth and identify staffing needs.
- Identify gaps in knowledge and trained staff, then provide training with opportunities for annual refreshers.
- Drill as necessary to keep knowledge and skills refreshed.

Section 4–Training

Purpose: The recommendations included in this section suggest training to ensure that pediatric patients receive appropriate care at all hospital facilities during a mass casualty, disaster, or terrorism-related event. General medical and disaster training as well as pediatric-specific education options are included, all of which are recommended to enhance hospital response.

General Guidelines

Disaster and emergency training includes education in both the core principles of disaster management and the emergency treatment of adult, obstetric and pediatric patients requiring basic, advanced and trauma life support.

All hospitals should address the pediatric and obstetric populations when planning training courses for staff who will likely respond during a disaster. Additionally, the hospital emergency preparedness planning committee should consider the "pediatric and obstetric surge capacity" of the current staffing, whether the hospital has these services or not.

To develop comfort in caring for pediatric and obstetric patients, staff are encouraged to enroll and/or to participate in additional pediatric and childbirth training courses, beyond that of basic proficiency.

Training Recommendations

Hospitals with Pediatric Service, but no Pediatric Intensive Care Unit (PICU)

Critically ill or injured pediatric patients might require intensive care and subsequent monitoring when transfer is not immediately possible. Possible locations for temporary placement of critical pediatric patients include:

- Adult Medical Intensive Care Unit;
- Adult Cardiac Care Unit;
- Surgical Care Unit;
- Post-Anesthesia Care Unit; or
- Another appropriate in-patient intensive care unit.

The staff anticipated to be responsible for the various levels of pediatric care should have the appropriate pediatric disaster training. Since pediatric intensivists and pediatric critical care nurses are not available at these facilities, the pediatric training should be provided to Medical and Surgical ICU nurses and physicians, as well as to nurse practitioners.

Hospitals without Inpatient Pediatric Services

These hospitals should develop disaster plans that address all of the possibilities for needed pediatric care. While pediatric specialty staff may not normally be available at these facilities, it is recommended that certain staff be pre-identified and pre-designated to staff pediatric

surge capacity areas. These pre-designated individuals should receive appropriate training necessary to provide adequate care to the pediatric population during a disaster.

Hospitals without Obstetric Services

During times of disasters, pregnant women are likely to experience greater rates of complications, including premature labor and birth, low birth weight infants and neonatal and infant deaths. Stress is increased during these times, and stress combined with lack of proper nutrition and hydration can result in premature delivery. During disasters, pregnant women need access to skilled professional health assessment and methods of hydration, including intravenous hydration.

All hospitals should develop disaster plans that address the possibility for admitting pregnant women who are affected by the disaster and laboring women in need of delivery. While obstetricians and midwives may not normally be available at these facilities, it is recommended that certain staff be pre-identified and predesignated to staff obstetric areas, should the service be needed. These pre-designated individuals should receive appropriate training necessary to provide adequate care to pregnant and laboring women and their neonates during a disaster.

Primary Disaster and Emergency Courses

Staff members who are anticipated to be assigned to pediatric inpatient surge capacity areas (in the event the usual hospital inpatient pediatric capacity is exceeded and these patients cannot be transferred) should receive training listed below:

Training Recommendations for Pediatrics	
All Direct Care Providers (Nurses and Physicians)	• Pediatric Advanced Life Support (PALS) meeting requirements of Section 405 • Basic Disaster Life Support (BDLS) • Pediatric Advanced Emergency Assessment, Recognition and Stabilization (PEARS)© Additional suggested training program recommendations for nurses and physicians include: • Disaster Drill which includes pediatric patients
Nurses	• Emergency Nursing Pediatric Course (ENPC) – Equivalent to PALS
Physicians	• Advanced Trauma Life Support (ATLS) • Advanced Burn Life Support (ABLS) • Advanced Cardiac Life Support (ACLS)
Training Recommendations for Obstetrics	
All Direct Care Providers (Nurses and Physicians)	• Advanced Cardiac Life Support (ACLS) • Pediatric Advanced Life Support (PALS) • Basic Disaster Life Support (BDLS) • Emergency Childbirth Training Additional suggested training program recommendations for nurses and physicians include: • Disaster Drill which includes obstetric patients or obstetric simulators

Training Resources

American Heart Association Sponsored Courses

https://www.onlineaha.org/

Pediatric Advanced Life Support (PALS)

Course Description
The American Heart Association PALS course is a classroom, video-based, and instructor-led course using simulated emergencies. The goal of the PALS course is to aid the pediatric healthcare provider in developing the knowledge and skills necessary to efficiently and effectively manage initial resuscitation of critically ill infants and children, resulting in improved outcomes. Skills taught include recognition and treatment of infants and children at risk for cardiopulmonary arrest; the systematic approach to pediatric assessment; effective respiratory management; defibrillation and synchronized cardioversion; intraosseous access and fluid bolus administration; and effective resuscitation team dynamics. The hands-on format is designed to reinforce skills proficiency.

http://www.heart.org/HEARTORG/CPRAndECC/HealthcareTraining/Pediatrics/Pediatric-Advanced-Life-Support-PALS_UCM_303705_Article.jsp#.VnmzeU34Pcs

Course Length
8-14 contact hours, depending on format

Intended Audience
Pediatricians, emergency physicians, family physicians, physician assistants, nurses, nurse practitioners, paramedics, respiratory therapists, and other healthcare providers who initiate and direct advanced life support in pediatric emergencies.

Advanced Cardiac Life Support (ACLS)

Course Description
The American Heart Association ACLS course is now available online for healthcare providers who either direct or participate in the resuscitation of a patient, whether in or out of hospital. Based on the latest American Heart Association guidelines, the course provides instant grading and certification. There is no off-line skills test required for some depending on the nature of their work, however, most hospitals require an on-site skills evaluation, as required by NYS regulations NYCRR 405.19, in addition to the didactic training. Through this course, providers will enhance their skills in the treatment of the adult victim of a cardiac arrest or other cardiopulmonary emergencies. ACLS emphasizes the importance of basic life support CPR to patient survival; the integration of effective basic life support with advanced cardiovascular life support interventions; and the importance of effective team interaction and communication during resuscitation.

http://www.acls.us/?gclid=Cj0KEQiAhuSzBRDBoZfG56bK9-YBEiQARiPcZYF8Ixf5v2yMk9Y8e9sYqhNTI-4Nwj2ZSwyFBDOwkn4aAqmk8P8HAQ

Course Length
8 contact hours

Intended Audience
Medical providers such as physicians, nurses, emergency medical technicians, paramedics, respiratory therapists, and other professionals who may respond to a cardiovascular emergency.

Pediatric Advanced Emergency Assessment, Recognition and Stabilization (PEARS)®

Course Description
This American Heart Association course teaches recognition of respiratory distress, shock and cardiac arrest in pediatric clients, and how to appropriately intervene by initiating lifesaving measures within minutes of the even. PEARS is classroom-based and instructor-led.

Course Length
6.0 to 6.5 contact hours

Intended Audience
Health care providers including EMTs, medical and surgical nurses, school nurses and other providers who infrequently see critically ill infants and children.

http://cpr.heart.org/AHAECC/CPRAndECC/Training/HealthcareProfessional/Pediatric/UCM_476633_CPR-PEARS.jsp

Emergency Nurses Association Sponsored Courses

http://www.ena.org/education/Pages/default.aspx

Emergency Nursing Pediatric Course (ENPC)

Course Description
ENA developed the Emergency Nursing Pediatric Course (ENPC) to improve the care of the pediatric patient by increasing the knowledge, skill, and confidence of the emergency nurse. This course provides core-level pediatric knowledge and psychomotor skills needed to care for pediatric patients in the emergency care setting. ENPC is the only pediatric emergency nursing course written by pediatric nurse experts.

Course Length
16 contact hours if done in-person; five self-paced, online modules are also available.

Intended Audience
Nurses who are expected to care for pediatric patients following a disaster. Although the course is geared towards nurses in an emergency setting, the content can easily be utilized by nurses who will need to provide care to pediatric patients who may require in-patient hospital services. This course meets the 405.19 PALS requirement if completed every 2 years.

https://www.ena.org/education/ENPC-TNCC/enpc/Pages/aboutcourse.aspx

American College of Surgeons Sponsored Course
http://www.facs.org/trauma/atls/information.html

Advanced Trauma Life Support (ATLS)

Course Description
The doctor who first attends to the injured patient has the greatest opportunity to impact outcome. This in-person course provides an organized approach for evaluation and management of seriously injured as well as a foundation of common knowledge for all members of the trauma team. The objectives for the course include: (1) Assess the patient's condition rapidly and accurately; (2) Resuscitate and stabilize the patient according to priority; (3) Determine if the patient's needs exceed a facility's capabilities; (4) Arrange appropriately for the patient's definitive care; and, (5) Ensure that optimum care is provided.

Course Length
17-20 contact hours

Intended Audience
Doctors who care for injured patients.

Hospitals can become education sites by contacting a regional coordinator:
https://www.facs.org/quality-programs/trauma/contact

American Burn Association Sponsored Course

http://www.ameriburn.org/ablscoursedescriptions.php

Advanced Burn Life Support (ABLS)

Course Description

ABLS courses are now available both live and online. The course provides guidelines in the assessment and management of the burn patient during the first 24 hours post injury. The course utilizes a lecture and case study format, with links to supporting material. For the online version, students complete a post-test and much achieve 80% to receive their certificate.

Course Length
7.25 contact hours

Intended Audience
Physicians, nurses, physician assistants, nurse practitioners, therapists, firefighters and paramedics.

National Disaster Life Support Foundation (NDLSF) Sponsored Courses

Core Disaster Life Support (CDLS)
(Also available as eCDLS, for those who prefer an online learning format.)

Course Description
The awareness level course provides an overview of disasters and public health emergencies using an all-hazards approach, including natural and accidental manmade events, traumatic and explosive events, nuclear and radiologic events, biological events, and chemical events. The focus of the course is to discuss and apply a unique approach to disaster management called the P-R-E-D-I-S-A-S-T-E-R and D-I-S-A-S-T-E-R paradigms. The overarching aim is to introduce participants to basic concepts and terms that are reinforced in detail in the BDLS and ADLS courses described below. The course describes steps to enhance personal preparedness and resiliancy.

Course Length
3.5 contact hours

Intended Audience
EMTs, allied health workers and technicians, law enforcement, entry-level Medical Reserve Corps, some office-based health care professionals, police, firefighters, emergency management personnel, government officials, health care administrators, social workers, disaster relief workers, and anyone needing and introductory program.

Basic Disaster Life Support (BDLS)

Course Description
BDLS is an awareness-level, competency-based course that focuses on the concepts and principles of managing injuries and illnesses caused by disasters and public health emergencies. The BDLS course is a review of the all-hazards topics including natural and accidental man-made events, traumatic and explosive events, nuclear and radiological events, biological events, and chemical events. Also included is information on the health care professional's role in the public health and incident management systems, community mental health, and special needs of underserved and vulnerable populations.

Course Length
7.5 contact hours

Intended Audience
Physicians, registered or licensed practical nurses, paramedics or national intermediate EMTs, physician assistants, allied health professionals, dentists, pharmacists, public health professionals, veterinarians, health professions students, and mental health professionals.

Advanced Disaster Life Support (ADLS)

Course Description
ADLS is an advanced practicum of the principles introduced in Basic Disaster Life Support (BDLS), focusing on applying and demonstrating competencies in mass casualty management. (Successful completion of Basic Disaster Life Support (BDLS) is a prerequisite for ADLS.) ADLS includes five interactive lectures on the following: 1. Disasters and Public Health Emergencies; 2. Triage in Disasters and Public Health Emergencies; 3. Health Systems Surge Capacity for Disasters and Public Health Emergencies; 4. Community Health Emergency Operations and Response; and 5. Legal and Ethical Issues in Disasters. In addition, small group interactive sessions allow students to work through a series of simulated scenarios in a tabletop format.

Course Length
15 contact hours

Intended Audience
Physicians, nurse practitioners, physician assistants, nurses, emergency medical technicians, paramedics, pharmacists, allied health professionals, and health professions students.

Medical Society of the State of New York (MSSNY) Sponsored Course

http://mssny.org/MSSNY/CME/CME_Physician_Education/Online_CME_Courses/MSSNY/CME/CME_Physician_Education/Online_CME_Courses/Online_CME_Courses.aspx?hkey=78b1fd04-2ae8-4c18-af40-9c97d68bfcbc

Course Description
MSSNY hosts a series of fifteen online modules covering biologic, chemical and radiologic disasters. Biological topics include: anthrax, botulism, brucellosis, coronavirus, glanders, H1N1 influenza, melioidosis, pandemic flu, plague, Q fever, staphylococcal enterotoxin B (SEB), smallpox, tularemia, viral hemorrhagic fevers. Modules also include an overview of chemical agents, ricin, sarin, and nerve gas agent VX. MSSNY suggests the use of FireFox to access the modules.

Course Length
Online format; length of each modules varies from 1 to 5 hours.

Intended Audience
For physician members and medical students; however, non-members can take the courses.
Non-members will need to register and create a log-in on http://cme.mssny.org.

American Academy of Pediatrics/American College of Emergency Physicians (AAP/ACEP) Sponsored Course

Advanced Pediatric Life Support (APLS)

http://www.aplsonline.com

Course Description
Covers basics of pediatric emergency medicine. The course curriculum is designed to present the information physicians need to assess and care for critically ill and injured children during the first few hours in the emergency department or office-based setting. Successful completion includes a 30-item final examination. Search for locations of courses on:
http://www.aplsonline.com/course/findcourse.aspx .

Course Length
2 days

Intended Audience
Physicians who treat pediatric patients. Also available for nurses, paramedics and other health professionals who may treat pediatric patients.

Emergency Nurses Association (ENA) Sponsored Course

Trauma Nursing Core Course (TNCC)

https://www.ena.org/education/ENPC-TNCC/tncc/Pages/aboutcourse.aspx

Course Description
ENA developed and implemented the TNCC for national and international dissemination as a means of identifying a standardized body of trauma nursing knowledge. The TNCC (Provider) is a

16- or 20-hour course designed to provide the learner with cognitive knowledge and psychomotor skills. Nurses with limited emergency nursing clinical experience, who work in a hospital with limited access to trauma patients, or who need greater time at the psychomotor skill stations are encouraged to attend courses scheduled for the 20-hour format. The purpose of TNCC is to present core-level knowledge, refine skills and build a firm foundation in trauma nursing.

Course Length
16 or 20 hours

Intended Audience
Nurses; other healthcare providers may attend as observers.

American College of Surgeons (ACS) Sponsored Course

Disaster Management and Emergency Preparedness (DMEP)
http://www.facs.org/trauma/disaster/index.html

Course Description
This course is both didactic and interactive. It addresses core competencies as outlined by the American College of Surgeons (ACS) Committee on Trauma (COT) Disaster and Mass Casualty Management Committee. Major topics addressed include planning, triage, incident command, injury patterns and pathophysiology, and consideration for special populations. Small group discussions are based on illustrative scenarios. The course requires a pre and post-test, which are reviewed onsite. A comprehensive syllabus and supportive CD with resource material is provided.

Course Length
1 day

Intended Audience
Acute care providers (i.e., surgeons; anesthesiologists; emergency medicine physicians; ER, OR, ICU and trauma nurses; and pre-hospital professionals) who will most likely be the first receivers of casualties following major disasters. Other health care providers, administrators, public health personnel, and emergency managers are also encouraged to attend.

FEMA/Department of Homeland Security Sponsored Course

Planning for the Needs of Children in Disasters Self-Paced Course IS-366.A

Course Description
At the conclusion of this course, the learner will be able to create, update, or revise an Emergency Operations Plan for their community and/or organization to effectively address the unique needs of children in disasters.

Course Length
4 contact hours

Intended Audience
Hospital staff and community members.

Additional Trauma Courses

Society of Trauma Nurses (STN) Sponsored Course

Advanced Trauma Care for Nurses

http://www.atcnnurses.org/

Overcoming Challenges to Rural Pediatric Trauma Care and other courses

http://www.traumanurses.org/stn-online-education

Course Description

The Advanced Trauma Care for Nurses course, designed for the registered nurse interested in increasing his/her knowledge in management of the multiple trauma patient, is only run in conjunction with a co-located ATLS course. Nurse participants audit the ATLS lectures. During the ATLS skill and testing stations, the nurses are separated from the physician group and directed through ATCN skill stations. ATCN skill stations include: initial assessment and management, airway and ventilatory management, pediatric trauma, hemorrhagic shock, musculoskeletal & spinal trauma, and head trauma.

Overcoming Challenges to Rural Pediatric Trauma Care is an online enduring offering awarding 1.0 contact hour. After completing the course material, participants must submit an evaluation and post-test. Learners must achieve a 75% score to receive credit for the contact hour.

Course Length

2 days for ATCN; 1 contact hour for the Challenges offering.

Intended Audience

Nurses wishing to improve their trauma care skills.

National Association of Emergency Medical Technicians (NAEMT) Sponsored Course

Pre-Hospital Trauma Life Support Course (PHTLS)

https://www.naemt.org/education/PHTLS/PHTLScourses.aspx

Course Description

The course focuses on trauma patients in the pre-hospital environment, teaching how to identify, manage, and transport them with the highest level of care and give them the greatest chance of survival. The courses are offered at Basic, Advanced or Combined levels.

Course Length

16 contact hours.

Intended Audience

EMTs, paramedics, police officers, firefighters, rescue personnel, nurses, and physicians.

Additional Critical Care and Disaster Courses

Society of Critical Care Medicine (SCCM) Sponsored Courses

Fundamentals of Critical Care Support (FCCS)

http://www.sccm.org/Fundamentals/FCCS/Pages/default.aspx

Pediatric Fundamental Critical Care Support (PFCCS)
http://www.sccm.org/Education-Center/Pages/Online-CE.aspx

Course Description

The live instructor-led version of this course addresses fundamental management principles for the first 24 hours of critical care. Student objectives include prioritization of assessment needs for the critically ill patient, selection of appropriate diagnostic tests, identification and response to significant changes in the unstable patient, recognition of and management of acute life-threatening conditions, and determination of the need for expert consultation and/or patient transfer and preparation for accomplishing optimal transfer. The course is now offered online, instructor-led, over four weeks, or in a self-directed format that learners can take at their convenience. Both courses use pre- and post-tests to assess learning, but the online, non-self-directed version also uses skills stations. There are no skills assessment for the self-directed version. Cost structure is listed on the website.

Course Length

2 days for the instructor-led version; 6.5 contact hours for the online and self-directed versions.

Intended Audience

All non-intensivist medical providers; the course includes pediatric considerations.

Fundamentals of Disaster Medicine (FDM)

http://www.sccm.org/Fundamentals/FDM/Pages/default.aspx

Course Description

Fundamental Disaster Management (FDM) prepares healthcare professionals to treat victims of natural or manmade mass casualty events. It arms critical care professionals with the expertise to manage the critical care response to large-scale disasters. This course focuses on critically ill patients who are admitted to your hospital and is "a must" for healthcare providers who may come in contact with critically ill and/or injured patients after a mass casualty event. Like the course listed above, there is an online, instructor-led version and a self-directed, non-instructor-led version. Cost structure is listed on the website.

Course Length

1 day for instructor-led; 6.5 contact hours for online versions.

Intended Audience

Critical care health professionals including pharmacists, respiratory care professionals, nurses, nurse practitioners, physician assistants, and physicians. Also, persons who have successfully completed Society of Critical Care Medicine's Fundamental Critical Care Support (FCCS) course and who are expected to have significant critical care responsibilities during an emergency.

Pediatric Fundamental Critical Care Support
http://www.sccm.org/Fundamentals/PFCCS/Pages/default.aspx

This is a resource for those interested in learning to recognize and initiate care to critically ill or injured children in the absence of an intensivist.

Intended Audience
Physicians, advanced practice nurses and physician assistants with limited pediatric practice.

Disability Awareness Training for First Responders

http://www.fr-dat.com/about/

Course Description
Niagara University provides in-person disability awareness training, including disability etiquette and person-first language. The website also contains several toolkits and checklists.

Intended Audience
Shelter workers, health care workers, first responders.

Additional Websites

Agency for Healthcare Research and Quality (AHRQ)

- http://www.ahrq.gov/prep/
- Agency for Healthcare Research and Quality site with general preparedness information

American Academy of Family Physicians

- http://www.aafp.org/afp/2007/0601/p1679.html
- American Academy of Family Physicians website with links to emergency/disaster preparedness and disaster training opportunities

Hospital Disaster Preparedness - Disaster Guidance and Planning Documents
http://www.acep.org/_EMS-Section-Micro-Site/Disaster-Guidance-and-Planning-Documents/

- Guidelines for Crisis Standards of Care during Disasters
- Hospital Disaster Preparedness Self-Assessment Tool
  http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8
  &ved=0ahUKEwjo4yjwqTKAhWHbB4KHbCBCnkQFgghMAA&url=http%3A%2F%2Fwww.ace
  p.org%2Fcontent.aspx%3Fid%3D91205&usg=AFQjCNFls2gfa0juvRafCDdRclkGt2OQOg&sig
  2=kYPfueOpJfr49mxh7Ze3gg&bvm=bv.111396085,d.cWw
- Disaster Planning Toolkit for the Elderly and Special Needs Persons
- Interim Planning Guidance for Preparedness and Response to a Mass Casualty Event
  Resulting from Terrorist Use of Explosives -
  http://emergency.cdc.gov/masscasualties/terrorist_explosives.asp
- Explosions and Blast Injuries: A Primer for Clinicians -
  http://emergency.cdc.gov/masscasualties/explosions.asp
- IOM, Crisis Standards of Care: A System Framework for Catastrophic Disaster Response
- IOM, Crisis Standards of Care: AToolkit for Indicators and Triggers
- The overarching weblink for all the IOM crisis standards of care resources is:
  IOM.edu/crisis standards

Center for Trauma Response, Recovery and Preparedness for Health Care Communities

- http://www.ctrp.org/resources_healthcare.htm
- Center for Trauma Response, Recovery and Preparedness for Health Care Communities website with links to educational materials for disaster and emergency preparedness

Centers for Disease Control and Prevention

- https://www.emergency.cdc.gov/
- Centers for Disease Control and Prevention site with links to Emergency Preparedness and Response

Critical Illness and Trauma Foundation, Inc.

- http://www.citmt.org/cdroms.htm#bioterrorism
- Above URL is for ordering "Bioterrorism & Trauma Training: An All Hazards Approach to Multiple Casualty Events", a CD-ROM written by Critical Illness and Trauma Foundation Inc.

Emergency Medical Services for Children

The Emergency Medical Services for Children (EMSC) Innovation and Improvement Center

The Emergency Medical Services for Children (EMSC) Innovation and Improvement Center utilizes a clinical systems integration framework to provide the emergency care community with training, support, and tools to use quality improvement methodology in order to reduce morbidity and mortality in children. https://emscimprovement.center/

New York State Emergency Medical Services for Children

The following resources and more can be found at the NYS EMS for Children website: http://www.health.ny.gov/professionals/ems/emsc/resources.htm

- Minimum Pediatric Care Standards for New York State Hospitals, Emergency Departments and Intensive Care Units (PDF)
- Children with Special Health Care Needs - Prehospital Care Reference Card - (PDF) Pub. #4158
- New York State Pediatric Assessment Reference Card (updated 7/2016) - (PDF) Pub. #4157

If you have any problem obtaining any of the PDF files, please contact NY's EMS for Children Program at (518) 402-0996 or dohweb@health.ny.gov.

Jumpstart Pediatric Mass Casualty Incident (MCI) Triage Tool

- http://www.jumpstarttriage.com/JumpSTART_and_MCI_Triage.html
- Links to information about JumpSTART triage system

Medical Society of the State of New York (MSSNY)

Biological, Chemical, and Radiological Terrorism: An Overview of Indicators and Response

http://cme.mssny.org/refcards/refcardfinal.pdf
- Psychological Impact of Disaster and Terrorism: Tending to the Hidden Wounds http://cme.mssny.org/refcards/mental_health.pdf
- Physicians Emergency Preparedness Toolkit: "GO" BAG CHECKLIST http://cme.mssny.org/refcards/goBagChecklist.pdf
- Physicians Emergency Preparedness Toolkit: Emergency Planning Checklist for Medical Offices and Clinics http://cme.mssny.org/refcards/physicianChecklist.pdf

Sources of Information for Emergency Preparedness for Childbirth

American College of Nurse Midwives
- http://health.utah.gov/mihp/pdf/giving_birth_in_place.pdf
- Giving birth "in place," emergency preparedness for childbirth

Johns Hopkins University and USAID
- http://pdf.usaid.gov/pdf_docs/PNACY580.pdf
- Emergency Obstetric Care: Quick Reference Guide for Frontline Providers, 2003

World Health Organization
- Managing complications in pregnancy and childbirth – A guide for midwives and doctors, accessible at: http://www.who.int/making_pregnancy_safer/documents/9241545879/en/

The Journal of Perinatal Education
- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1595278/
- Introducing emergency preparedness into childbirth education

Youtube.com Videos

- How to deliver a baby in an emergency (animated) https://www.youtube.com/watch?v=4pOSNcEOaTI
- Breech delivery demonstration using a simulator https://www.youtube.com/watch?v=Nro8OXnpzgc
- Midwife – How to deliver a baby (using a manikin) – Three parts https://www.youtube.com/watch?v=VGRdy1cMXoo https://www.youtube.com/watch?v=tf3P_DGEUic https://www.youtube.com/watch?v=_jRQaLeazCM
- Labor and Delivery by the BabyCenter https://www.youtube.com/watch?v=BgZ5z6RB06c

Sources for Obstetric Simulators – Manufacturers' Websites

NOELLE Birthing Simulator, Human Patient Simulator, PediaSIM, SimBaby, Code Blue Baby

http://www.buyamag.com/gynecological_models.php

PROMPT Birthing Simulator – Force Monitoring

http://www.laerdal.com/us/obstetrics

Section 5–Security

Purpose: Previous literature regarding the security of the pediatric population primarily addressed preventing infant abductions. The Gulf Coast hurricanes of 2005 highlighted the importance of this critical need in the care of the pediatric population.

The focus of this document is to raise the level of awareness regarding the issue of the pediatric population and security issues during an emergency or incident that would require a child to go to a hospital. Hospitals, especially those that do not routinely take care of the pediatric population, need to pay special attention to the specific security needs of this group and take the necessary precautions to ensure proper care of these individuals while they are in the hospital. Another concern during a disaster-level event is when a minor accompanies an adult to the hospital and the adult is in need of care. The child could easily be lost during the chaos of such an event.

These recommendations for pediatric security during a disaster are intended to assist planning for the needs of all pediatric patients presenting to any hospital during a disaster. The recommendations included in the section focus primarily on pediatric patient/visitor tracking and creating a pediatric safe area.

General Guidelines

All hospitals responding to a disaster are advised to:

1. Develop a protocol to rapidly identify and protect displaced children which includes:
    a. Creating a Child ID document to record any key identifying information about the child for use in later tracking or reunion with caregivers.
    b. Utilizing a Pediatric Tracking System that addresses both the accompanied and unaccompanied child.
    New York State has developed the eFINDS System to assist in evacuation of facilities during a disaster. (Details below.)

2. Create a Pediatric Safe Area that will serve as a holding area for uninjured, displaced or medically cleared children awaiting adult caregivers. A Pediatric Safe Area Checklist has been provided to assist in the establishment of such an area.

3. Identify a Pediatric Safe Area (PSA) Coordinator who will assume the responsibility of setting up and supervising the pediatric safe area in the event of a disaster. Included in this section is a Sample Job Action Sheet, which outlines the PSA Coordinator position.

4. Create and use a Pediatric Safe Area registry sheet to document child activity such as transfer status, location and final disposition.

5. Carefully consider how they will credential and clear volunteers pre-event to ensure the safety of children that may be in their care.

6. Decide if local law enforcement should be present to maintain security. Because this possibility exists, facilities should initiate discussion with law enforcement prior to the occurrence of the event. Potentially, a memorandum of agreement may be advisable.

Pediatric Patient Tracking

Hospitals have historically served as safe havens for displaced persons during a disaster. During the August 2003 Blackout, many members of the NYC community came to hospitals as secure places known to have functioning generators and supplying light, safety and nourishment. Abandoned children are also often brought first to a hospital emergency department for evaluation. During a disaster, hospitals may again serve as safe havens and may find themselves host to displaced and unaccompanied children. As an example, Hurricane Katrina and the ensuing floods and chaos caused over 3,000 children to be displaced throughout the United States.[1] These displaced children, if unaccompanied, are at special risk for maltreatment, neglect, exploitation and subsequent psychological trauma. Hospitals and medical clinics will therefore need to be especially alert to the safety and mental health issues of these children.

The issue of pediatric patient tracking has historically been restricted to maternity and pediatric wards. Much of the literature refers to the cases of infant security and the reduction of pediatric patient abductions from various hospital wards. There are specific measures discussed that can be taken to prevent the abduction of pediatric patients, such as the use of identification bands. Examples of systems that might be considered include the tracking devices used to prevent infant abductions or those used to monitor long-term care patients at risk of elopement.

In 2014, the NYSDOH Office of Health Emergency Preparedness and the NYSDOH Office of Primary Care and Health Systems Management released eFINDS to assist in patient tracking when an emergency evacuation must occur. In an emergency, every NYSDOH licensed hospital, nursing home and adult care facility must use eFINDS and the Health Commerce System. The regulatory basis for eFINDS for hospitals and nursing homes is found in Title 10: Section 400/109 and for adult care facilities, in Title 18: Sections 487.12 and 488.12. These sections require that each facility have twenty-four hour a day/seven day a week contacts for emergency communication and alerts in the Health Commerce System and sufficient staff users to ensure rapid response to requests for information by state and/or local health officials. In addition, facilities must report personnel role changes as soon as they occur and not less than once per month. eFINDS ensures that facilities will always know the location of their patients/residents.

NYSDOH recommends that at least two individuals per shift establish Health Commerce System accounts and be trained users of eFINDS. Multiple users should be assigned to each eFINDS role (eFINDS data reporter, eFINDS reporting administrator and Office of Emergency Management link – that person who will work with emergency response coordinators).

It is critical that each facility develop a plan to integrate eFINDS with their existing evacuation plans and ensure that staff are trained in the plan and the use of the system. This should be tested with drills to ensure that staff are not using eFINDS for the first time during a disaster. Staff should also be made aware that during emergencies, providers and health plans may share patient information as necessary to provide treatment and providing location, general condition or death of an individual as necessary to locate family members, guardians or other

persons responsible for a patient's care. Patient information may also be shared under circumstances of imminent danger.

The equipment involved in eFINDS includes a scanner provided by NYSDOH or a facility scanner meeting specifications provided to the agency. Each resident/patient is assigned a barcode, which serves as a unique identifier. Mobile apps are also available for iPhone, iPad and Android devices. Data can be manually entered or uploaded from spreadsheets. Paper back-up is recommended. The system can be employed for sheltering in place as well as for evacuation outside the facility.

During an evacuation, there are several important considerations:

- Scale. Are you evacuating by patient, by unit or by floor? Or will the whole facility be evacuated? Does this require several checkpoints?

- Initial registration. How, where and by whom will this be done?

- When to scan. Are you going to scan the patients/residents into eFINDS as they leave your facility? Or at other locations within your building?

- What is sent. Are you going to send parts or the whole medical record? Is personal medical equipment being sent? Have you tagged these items with the same unique eFINDS identifiers/barcodes? What personal belongings will be sent?

- Medical information. What medical information will be entered in the notes in eFINDS?

- Documentation in the patient's record. How will you ensure the eFINDS unique identifier has been entered into the patent/resident chart?

- Power failures. What happens if the power goes out? Do you have enough paper backups on the unit to send to a receiving facility? Does each unit have a downloaded spreadsheet? What is your internet access? Wi-Fi devices? Are there extra batteries for computers or mobile devices?

- Correct equipment. Are you using the correct wristband and the right eFINDS application?

- Receiving facilities. Receiving facilities must be ready to use the electronic or paper version of eFINDS.

See: http://www.nyshfa.org/files/2014/03/eFINDS-Training-Participant-Guide.pdf

Patient Tracking–the Accompanied Child in Disaster

There are two populations of accompanied children during a disaster that should be addressed:

1. **The pediatric patient**–a sick or injured child is hospitalized because of the disaster and is separated from the responsible adult. An example of this could be if the responsible adult was also admitted as a patient.
2. **The pediatric visitor**–a well child accompanies a sick or injured adult because of the disaster. An example of this could be if an adult who was caring for a minor at the time of the disaster or event needed to be hospitalized.

Presently, many hospitals have policies in place for the tracking of minors from pediatric and maternity wards such as using identification bands. A possible solution to tracking minors during a disaster is to use a system of identification bands for the minors and corresponding responsible adults. The bands would be distributed and placed as soon as these individuals make contact with the emergency department. Care must be taken to place quickly and correctly bands or other identification devices on both parties. Special attention needs to be taken to ensure that this measure is completed as soon as possible at the entry point to the hospital to reduce the possibility of human error during the matching and placing of the bands.

The stress of a disaster may be exacerbated by the separation of mothers and their neonates, infants and children. Facilities should endeavor to ensure, whenever possible, that mothers and their children are evacuated to the same location or a method is developed to ensure that family members are located and reunited as soon as is reasonably possible.

The identification bands used should include the following information that will be useful in maintaining a tight link between the pediatric patient or visitor and the accompanying adult:
* Name of pediatric patient/ visitor *and* date of birth
* Name of adult and date of birth
* Admission date of adult
* Admission date of pediatric patient
* Date of visit of pediatric visitor
* Relationship between child and adult

In addition, a more sophisticated approach to tracking could be implemented by the use of bar-coded bracelets as identifiers that can be affixed to the pediatric patient or visitor and to the adult at the time of entry to emergency department or other point of entrance to the hospital. In this manner, the same bar code is assigned to the adult and the pediatric patient/visitor(s) with the adult. For further information, hospitals may also review the infant abduction protocols in place at their facility or from another local facility that currently provide obstetric services, as well as the National Center for Missing and Exploited Children's publication entitled *For Healthcare Professionals: Guidelines on Prevention and Response to Infant Abductions, 10th Edition*,[2] available at:
http://www.missingkids.com/en_US/publications/NC05.pdf

Patient Tracking–the Displaced or Unaccompanied Child in a Disaster

Rapid identification and protection of displaced children (less than 18 years old) is imperative in order to reduce the potential for maltreatment, neglect, exploitation and emotional injury. A critical aspect of pediatric disaster response is effectively addressing the needs of children who are displaced from their families and legal guardians. The separation of children from significant others is a recognized factor influencing the psychological responses of children after a disaster.

All hospitals, medical clinics and shelters providing care to child survivors of disasters should immediately implement appropriate child-safety measures in direct response to this crisis. Initiatives such as "Operation Child ID" implemented in Camp Gruber, Oklahoma, after Hurricane Katrina in 2005, have provided a rapid, systematic protocol for successfully identifying and protecting displaced children. The CDC reviewed this protocol and considers it to be a useful resource to share with its partners to promote a safer and healthier environment for displaced children in shelters.[1] The following protocol has been adapted from the September 28, 2005 CDC Health Advisory, *Instructions for Identifying and Protecting Displaced Children*, to address displaced children during disasters in New York State.

Protocol to Rapidly Identify and Protect Displaced Children

- Survey all children entering the hospital or medical clinic to ensure all children are identified. Children who are not accompanied by an adult have a high probability of being listed as missing by family members. Therefore, it is important to find out where they were sleeping/being held and the name and age of person(s) who is/are supervising them, if available. A sample survey form for identifying a displaced child is attached.

- Place a hospital-style identification bracelet (or, ideally, a picture identification card) on the child and a matching one on the supervising adult(s), if such an adult is available. Check frequently to make sure that the wristband matches that of the adult(s) seen with the child in the hospital or medical clinic. If there is no supervising adult, the child should be taken to the hospital's pre-determined Pediatric Safe Area (see following pages) where he/she can be appropriately cared for until a safe disposition or reunification can be made.

- The names of all children identified through the survey as not being with their legal guardians or who are unaccompanied should be considered at high risk and immediately reported to the hospital's emergency operations center. Additional reporting should also be made to the National Center for Missing and Exploited Children (NCMEC) at 1-800-THE-LOST (1-800-843-5678). The NCMEC can then crosscheck them with the names of children who have been reported missing. Children may also be reported as missing using the following address: www.missingkids.com/home

- After the high risk children have been reported, a complete list of all children's names in the hospital, clinic or shelter should be sent via NYS eFIND, if activated, and the information is requested. A complete list should also be sent to the NCMEC in case adults and/or children have provided incorrect information about their relationship and status.

- Unaccompanied children and those who are not with their legal guardians should undergo a social and health screening taking into consideration an assessment of the relationship between the child and accompanying adult, ideally performed by a physician, nurse or social worker with pediatric experience.

- If NYSDOH, another New York State agency, or NCMEC informs you that the child has been reported as missing, locate the child and facilitate reunification of the child and his/her legal guardian.
- Again, facilities should do all they can to ensure that children and families are reunited as soon as is reasonably possible.

Child Identification Survey Form

The following is a sample form that may be used in the tracking of children in times of emergency. This form may be used at intake to match children with accompanying adults and to identify unaccompanied children. The form may also be used to track each child's discharge to other means of care or to responsible adults. **A form such as this should be completed for each child presenting during the emergency event.**

Please note the form has space for photographs. It is recommended that intake areas have access to digital cameras or cameras with instantly developing film in order to take photographs as children are taken in.

CHILD IDENTIFICATION SURVEY

Child's Name:	

Child's Usual Address: Phone:

Parents'/Guardians' Names:

Receiving Facility:

Date of Arrival: / /	Time of Arrival: : AM PM	□ Accompanied □ Unaccompanied
Age of Child: ____ Yrs. ___ Months	Pediatrician's Name:	Pediatrician's Phone Number:

Where did the child come from? Where was he/she found? *Be as specific as possible, including neighborhood or street address.*

Description of Child	
Sex: □ Male □ Female	*Attach photograph here or indicate file location for digital images:*
Race, if known: Hispanic, Black non-Hispanic, White non-Hispanic, Asian, Middle Eastern, Native American, unable to determine.	
Is the child verbal? □ Yes □ No	
If speaking, language spoken:	
Hair Color:	
Eye Color:	
Glasses: □ No □ Yes, color:	
Height:	
Weight:	
Birthmarks, scars or other markings:	
Clothing worn when found/presented:	

□ If the child was accompanied:
Name of Individual Accompanying the Child:

Relationship to Child:	Form of ID checked: *Attach copy.*

Was the child accompanied by an adult or another child?   □ Adult   □ Child
If accompanied by an adult, was the child living with this adult prior to the emergency? □ Yes   □ No
Does the individual have any proof of legal guardianship or relationship?   □ Yes   □ No *If yes, make copy and attach.*
If the child and adult were separated after arrival at the facility, where is the accompanying adult now?

If accompanied by someone other than the parent or guardian, what is known about the parent/guardian's current whereabouts? ☐ Nothing is known at this time. ☐ Their current location is:
Is it known if there are orders of protection or other custody issues? ☐ No known custody/protective issues. ☐ Issue(s):

☐ **If the child was unaccompanied:**
Where and when was the parent/guardian last seen?

Are the whereabouts of the parent or guardian currently known? ☐ No
☐ Yes   Location:
        Phone number:
        Cell phone number:
        E-mail address:

Has the parent or guardian been contacted? ☐ No ☐ Yes , contacted by: At (time):   Date: /   /
Plans for reuniting child with parent/guardian:

Child History/Treatment Experience While at the Facility
Is the child on any medications? ☐ No   ☐ Unknown ☐ Yes   List:
Does the child have any allergies? ☐ No   ☐ Unknown ☐ Yes   List:
Does the child have any known pre-existing conditions/medical problems/special needs? ☐ No   ☐ Unknown ☐ Yes   List:
Was the child treated for an injury or illness while at the facility?   ☐ No ☐ Yes   Explain:
Was the child admitted to the facility? *(Be specific as to room or location.)* ☐ No, he/she was taken to the Safe Area at: _____. ☐ Yes, he/she is currently: _____.

Case Disposition/Discharge

☐ The child was transferred to another facility for a higher level of care.
   Facility to which the child was transferred:
   Phone number: Date: /   /   Time:

☐ The child was released to another agency.
   Agency: Agency Contact:
   Phone number: Date: /   /   Time:

☐   The child was released to an individual. ☐ Parent   ☐ Guardian
   Name:
   Phone number: Date: /   /   Time:

Pediatric Safe Areas

Create a supervised area to cohort all unaccompanied pediatric visitors or unaccompanied, medically-cleared pediatric patients in one central and safe location. This central location will need to be pre-assigned and secured to ensure that minors cannot leave or be taken from the area without an appropriate escort. Security personnel or other responsible staff will need to be trained to supervise and assist pediatric visitors who may be frightened or who have other mental health issues because of being involved in a disaster and separated from family members.

Included in this section are three forms that may be helpful for the necessary hospital planning for a Pediatric Safe Area. These forms include:

1. *Pediatric Safe Area Checklist*. This form was adapted from the Chicago Department of Health and outlines recommended steps to ensure that the Pediatric Safe Area is appropriately setup to receive children.
2. *Pediatric Safe Area Coordinator Job Action Sheet (JAS)*. Created for the staff coordinating the pediatric safe area. By having a JAS, staff can readily review what steps need to be taken to prepare for the possible influx of pediatric patients. See *JAS* at the end of this chapter.
3. *Pediatric Safe Area Registry Sheet and accompanying Register*. These sample forms could potentially be used in the Pediatric Safe Area to monitor the arrival and departure of children. Copies should be made available to the hospital Emergency Operations Center (EOC) on a frequent basis.

Pediatric Safe Area Checklist

Area Reviewed:			
Date Reviewed:		Time Reviewed:	
Reviewer(s):			

	Finding		Follow-up
Area of Concern	**Yes**	**No**	**Action Needed**
1. Is access to the area selected as the Pediatric Safe Area able to be controlled?			
2. Can children be contained in this area? (Consider stairwells, elevators, doors.)			
3. Is there a plan for security of the unit?			
4. Have you conducted drills of the plans for this area with relevant departments?			
5. Do you have a plan to identify the children?			
…including those who are unattended?			
…including those who are non-verbal?			
…including those with special health care needs?			
6. Do you have a plan for identifying the mental health needs of these children?			
7. If there is need, can various age groups be separated into different areas? (Consider whether older children pose a safety issue for younger children.)			
8. Are enough staff available to adequately supervise the children? (Consider that younger children need more staff to supervise.)			
9. Do you have a sign-in/sign-out sheet for all children and adults who enter the area?			
10. Are all children admitted to the area required to have appropriate identification bracelets?			
11. If children need to leave the area to use bathrooms, are there appropriate methods to escort them?			
12. Is there a safe, stable area near a sink but away from eating areas for diapering?			
13. Are there appropriate facilities for hand washing?			
14. Does the area have fire and smoke alarms?			
15. Is there adequate egress in case of fire?			
16. Do the windows open? (Consider whether the windows could be used for egress in case of fire.)			
17. Are the windows appropriately protected? Do they have window guards?			
18. Is the area free of blinds, drapes or cords that could pose a strangulation hazard?			
19. Are electrical outlets child-safe/covered?			

Area of Concern	Yes	No	F/u Action Needed
20. Is the area free of any water basins/buckets/sinks that could pose a drowning hazard?			
21. Is the area free of fans and heaters that could pose a safety risk?			
22. If fans or heaters are used, are they sectioned-off at a safe distance so that they do not pose a risk for burns or amputation?			
23. If radiators or hot pipes run through the area, are they covered to prevent burn hazards?			
24. Are under sink areas and cupboards appropriately locked?			
25. Is the area free of small toys and parts that would pose choking hazards?			
26. Are cabinets and tables free of items that might topple on children? Is the area free of unstable, heavy items or carts that might topple on children?			
27. If medical supplies are in the area, are medication carts and supply carts locked?			
28. Is access to medical supplies sufficiently controlled?			
29. Are medications and syringes at least 48" off the floor?			
30. Are there safe, adequate sleeping accommodations available (i.e. foam mats on the floor) to avoid co-sleeping?			
31. Are infants placed on their backs to sleep to reduce the risk of SIDS?			
32. Are mattress surfaces firm and soft pillows and toys removed from infant sleeping areas?			
33. Is the area smoke-free?			
34. Are there adequate age-appropriate games, videos and toys to occupy the children?			
35. Are there nutritious, age-appropriate snacks available for the children, avoiding foods that comprise a choking hazard for younger children?			
36. Can you identify and quickly treat those children with food allergies?			
37. Is epinephrine nearby and immediately available?			
38. Are there nearby childcare centers or other experts who could be approached to help or advise should it be necessary?			
39. Have staff/volunteers who will be working in this unit received: • Security clearance (e.g., no known child protection issues or criminal history)?			
• Training on their roles?			
• Training on how to decide if law enforcement back-up is necessary and how to obtain assistance?			
40. Are there adequate supplies of: • Formula?			
• Bottles/nipples?			
• Breast pumps?			
• Diapers?			
• Wipes?			
• Sanitary supplies?			

Area of Concern	Yes	No	F/u Action Needed
• Pajamas?			
• Blankets?			
41. If there are children with special health care needs admitted to the area: • Is there a procedure for documenting equipment brought in from home? (Ex: ventilators, tracheostomy kits, tubing)			
• Is there a procedure for documenting needed meds and treatments?			

Sample Job Action Sheet–Pediatric Safe Area (PSA) Tracking Manager

You report to: _____ (Pediatric Services Unit Leader)

Hospital Command Center Location: _____Telephone: _____

Fax: _____ Other Contact Info: _____ Radio Title: _____

Mission: To ensure that the pediatric safe area (PSA) is properly staffed and stocked for an emergency and to ensure the safety of children requiring the PSA until an appropriate disposition can be made.

Immediate (0 to 2 hours):

_____Receive appointment from Pediatric Services Unit Leader (PSUL)

_____Read the entire Job Action Sheet

_____Obtain briefing from the PSUL

_____Ascertain that the predestinated pediatric safe area is available

_____If not immediately available, take appropriate measures to make the area available as soon as possible

_____Gather information about how many pediatric persons may present to the area

_____Make sure that enough security staff is available for the PSA

_____Make sure that there is adequate communication in the PSA

_____Make sure that there is a sign-in/sign-out log for the PSA

_____Make sure that all items in the PSA checklist have been met; if there are any deficiencies, address them as soon as possible and report them to the PSUL

Intermediate (2 to 12 hours):

_____Ascertain the need for ongoing staff for the PSA

_____Maintain a registry of children in the PSA as they arrive or as they are released to an appropriate adult

_____Determine estimated length of time for the expected operational period of the PSA

_____Maintain communication with the PSUL for planning needs

_____Determine if any pediatric persons in the PSA have specific medical or non-medical needs

_____Prepare an informational session for the pediatrics person in the PSA

_____Prepare to make arrangements for sleeping capacities if needed

_____Ascertain if there will be any additional needs required for this event (volunteers, staff, security and equipment)

_____Make sure that pediatric persons have the appropriate resources such as food, formula, water, bottles with nipples, diapers, wipes, sanitary supplies, medications, age-appropriate reading materials and entertainment for their stay

_____Report frequently to the PSUL concerning the number of children in the PSA

Extended (Operational period beyond 12 hours):

_____Make sure the PSA staff have enough breaks, water and food during their working periods

_____Coordinate with Psychological Support for ongoing mental health evaluations of volunteers and pediatric persons in case there is a need for psychosocial resources

_____Document all action/decisions with a copy sent to the PSUL

_____*Other concerns*: _____

Pediatric Safe Area Registry Sheet

Staff are to complete this form for each child admitted to the Pediatric Safe Area.

Name of Child	
Is the child verbal?	□ Yes □ No
Age	_____ mo/yr □ Check if this is an estimate.
Arrival	Date: Time:
Arrival notes	
Discharge	Date: Time:
Disposition	□ Admitted to hospital □ Discharged to parent □ Discharged to relative □ Social Services placement □ Police □ Other _____
Name of adult responsible for child at time of discharge	
Relationship to child	
Contact phone number	
For Facility Use Only:	
Reviewed	Signature Date: Time:

	Pediatric Safe Area Registry Log				
	See accompanying individual Pediatric Safe Area Registry Sheets for details. Each child listed should also have a completed registry sheet on file.				
#	Name of Child	Age	Arrival Time	Discharge Time	Disposition*
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

*Disposition: Admitted to Hospital (A); Discharged to Parent (D-P); Discharged to Relative (D-R); Discharged to Other (D-O); Social Services Placement (SS); Police (PD)

References

1. CDC Health Advisory–Instructions for Identifying and Protecting Displaced Children. Centers for Disease Control and Prevention Web site. September 28, 2005. Available at https://stacks.cdc.gov/view/cdc/25147

2. Rabun JB Jr, for the National Center for Missing & Exploited Children. For Healthcare Professionals: Guidelines on Prevention of and Response to Infant Abductions. 10th ed [online]. National Center for Missing & Exploited Children; 2014. Available at: http://www.ncmec.org/en_US/publications/NC05.pdf. Accessed January 12, 2016.

3. New York State Division of Criminal Justice Services - Identification of Unidentified Patients Model Policy, January 2017. Available at: https://health.ny.gov/professionals/hospital_administrator/letters/2017/docs/2017-01_id_of_unidentified_patients_model_policy.pdf

Section 6–Infection Control

Purpose: The following recommendations are based on limited published materials concerning infection control information that is specifically applicable to hospital management of a large influx of children (and accompanying adults) affected by a biological disaster. While the principles of infection control are the same for adults and children, there are some unique issues in the population that will be highlighted. The following infection control guidance addresses the 3 populations of concern in a pediatric emergency:

- Exposed/symptomatic children
- Exposed/asymptomatic children
- Unexposed neonates and mothers

General Guidelines

- For all children who are **symptomatic** due to a biological event, use applicable Healthcare Infection Control Practices Advisory Committee Guidelines (HICPAC), currently *2007 Guidelines for Isolation Precautions in Hospitals*;[1] recommendations (such as duration of isolation) sometimes differ between adults and children. HICPAC is available at: http://www.cdc.gov/hicpac/
- For asymptomatic infants, toddlers, and other children requiring diapering, feeding, toileting, and assistance with hand hygiene, use guidelines that are applicable to day care settings. (American Academy of Pediatrics, American Public Health Association, and National Resource Center (NRC) for Health and Safety in Child Care, 2011. *Caring for Our Children (CFOC): National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care Programs, 3rd edition.* Available at: http://cfoc.nrckids.org/ [3]

General Infection Control Measures

Transmission of an infectious agent requires three elements: a source (or reservoir) of infectious agents, a susceptible host with a port of entry receptive to the agent, and a mode of transmission for the agent.[1] Modes of transmission vary by type of organism and can be categorized into 3 major categories: contact (direct or indirect), droplet or airborne. Based on the specific characteristics of an infectious agent, a clinical case definition for exposed/symptomatic and exposed/asymptomatic children will need to be provided or developed.

- Promptly evaluate and separate unexposed and exposed/asymptomatic children as soon as possible from symptomatic children and symptomatic adults.
- While there is a known risk of transmission of infectious agents from infectious children to caregivers, the presence of caregivers (asymptomatic or symptomatic) may be in the best interest of the child (asymptomatic or symptomatic).
- Caregivers must be instructed in relevant isolation and care procedures as outlined in the hospital infection control manual on exposed/asymptomatic and exposed/symptomatic children.
- Signage should be posted in all relevant areas and fact sheets or parent education sheets handed out.

Infection Control Measures for Exposed/Asymptomatic Children[1]

- Primary caregivers of exposed children should also be considered exposed and need to be screened for symptoms on a regular basis or when entering the facility.
- If it is in the best interest of a child that potentially infectious caregivers are allowed to visit, then they should use appropriate barrier precautions (e.g. mask) and remain in the patient's room.
- Similarly exposed/asymptomatic children may be cohorted. In very infectious situations, the whole facility may be cohorted.
- Hand hygiene is paramount. Children and caregivers need to be taught how to perform appropriate hand hygiene in a playful manner, such as singing "Happy Birthday" twice to ensure at least 20 seconds of hand washing with soap and water.
- Hand-washing by children and caregivers should be performed:
  - Before and after eating and giving medication.
  - After diapering, toileting, cleaning, and the handling of body fluids, even if gloves are used.
- As a priority: educate emergency caregivers (parents or others) about sanitary considerations and demonstrate specific isolation procedures to children in a playful manner.
- If chlorine bleach solution is used for sanitation, ensure that there is adequate ventilation.

Infection Control Measures for Exposed/Symptomatic Children[1]

In addition to the points listed under infection control measures for exposed/asymptomatic children, the following points apply:

- HICPAC Isolation guidelines apply: appropriate to the nature of the illness/exposure.[1]
- Cohort as necessary (same exposure/same symptoms) based on space availability.
- Use of surgical facemasks as source containment (e.g. during transport) is inappropriate in infants. It may be possible to instruct toddlers in an age-appropriate manner to wear masks if constant supervision is possible. Children over 3 years must be instructed and their compliance evaluated.
- Respiratory hygiene/cough etiquette as an alternative to masking when masking is not practical should be emphasized.[4] If a child cannot or will not wear a mask, or if masks are not available, encourage coughing into the crook of the elbow.

Cohorting of Children in a Hospital Setting

- Ideally cohort according to age group to accommodate sanitary needs of infants and young children (e.g., diapering, toileting, hand hygiene, feeding and cleaning).
- Traumatized children may regress under duress and may require additional help with sanitary needs.
- Smaller group size is associated with a lower risk of infection in child care settings [2]

- Support infection control by aiming for recommended age-appropriate staff-to-child ratios. [2]

Environmental Measures for Pediatric Units

1. Establish hand hygiene procedures and ensure adequate supplies of soap, sinks, paper towels and alcohol-based hand sanitizers in patient rooms.

2. For infants/young children: establish diapering protocols and distribute to caregivers.[2,3]

3. Hospitals without pediatric services have diapering protocols for adults, which should be easy to adapt for infants and children.

4. For infants/young children: use the *DHHS document*[2] (or similar) for guidance pertaining to setting up sanitary changing stations.

5. For young children: toys should be easy to clean (hard plastic not fuzzy) and not be shared with other children. Toy cleaning protocol is attached as appendices.

6. For young children: assign individual sleeping mats (if used).

7. For infants/young children: adequate clean linens, disposable diapers, changes of clothing.

8. Waste/soiled linen collection units should be child safe, adequate in number, constructed to permit hands free use.

9. Have cleaning/disinfecting materials stored in a child safe manner.

10. Have cleaning/disinfection procedures and schedules in place for toilets, bathrooms, changing stations, sleeping mats, toys, etc.

11. Read labels carefully to ensure that cleaning products are nontoxic to children.

12. Note any restrictions on disinfectant products used and do not use while in direct contact with children.

13. Please be aware that the concentration of bleach solutions sold in stores has changed in many areas of the US. Formerly bleach solutions were available at 5.25% to 6%. Currently bleach solutions are available that are an 8.25% solution. It is **imperative** ***that the label instructions be followed! Do not use generic recipes!***

14. In areas selected for housing infants and children, the frequent need for cleaning/ disinfection with bleach solutions may cause high levels of free chlorine in the air. For this reason, choose an area with good ventilation.

15. Any reusable equipment or toys should be appropriately cleaned following hospital infection control procedures, or as recommended for the agent of concern.

16. In addition to existing cleaning/disinfection procedures, schedules should also be in place for cleaning/disinfecting changing stations, sleeping mats, toys, and other items and equipment that may become contaminated and a source for passing on infection. A 2-minute contact with household bleach or other Environmental Protection Agency-approved agent is recommended for sanitization.[3]

Additional Infection Control Measures for Unexposed Neonates

- Whenever possible, keep healthy mothers and their infants together. Cohort mothers and children together as a single unit. Behavioral, emotional and mental discomfort/disorders in the mother may be exacerbated by the emergency

environment. When they cannot be kept together, ensure that there is good communication with the family, so that they are aware of where the patients are and what type of care they are receiving.

- Remember in selecting the location for cohorting that newborns require a dry, clean, warm environment to promote thermoregulation and minimize stress. A quiet environment would be best for promoting mother-infant bonding.

- Alternative sites for care of newborns and their mothers may need to be arranged in order to keep the neonate and new mother out of close proximity to infectious patients.

- Caregiver ratios need to be lower for newborns and infants than for older children. See the day care standards that follow as a guide to staff-to-child ratios.

Staff-to-Child Ratio and Group Size Indicator

There are two sources of guidance for staff-to-child ratios and group size. *Caring for Our Children* outlines national standards used for child care,[3] however, there are specific state regulations regarding staff-to-child ratio and group size.[5] The *Caring for Our Children* standard (ST 002)[3] appears in the first chart. The *New York State Day Care Center Regulations*[5] are cited in the second chart. Either of these may be used for guidance on group size and ratios.

Caring for Our Children Standards[2]		
Age of Children	**Child-to-Staff Ratio**	**Maximum Group Size**
Birth-12 months	3:1	6
13-24 months	3:1	6
25-30 months	4:1	8
31-35 months	5:1	10
3 year olds	7:1	14
4 year olds	8:1	16
5 year olds	8:1	16
6-8 year olds	10:1	20
9-12 year olds	12:1	24

NYS Day Care Licensing Standards[5]		
Age of Children	**Child-to-Staff Ratio**	**Maximum Group Size**
Under 6 weeks	3:1	6
6 weeks-18 months	4:1	8
18-36 months	5:1	12
3 years	7:1	18
4 years	8:1	21
5 years	9:1	24
Thru 9 years	10:1	20
10-12 years	15:1	30

According to *Caring for Our Children*, when there are mixed age groups in the same room, the child-to-staff ratio and group size shall be consistent with the age of the majority of the children when no infants or toddlers are in the mixed age group. When infants or toddlers are

in the mixed age group, the child-to-staff ratio and group size for infants and toddlers shall be maintained.[2,3]

Similarly, NYS Day Care Regulations state that children under three years of age may not participate in mixed age groups except that for limited periods of time at the beginning and end of the child day care center's daily operation. Infants may never be placed in mixed age groups. When toddlers are cared for in mixed age groups, the staff-to-child ratio and maximum group size applicable to children, aged 18 months to 36 months, must be followed. When children 3 years of age or older are cared for in mixed age groups, follow the staff-to-child ratio and maximum group size applicable to the majority of the children in the group.

That is, unless the difference in age between the youngest and oldest child in the group is more than two years. In that case, the staff-to-child ratio and maximum group size applicable to children 2 years older than the youngest child in the group shall apply.[5]

Smaller group size is associated with a lower risk of infection in childcare. The risk of illness in children between the ages of 1 and 3 years of age increases as the group size increases to 4 or more. Children in groups of 3 or fewer have no more risk of illness than children cared for at home.[6,7] The risk of repeated ear infections increases in one- to six-year-old children who attend childcare in groups of more than 6 children.[8]

Lower child-to-staff ratios reduce the transmission of disease. There is little research available that examines the relationship between particular child-to-staff ratios and children's health (a major gap that needs to be addressed). However, the research that is available suggests that fewer children per adult reduces the transmission of disease because caregivers are better able to monitor and promote healthy practices and behaviors.[10,11]

References

1. Siegel JD, Rhinehart E, Jackson M, Chiarello L, for the Healthcare Infection Control Practices Advisory Committee. The 2007 guideline for isolation precautions: preventing transmission of infectious agents in healthcare settings [Centers for Disease Control and Prevention Web site]. Atlanta, GA: Public Health Service, US Department of Health and Human Services, Centers for Disease Control and Prevention; 2007. Available at: http://www.cdc.gov/ncidod/dhqp/pdf/isolation2007.pdf. Please note that these guidelines were superseded by the CDC's Ebola Guidelines and by CDC's Immunization of Healthcare Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP). Accessed January 12, 2016.

2. Fiene R. 13 Indicators of Quality Child Care. National Resource Center for Health and Safety in Child Care, University of Colorado, collaborator [Assistant Secretary for Planning and Evaluation Web site]. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation; Health Resources and Services Administration/Maternal and Child Health Bureau, United States Department of Health and Human Services; 2002. Available at: http://aspe.hhs.gov/hsp/ccquality-ind02/index.htm. Accessed January 12, 2016.

3. American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education. Caring for Our Children: National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care Programs. 3rd ed [National Resource Center for Health and Safety in Child Care and Early Education Web site]. Elk Grove Village, IL: American Academy of Pediatrics and Washington, DC: American Public Health Association; 2011. Available at: http://cfoc.nrckids.org/. Accessed January 12, 2016.

4. Respiratory hygiene/cough etiquette in healthcare settings page. Centers for Disease Control and Prevention Web site. Available at: http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm. Accessed January 12, 2016.

5. Day care regulations page. New York State Office of Children & Family Services Web site. Available at: http://ocfs.ny.gov/main/childcare/daycare_regulations.asp. Accessed January 12, 2016.

6. Bartlett AV, Orton P, Turner M. Day care homes: the "silent majority" of child day care. *Rev Infect Dis*. 1986;8(4):663-668.

7. Bell DM, Gleiber DW, Mercer AA, Phifer R, Guinter RH, Cohen AJ, Epstein EU, Narayanan M. Illness associated with child day care: a study of incidence and cost. *Am J Public Health*. 1989;79(4):479-484.

8. Hardy AM, Fowler MG. Child care arrangements and repeated ear infections in young children. *Am J Public Health*. 1993;83(9):1321-1325.

9. Hadler SC, Erben JJ, Francis DP, Webster HM, Maynard JE. Risk factors for hepatitis A in day-care centers. *J Infect Dis*. 1982;145(2):255-261.

10. Bredekamp S, ed. *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Exp ed. Washington, DC: National Association for the Education of Young Children; 1990.

11. Cheryl D. Hayes, John L. Palmer, and Martha J. Zaslow, Editors; Panel on Child Care Policy; Commission on Behavioral and Social Sciences and Education; Division of Behavioral and Social Sciences and Education; National Research Council. *Who Cares for America's Children?* Doi: 10.17226/1339

APPENDIX 6-1–SANITATION PROCEDURE

AREA	CLEAN	SANITIZE	FREQUENCY
Classrooms/Child Care/Food Areas			
Countertops/tabletops, floors, door, and cabinet handles	X	X	Daily and when soiled.
Food preparation & service surfaces	X	X	Before and after contact with food activity; between preparation of raw and cooked foods.
Carpets and large area rugs	X		Vacuum daily when children are not present. Follow carpet cleaning method approved by the local health authority. Clean carpets only when children will not be present and ensure that they are dry before children return. Clean carpets at least monthly in infant areas, at least every 3 months in other areas, and when soiled.
Small rugs	X		Shake outdoors or vacuum daily. Launder weekly.
Utensils, surfaces and toys that go into the mouth or have been in contact with saliva or other body fluids	X	X	After each child's use, or use disposable, one-time utensils or toys.
Toys that are not contaminated with body fluids. Dress-up clothes not worn on the head. Sheets and pillowcases, individual cloth towels (if used), combs and hairbrushes, washcloths and machine-washable cloth toys. (None of these items should be shared among children.)	X		Weekly and when visibly soiled.
Blankets, sleeping bags, cubbies	X		Monthly and when soiled.
Hats	X		After each child's use or use disposable hats that only one child wears.
Cribs and crib mattresses	X		Weekly, before use by a different child, and whenever soiled or wet.
Phone receivers	X	X	Weekly.
Toilet and Diapering Areas			
Hand washing sinks, faucets, surrounding counters, soap dispensers, door knobs	X	X	Daily and when soiled.
Toilet seats, toilet handles, door knobs or cubicle handles, floors	X	X	Daily, or immediately if visibly soiled.
Toilet bowls	X	X	Daily.
Changing tables, potty chairs (Use of potty chairs in childcare is discouraged because of high risk of contamination.)	X	X	After each child's use.
General Facility			
Mops and cleaning rags	X	X	Before and after use, daily wash mops and rags in detergent and water, rinse in water, immerse in sanitizing solutions, and wring as dry as possible. After cleaning and sanitizing, hang mops and rags to dry.
Waste and diaper containers	X		Daily.
Any surface contaminated with body fluids: saliva, mucus, vomit, urine, stool, or blood	X	X	Immediately.

Adapted from *Keeping Healthy, National Association for the Education of Young Children*. 1999.

Please see related sections on sanitation and use of bleach.

APPENDIX 6-2–Selecting an Appropriate Sanitizer or Disinfectant

From: Caring for Our Children: National Health and Safety Performance Standards, Appendix J

One of the most important steps in reducing the spread of infectious diseases in child care settings is cleaning, sanitizing or disinfecting surfaces that could possibly pose a risk to children or staff. Routine cleaning with detergent and water is the most common method for removing some germs from surfaces in the child care setting. However, most items and surfaces in a child care setting require sanitizing or disinfecting after cleaning to further reduce the number of germs on a surface to a level that is unlikely to transmit disease.

What is the difference between sanitizing and disinfecting?

Sometimes these terms are used as if they mean the same thing, but they are not the same.

Sanitizer is a product that reduces but does not eliminate germs on inanimate surfaces to levels considered safe by public health codes or regulations. A sanitizer may be appropriate to use on food contact surfaces (dishes, utensils, cutting boards, high chair trays), toys that children may place in their mouths, and pacifiers. See Appendix K, Routine Schedule for Cleaning, Sanitizing and Disinfecting for guidance on use of sanitizer vs. disinfectant.

Disinfectant is a product that destroys or inactivates germs (but not spores) on an inanimate object. A disinfectant may be appropriate to use on hard, non-porous surfaces such as diaper change tables, counter tops, door & cabinet handles, and toilets and other bathroom surfaces. See Appendix K, Routine Schedule for Cleaning, Sanitizing and Disinfecting for guidance on use of sanitizer vs. disinfectant.

The U.S. Environmental Protection Agency (EPA) recommends that only EPA-registered products be used. Only a sanitizer or disinfectant product with an EPA registration number on the label can make public health claims that they are effective in reducing or inactivating germs. Many bleach and hydrogen peroxide products are EPA-registered and can be used to sanitize or disinfect. Please see the "How to Find EPA Registration Information" section below to learn more specific information on the products.

Always follow the manufactures' instructions when using EPA-registered products described as sanitizers or disinfectants. This includes pre-cleaning, how long the product needs to remain wet on the surface or item, whether or not the product should be diluted or used as is, and if rinsing is needed. Also check to see if that product can be used on a food contact surface or is safe for use on items that may go into a child's mouth. Please note that the label instructions on most sanitizers and disinfectants indicate that the surface must be pre-cleaned before applying the sanitizer or disinfectant.

Are there alternatives to chlorine bleach?

A product that is not chlorine bleach can be used in child care settings IF:
•   it is registered with the EPA;
•   it is also described as a sanitizer or as a disinfectant;
•   it is used according to the manufacturer's instructions.

Check the label to see how long you need to leave the sanitizer or disinfectant in contact with the surface you are treating, whether you need to rinse it off before contact by children, for any precautions when handling, and whether it can be used on a surface that may come in contact with child's mouth. Some child care settings are using products with hydrogen peroxide as the active ingredient instead of chlorine bleach. Check to see if the product has an EPA registration number and follow the manufacturer's instructions for use and safe handling. (Please see the "How to Find EPA Registration Information" section below for more

information.) Remember that EPA-registered products will also have available a Material Safety Data Sheet (MSDS) that will provide instructions for the safe use of the product and guidance for first aid response to an accidental exposure to the chemical.

In addition, some manufacturers of sanitizer and disinfectant products have developed "green cleaning products" that have EPA registration. As new environmentally-friendly cleaning products appear in the market, check to see if they are EPA-registered.

Household Bleach & Water

Many household bleach products are now EPA-registered. When purchasing EPA-registered chlorine bleach, make sure that the bleach concentration is for household use, and not for industrial applications. Household chlorine bleach is typically sold in retail stores as an 8.25% sodium hypochlorite solution.

EPA-registered bleach products are described as sanitizers and disinfectants. Check the label to see if the product has an EPA registration number and follow the manufacturer's safety and use instructions. (Please see the "How to Find EPA Registration Information" section below for more information.) Pay particular attention to the mixing "recipe" and the required contact time (i.e., the time the solution must remain on a surface to be effective) for each use. Remember, the recipe and contact time are most likely different for sanitizing and disinfecting. If you are not using an EPA-registered product for sanitizing and disinfecting, please be sure you are following state or local recommendations and/or manufacturer's instructions for creating safe dilutions necessary to sanitize and/or disinfect surfaces in your early care and education environment. Using too little (a weak concentration) bleach may make the mixture ineffective; however, using too much (a strong concentration) bleach may create a potential health hazard.

To safely prepare bleach solutions:

• Dilute bleach with cool water and do not use more than the recommended amount of bleach.
• Select a bottle made of opaque material.
• Make a fresh bleach dilution daily; label the bottle with contents and the date mixed.
• Wear gloves and eye protection when diluting bleach.
• Use a funnel.
• Add bleach to the water rather than the water to bleach to reduce fumes.
• Make sure the room is well ventilated.
• Never mix or store ammonia with bleach or products that contain bleach.

To safely use bleach solutions:

• Apply the bleach dilution after cleaning the surface with soap or detergent and rinsing with water if visible soil is present.
• If using a spray bottle, adjust the setting to produce a heavy spray instead of a fine mist.
• Allow for the contact time specified on the label of the bleach product.
• Apply when children are not present in the area.
• Ventilate the area by allowing fresh air to circulate and allow the surfaces to completely air dry or wipe dry after the required contact time before allowing children back into the area.
• Store all chemicals securely, out of reach of children and in a way that they will not tip and spill.

Adapted from: California Childcare Health Program. 2013. Safe and Effective Cleaning, Sanitizing and Disinfecting. Health and Safety Notes (March).

APPENDIX 6-3–SANITATION GLOSSARY

Bacteria – Plural of bacterium. Bacteria are organisms that may be responsible for localized or generalized diseases and can survive in and out of the body. They are much larger than viruses and can usually be treated effectively with antibiotics.

Bacteriostatic – Having the ability to inhibit the growth of bacteria.

Body fluids – Urine, feces, saliva, blood, nasal discharge, eye discharge, and injury or tissue discharge.

Caregiver – Used here to indicate the primary staff who work directly with the children, that is, director, teacher, aide, or others in the facility.

Clean/Cleaning – Free of or the removal of dirt and debris (such as blood, urine, and feces) by scrubbing and washing with a detergent solution and rinsing with water.

Contaminated/Contamination – Having the presence of infectious microorganisms in or on the body, on environmental surfaces, on articles of clothing, or in food or water.

Disinfect – To eliminate virtually all germs from inanimate surfaces with chemicals (e.g., products registered with the U.S. Environmental Protection Agency as "disinfectants") or physical agents (e.g., heat). In the childcare environment, an effective disinfectant must be prepared fresh daily to remove bacteria from environmental surfaces and other inanimate objects that have been contaminated with body fluids (see **Body fluids**). It is necessary that the surfaces have first been cleaned (see **Clean**) of organic material before applying bleach and at least 2 minutes of contact time with the surface occurs. (Since complete elimination of all germs may not be achieved, technically, the process is called **sanitizing**, not disinfecting. To achieve maximum germ reduction with bleach, the pre-cleaned surfaces should be left moderately or glistening wet with the bleach solution and allowed to air dry or hand dried only after at least 2 minutes of contact time. A slight chlorine odor should emanate from this solution.

Household bleach has typically been sold in the conventional strength of 5.25% and 6% hypochlorite solution.

Bleach solutions much less concentrated than the recommended dilutions have been shown in laboratory tests to kill high numbers of blood-borne viruses, including HIV and hepatitis B virus. However, since this solution is moderately corrosive, be careful handling it and when wetting or using it on items containing metals, especially aluminum. **DO NOT MIX UNDILUTED BLEACH OR THE DILUTED BLEACH SOLUTION WITH OTHER FLUIDS, ESPECIALLY ACIDS (E.G., VINEGAR), AS THIS WILL RESULT IN THE RAPID EVOLUTION OF HIGHLY POISONOUS CHLORINE GAS.**

Commercially prepared detergent-sanitizer solutions or detergent cleaning, rinsing, and application of a non-bleach sanitizer that is at least as effective as the chlorine bleach solution is acceptable as long as these products are nontoxic for children, are used according to the manufacturer's instructions, and are approved by the state or local health department for use as a disinfectant in place of the bleach solution.

These methods are used for toys, children's table tops, diaper changing tables, food utensils, and any other object or surface that is significantly contaminated with body fluids. Sanitizing food utensils can be accomplished by using a dishwasher or equivalent process, usually involving more dilute chemicals than are required for other surfaces.

Facility – The legal definition is the buildings, the grounds, the equipment, and the people involved in providing child care of any type.

APPENDIX 6-3–SANITATION GLOSSARY, continued

Infectious – Capable of causing an infection (a condition caused by the multiplication of an infectious agent in the body).

Sanitizer/Sanitizing – A substance that removes/ The process of removing filth or soil and small amounts of certain bacteria. For an inanimate surface to be considered sanitary, the surface must be clean (see **Clean**) and the number of germs must be reduced to such a level that disease transmission by that surface is unlikely. This procedure is less rigorous than disinfection (see **Disinfect**) and is applicable to a wide variety of routine housekeeping procedures involving, for example, bedding, bathrooms, kitchen countertops, floors, and walls. To clean, detergent or abrasive cleaners may be used but an additional sanitizer solution must be applied to sanitize. A number of EPA-registered 'detergent/disinfectant' products are also appropriate for sanitizing. **Directions on product labels must be followed closely**. See **APPENDIX 6-2–SELECTING AN APPROPRIATE SANITIZER**.

Standard Precautions – Apply to contact with non-intact skin, mucous membranes, and blood, all body fluids, and excretions except sweat, whether or not they contain visible blood. The general methods of infection prevention are indicated for all people in the childcare setting and are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection. Although standard precautions are designed to apply to hospital settings, with the exceptions detailed in this definition, they also apply in childcare settings. Standard precautions involve use of barriers as in universal precautions, as well as the cleaning and sanitizing of contaminated surfaces.

Transmit – To pass an infectious organism or germ from person to person.

Section 7–Pediatric Hospital-Based Disaster Triage

Purpose: This section of the toolkit assists hospitals with existing pediatric services and those without them in planning for large-scale disaster triage of pediatric patients. These guidelines are based on the premise that the triage system used for routine emergencies should be used be as closely as possible for catastrophic emergencies as well. A triage system for emergencies should employ multiple levels of triage to ensure that pediatric patients receive the most accurate sorting possible, consistent with available resources and staff. The goal is to implement triage in such a manner that limited pediatric resources are used with optimal efficiency.

Note: For the purposes of this section, the assumption is that a hospital will have planned for and purchased equipment, as well as will have identified the additional staff that will be mobilized to manage its expected surge in pediatric patients. Hospitals, both with and without specialty pediatric resources, must identify in advance which staff will serve as the leaders and members of its pediatric disaster response team. Working with this team, as well as local pediatric emergency care and disaster experts, it should be determined how best to apply existing resources to achieve the best triage system possible.

It is **strongly recommended** that hospitals adopt a triage system that is consistent with those of their regional referral centers, allowing communities to standardize for consistency across their entire region.

Introduction

The unique characteristics of children make them more vulnerable in infectious, natural or manmade disasters. While all children have these vulnerabilities, children with special health care needs may also have specific conditions which can place them at even greater risk.

The vulnerabilities of children to natural or manmade disasters and in infectious situations have been described by the *Illinois Emergency Medical Services for Children* project:

- Because they have a larger surface-to-mass ratio than adults, children are more vulnerable to agents that act on the skin.

- Children are particularly vulnerable to aerosolized biological or chemical agents because their respiratory rate is faster and they inhale relatively larger doses of the substance than an adult would in the same time. In addition, because the breathing zone of children is closer to the ground, children are more vulnerable to agents like Sarin and chlorine because these agents are heavier than air and accumulate close to the ground.

- Children have less fluid reserve than adults have and can become dehydrated faster, so they are more vulnerable to the effects of agents that produce vomiting and/or diarrhea.

- Infants, toddlers, and young children do not have the motor skills to escape from the area of a chemical, biological or other terrorist incident.

- Children lack cognitive decision-making skills that would help them to figure out how to flee danger or to follow directions from others.

- Children have smaller circulating blood volumes than adults so if treatment is not immediate, relatively small amounts of blood/fluid loss can lead to irreversible shock or death.

- Because children are more sensitive to changes in body temperature, have a faster metabolism, and less blood and fluid reserves, a child's condition can shift from stable to life-threatening very rapidly.

Mass Casualties Involving Children

Children are likely to be among the victims in most mass casualty events. They have a higher likelihood of morbidity or mortality because of their anatomy and physiology. Recent history has proven that children may also be targets of terrorism.[1] For these reasons, every hospital should anticipate having pediatric victims appear on their doorstep in the event of disaster and must start planning to address the issue of treating pediatric patients.

A frequently recommended first responder triage system specifically for children, named JumpSTART, derived by Romig in 2002, is based on an adult triage system called START (Simple Triage and Rapid Treatment). This pediatric triage system places an emphasis on assessing and opening up the airway along with providing rescue breaths and pulse checks, recognizing the unique physiology of children in whom respiratory failure, rather than cardiac failure, causes death.[2]

However, JumpSTART is a triage system designed to be used primarily in the pre-hospital setting to determine priority for transport. Hospital-based disaster triage encompasses more complex issues, and must reflect the hospitals' resources, space allocation, anticipation of numbers of incoming victims, and repeated reassessment of the patients. Additionally, hospital-based triage becomes even more complex if decontamination is required prior to entry into the hospital.

Planners should also be aware that, in an attempt to develop a national mass casualty triage guideline, SALT (which stands for "sort, assess, life-saving interventions, and treatment and/or transport) was developed. SALT is not specifically for children, but was an attempt to make best use of available science and consensus opinion to provide a national framework for triage.

The core of these triage systems is the application of the clinical, history and physical assessment skills that is used in an emergency department triage on a day-to-day basis by experienced nurses and clinicians. However, both systems structure the allocation of treatment/care and staffing to provide "the greatest good for the greatest number."

One priority for hospital-based triage is to maximize care of the critically injured by preventing over-triage, which is defined as an overflow of minimally injured/sick and already treated into the critical care areas or emergency department. Quickly establishing treatment and evaluation areas for these minimally injured away from critical areas in the emergency department needs to be addressed.

Another priority of hospital-based triage is triage accuracy. This depends largely on the experience of the clinical staff performing triage. Clinicians not used to evaluating acutely ill children generally over-triage into more severe categories, thus potentially misallocating resources.[3]

Whatever system is adopted, facilities should try for consistency with the approach used in their region. Ideally, all hospitals and agencies in a region should be using the same tool.

These guidelines were created to assist both hospitals with existing pediatric services and those without to address these priorities and to plan for large-scale disaster triage of pediatric patients. More importantly, the guidelines represent the best-case scenario. Each institution needs to modify the guidelines to reflect their capacity in terms of physical and staff resources.

Pre-hospital Triage: Decontamination and EMS triage may or may not be performed in the field for all patients. The majority of patients will bypass EMS and go directly to the closest hospital or to the hospital of their choice. Pre-hospital triage will not be discussed in this section.

Overview of Triage Recommendations[4-7]

Communication and Documentation

A disaster-specific triage form and chart should be developed, based on either the JumpSTART or SALT models. In addition to a traditional chart system, unconventional ways of communication such as tags or writing pertinent information on skin or clothes should also be considered.

While time-consuming questions and assessments not relevant in a disaster scenario should be removed from the disaster triage form, assessments such as a chronic medical condition, proximity to a disaster scene or exposure to harmful agents are important depending on the type of disaster. Information such as identifiers, guardians, instructions and procedures needs to be communicated.

> **Quickly identifying unaccompanied minors is important because they require special attention and more staffing resources (e.g., accompaniment, special discharge procedure).**

Direct communication of new information, such as the need for decontamination between triage and the command center/ local authority, is important and should be facilitated. Unit leaders in the triage and treatment areas should communicate with each other directly.

Personnel

In the event of a disaster, additional personnel performing triage will be required and should be identified and trained in advance. Pediatric experience results in more accurate triage of infants and children. Pediatric patients may be sicker following a disaster because of their unique physiology and their appearance may be deceiving. Therefore, the triage officers triaging pediatric patients ideally should have pediatric experience.

Visual Inspection Officers can be used for 'first impression' triaging. A sample *Job Action Sheet–Visual Inspection Officers* is included in this section. If decontamination or isolation is required, more than one Visual Inspection Officer will be required.

Each treatment area within the ED and hospital (See *Figure 7.1*) should have a unit leader who ensures that patients receive an initial and periodic reassessment and that patient flow is maintained. Communication of unit leaders with each other should address moving up- or downgraded patients between areas and should be direct.

In addition, personnel guiding unaccompanied children through triage are needed. Recorders, who do not have to be medical professionals, should help collect personal information at all points during the triage and initial treatment process.

Pediatric Hospital Triage—A Multi-Tiered Approach[4-7]

Each hospital needs to determine criteria for switching to a two-tiered triage algorithm based on their mass casualty incident (MCI) capacity or the need for performing additional screens (biological, chemical, or radiological scenarios). This recommended process incorporates two forms of triage: a rapid visual assessment to identify quickly the sickest patients and then a more detailed triage assessment to redefine. See *Figure 7.1* for a graphic representation of these concepts.

Tier 1 Visual Assessment (See *Figure 7.1*)

The first decision is whether the patient will require decontamination secondary to potential chemical or radiological contamination:

- **YES: Decontamination is required**

Visual assessment officers outside the hospital (before decontamination) and inside the hospital (after decontamination) constantly assess the flow of patients, prioritize patients for decontamination and assign them to the appropriate treatment area.

Prioritization of the critically ill "to the front of the line" is vital to move them quickly into the resuscitation areas in the emergency department or designated critical care area. Even infants and children appearing dead should be moved into the hospital for a resuscitation attempt. There should be a rapid visual assessment conducted by an experienced clinician (Visual Inspection Officer #1) for those patients who will need immediate decontamination.

This first assessment determines the priority of decontamination, bringing the more critical patients through the decontamination line first and those less critical later. Patients that do not require decontamination should be sent to the appropriate clinical care area.

Since decontamination is not benign and patients may deteriorate during the process, a repeat second visual assessment should occur after decontamination or immediately inside the hospital. This is useful in confirming the first assessment and directing patients to the triage and treatment areas for a more detailed assessment. The second rapid visual assessment is performed by Visual Inspection Officer #2. This second visual assessment allows the person to

be sent to the appropriate clinical care area. It would be helpful to assign a recorder to each Visual Inspection Officer.

- **NO: Decontamination is not necessary**

The patient will receive only one visual assessment, and will then be sent to the appropriate clinical care area.

Table 7.1a–Color Codes and Respective Acuity Areas for Patient Sorting[8]

Patient Status	Critical Unstable	Potentially Unstable	Stable
Color Triage	**Red**	**Yellow**	**Green**
Clinical Care Area	Resuscitation Area	Triage Area or other designated area	Fast Track or other designated area
Medical Care	Immediately	Can be delayed; Re-assess frequently.	Minimal care required; re-assess periodically.

Both over-triage and under-triage are expected. Reassessments and up- and down-grading patients at multiple steps during the triage process are key to optimal utilization of ED resources.

Figure 7.1–Multi-tiered Adult/Pediatric Triage/ED Patient Flow

78
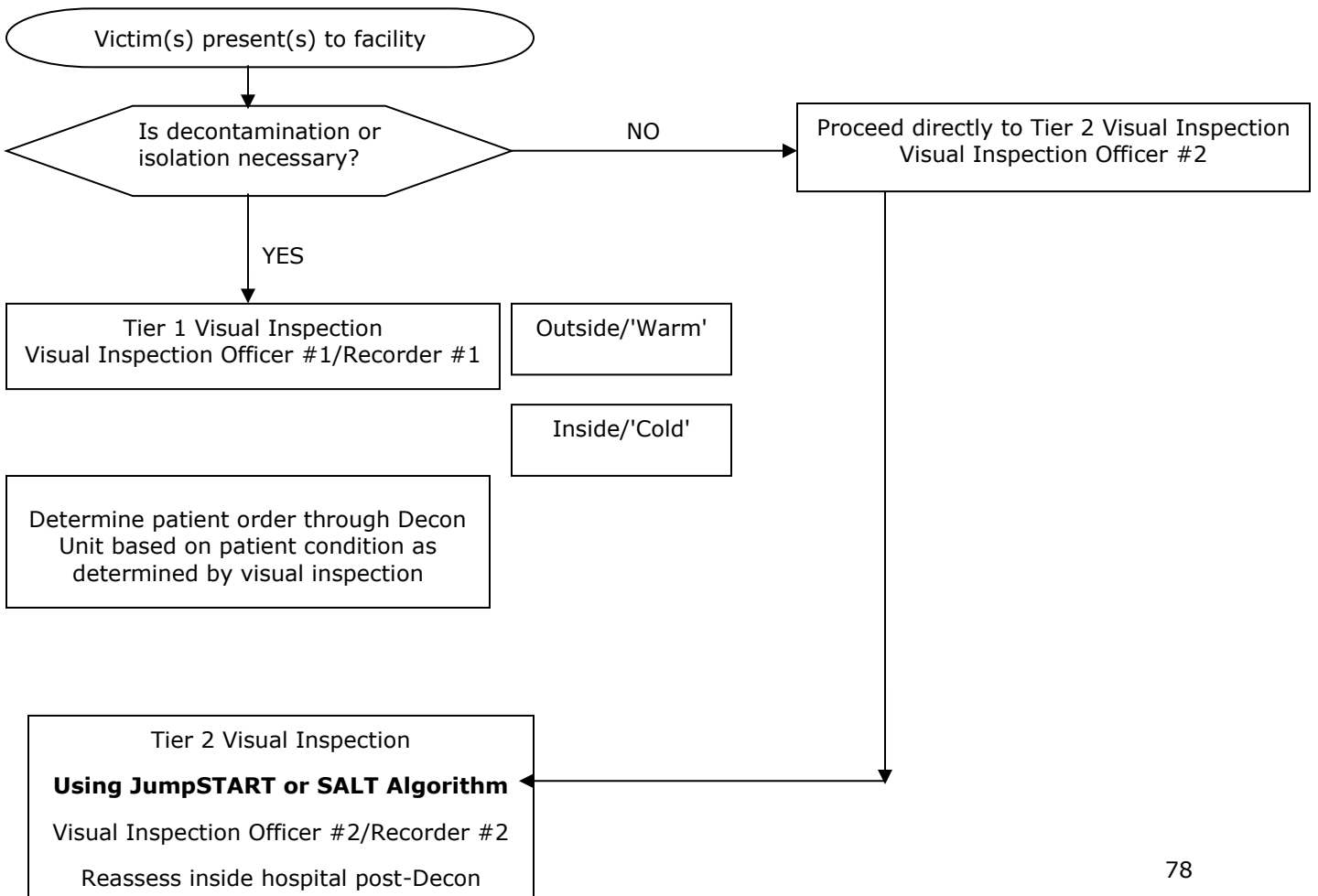
Tier 2 Triage (See *Figures 7.2 and 7.3*)

These more detailed assessments occur inside the hospital treatment areas, triage areas, fast track area, and to some extent in the resuscitation area. Triage will include a more detailed hands-on physical exam and pertinent history taking. The patient's condition will be either re-confirmed, down-triaged to lower level of care or up-triaged to higher level of care. Because children can deteriorate abruptly, it is critical to reassess them repeatedly until care is transferred. The unit leaders for each treatment area will supervise and ensure initial and repeat assessments of all children in all areas.

Use JumpSTART (Figure 7.2) if the patient appears to be a child.

Note: Patients 8 years or less of age without accompanying caretaker or those with special needs and all patients 5 years or less of age in the presence of a caretaker should all go through this Triage assessment and should not be considered stable by visual inspection alone. These groups of patients require history that is more detailed and a physical.

Use SALT (Figure 7.3) if the patient appears to be a young adult.

Figure 7.2– **JumpSTART Pediatric Multiple Casualty Incident Triage Algorithm[6]**

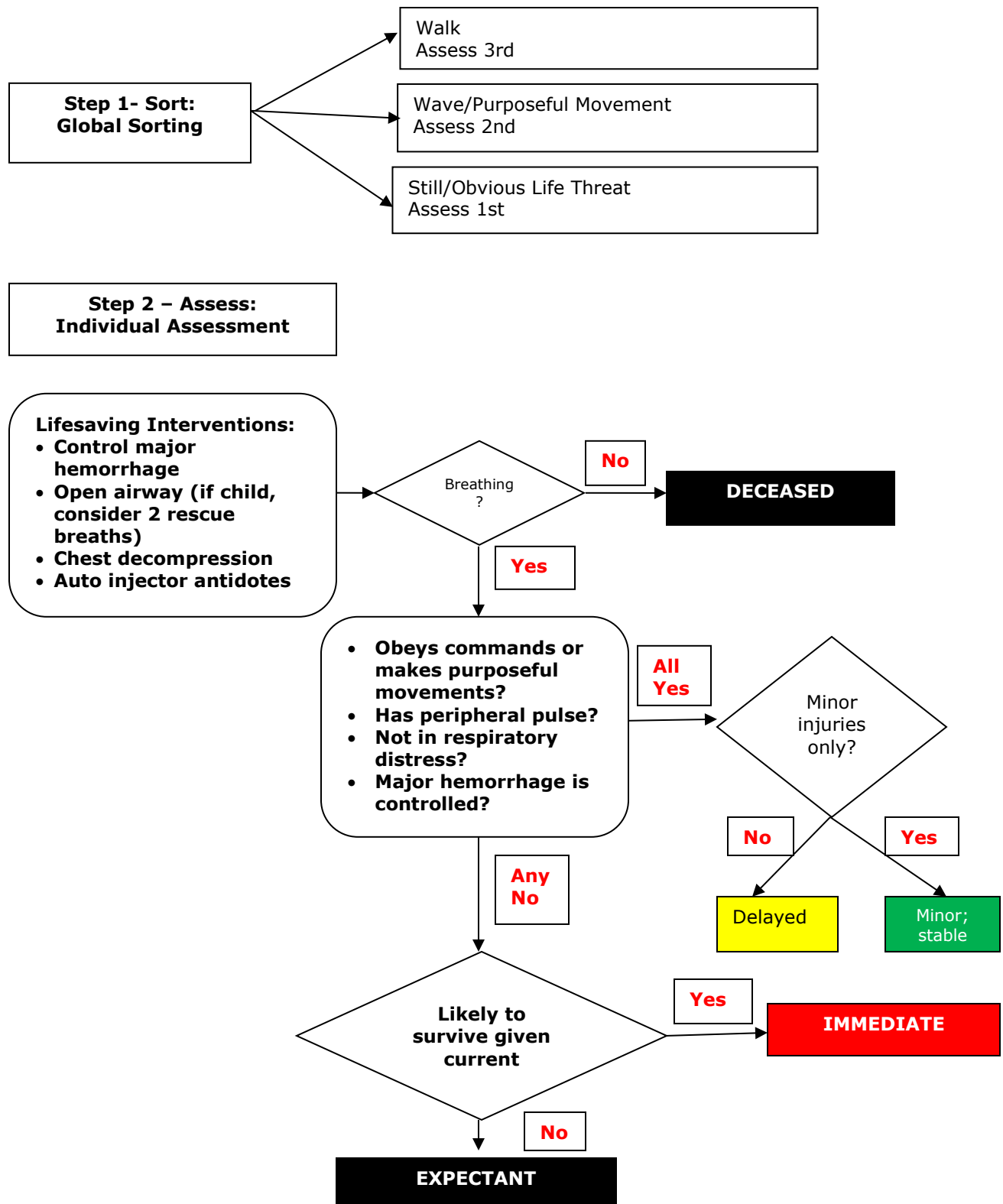Able to walk — Yes → MINOR → SECONDARY TRIAGE

No

Spontaneous Breathing → Position Airway — Spontaneous breathing → IMMEDIATE

Position Airway — APNEA → Palpable Pulse? — No → DECEASED

Palpable Pulse? — Yes → 5 Rescue Breaths → DECEASED

5 Rescue Breaths — Spontaneous Breathing → IMMEDIATE

Spontaneous Breathing — Yes → Respiratory Rate — <15 or >45 → IMMEDIATE

Respiratory Rate — 15-45 → Palpable Pulse? — No → IMMEDIATE

Palpable Pulse? — Yes → Neurologic Assessment (AVPU) — Inappropriate "P" (e.g.Posturing) or "U" → IMMEDIATE

Neurologic Assessment (AVPU) — "A," "V" or appropriate "P" (e.g. withdrawal from painful stimuli) → DELAYED
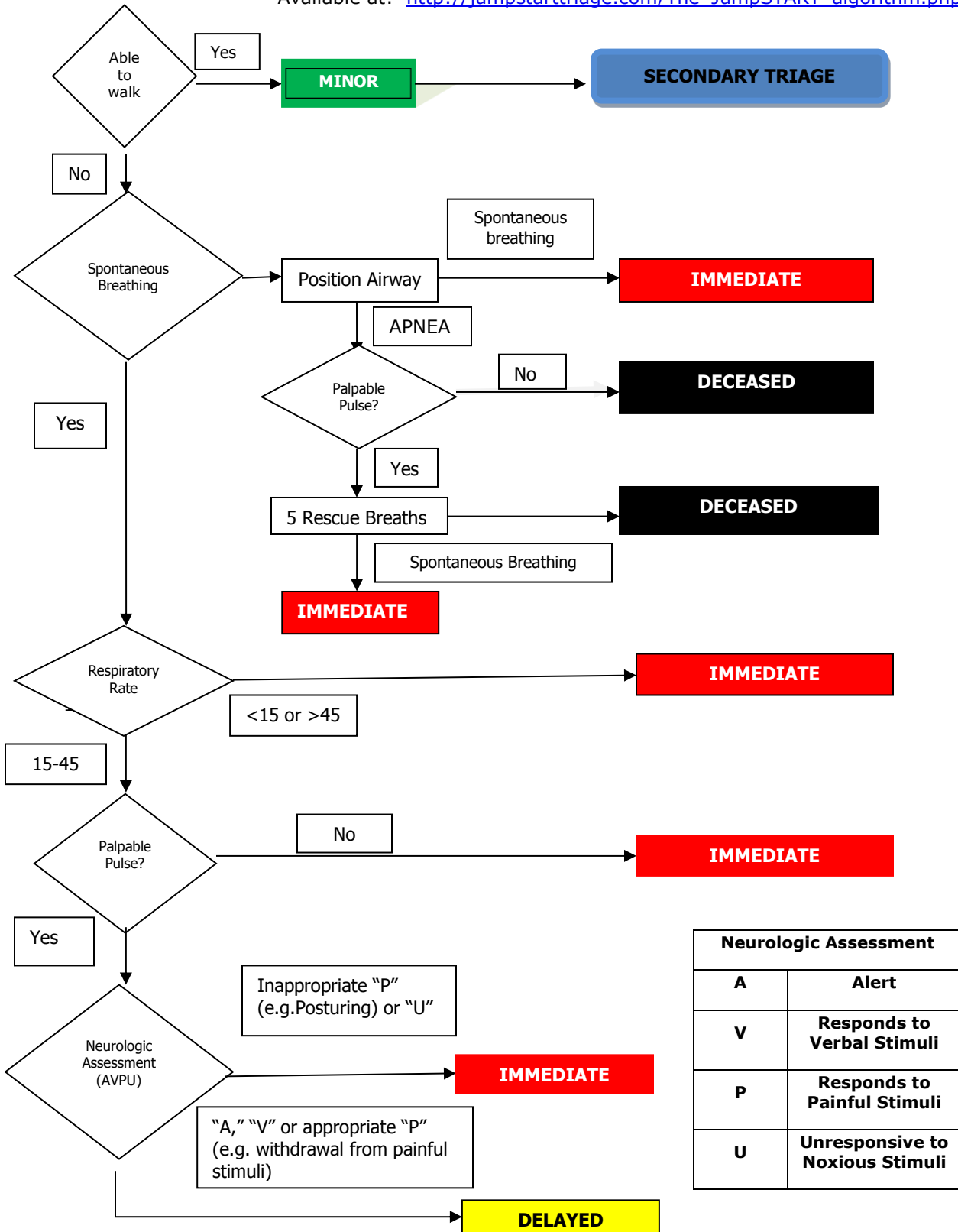
Neurologic Assessment	
A	Alert
V	Responds to Verbal Stimuli
P	Responds to Painful Stimuli
U	Unresponsive to Noxious Stimuli

80

Figure 7.3– SALT Multiple Casualty Incident Triage Algorithm[6]

Step 1- Sort: Global Sorting
- Walk — Assess 3rd
- Wave/Purposeful Movement — Assess 2nd
- Still/Obvious Life Threat — Assess 1st

Step 2 – Assess: Individual Assessment

Lifesaving Interventions:
- **Control major hemorrhage**
- **Open airway (if child, consider 2 rescue breaths)**
- **Chest decompression**
- **Auto injector antidotes**

Breathing?
- **No** → DECEASED
- **Yes** ↓

- **Obeys commands or makes purposeful movements?**
- **Has peripheral pulse?**
- **Not in respiratory distress?**
- **Major hemorrhage is controlled?**

All Yes → Minor injuries only?
- **No** → Delayed
- **Yes** → Minor; stable

Any No ↓

Likely to survive given current
- **Yes** → IMMEDIATE
- **No** → EXPECTANT

81

Sample Job Action Sheet: Visual Inspection Officers

Reports to: _____

Location: _____

There will be two Visual Inspection Officers, one before and one after the decontamination process.

Mission: To provide 'first impression' or visual assessment of pediatric and obstetric patients in the initial (pre-decontamination) triage area and assign patients to one of three triage priorities: **RED** (Critical/Unstable), **YELLOW** (Potentially Unstable), or **GREEN** (Stable).

Immediate (first 2 hours):

- Initiate a 'hands-off' process to evaluate patients via 'first impression' or visual assessment.
- Assign patients based on first impressions.
- Color triage corresponds to the level of acuity of injury.
- The table below defines the terms used for acuity and their corresponding clinical care areas.

Table 7.1b–Color Codes and Respective Acuity Areas[8]

	Critical Unstable	Potentially Unstable	Stable
Color Triage	**Red**	**Yellow**	**Green**
Clinical Care Area	Resuscitation Area	Triage Area or other designated area	Fast Track or other designated area

- The level of acuity dictates to which clinical area the patient will proceed or the order in which they go through decontamination.

- **Special Situations:**
  1. **Patients less than 8 years old:** In situations where staff is unfamiliar with patients less than 8 years old and patients do not appear to be in critical condition upon visual assessment, identify these patients as Yellow (potentially Unstable). These patients are sent to Triage, where a more detailed history and physical is obtained.
  2. **Patients with special needs:** In situations where staff is unfamiliar with patients with special needs and patients do not appear to be in critical condition upon visual assessment, identify these patients as Yellow (Potentially Unstable). These patients are sent to Triage, where a more detailed history and physical is obtained. (See *Appendix 7.3*.)
  3. **Patients with exposures requiring decontamination:** There will be two Visual Inspection Officers, one before and one after the decontamination process.
      a. The Visual Inspection Officer 1 (before the decontamination process) decides each patient's priority in which to undergo decontamination, prior to any medical intervention.
      b. After the decontamination, the parties will encounter the Visual Inspection Officer 2 for a second visual assessment. Here patients will be assigned to one of three triage priorities. **RED** (Critical/Unstable), **YELLOW** (Potentially Unstable), and **GREEN** (Stable).

Sample Job Action Sheet: Recorder

Reports to: _____

Location: _____

There will be a Recorder assigned to each of two Visual Inspection Officers who are posted before and after the decontamination process.

Mission: To document the 'first impression' or visual assessment of pediatric and obstetric patients performed by the Visual Inspection Officers in the initial (pre-decontamination) triage area and assign patients to one of three triage priorities: **RED** (Critical/Unstable), **YELLOW** (Potentially Unstable), or **GREEN** (Stable).

Immediate (first 2 hours) and as assigned:

- Record results of the 'hands-off' process and document to which triage area a patient is transferred. (Color triage corresponds to the level of acuity of injury or illness.)
- Ensure accuracy of patient tracking.
- Document patient assignment and whether accompanied/unaccompanied.
- Document inter-facility transfers (into and from the facility).
- Document fatalities.
- Share information with local Emergency Operation Center, public health and law enforcement personnel in coordination with Liaison Officer.
- Document personnel movement through the triage area.
- Ensure preservation/continuity of documentation through interface with Patient Registration Unit Leader.

Visual Assessment of Children

Visual assessment of a patient's immediate status is done daily in every emergency department by experienced nurses and physicians who quickly decide who needs emergency treatment and who can go through a longer registration and routine triage. The visual assessment described here uses this same technique for rapid mass casualty sorting. The assessment done prior to decontamination would be done by staff in decontamination gear, making it difficult to physically assess patients or to have meaningful communication with them.

The visual assessment described here is based on the Pediatric Visual Assessment Triangle: Breathing, Circulation, and Appearance. (See *Figure 7.4*.)[9]

The core element of primary triage is dependent upon identifying abnormal elements of these three areas. Once an abnormal criterion is identified, the patients are immediately sent to the RED Resuscitation Area, where the patient will receive immediate care.

Figure 7.4–Pediatric Visual Assessment (Triangle)[9]

Pediatric Assessment Triangle
First Impression

Appearance
Mental status
Muscle tone
Body position

Breathing
Visible movement
Work of breathing
(normal/increased)
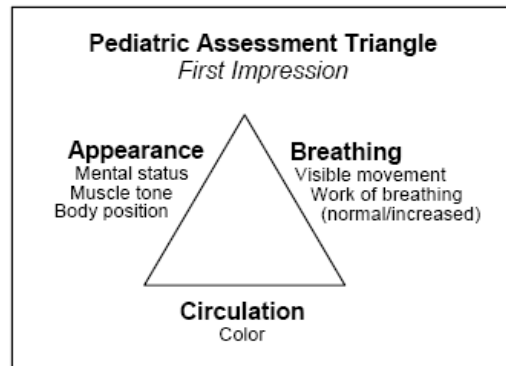
Circulation
Color

Important points to remember
- Although the ABC mnemonic tool is very helpful in remembering the key elements of pediatric visual assessment, the order of assessment should be B, C, A (Breathing, then Circulation, then Appearance).
- With infants and young children, form a visual impression before you approach to begin the hands-on assessment process.
- Abruptly approaching a young child who is already distressed can increase the child's agitation, potentially exacerbating the child's clinical condition.
- Maintain a calm, reassuring manner whenever you assess a very young patient.
- To assess younger children, have a parent hold the child or allow the child to sit on a parent's lap if possible.
- Encourage the parent to participate in the examination.
- Consider age-related factors throughout the assessment.

- Allowing infants to suck on a pacifier or gloved finger can calm them.
- If at any point during the first impression you identify a significant clinical problem, immediately discontinue your visual assessment, approach the child, and begin the hands-on initial assessment.
- Do not delay lifesaving interventions to initiate monitoring.
- Fever may make infants and children irritable or somnolent, which can affect the assessment.
- Children with special health care needs may have poor motor control and/or coordination of oropharyngeal muscles, and poor head control. Pooling of secretions can lead to airway obstruction. Breathing may also be hindered by an enlarged abdomen.

Assessment Criteria

Assessment of Breathing

The Visual Inspection Officer will form a first impression about a patient's respiratory status (See *Table 7.2*.)

- If critical or unstable, the patient will be considered **RED** and sent to the decontamination area ahead of the line or to the resuscitation area, as appropriate.
- If potentially unstable after decontamination, the patient will be considered **YELLOW** and sent to the Triage Area or to the appropriate treatment area after decontamination. Frequent re-evaluation is necessary.
- If breathing is stable, consider the child **GREEN**. Continue assessment for circulation and appearance based on *Tables 7.3* and *7.4*.

Table 7.2–Assessment for Breathing[8]			
Assessment	**Critical/Unstable RED**	**Potentially Unstable YELLOW**	**Stable GREEN**
Airway	Partial to complete obstruction by secretions or blood	Patent with secretions	Patent
Work of Breathing	Absent or increased work with periods of weakness	Normal	Normal
Central Skin Color	Pallid, mottled, or cyanotic	Pink	Pink
Inspection	Absent to decreased chest movements	Normal	Normal

Additional Points to Remember

- In children, respiratory arrest is the primary cause of cardiac arrest.
- The critical window between onset of apnea and onset of cardiac arrest in children is very short—no more than a minute or two.
- A child's airway is narrower at all levels than an adult's. The child's anatomy results in higher airflow resistance, so when further narrowed by edema or secretions, the child experiences greatly increased resistance to airflow.
- Avoid actions that could agitate or frighten a child who is in respiratory distress.

Table 7.3–Assessment for Circulation[8]			
Assessment	**Critical/Unstable RED**	**Potentially Unstable YELLOW**	**Stable GREEN**
Skin Color	Pallid, mottled, or cyanotic	Normal	Normal

Assessment of Circulation

The Visual Inspection Officer will form a first impression about a patient's circulatory status, based on *Table 7.3*.

- If critical or unstable, the patient will be considered **RED** and sent to the decontamination area ahead of the line or to the resuscitation area, as appropriate.
- If potentially unstable, the patient will be considered **YELLOW** and sent to the Triage Area or other designated area after decontamination.
- If circulation is stable, then continue assessment for appearance based on *Table 7.4*.

Assessment of Appearance/Mental Status

The Visual Inspection Officer will form a first impression about a patient's appearance and mental status. See *Table 7.4* for the TICLS Tool for quick assessment of appearance. *Table 7.4a–AVPU Scale* can be used to further assess mental status.

- Assessment of mental status in children is age-dependent.
- If the patient is critical or unstable, the patient will be considered **RED** and sent to the Resuscitation Area.
- If the patient is unresponsive to verbal commands but not acting appropriately, send the patient to **YELLOW**–Holding and Treatment Area.
- If the patient is alert, send the patient to Fast Track–**GREEN**.

Table 7.4–Appearance (TICLS Tool)[10]	
Appearance	**Questions to be answered**
Tone	Is there vigorous movement with good muscle tone, or is the child limp?
Interactivity	Is the child alert and attentive to surroundings, or apathetic? Will the child reach for a toy? Does the child respond to people, objects, and sounds?
Consolability	Does comforting the child alleviate agitation and crying?
Look/Gaze	Do the child's eyes follow your movement, or is there a vacant gaze?
Speech/Cry	Are vocalizations strong, or are they weak, muffled, or hoarse?

Table 7.4a–AVPU (Alert Voice Pain Unresponsive) Scale[10]			
Assessment	**Critical/Unstable RED**	**Potentially Unstable YELLOW**	**Stable GREEN**
Patient Response	Responsive only to pain or unresponsive	Responsive to verbal commands	Alert

Table 7.5–First Impression of Pediatric Respiratory Emergencies[9]

Assessment	Distress	Failure	Arrest
Mental status	Alert, agitated, or combative	Extreme agitation or reduced responsiveness	Unresponsive
Muscle tone/body position	Normal; may assume tripod position	Normal tone or hypotonic	Atony
Chest movement	Present	Present	Absent
Work of breathing	Increased	Greatly increased with periods of weakness	Absent
Skin color	Pink or pallid	Pallid, mottled, or cyanotic	Cyanotic

Additional Points of Assessment

If the child displays abnormal vital signs or heart rate and respiration rate are values that are consistently above or below normal ranges, send the patient to *RED–Resuscitation Area*. Factors such as fever and anxiety may cause transient abnormal vital signs. Medical staff discretion is needed for these cases. Send the patient to *RED–Resuscitation Area* when there is doubt.

Table 7.6–Average Pediatric Heart Rates by Age[*]/
Table 7.7–Average Pediatric Respiratory Rates by Age[9]

Age (years)	Heart Rate[*] (beats per minute)	Respiration Rate (breaths per minute)
Infant (birth to <1 year)	100 - 160	30 - 60
Toddler (1 to <3 years)	90 - 150	24 - 40
Preschooler (3 to <6 years)	80 - 140	22 - 34
School-aged (6 to <12 years)	70 - 120	18 - 30
Adolescent (12 to 18 years)	60 - 100	12 - 16

[*]Pulse rates for a child who is sleeping may be 10 percent less.

Table 7.8–SAMPLE History[9]

S–Signs and symptoms	Assessment findings and history
A–Allergies	Particular drug and food allergies
M–Medications	Medications the child is currently taking; time and amount of last dose
P–Past medical problems	Especially chronic medical conditions such as asthma, which may predispose to morbidity/mortality
L–Last food or liquids	Ask about last food and drink
E–Events leading to illness or injury	This will be of special relevance in a disaster. Specific questions will depend on type of event

Additional Points of Assessment of Children

Breathing

In a child who is able to breathe spontaneously, perform the following detailed assessments:

- Evaluate work of breathing and breath sounds:
  - Inspiratory retractions in the suprasternal, supraclavicular, intercostal, or subcostal areas
  - Inspiratory nasal flaring
  - Head bobbing
- Listen for stridor, grunting or gurgling
- Count the respiratory rate for a 30-second period
- Assess the respiratory depth and pattern
- Evaluate central color at the lips, tongue, and oral mucosa
- Inspect for chest trauma
- Auscultate chest by placing the stethoscope below each axilla in turn and compare breath sounds of right and left lung fields to see if equal
- Decreased breath sounds
- Wheezing
- Crackles
- **Optional:** initiate pulse oximetry (this may be time-consuming and is not needed for triage process during disasters)

Circulation

- Note skin color at the lips and tongue, the palms, or the soles of the feet; abnormal skin color (pallor, mottling, or cyanosis) indicates an urgent condition.
- Palpate the central pulse. Recommended sites:
  - Newborn: base of umbilical cord.
  - Infants and young children: carotid artery.
- If central pulse present, evaluate strength; weak pulse can indicate decompensated shock.
- Count rate for 30 seconds and double this figure for the rate per minute.
- If child is uncooperative, count the rate by auscultating with the stethoscope over left side of chest between sternum and nipple.
- Compare peripheral and central pulses; they should be similar. Weak or irregular peripheral pulses indicate either poor peripheral perfusion or exposure to cold ambient temperatures; hot skin may indicate fever, infection, or hyperthermia caused by very warm ambient temperatures.
- Check capillary refill time; delayed capillary refill (more than 3 seconds) may indicate poor perfusion or exposure to cool ambient temperatures.

Appearance

- Level of Consciousness: All well children will constantly interact with their environment. Proceed with initial assessment when child is markedly irritable, agitated or has reduced responsiveness.
- Interaction with Parent: A child will respond to his/her name being called. Proceed with initial assessment when the child has a markedly slow or absent response, inconsolable crying, or failure to recognize a parent.
- Response to Others: A child will recognize your presence. Proceed with initial assessment when there is no response to your presence.
- Muscle Tone and Body Position: A child will assume a comfortable position. An infant will have his extremities in a flexed position. There will be equal movement with their limbs. Proceed with initial assessment when there is hypotonia, rigidity, or inability to sit.

Mental Status Assessment

Knowledge of unique developmental factors is important in evaluating for normal mental status in pediatric patients. Some of these are outlined below, but it is recommended to refer to other texts for a more comprehensive review of developmental stages. (See *Section 14–The Psychosocial Needs of Children during a Disaster*.)

- Problems arise whenever the caretaker/parent is not present.
- A standard Glasow Coma Scale is provided (See *Table 7.9*.)[9,11,12] A modified version of the Glasgow Coma Scale (see *Table 7-10*)[9,11,12] has been adapted for assessing infants and young children who lack the developmental maturity to speak or to respond to commands. The resultant score may be helpful for detecting changes in the child's condition over time, but is not designed to help with immediate management decisions and triage.

Table 7.9–Standard Glasgow Coma Scale[9,11,12]

Eye Opening	Pts	Best Verbal Response	Pts	Best Motor Response	Pts
Spontaneous	4	Oriented	5	Follows commands	6
To verbal stimuli	3	Confused	4	Localizes pain	5
To pain	2	Inappropriate words	3	Withdraws to pain	4
None	1	Incomprehensible sounds	2	Flexion to pain	3
		None	1	Extension to pain	2
				None	1

Table 7.10–Pediatric Glasgow Coma Scale for Infants & Young Children[9,11,12]

Eye Opening	Pts	Best Verbal Response	Pts	Best Motor Response	Pts
Spontaneous	4	Coos, babbles	5	Normal spontaneous movements	6
To speech	3	Irritable, cries	4	Withdraws to touch	5
To pain	2	Cries to pain	3	Withdraws to pain	4
None	1	Moans to pain	2	Abnormal flexion	3
		None	1	Abnormal extension	2
				None	1

Characteristics Unique to Each Age Group

- **Infants (0 to <18 months)**
  - Ambulation begins at approximately 1 year old.
  - Easily consolable by caregiver (e.g., smiles and coos with parent).
  - Appropriate reaction to others - stranger anxiety associated with crying is normal.
- **Toddlers (18 months to <3 years)**
  - Normal: explores the environment (e.g., looking or walking around).
  - Talking appropriate for development: simple words and short sentences.
- **Preschool (3 years to 6 years)**
  - Talking: more prominent and longer sentences; ability for others to understand.
- **School-aged (7 years to 12 years)**
  - Able to verbalize their needs: HOWEVER, the child may regress to earlier stage of development.

Pain Assessment

Measuring pain in infants and children is difficult. Changes in vital signs (heart rate, breathing rate, and blood pressure), facial expression and behavior are most widely used to rate pain. Regular measurements should be taken and recorded. There are different pain rating scales used for infants and children. One example is illustrated below:

Table 7.11–Faces Pain Rating Scale[13]
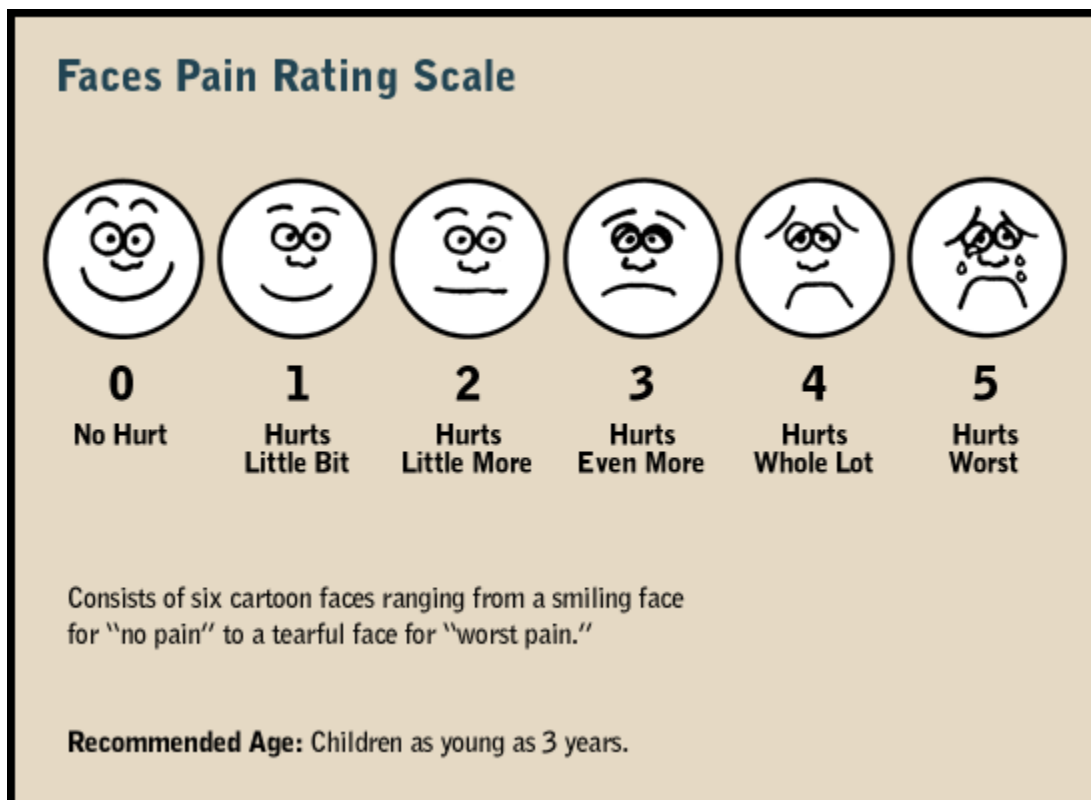
Brief Review of Anatomic and Physiologic Differences[9]

There are fundamental anatomic and physiologic differences between children and adults that directly affect:

- How assessment is performed,
- How children respond to illness and injury, and
- How treatment and transportation decisions are made.

Anatomy of pediatric airway — Tongue; Epiglottis (floppier, u-shaped); Hyoid bone; Airway (more anterior and higher); Vocal cords; Thyroid cartilage; Cricoid ring (Narrowest); Trachea (more flexible); Funnel; Posterior; Anterior. SUSAN GILBERT

Anatomy of adult airway — Tongue; Epiglottis (shorter); Hyoid bone; Vocal cords (Narrowest); Thyroid cartilage; Cricoid ring; Trachea; Cylinder; Posterior; Anterior. SUSAN GILBERT

Pediatric Airway Considerations
- More anterior than adult (less head tilt to open the airway).
- Smaller diameter of airway than an adult (easily blocked by secretions or blood).
- Large tongue in relation to jaw size (likely to cause obstructions when child is unconscious).
- Infants prefer to breathe through the nose (nasal obstructions can cause respiratory distress).

Airway Assessment: Is the child effectively moving air?
- Is the child able to speak or cry vigorously?
- Ask the parent to lift the child's shirt.
- Look for signs of airway obstruction.
- Observe movement of the chest or abdomen.

Is there a potential for airway compromise?

Listen for sounds that indicate airway obstruction or excessive secretions.

- Stridor: A high- or low-pitched sound that occurs when the child breathes in that indicates partial obstruction of the upper airway.
- Foreign body.
- Swelling (from disease, poison, etc.)

If a Foreign Body Airway Obstruction (FBAO) is suspected:

- Provide humidified high concentration oxygen by non-breather mask or blow-by oxygen tubing until treatment can be completed.
- If airway swelling is suspected, keep the child in the position most comfortable for breathing.
- Call another clinician for assistance.

Breathing Assessment: Is the child breathing adequately? Look for:

- Movement of chest
  - The chest should move smoothly with no noticeable difference from left to right.
  - The depth and rhythm of chest movement should be regular.
- Extra effort used to breathe
  - Is the child working hard just to breathe?
  - The extra effort of moving air into the lungs or out of the lungs indicates respiratory distress and eventually can exhaust the child.
- Blue skin tone.
- Listen for lung sounds.
- Count respirations.

If the chest is not rising, begin ventilation with a bag-valve mask and supplemental oxygen.

- Reassess the airway.
- Position the head.
- Unlike for an adult, ventilate with just enough pressure to see the chest rise.

Circulation Assessment: Determine if perfusion is sufficient.

- Compare peripheral and central pulses,
- Skin temperature, and
- Skin tones.

Unlike in adults, blood pressure is not a reliable indicator of poor perfusion in children and should not be the determining factor used to decide if the child has hypoperfusion. Blood pressure can be measured in children over three, particularly when the condition is non-urgent and there is no need to expedite transport.

Begin circulation assessment by detecting and stopping active bleeding. Use direct pressure, elevation, and when necessary, the proximal pressure point. Remember that seemingly small blood losses can be significant as a child has a much smaller blood volume than an adult.

References

1. Amir LD, Aharonson-Daniel L, Peleg K, Waisman Y, Israel Trauma Group. The severity of injury in children resulting from acts against civilian populations. *Ann Surg*. 2005;241(4):666-670.

2. Romig LE. Pediatric triage. A system to JumpSTART your triage of young patients at MCIs. *JEMS*. 2002;27(7):52-58, 60-63.

3. Maldonado T, Avner JR. Triage of the pediatric patient in the emergency department: are we all in agreement? *Pediatrics*. 2004;114(2):356-360.

4. Cronin JG, Wright J. Rapid assessment and initial patient treatment team–a way forward for emergency care. *Accid Emerg Nurs*. 2005;13(2):87-92.

5. Eitel DR, Travers DA, Rosenau AM, Gilboy N, Wuerz RC. The emergency severity index triage algorithm version 2 is reliable and valid. *Acad Emerg Med*. 2003;10(10):1070-1080.

6. Romig, L. The JumpSTART Pediatric MCI Triage Tool and other pediatric disaster and emergency medical resources. Available at: http://jumpstarttriage.com/JumpSTART_and_MCI_Triage.php Accessed: January 12, 2016.

7. SALT mass casualty triage: concept endorsed by the American College of Emergency Physicians, The American College of Surgeons Committee on Trauma, American Trauma Society, National Association of EMS Physicians, National Disaster Life Support Education Consortium, and State and Territorial Injury Prevention Directors Association. *Disaster Med Health Prep;* 2008 Dec; 2(4):245-6. Available at: http://chemm.nlm.nih.gov/salttriage.htm Accessed: January 12, 2016.

8. Sanddal ND, Hansen JD, Rahm NS. CUPS Assessment Table. In: *Critical Trauma Care by the Basic EMT*. 4th ed. Bozeman, MT: Critical Illness and Trauma Foundation; 1997:48.

9. Foltin GL, Tunik MG, Cooper A, Markenson D, Treiber M, Skomorowsky A, eds. *Paramedic TRIPP Version 1.0–Teaching Resource for Instructors in Prehospital Pediatrics*. New York, NY: Center for Pediatric Emergency Medicine; 2002.

10. American Academy of Pediatrics. *Pediatric Education for Prehospital Professionals (PEPP)*. 1st ed. Boston, MA: Jones and Bartlett Publishers; 2000:36.

11. Holmes JF, Palchak MJ, MacFarlane T, Kuppermann T. Performance of the pediatric Glasgow Coma Scale in children with blunt head trauma. *Acad Emerg Med*. 2005;12(9):814-819.

12. James HE. Neurologic evaluation and support in the child with an acute brain insult. *Pediatr Ann*. 1986;15(1):16-22.

13. Whaley LF, Wong DL. *Nursing Care of Infants and Children*. 3rd ed. St. Louis, MO: Mosby; 1987.

14. New York State Department of Health Emergency Medical Services for Children Program. New York State Pediatric Assessment Reference Card. 2007. Available at: https://www.health.ny.gov/publications/4157.pdf.   Accessed January 12, 2016.

15. New York State Department of Health Emergency Medical Services for Children Program. Children with Special Health Care Needs–Prehospital Care Reference Card. 2003. Available at: http://www.health.ny.gov/professionals/ems/pdf/referencecard.pdf
Accessed January 12, 2016.

Appendices

- *Appendices 7-1/7-2–Pediatric Assessment Reference Card* from New York State Emergency Medical Services Includes Pediatric Assessment, APGAR Scores, Resuscitation, CPR Notes, ALS Guidelines, Glasgow Coma Score, Respiratory/Cardiac Arrest Treatment.

  Available at: http://www.health.ny.gov/professionals/ems/pdf/pediatricreferencecard-04.pdf. Accessed January 12, 2016.

- *Appendix 7-3–Children with Special Health Care Needs Reference Card* from New York State Emergency Medical Services
  Includes Listen to the Caregivers, Technology-Assisted Children, Tracheostomy, BLS, ALS, Central Intravenous Catheters, CSF Shunt, Gastrostomy, Colostomy or Ileostomy, Ureterostomy or Nephrostomy Tube or Foley Catheter.

  Available at: http://www.health.state.ny.us/nysdoh/ems/pdf/referencecard.pdf. Accessed January 12, 2016.

Appendix 7-1[13]

PEDIATRIC ASSESSMENT

NEW YORK STATE Department of Health

EMSC

Updated 2016

General Impression
(First view of patient)

Airway & Appearance
(Open/Clear – Muscle Tone /Body Position)

Abnormal: Abnormal or absent cry or speech. Decreased response to parents or environmental stimuli. Floppy or rigid muscle tone or not moving.

Normal: Normal cry or speech. Responds to parents or to environmental stimuli such as lights, keys, or toys. Good muscle tone. Moves extremities well.
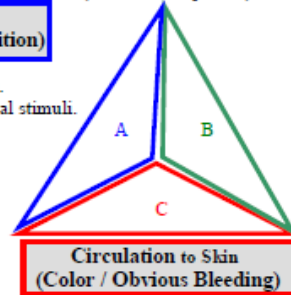
Work of Breathing
(Visible movement / Respiratory Effort)

Abnormal: Increased/excessive (nasal flaring, retractions or abdominal muscle use) or decreased/absent respiratory effort or noisy breathing.

Normal: Breathing appears regular without excessive respiratory muscle effort or audible respiratory sounds.

Circulation to Skin
(Color / Obvious Bleeding)

Abnormal: Cyanosis, mottling, paleness/pallor or obvious significant bleeding.
Normal: Color appears normal for racial group of child. No significant bleeding.

Decision/Action Points:
- Any abnormal findings or life-threatening chief complaint such as major trauma/burns, seizures, diabetes, asthma attack, airway obstruction, etc (urgent) – proceed to Initial Assessment. Contact ALS if ALS not already on scene/enroute.
- All findings normal (non-urgent) – proceed to Initial Assessment.

Initial Assessment
(Primary Survey)

Airway & Appearance
(Open/Clear – Mental Status)

Abnormal: Obstruction to airflow. Gurgling, stridor or noisy breathing. Verbal, Pain, or Unresponsive on AVPU scale.

Normal: Clear and maintainable. Alert on AVPU scale.
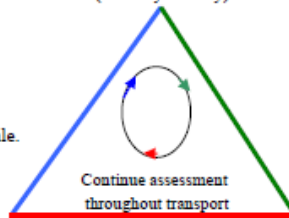
Breathing
(Effort / Sounds / Rate / Central Color)

Abnormal: Presence of retractions, nasal flaring, stridor, wheezes, grunting, gasping or gurgling. Respiratory rate outside normal range. Central cyanosis.

Normal: Easy, quiet respirations. Respiratory rate within normal range. No central cyanosis.

Continue assessment throughout transport

Circulation
(Pulse Rate & Strength / Extremity Color & Temperature / Capillary Refill / Blood Pressure)

Abnormal: Cyanosis, mottling, or pallor. Absent or weak peripheral or central pulses; Pulse or systolic BP outside normal range; Capillary refill > 2 sec with other abnormal findings.
Normal: Color normal. Capillary refill at palms, soles, forehead or central body ≤ 2 sec. Strong peripheral and central pulses with regular rhythm.

Decision/ Action Points:
- Any abnormal finding – Immediate transport with ALS. If ALS is not immediately available, meet ALS intercept enroute to hospital or proceed to hospital if closer. Open airway & provide O_2. Assist ventilations, start CPR, suction, or control bleeding as appropriate. Check for causes such as diabetes, poisoning, trauma, seizure, etc.
  Assist patient with prescribed bronchodilators or epinephrine auto-injector or administer meds if approved and appropriate.
- All findings on assessment of child normal – Continue assessment, detailed history & treatment at scene or enroute.

Normal Respiratory Rate:		Normal Pulse Rate:		Lower Limit of Normal Systolic BP:	
Infant (<1yr):	30- 60	Infant:	100-160	Infant:	>60 (or strong pulses)
Toddler (1-3yr):	24 -40	Toddler:	90-150	Toddler:	>70 (or strong pulses)
Preschooler(4-5yr):	22- 34	Preschooler: 80-140		Preschooler:	>75
School-age(6-12yr):	18 -30	School-age: 70-120		School-age:	>80
Adolescent(13-18yr): 12 -20		Adolescent: 60-100		Adolescent:	>90
		Pulses slower in sleeping child / athlete		Estimated min.SBP >70 + (2 x age in yr)	

This reference card should NOT replace or supersede regional prehospital medical treatment protocols.

Appendix 7-2[13]

APGAR Score

	0 pt	1 pt	2 pts
Appearance	Blue	Pink Body Blue Limbs	All Pink
Pulse	Absent	<100	≥100
Grimace/Reflex	None	Grimace	Cough/Sneeze
Activity	Limp	Some flexion	Active motion
Respirations	Absent	Slow/Irregular	Good

Neonatal Resuscitation

Dry, Warm, Position, Tactile Stimulation
Call for ALS back-up if needed
Suction if airway obstruction or BVM needed

Apnea/Gasping, HR <100 or central cyanosis

BVM @40-60/min with room air. O_2 if sat stays < 95%

HR<60 after 30 sec. BVM

Chest Compressions @ 120/min - 3:1
1/3 to 1/2 chest depth
2 thumb encircle chest or 2 fingers

ALS available & HR <60
Consider intubation
Epinephrine
0.01-0.03mg/kg
IV/IO/ET
1:10,000
q 3-5 min

Glasgow Coma Score

Infants		Children /Adults
Eye Opening		
Spontaneous	4	Spontaneous
To speech/sound	3	To speech
To pain	2	To pain
No response	1	No response
Verbal Response		
Coos or babbles	5	Oriented
Irritable crying	4	Confused
Cries to pain	3	Inappropriate words
Moans to pain	2	Incomprehensible
None	1	None
Motor Response		
Spontaneous	6	Obeys commands
Withdraws touch	5	Localizes pain
Withdraws pain	4	Withdraws pain
Abnormal flexion	3	Abnormal flexion
Abnormal extension	2	Abnormal extension
No response	1	No response

Respiratory or Cardiac Arrest

	Infant	Child	Adol/Adult
VENT RATE Patient with pulses	20/min	12-20/min	12/min
COMPRESS METHOD	Encircle or 2 fingers	1 or 2 hands	2 hands
DEPTH	1/3 (1 1/2 in)	1/3 (2 in)	2 - 2.4 in
COMPRESS RATE	100-120 per minute		
C:V RATIO (2 people)	15:2	15:2	30:2
Push HARD & FAST, allow full chest RECOIL!			

CPR Notes:
- Start CPR for cardiac arrest or HR<60 with poor perfusion.
- AEDs with pediatric capabilities preferred if patient < 25kg or 55lb (<8 yr old). If unavailable, may use adult AED.
- Do not pause CPR for more than 10 sec. for pulse checks, intubation, patient transfer or other reasons. Give medications during CPR whenever possible.

- Do not synchronize ventilations/compressions after intubation - ventilate at 10/min when no pulses.
- After defibrillation, do 2 full minutes of CPR starting with compressions before pulse/rhythm check.
- Adolescent/Adult protocols apply to patients with obvious signs of puberty (breast development obvious through clothing, facial hair, etc), acne, adult appearance/size, or visible axillary hair

Pediatric ALS Guidelines

Asystole or PEA
Start CPR
Intubate if needed to maintain airway.
Epinephrine: 0.01 mg/kg IV/ IO*
0.1 mg/kg ET*
(*0.01mg/ml = 1:10,000;
0.1mg/ml=1:1000)
Continue Epinephrine q 3-5 min, same dose

Bradycardia
Open airway & ventilate with oxygen.
Intubate if ALOC & unmaintainable airway
Start CPR if HR<60 with poor perfusion.
Epinephrine: 0.01 mg/kg IV/ IO*
0.1 mg/kg ET*
(*0.01mg/ml =1:10,000; 0.1mg/ml=1:1000)
Continue Epinephrine q 3-5 min, same dose
Atropine 0.02 mg/kg IV/IO
0.03 mg/kg ET
minimum dose 0.1 mg
maximum dose 0.5 mg child; 1 mg adol.
Consider transcutaneous pacing as needed.

VF or Pulseless VT
Defibrillate q 2 min as needed
1st shock 2j-4j/kg, 2nd shock 4 j /kg, later shocks 4-10j/kg (up to 10j/kg)
Continue CPR, ventilate with O_2;
Intubate if needed to maintain airway,
Epinephrine: 0.01 mg/kg 1:10,000 IV/ IO
(q3-5 min) 0.1 mg/kg 1:1000 ET
Amiodarone 5mg/kg IV/IO _or_
Lidocaine 1mg / kg IV/ IO/ ET
Magnesium 25-50mg/kg IV/ IO if torsades de pointes or hypomagnesemia

Consider possibility of hypoxia, hypovolemia, hypothermia, hydrogen ion (acidosis), hyper/hypokalemia, hypoglycemia, tamponade, tension pneumothorax, toxins/poisons/drugs, trauma or thrombosis (coronary or pulmonary) and treat if present.

This reference card should NOT replace or supersede regional prehospital medical treatment protocols.

Appendix 7-3[14]

EMERGENCY MEDICAL SERVICES

PEOPLE WHO CARE

Children with Special Health Care Needs

EMSC

Listen to the caregivers. They know their child best.   Inquire about:
- **child's baseline abilities**   – **syndromes/ diseases**   – **what is different today**
- **devices & medications**   – **usual vital signs**   – **symptoms**

Bring care plans or Emergency Information Forms (EIF) to the hospital with the patient.
Assess & communicate with the child based on <u>developmental age</u>, not chronological age.
Look for MedicAlert ® jewelry or health forms, if usual caregiver is not available.
Bring necessary <u>specialized equipment</u> into the ED with the child if possible (ventilator, trach or gastrostomy tube, etc)
Ask caregivers best way to move the child, particularly if the child is very prone to fractures, such as in osteogenesis imperfecta ('brittle bone disease'). If child suffers a fracture & has a brace on the affected area, leave the brace on & immobilize around it.
Down Syndrome patients may have upper cervical instability and may be more prone to spinal cord injury. Immobilization is important in any mechanism of injury in which there has been significant movement of the neck.
Cardiac patients may have absent pulses in limbs. They may be chronically hypoxic or have hypoxic spells.

Technology-Assisted Children – Among **Children with Special Health Care Needs** is a growing sub-population of children with chronic illnesses who are dependent on medical devices. Several of the most common devices are summarized below with information to assist in the care of children with those devices.

Tracheostomy – breathing tube into trachea through opening in neck
Uses: Respiratory problems – narrow or obstructed airways, bronchopulmonary dysplasia (chronic lung disease seen in premature babies), etc.
Neurological or Neuromuscular conditions – brain damage, muscular dystrophy, etc.
May be ventilator dependent totally or part of time or may breathe on own
Types: Uncuffed – infant & young child;   Cuffed – older child (usually >age 8yr) & adolescent
Fenestrated – hole in stem allows breathing through vocal cords to permit talking, or weaning off tracheostomy
May be single tube or have inner cannula, which can be removed & cleaned

Assessment Issues: Evaluate for DOPE & Infection (tracheal or pulmonary). <u>Reassess</u> pulse/respiratory rates frequently.
        Displaced – total or partial removal of tube
        Obstructed – mucus plug, blood, foreign body, or moved against soft tissues
        Pulmonary problems – pneumothorax, pneumonia, reactive airway, aspiration
        Equipment – ventilator malfunction, oxygen depletion, tubing kinked
Treatment:
 BLS: If on ventilator, disconnect and attempt to oxygenate with BVM using tracheostomy adaptor (if present) or infant mask over trach opening or stoma (hole in neck). **Call ALS** if available, especially if respiratory distress present.
    If not on ventilator, administer oxygen with mask or BVM over trach as needed
    Suction as needed – no more than 10 sec. Insert no more than 3/4 length of neck
    If unable to suction because of thick secretions, instill 2-3 ml saline, then suction
    If inner cannula present, may remove and clean with saline or _ strength peroxide
    If unable to ventilate, plug opening & ventilate over mouth & nose
 ALS: **If above do not work,** may remove tube and either reinsert new tube or use endotracheal tube of same approximate size. **If unable to find opening**, thread suction catheter through tube and use catheter tip to probe opening, sliding tube over catheter into opening and then removing catheter.
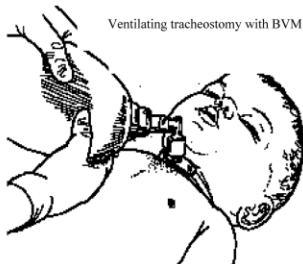
Ventilating tracheostomy with BVM
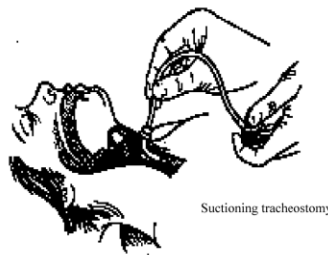
Suctioning tracheostomy
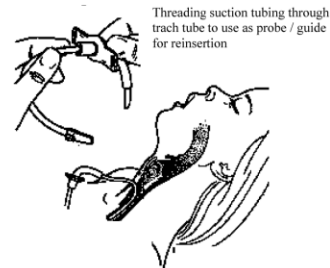
Threading suction tubing through trach tube to use as probe / guide for reinsertion

Central Intravenous Catheters – Indwelling intravenous access

Uses: Medication administration, parenteral (IV) hydration / nutrition administration

    Types: Totally Implanted (such as Mediport ®)) or multilumen catheters (such as Hickman® or Broviac® catheters)

Assessment Issues: Evaluate for DOPE & Infection

    Displaced – total or partial dislodgement or movement out of vein into internal tissues

    Obstructed – blood clot, protein, crystallized medications / IV nutrition

    Pericardial Tamponade - fluid in the pericardial sac due to perforation by catheter **or**

    Pulmonary problems – pneumothorax, pulmonary embolism from clot or catheter shear

    Equipment – tubing kinked or cracked, infusion pump failure

Treatment:

  BLS: Direct pressure if bleeding at site or clamp / tie if tubing leaking. Administer oxygen as needed.

  ALS: Aspirate / flush only if permitted by local protocols. IV or IO fluids if signs of shock

Possible catheter sites (totally implanted)

Possible site (external)
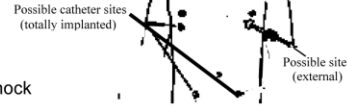
CSF Shunt (Ventriculoperitoneal or V-P shunt): Drains excess fluid from brain

Uses: Post meningitis, brain injury / surgery / tumors, hydrocephalus ("water on the brain")

Types: Polyethylene tubing with reservoir from brain ventricles to abdomen or heart

Assessment Issues: Evaluate for DOPE & Infection (including meningitis or infected shunt)

    Displaced – movement of tip into abdominal or heart lining

    Obstructed – blood clot, protein, kinked tubing causing increased intracranial pressure

    Peritonitis, Perforation or Pseudocyst – of stomach / bowel

    Equipment – damaged or separated tubing or reservoir

Treatment:

  BLS & ALS: Administer oxygen as needed. Hyperventilate if signs of brain herniation such as unresponsiveness with unequal pupils, fixed dilated or unresponsive pupils, or increased BP and decreased heart rate. May attempt to pump shunt reservoir once per Medical Control.

Shunt from ventricle of brain to abdominal cavity

Gastrostomy: Feeding tube

Uses: Total or enhanced feeding & / or medication administration

    Abdominal / gastrointestinal problems

    Neurological or neuromuscular – brain damage, muscular dystrophy, etc.

Types: Button / catheter type gastrostomy (G) tube – (stomach) or jejeunal (J) tube – (intestine)

Assessment Issues: Evaluate for DOPE & Infection

    Displaced – total or partial removal of tube

    Obstructed – blood, crystallized feeding / medications, abdominal tissues

    Peritonitis or Perforation of stomach / bowel

    Equipment – tubing kinked or cracked, feeding infusion pump failure

Treatment:

BLS: Direct pressure if bleeding at site. Dry sterile dressing over area if tube is dislodged, or tape partially dislodged tube in place. If tube blocked, stop feeding & plug tube. Transport for evaluation of abdominal symptoms or for reinsertion / replacement of tube. (Stoma can close off within hours). If abdominal distension or vomiting, may leave tube open and draining into a cup. Bring old tube to ED for sizing purposes. **ALS:** IV or IO fluids if signs of dehydration or shock

PEG style

Disconnect for catheter style
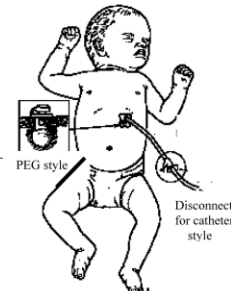
Colostomy or Ileostomy: Drainage of fecal material

Uses: Temporary or permanent malfunction or obstruction of intestine or urinary system

Types: Open stomas draining into plastic pouches or through catheter in urethra

Assessment Issues: Evaluate infection, irritation / trauma, peritonitis

Treatment: BLS: Direct pressure if bleeding at site. Saline moistened sterile dressing covered by dry dressing if stoma exposed **ALS:** IV or IO fluids if signs of dehydration or shock

Ureterostomy or Nephrostomy Tube or Foley Catheter: Drainage of urine

Uses: Temporary or permanent malfunction or obstruction of intestine or urinary system

Types: Open stomas draining into plastic pouches or through catheter in urethra

Assessment Issues: Evaluate infection, irritation / trauma, peritonitis, blocked urinary drainage.

Treatment: BLS: Direct pressure if bleeding at site. Saline moistened sterile dressing covered by dry dressing if stoma exposed **ALS:** IV or IO fluids if signs of dehydration or shock.

Drawings by Susan Gilbert

Also see:

Abramo, TJ (Ed.) . (2012). Emergency care of children with special health care needs. *Pediatric Emergency Medicine* 13(2).

Section 8—Pediatric Decontamination/Prophylaxis

Purpose: These recommendations are intended to assist in planning for the needs of all children requiring decontamination that present to the hospital during a disaster or terrorist attack. Children require special considerations that may not be addressed in the general Hospital Decontamination Plan. These guidelines will assist hospitals to decontaminate properly infants and children in a timely manner.

General Guidelines[1-10]

Infants and children have unique needs that require special considerations during the process of hospital-based decontamination. Separation of families during decontamination should be avoided, especially under conditions of large number of patients in a chaotic situation; however, medical issues take priority.

- Older children may resist or be difficult to handle out of fear, peer pressure, and modesty issues, even in front of their parents or caregivers.

- It cannot be assumed that the parents or caregivers will be able to decontaminate both themselves and their children at the same time. "Hot zone" personnel should recognize the need to assist them.

- Attention to airway management is a priority throughout decontamination showers.

- A large volume, low-pressure water delivery system (e.g., handheld hose sprayers that are 'child-friendly') should be incorporated into the hospital decontamination showers.

- If the water temperature is below 98° F, the risk of inducing hypothermia increases proportionately with the smaller, younger child.

- Regarding considerations such as hypothermia, airway management, separation of families and the ability to effectively decontaminate a child: the smaller the child, the bigger the problem.

- Facilities must maintain compliance with Section 405 of the NYS Public Health Law which requires pharmacy directors, in conjunction with medical staff, to ensure metric measurement of patients and availability of up-to-date resources about indications, dosing, routes of administration, interactions, side effects, and toxicology of medications.

- Pediatric dosing resources must be written in such a way as to facilitate an independent double-check of dose calculation, which should include age and size appropriate fluid and medication administration and dosing.

- Dosing must be weight based (or in emergencies, can be length based), include the calculated dose, the dosing determination, such as the dose per weight (e.g., milligrams per kilogram) or body surface area, and not exceed adult maximum dosage.

- Local health departments and other providers should remain cognizant of the Emergency Use Authorizations and Instructions issued by the Food and Drug Administration regarding mass dispensing. These instructions must be followed exactly in order to ensure compliance with and reimbursement with the Pandemic and All-Hazards Preparedness Reauthorization Act (PAHPRA). For a list of Emergency Use Authorizations (EUAs), see: http://www.fda.gov/EmergencyPreparedness/Counterterrorism/ucm182568.htm.

Decontamination Recommendations Based on Age of Child[1-10]

- Children should be divided into three groups by age: Less than 2 years old (infants and toddlers), ages 2 to 8 years old (pre-school/young children), and ages 8 to 18 years old (school age).
- The recommendations are based on the child's estimated age, since asking children's ages may be impractical due to the limitations of the PPE worn by decontamination team members or to a large influx of patients.
- The recommendations are meant as general guidelines.

Children Less Than 2 Years of Age (Infants and Toddlers)

Infants and toddlers represent the most challenging group to safely decontaminate due to their developmental stage, their dependent nature and their physical characteristics.

These special needs and considerations are the most important:

- All infants and toddlers should be placed on a stretcher and disrobed by either the child's caregiver or 'hot zone' personnel. (Use trauma shears, if necessary, to speed the disrobing process.)
- A hand should be kept on the infant or toddler at all times, even when bedrails are raised. (Small children can fall through.) Some have found plastic laundry baskets to be useful in moving infants through the decontamination area.
- It is not recommended that the child be carried due to the possibility of injury resulting from a fall, or from dropping a slippery and squirming child.
- All clothes and items that cannot be decontaminated should be placed in appropriate containers or bags as provided by the hospital and labeled.
- Ensure the temperature of the shower does not present a danger to the infant/toddler.
- Each infant and toddler should then be accompanied through the decontamination shower by either his or her caregiver or 'hot zone' personnel to ensure the entire patient is properly decontaminated.
- Special attention must be given to the child's airway while in the shower.
- Children and their families (parents or caregivers) should not be separated unless critical medical issues take priority.
- Once through the shower, the infant's or toddler's caregiver or 'cold zone' personnel escort should be given a towel and sheets to dry off the child, and a hospital gown to dress the child. Immediately, the child should be given a unique identification number on a wristband and then triaged to an appropriate area for medical evaluation.
- Remember that temperature regulation is a major issue for infants and toddlers. If necessary, cover the child with a blanket.

Children 2 to <8 Years of Age (Preschool and Young Children)

From age, two up to eight, children should be able to walk and speak, yet will still look like a child with considerable variations in physiology and anatomy.

- Ambulatory children should be assisted in disrobing by either the child's caregiver or 'hot zone' personnel.

- All clothes and items that cannot be decontaminated should be placed in appropriate containers or bags as provided by the hospital and labeled.

- Each child should be directly accompanied through the shower by either the child's caregiver or 'hot zone' personnel to ensure the entire patient is properly decontaminated.

- It is recommended that the child not be separated from family member(s) or the adult caregiver unless serious medical conditions dictate otherwise.

- Once through the shower, each child should be given a towel and sheets to dry, and a hospital gown. Immediately, the child should be given a unique identification number on a wristband and then triaged to an appropriate area for medical evaluation. Ask if they would like a blanket.

In the case of children with special health care needs or injured children who are non-ambulatory:

- Non-ambulatory children should be placed on a stretcher by 'hot zone' personnel and disrobed (using trauma shears if necessary). Again, all clothes and items that cannot be decontaminated should be placed in appropriate containers or bags as provided by the hospital and labeled.
  - Each non-ambulatory child on a stretcher is escorted through the decontamination shower and assisted with decontamination to ensure the entire patient is properly decontaminated.
  - Children of this age may be averse to the showering of their face. Care should be taken to keep their airway open during the showering procedure.

Children 8 to 18 Years of Age (School-Aged Children)

At the age of 8 years and upward, the airway anatomy approximates that of an adult. Although it is tempting to regard this age group as 'small adults', there are special needs unique to this age group.

First, privacy is likely to be a bigger issue with this age group than with younger children, so steps should be taken to protect modesty of the patient and limit the number of people to which the child appears to be exposed.

Second, this group will be more likely to want explanations about procedures. The child is likely to be more cooperative if age-appropriate explanations are given.

- Ambulatory children should be instructed to disrobe by 'hot zone' personnel.

- All clothes and items that cannot be decontaminated should be labeled and placed in appropriate containers or bags as provided by the hospital. Children of this age should able to accomplish this themselves.

- Each ambulatory child should then walk through the decontamination shower, preferably in succession with their parent or caregiver, and essentially decontaminate him/herself.

- Non-ambulatory children should be placed on a stretcher by 'hot zone' personnel and disrobed (using trauma shears if necessary). This may include children with mobility impairments, children with special healthcare needs or injured children. Clothing should be placed in appropriate containers or bags provided and labeled. Then, each non-ambulatory child should be escorted through the decontamination shower and assisted with decontamination to ensure the entire patient is properly decontaminated.

- Once through the shower, each child should be given a towel and sheets to dry, and a hospital gown. Immediately, the child should be given a unique identification number on a wristband and then triaged to an appropriate area for medical evaluation. Ask if they would like a blanket.

- Children and their families (parents or caregivers) should not be separated unless critical medical issues take priority.

Note:

AHRQ Resource: The Agency for Health Care Research and Quality (AHRQ) had previously made available for free, upon individual request, a DVD entitled The Decontamination of Children: Preparedness and Response for Hospital Emergency Departments. While the DVD is no longer available, the transcript of the video is still available online at: https://chemm.nlm.nih.gov/decon_child_transcript.pdf. The transcript outlines the key differences between treating children and adults, describes the important steps necessary for decontamination, and provides an overview of the process and systems needed to respond to this need.

Pharmaceutical Needs[11]

It is important to note that recent changes to Section 405 of the NYS Public Health Law require pharmacy directors, in conjunction with medical staff, to ensure metric measurement of patients and availability of up-to-date resources about indications, dosing, routes of administration, interactions, side effects, and toxicology. Pediatric dosing resources must be written in such a way as to facilitate an independent double-check of dose calculation, which should include age and size appropriate fluid and medication administration and dosing. Dosing must be weight based (or in emergencies, can be length based), include the calculated dose, the dosing determination, such as the dose per weight (e.g., milligrams per kilogram) or body surface area, and not exceed adult maximum dosage.

There are resources for clinicians who are unfamiliar with pediatric dosing. The listing below is not intended to be all-inclusive, nor should it be considered an endorsement of any particular product.

- **Color Coding Kids/Broselow Pediatric Emergency Tape** - This system uses a color-coded measuring tool based on height-weight correlations to determine the proper pediatric dose to administer. The color measurement system allows near instantaneous weight determination. The color-coded cardboard measuring tape is laid down alongside a supine pediatric patient. The color zone used to measure the child lists the proper amount of medication dosages, proper equipment sizes, IV infusion information, and other pertinent information specific to that size patient. The full system includes a 'smart cart' with color-coded drawers, containing medications that relate to the measuring tool. For more information, go to: https://www.ebroselow.com/php/static/home.php.

- **Pedi-Wheel** - This is a pocket reference tool with vital information related to pediatric emergencies where the patient is aged preemie to age 16. On one side, the clinician can dial the patient's age and windows reveal average weight, blood pressure, heart rate, respiratory rate, and sizes for ET tube and laryngoscope blades. The other side can be used to dial the patient's weight to calculate doses of 14 emergency medications. Information conforms to ACLS and PALS guidelines for fluid resuscitation, defibrillation and cardioversion. It can also accurately calculate percentage of body surface burned. For ordering information, go to: http://emsadvantage.com/html/prodpw.html

- **Apps for Smartphones** - There are several websites that make available downloadable applications for smartphones. Among the websites are Pediatric Oncall http://www.pediatriconcall.com/Mobile_App_Store/MobileApps_Home.aspx and iMedicalApps http://www.imedicalapps.com/specialty/pediatrics/#.

- Oseltamivir (Tamiflu®) can be made available via Emergency Use Authorization. Information about the use of Oseltamivir (Tamiflu®) for influenza exposure for children less than one year of age may be located on the web at: http://www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientsandPrOseltamivir (Tamiflu®) providers/ucm183870.htm.

- Information about Ebola virus countermeasures/EUA is available at: http://www.fda.gov/EmergencyPreparedness/Counterterrorism/MedicalCountermeasures/ucm182568.htm

Prophylaxis Using Adult Doses: Occasionally, pediatric preparations may not be readily available. The following document, based on one developed by the FDA for Emergency Use, provides explanations of how to prepare emergency dosages of the following medications which can be printed and given to patients and family members. Note that the sample

document that follow assumes a specific formulation of each drug. Prior to copying and distributing the instruction sheets, please determine whether the instructions need to be altered based on a different formulation/dosage of the drug.

The FDA does not support crushing of ciprofloxacin. The EUA covers oral formulations of doxycycline products that have been approved by the FDA for post-exposure prophylaxis including:

- Doxycycline hyclate 100 mg oral tablets, supplied in a unit-of-use (UoU) bottle containing 120 tablets for a 60-day treatment or containing 20 tablets for an initial 10-day supply
- Doxycycline monohydrate 100 mg oral capsules, supplied in a UoU bottle containing 120 capsules for a 60-day treatment or containing 20 capsules for an initial 10-day supply
- Doxycycline 25 mg/5 mL suspension, supplied as dry powder in a 60 mL bottle
- Doxycycline (Vibramycin) 50 mg/5 mL syrup in a 473 mL bottle

Doxycycline EUA Fact Sheet for Recipients - Home Preparation for Instructions for Children or Adults Who Cannot Swallow Pills

1. Put 1 doxycycline pill (100 mg) in a small bowl.

2. Add 4 full teaspoons (1 teaspoon=5 cc; 4 teaspoons=20 cc) of water to the same bowl.

3. Let the pill soak in the water for 5 minutes so it will be soft.

4. Use the back of a metal teaspoon to crush the pill in the water. Crush the pill until you can't see any pieces.

5. Stir the pill and water to mix it well. Find your child's weight on the left side of the chart below.

6. Next, look on the right side of the chart below to find the amount of doxycycline and water mixture to mix with food. The chart shows you the amount to give your child for 1 dose. *For a ½ teaspoon dose, fill the metal teaspoon half way. It is better to give a little more of the medicine than not enough.*

Child's Weight	Amount of Doxycycline and Water Mixture	Teaspoons
12 pounds or less = 5.44 kilogram or less	½ teaspoon	
13 to 25 pounds = 5.9 to 11.3 kilograms	1 teaspoon	
26 to 38 pounds = 11.8 to 17.2 kilograms	1 ½ teaspoon	
39 to 50 pounds = 17.7 to 22.7 kilograms	2 teaspoons	
51 to 63 pounds = 23.1 to 28.6 kilograms	2 ½ teaspoons	
64 to 75 pounds = 29.0 to 34.0 kilograms	3 teaspoons	
76 to 88 pounds = 34.5 to 39.9 kilograms	3 ½ teaspoons	
89 pounds or more and adults = 40.4 kilograms and over	Use the entire mixture (4 teaspoons)	

Adapted from FDA (metric weights added):
http://www.fda.gov/downloads/EmergencyPreparedness/Counterterrorism/UCM265883.pdf

7. Add the recommended amount of the doxycycline and water mixture from the chart above to a <u>second</u> bowl. NOTE: for adults and children 89 pounds or more (40.4 kilograms or more), use the entire mixture.

8.   Add 3 teaspoons of milk **or** chocolate milk **or** chocolate pudding **or** apple juice to the second bowl to make it taste better. If you use apple juice, also add 4 teaspoons of sugar to the second bowl.

9.   Stir well. Give all the doxycycline, water, and food mixture in the second bowl. This is one dose.

10. Each child or adult should take 1 dose in the morning and 1 does at night each day.

11. If you have enough leftover doxycycline and water mixture for another dose, keep it for the next dose. The doxycycline and water mixture can be stored in a covered bowl or cup at room temperature for up to 2 hours. Label and date the container. Keep the mixture in a safe place, out of the reach of children and pets.

12. Throw away any unused mixture after 2 hours and make a new doxycycline and water mixture before the next dose.

Available at:

http://www.fda.gov/downloads/EmergencyPreparedness/Counterterrorism/UCM265883.pdf

Section 9–Transportation

Purpose: These recommendations suggest the appropriate procedure for the transportation of pediatric patients following a disaster. The section presents guidelines for both inter- and intra-hospital transport of stable and unstable pediatric patients. Pediatric patients may not always be accompanied by an adult during a disaster; therefore, these patients will require additional staffing and supply needs during their transport.

General Guidelines

All hospitals need to plan for the potential necessity of delivering extended care to pediatric patients during a disaster. As part of this care, patients will need to be transported from clinical area to clinical area (including inpatient units) or to diagnostic testing (such as radiology, CT scan, and ultrasound). For those centers without specialized pediatric services, transfer of pediatric patients (after initial evaluation and stabilization) to a center with advanced pediatric capacity might be desired. However, transfer might not be possible due to local conditions and safety concerns, lack of appropriate transport vehicles and personnel, and/or lack of capacity at the usual pediatric resource hospitals.

Transport of Pediatric Patients within the Hospital

General guidelines for transporting pediatric patients between hospitals units or diagnostic testing areas

I. Transport personnel:
   A. Personnel to transport stable patients
      a. All transport personnel should be oriented to the special needs of a pediatric transport.
      b. Pediatric patients may not be left alone at any time.
   B. Personnel to transport unstable patients
      a. Use usual transport personnel.
      b. Additional staff skilled in pediatric airway management and familiar with pediatric resuscitation will be necessary.
      c. Pediatric patients may not be left alone at any time.

II. Transport equipment:
   A. Have airway management and resuscitation supplies available, which are appropriate for all age groups. (See *Section 11–Equipment Recommendations*.)
   B. Identify appropriate transport vehicle(s):
      a. Adult stretchers may be appropriate for children >8 years old.
      b. Smaller children may require a crib, additional transport personnel, and /or converting an adult stretcher by adding padding to the inside rails to assure safety during transport.

III. Chaperone and safety personnel:

A. Parents or adult caregivers should be encouraged to stay with children.

B. If no adult caregiver is available, appropriate personnel must accompany and supervise pediatric patients to assure their safety at all times.

C. Patients on stretchers

    a. Patients less than 6 years old and not in an appropriate crib require continuous 1:1 observation.

    b. Patients 6 years old and older should be evaluated for ability to follow safety rules while on the stretcher.

    c. Individual patients separated from other pediatric patients require constant 1:1 observation by staff.

D. Stable ambulatory patients may be cohorted in a Pediatric Safe Area with staff experienced or trained in observation of groups of children, such as schoolteachers, social workers, or day care workers. (See *Section 5–Security*.)

    All ambulatory patients transported individually out of the Emergency Department require 1:1 adult supervision.

Transport of Pediatric Patients from the Hospital to Other Facilities

During a disaster, local conditions might preclude safe or efficient travel on the streets or highways or the usual pediatric receiving centers might be overwhelmed with patient volume and unable to accept transfers. Therefore, all hospitals must be prepared to provide emergent and continued pediatric care.

Even in the event that transfer to a pediatric center might be possible, the usual mechanisms for inter-hospital transfers should not be relied upon because these staff and equipment will be utilized to respond to the actual disaster. Therefore, hospitals should consider alternative mechanisms for safe pediatric transfers, such as air ambulance, facility vans or other vehicles, or medi-cabs.

I. Stable Patients

A. In accordance with NYS regulations, arrange for car seats if appropriate. (See *Table 9.1*.) Potential sources for appropriate car seats:

    a. Purchase or obtain through donation (new seats only). Note: Car seats have expiration dates, generally 6 years after the manufacture date. So, it is important to periodically check the dates of any stored seats.

    b. Identify local sources of car seats in case they are needed.

    c. Survey employees to determine availability of car seats in employee vehicles.

B. Identify appropriate transport vehicles if an ambulance is not available:

    a. Cars or vans may be appropriate for children who can sit up (car seats may be necessary).

    b. Driver must be able to communicate via cell phone or radio with the hospital emergency command center.

    c. If available, appropriate medical personnel should accompany patients during transport.

Table 9.1–Appropriate Use and Type of Car Seats		
Car Seats by Child's Age and Size		
Type of Restraint	**Ages**	**Other Important Considerations**
- Caution: All children age 12 and under should ride in the back seat. -		
Rear-Facing Car Seat	**Birth – 3**	• <u>Important:</u> Infant must be rear-facing for first year. • Keep the child rear-facing for as long as possible until he or she reaches the maximum height or weight limit for the seat.
Forward-Facing Car Seat	**Ages 1-7**	• Check car seat height and weight limitations provided by the manufacturer.
Booster Seat	**Ages 4-12**	• Child should use booster seat until reaching height and weight limits set by manufacturer and until he or she is big enough to fit in a seat belt properly (below).
Seat Belt	**Ages 8 - Adult**	• Child is tall enough to sit without slouching • Child is able to keep his/her back against the seat • Child can keep his/her legs naturally bent over the edge of the vehicle seat • Able to keep his/her feet flat on the floor • Belt fits over upper thighs, not tummy • Shoulder belt is across the shoulders and chest and not across neck or face • Do NOT let child put the shoulder belt under an arm or behind their back. This can cause severe injuries.
Adapted from: Parents Central http://www.safercar.gov/parents/CarSeats/Car-Seat-Safety.htm?view=full		

II. Unstable Patients or Potentially Unstable Patients

A. Identify an appropriate transport vehicle
   a. Ambulance with Emergency Medical Technician (EMT) or Paramedic augmented with:
      1. Staff skilled in pediatric respiratory management and resuscitation.
      2. Equipment appropriate for the age and acuity of patient.
   b. Consider entering into a Memorandum of Understanding (MOU) with ambulance providers at distant locations who are less likely to be involved with local disaster response.
B. Specialty pediatric transport teams from referral pediatric institutions. Again, usual resources may not be available in a chaotic, emergency situation.

Resources

The National Highway Traffic Safety Administration has published guidelines on interfacility transfer, available for download at:
http://www.nhtsa.gov/people/injury/ems/interfacility/index.htm

These guidelines stress the need for integration of interfacility transfer services to be integrated into existing regional health care systems, and outline issues related to meeting patient needs, medical oversight, liability and legal issues, operations, financial considerations, policy development, HIPAA considerations, and lessons to be learned. Integration must be considered in both horizontal (within an existing health system) and vertical (integration with other/neighboring/regional health systems) to achieve a well-coordinated process.

The appendix, Pediatric Consultation and Interfacility Transfer Guidelines, of the Minimum Pediatric Care Standards for New York State Hospitals, Emergency Departments and Intensive

Care Units: 2015 Guidance Document offers guidance on the level of patient care each EMS provider is able to give (scope of practice). http://www.health.ny.gov/publications/4121.pdf

The Emergency Medical Services for Children Innovation and Improvement Center hosts an online interfacility transfer toolbox. The toolbox is designed to help facilities develop planned processes for interfacility transfer of children. The toolbox also contains sample agreements and guidelines, sample transfer checklists, family considerations, communication issues and links to additional resources. The toolbox can be found here: https://emscimprovement.center/resources/toolboxes/interfacility-transfer-toolbox/

Section 10—Surge Considerations

Emergency Department Surge Considerations and In-patient Bed Assignments for Pediatric Patients during a Disaster

Purpose: These recommendations are intended to help hospitals prepare for surge capacity needs, such as additional bed resources and emergency department space allocation, which may arise in the event of a disaster involving children. The section presents a model disaster scenario that can be scaled according to the predicted response of each individual hospital and includes general principles that should act as guidelines for all hospital disaster plans.

General Guidelines

To prepare for the reception and care of potential pediatric patients, the hospital's emergency preparedness planning committee should address each of the following issues in order to plan for surge capacity needs.

1. Identify providers with general or specific pediatric clinical expertise. Examples may include MDs or RNs from general pediatrics or primary care, Emergency Medicine, Nurse Practitioners, Family Medicine, Surgeons or others with recent pediatric experience. If no pediatric expertise is found, identify those who would be willing to provide pediatric services, then provide them with training as described under *Section 4–Training*.

2. Identify pediatric drug dosing guidelines and pediatric equipment including ventilators, appropriately sized airway supplies (ventilating bags, facemasks, endotracheal tubes, stylets, oral airways, chest tubes, nebulizers, non-breathing masks, nasogastric tubes, urinary catheters, over the needle IV catheter/IO needleless, etc.) that should be available to serve the potential pediatric population. (See *Section 11–Equipment Recommendations*.) Also, determine the availability of in-patient beds for pediatric patients, including operating rooms and pediatric surge ICU beds within the facility in the event these services are needed.

3. The hospital committee should determine the volume of cribs, port-a-cribs, or playpens that should be in a storage area for use in possible pediatric disaster scenarios. However, many hospitals without a pediatric ward will be unlikely to have any cribs available. If adult beds are used, the following actions should be taken:

   o Children will have to be boarded in adult beds that have side rails.

   o The bed should be set at the lowest possible height.

   o The bed should be unplugged so the buttons to adjust the bed do not work.

4. Identify the hospital's pediatric surge capacity, such as when the institution will exhaust the supply of clinicians, equipment, medications, operating rooms, and pediatric ICU beds based on the number and severity of potential pediatric patients for various hazardous events. During a mass casualty disaster involving children, it may be easier to transfer a skilled pediatric critical care team and their equipment to the facility than to transfer critically-ill pediatric patients out.

5. Develop a list of other hospitals with pediatric capacity for possible transfer of patients should the hospital receive or expect to receive more children than the hospital can handle. Establish Memoranda of Understanding (MOU) or Interfacility Transfer Agreements with these other facilities, if possible.

6. Develop a plan for stabilization and transfer of injured patients if more pediatric patients require admission than the hospital is able to handle.

7. Set up a system to request transport teams and more MDs and RNs to help as needed.

8. Set up a family assistance area for families of victims and a separate area for media contact.

9. Set up a plan for decontamination of patients if chemical or radioactive contamination is suspected. See *Section 8–Pediatric Decontamination/Prophylaxis* for more detailed information concerning protocols for pediatric decontamination.

10. Set up a plan to address questions raised by the news media and anxious parents and family members. As previously noted, the media and family members should be in separate spaces.

11. Plan for enhanced security to handle large numbers of family members and other non-medically affected individuals. Expect approximately four to five visitors/family per pediatric patient.

12. As previously mentioned, develop a Pediatric Safe Area temporarily to care for non-injured or medically released unaccompanied children. See *Section 5–Security*.

13. Develop a system to identify and track pediatric victims. See *Child ID Survey Form* located in *Section 5–Security*. A frequently updated list should be maintained and relayed to the hospital emergency operating center and the hospital family assistance center.

14. Consider what a surge in pediatrics patients would mean in terms of non-medical supplies (e.g., cribs, infant seats, diapers, formula, and baby food). See *Section 12–Pediatric Dietary Needs*.

Transfer Considerations for Hospitals without Pediatric Intensive Care Units

The transfer criteria for critical pediatric patients must be planned for hospitals that do not have a Pediatric Intensive Care Unit (PICU).

If a hospital does not have a Pediatric ED or a PICU, any child (especially a young child, infant or toddler) with a need for an operative procedure or PICU care may require stabilization and transfer. These children should be identified by predetermined criteria. For example, the pre-determined criteria may include:

- Determination based on trauma score (Pediatric Trauma Score or Revised Trauma Score); or

- Determination based on the need for other intensive level of care (intubation, assisted ventilations, comatose, increased intracranial pressure, shock, inotropic support, ongoing seizures, or other major organ failure).

Prearranged agreements with ambulance agencies and receiving hospitals should be in place. Hospitals should have agreements with their traditional referral hospitals as well as with those closest geographically or with the shortest transport routes. During a disaster, transportation may be difficult due to traffic closures or other obstructions. However, if there is a mass casualty disaster involving children where large scale transfer of a large number of children is impractical, it may be more efficient and less disruptive to transfer a skilled pediatric critical

care team and their equipment to the facility than to transfer critically-ill pediatric patients out. Interagency transfer agreements should address this possibility.

Additional Resources

Sample interfacility transfer agreements can be found at:

The Minimum Pediatric Care Standards for New York State Hospitals, Emergency Departments and Pediatric Intensive Care Units: Guidance Document, includes appendix, Pediatric Consultation and Interfacility Transfer Guidelines:
http:/www.health.ny.gov/publications/4121.pdf

EMSC Innovation and Improvement Center -
https://emscimprovement.center/resources/toolboxes/interfacility-transfer-toolbox/

Emergency Nurses Association/Society of Trauma Nurses/EMSC -
https://www.ena.org/practice-research/Practice/Documents/PedInterfacilityToolkit2013.pdf

Planning Scenarios—Emergency Department Surge Considerations and Inpatient Bed Assignments

In order to prepare for the pediatric bed needs during a disaster, the Centers for Bioterrorism Preparedness Program (CBPP) Pediatric Task Force created a disaster scenario to better describe the necessary bed resource demands that hospitals might expect.

Assume 40 pediatric patients of all ages arrive at Hospital A following an explosive disaster.

- 5 critically ill or injured (**Red Tag**)
- 10 moderately ill or injured (**Yellow Tag**)
- 25 minimally injured or uninjured (**Green Tag**) The following sets of planning recommendations for emergency department surge capacity space and in-patient bed assignments address three categories of hospitals: non-trauma hospital with a pediatric intensive care unit; hospitals with general pediatric units, but without pediatric intensive care units; and hospitals without any pediatric in-patient units.

Scenario I—Non-Trauma Hospital with a Pediatric Intensive Care Unit

The following is a suggested plan for the distribution of pediatric victims upon arrival at a hospital with pediatric intensive care unit capability but not a certified trauma center. Hospitals must consider their own resources and personnel when creating their pediatric preparedness plan.

Emergency Department Surge Considerations
Red-tagged patients, or critical patients, should be placed in the most acute beds of the pediatric emergency area.

- When this area becomes saturated, remaining critical pediatric patients should go to the adult critical care areas in the emergency department.
- In the absence of a trauma team, overall responsibility will be with the emergency department attendings with appropriate transfer to the PICU/pediatric ward attendings.
- Pediatric surgery should be immediately consulted in the absence of a trauma team for patients with penetrating injuries to the abdomen or thorax.
- All other surgical specialties (neurosurgery, orthopedics, ENT, ophthalmology, etc.) should be placed on standby.

Yellow tagged patients, those moderately injured or ill, should be placed in a non-acute area of the pediatric emergency department with overflow going to non-acute care areas of the adult emergency department.

- **Yellow tagged patients** need to be treated and assigned disposition in a timely manner and reevaluated frequently to ensure their condition does not deteriorate and warrant immediate medical intervention.

Green tagged patients, minor or non-injured patients should be triaged to the waiting room or to the pediatric clinic area or another large room capable of handling a large number, depending on day of week and time of disaster.

- **Green tagged patients** need to be re-evaluated frequently to ensure their condition does not deteriorate and warrant immediate medical intervention.
- When medically reasonable, **Green tagged patients** should be discharged as soon as possible to an appropriately identified adult caregiver as per hospital policy.

Assignment of In-patient Bed Space

The most critical cases and/or youngest victims should receive priority for Pediatric Intensive Care Unit beds. Once the PICU is full, overflow patients could be managed by Pediatrics in the Post Anesthesia Care Unit (PACU) if the patient required surgery, or in monitored beds on the pediatric ward, adult medical or surgical ICUs.

Moderately injured or ill patients requiring admission should be admitted to the pediatric ward until all beds are utilized. At that point, the hospital must decide to increase the ward census (add 1 more bed per room if space allows) or board the oldest pediatric patients on adult wards. If possible, all children should board on the same adult ward for ease of nursing care and to improve the children's psychological wellbeing. Facilities may consider cohorting children by age.

Scenario II—Hospitals with a General Pediatric Service but without a Pediatric Intensive Care Unit

The following is a suggested plan for the distribution of pediatric victims upon arrival at a hospital without pediatric intensive care unit (PICU) capability, but has an in-patient pediatric unit. Hospitals must consider their own resources and personnel when creating their pediatric disaster plan.

Most hospitals that do not have a PICU also do not have a dedicated pediatric emergency department. If your hospital has a pediatric emergency department, follow the above guidelines. It is likely the hospital will have a general emergency department.

Emergency Department Surge Capacity Considerations

Red-tagged patients, or critical patients, should be placed in the most acute care area of the emergency department.

- When that area becomes saturated, remaining critical patients should go to a monitored observation area in your emergency department.
- Overall responsibility will be with the emergency department attending and transferred to the pediatric ward attending.
- If the hospital has a trauma team, they should be immediately consulted and the trauma team attending will take responsibility for all children requiring trauma surgery.
- Pediatric surgery should be immediately consulted in the absence of a trauma team for patients with penetrating injuries to the abdomen or thorax. All other surgical specialties (neurosurgery, orthopedics, ENT, ophthalmology, etc.) should be placed on standby.

Yellow tagged patients, moderately injured or ill, should be placed in the non-acute care areas of the emergency department with yellow tag overflow going to waiting room areas, or other designated areas, that are converted to patient care areas for the duration of the disaster.

- **Yellow tagged patients** need to be treated and assigned disposition in a timely manner and re-evaluated frequently to ensure their condition does not deteriorate and warrant immediate medical intervention.
- Admitted patients should be transferred up to the pediatric ward as soon as possible.

Green tagged patients, minimally or non-injured, should be triaged to the waiting room, lobby, or the pediatric clinic area depending on the day of the week and time of disaster.

- **Green tagged patients** need to be reevaluated frequently to ensure their condition does not deteriorate and warrant immediate medical intervention.
- When medically reasonable, green tagged patients should be discharged as soon as possible to an appropriately identified adult caregiver as per hospital policy.

Assignment of In-patient Bed Space for Hospitals without Pediatric Intensive Care Units

Pediatric critical care patients should be transferred to a hospital that can provide a higher level of care as soon as possible. Until transfer is completed, patients can be managed by pediatric staff in the post-operative recovery room if the patient required surgery, or in monitored beds on the pediatric ward or in adult medical or surgical ICUs. Moderately injured or ill children requiring admission should be admitted to the pediatric ward until all beds are utilized. At that point, the hospital must decide to increase the pediatric ward census (add 1 more bed per room if space allows) or board the oldest pediatric patients on adult wards. If possible, all children should board on the same adult ward for ease of nursing care and to improve the children's psychological wellbeing.

Scenario III—Hospitals without a Pediatric Service

The following is a suggested plan for the distribution of pediatric victims upon arrival at a hospital without pediatric intensive care unit (PICU) capability or pediatric in-patient wards. Hospitals must consider their own resources and personnel when creating their pediatric disaster plan.

As previously recommended, all hospitals should keep a designated number of cribs or playpens in a storage area for use in possible pediatric disaster scenarios. However, it is unlikely that hospitals without a pediatric ward will have any cribs available. Use of adult beds may be considered if the following actions are taken:

- Children will have to be boarded in adult beds that have side rails.
- The bed should be set at the lowest possible height.
- The bed should be unplugged so the buttons do not function. All pediatric patients requiring admission should be transferred to a hospital that can provide a higher level of care as soon as it is medically and technically possible. Unstable patients will require initial management at the receiving hospital where they first arrive prior to transfer.

Emergency Department Surge Capacity Considerations

Red-tagged patients, or critical patients, should be placed in the most acute care area of the emergency department.

- When that area becomes saturated, remaining critical patients should go to a monitored observation area in your emergency department.
- Overall responsibility will be with the emergency department attending. If the hospital has a trauma team, they should be immediately consulted and the trauma team attending will take responsibility for all children requiring trauma surgery.
- Adult surgery should be immediately consulted in the absence of a trauma team for patients with penetrating injuries to the abdomen or thorax, as they will be the most capable specialty to perform immediate intervention. All other surgical specialties (neurosurgery, orthopedics, ENT, ophthalmology, etc.) should be called into the hospital or placed on standby.

Yellow tagged patients, moderately injured or ill, should be placed in the non-acute care areas of the emergency department.

- **Yellow tagged patients** need to be reevaluated frequently to insure their condition does not deteriorate and warrant immediate medical intervention.
- Yellow tag overflow should go to the waiting room or other designated area that will be converted to patient care areas for the duration of the disaster.
- Patients requiring admission should be transferred up to adult in-patient wards as soon as possible. The beds should be at the lowest possible height, have side rails, and have the electronic bed functions disabled so that the buttons will not function.

Green tagged patients, minimally or non-injured, should be triaged to the waiting room, lobby, or to the adult clinic area depending on the day of the week and time of disaster.

- **Green tagged patients** need to be reevaluated frequently to ensure their condition does not deteriorate and warrant immediate medical intervention.

- When medically reasonable, green tagged patients should be discharged as soon as possible to an appropriately identified adult caregiver as per hospital policy.

Assignment of In-patient Beds for a Hospital without a Pediatric Service

Pediatric critical care patients should be transferred to a hospital that can provide a higher level of care as soon as possible. Until transfer arrangements are completed, critical pediatric patients can be managed by Anesthesia in the Recovery Room, if the patient required surgery, or in adult medical or surgical ICUs, or monitored beds on adult in-patient wards until the pediatric patient can be safely transferred.

Non-critical patients requiring admission can be admitted to an adult ward if appropriate transfer is delayed or unavailable. If possible, all children should board on the same adult ward for ease of nursing care and to improve the children's psychological wellbeing.

Section 11—Equipment Recommendations

Minimal Pediatric Equipment Recommendations for Emergency Departments

Each institution must determine its expected surge capacity for pediatric critical patients and should adjust inventory according to the number of patients for which it will plan. For example, if Hospital A decides to prepare for an influx of 4 critical pediatric patients, then the numbers in the amounts column should be multiplied by 4.

Additionally, many hospitals are creating and stocking disaster carts to be used in designated areas. It is recommended that hospitals also consider stocking a cart specifically for the Emergency Department for a Pediatric Critical Care Area.

Guidelines for Care of Children in the Emergency Department

CHECKLIST

This checklist is based on the American Academy of Pediatrics, the American College of Emergency Physicians, and the Emergency Nurses Association 2009 joint policy statement "Guidelines for Care of Children in the Emergency Department," which can be found online at http://aappolicy.aappublications.org/cgi/reprint/pediatrics;124/4/1233.pdf. Use the checklist to determine if your emergency department (ED) is prepared to care for children.

Appointed Pediatric Physician and Nurse Coordinator

○ Pediatric physician coordinator is a specialist in pediatrics, emergency medicine, or family medicine, appointed by the ED medical director, who through training, clinical experience, or focused continuing medical education demonstrates competence in the care of children in emergency settings including resuscitation. See policy statement for details.

○ Pediatric Nurse coordinator is a registered nurse (RN), appointed by the ED nursing director, who possesses special interest, knowledge, and skill in the emergency medical care of children. See policy statement for details.

Physicians, Nurses and Other Healthcare Providers Who Staff the ED

○ Physicians who staff the ED have the necessary skill, knowledge, and training in the emergency evaluation and treatment of children of all ages who may be brought to the ED, consistent with the services provided by the hospital.

○ Nurses and other ED health care providers have the necessary skill, knowledge, and training in providing emergency care to children of all ages who may be brought to the ED, consistent with the services offered by the hospital.

○ Baseline and periodic competency evaluations completed for all ED clinical staff, including physicians, are age specific and include evaluation of skills related to neonates, infants, children, adolescents, and children with special health care needs. Competencies are determined by each institution's medical staff privileges policy.

Guidelines for QI/PI in the ED

The pediatric patient care-review process is integrated into the ED QI/PI plan.

○ Components of the process interface with out-of-hospital, ED, trauma, inpatient pediatric, pediatric critical care, and hospital-wide QI or PI activities.

Guidelines for QI/PI in the ED, Continued

Clinical and Professional Competency

Below are the potential areas for the development of pediatric competency and professional evaluations.

○ Triage
○ Illness and injury assessment and management
○ Pain assessment and treatment, including sedation and analgesia
○ Airway management
○ Vascular access
○ Critical care monitoring
○ Neonatal and pediatric resuscitation
○ Trauma care
○ Burn care
○ Mass-casualty events
○ Patient- and family-centered care
○ Medication delivery and equipment safety
○ Training and communication

○ Mechanisms are in place to monitor professional performance, credentials, continuing education, and clinical competencies.

Guidelines for Improving Pediatric Patient Safety

The delivery of pediatric care should reflect an awareness of unique pediatric patient safety concerns and are included in the following policies or practices.

○ Children are weighed in kilograms.
○ Weights are recorded in a prominent place on the medical record.
○ For children who are not weighed, a standard method for estimating weight in kilograms is used (e.g., a length-based system).
○ Infants and children have a full set vital signs recorded (temperature, heart rate, respiratory rate) in the medical record.
○ Blood pressure and pulse oximetry monitoring are available for children of all ages on the basis of illness and injury severity.

Produced by the AAP, the EMSC National Resource Center, and Children's National Medical Center

- A process for identifying age-specific abnormal vital signs and notifying the physician of these is present.
- Processes in place for safe medication storage, prescribing, and delivery that includes precalculated dosing guidelines for children of all ages.
- Infection-control practices, including hand hygiene and use of personal protective equipment, are implemented and monitored.
- Pediatric emergency services are culturally and linguistically appropriate
- ED environment is safe for children and supports patient- and family-centered care.
- Patient-identification policies meet Joint Commission standards
- Policies for the timely reporting and evaluation of patient safety events, medical errors, and unanticipated outcomes are implemented and monitored.

Guidelines for ED Policies, Procedures, and Protocol

Policies, procedures, and protocols for the emergency care of children should be developed and implemented in the areas listed below. These policies may be integrated into overall ED policies as long as pediatric specific issues are addressed.

- Illness and injury triage
- Pediatric patient assessment and reassessment
- Documentation of pediatric vital signs and actions to be taken for abnormal vital signs
- Immunization assessment and management of the under-immunized patient
- Sedation and analgesia for procedures, including medical imaging
- Consent including when parent or legal guardian is not im-mediately available
- Social and mental health issues
- Physical or chemical restraint of patients
- Child maltreatment and domestic violence reporting criteria, requirements, and processes.
- Death of the child in the ED
- Do not resuscitate (DNR) orders
- Families are involved in patient decision-making and medi-cation safety processes
- Family presence during all aspects of emergency care
- Patient, family, and caregiver education
- Discharge planning and instruction
- Bereavement counseling
- Communication with the patient's medical home or primary care provider
- Medical imaging policies that address pediatric age- or weight-based appropriate dosing for studies that impart radiation consistent with ALARA (as low as reasonably achievable) principles.
- All-hazard disaster-preparedness plan that addresses the following pediatric issues:

- Availability of medications, vaccines, equipment, and trained providers for children
- Pediatric surge capacity for injured and non-injured children
- Decontamination, isolation, and quarantine of families and children
- Minimization of parent-child separation (includes pediat-ric patient tracking, and timely reunification of separated children with their family)
- Access to specific medical and mental health therapies, and social services for children
- Disaster drills which includes a pediatric mass casualty incident at least every 2 years
- Care of children with special health care needs
- Evacuation of pediatric units and pediatric subspecialty units.

- Interfacility transfer policy defining the roles and responsi-bilities of the referring facility and referral center.
- Transport plan for delivering children safely and in a timely manner to the appropriate facility that is capable of provid-ing definitive care.
- Process for selecting the appropriate care facility for pediatric specialty services not available at the hospital (may include critical care, reimplantation or digits or limbs, trauma and burn care, psychiatric emergencies, obstetric and perinatal emergencies, child maltreatment, rehability for recovery from critical conditions).
- Process for selecting an appropriately staffed transport service to match the patient's needs
- Process for patient transfer (including obtaining informed consent)
- Plan for transfer of patient information (medical record, copy of signed transport consent), personal belongings, direc-tions and referral institution information to family'
- Process for return transfer of the pediatric patient to the referring facility as appropriate.

Guidelines for ED Support Services

- Radiology capability must meet the needs of the children in the community served
- A process for referring children to appropriate facilities for radiological procedures that exceed the capability of the hospital is established.
- A process for timely review, interpretation, and reporting of medical imaging by a qualified radiologist is established.
- Laboratory capability must meet the needs of the children in the community served, including techniques for small sample sizes
- A process for referring children or their specimens to ap-propriate facilities for laboratory studies that exceed the capability of the hospital is established

Guidelines for Equipment, Supplies, and Medications for the Care of Pediatric Patients in the ED

- Pediatric equipment, supplies, and medications are appropriate for children of all ages and sizes, easily accessible, clearly labeled, and logically organized. See list below for the medication, equipment, and supplies.
- ED staff is educated on the location of all items.
- Daily method in place to verify the proper location and function of equipment and supplies.
- Medication chart, length-based tape, medical software, or other systems is readily available to ensure proper sizing of resuscitation equipment and proper dosing of medications.

Medications

- Atropine
- Adenosine
- Amiodarone
- Antiemetic agents
- Calcium chloride
- Dextrose (D10W, D50W)
- Epinephrine (1:1000; 1:10 000 solutions)
- Lidocaine
- Magnesium sulfate
- Naloxone hydrochloride
- Procainamide
- Sodium bicarbonate (4.2%, 8.4%)
- Activated charcoal
- Topical, oral, and parenteral analgesics
- Antimicrobial agents (parenteral and oral)
- Anticonvulsant medications
- Antidotes (common antidotes should be accessible to the ED)
- Antipyretic drugs
- Bronchodilators
- Corticosteroids
- Inotropic agents
- Neuromuscular blockers
- Sedatives
- Vaccines
- Vasopressor agents

Equipment/Supplies: General Equipment

- Patient warming device
- Intravenous blood/fluid warmer
- Restraint device
- Weight scale in kilograms (not pounds)
- Tool or chart that incorporates weight (in kilograms) and length to determine equipment size and correct drug dosing
- Age appropriate pain scale-assessment tools

Equipment/Supplies: Monitoring Equipment

Blood pressure cuffs
- Neonatal
- Infant
- Child
- Adult-arm
- Adult-thigh

- Doppler ultrasonography devices

- Electrocardiography monitor/defibrillator with pediatric and adult capabilities including pads/paddles
- Hypothermia thermometer
- Pulse oximeter with pediatric and adult probes
- Continuous end-tidal CO_2 monitoring device

Equipment/Supplies: Vascular Access Supplies

Arm boards
- infant
- child
- adult

Catheter-over-the-needle device
- 14 gauge
- 15 gauge
- 16 gauge
- 17 gauge
- 18 gauge
- 19 gauge
- 20 gauge
- 21 gauge
- 22 gauge
- 23 gauge
- 24 gauge

Intraosseous needles or device
- Pediatric
- Adult

- IV administration sets with calibrated chambers and extension tubing and/or infusion devices with ability to regulate rate and volume of infusate

Umbilical vein catheters
- 3.5F
- 5.0F

Central venous catheters
- 4.0F
- 5.0F
- 6.0F
- 7.0F

Intravenous solutions
- Normal saline
- Dextrose 5% in normal saline
- Dextrose 10% in water

Equipment/Supplies: Fracture-Management Devices

Extremity splints
- Femur splints, pediatric sizes
- Femur splints, adult sizes

- Spine-stabilization devices appropriate for children of all ages

Equipment/Supplies: Respiratory

Endotracheal tubes
- ○ uncuffed 2.5 mm
- ○ uncuffed 3.0 mm
- ○ cuffed or uncuffed 3.5 mm
- ○ cuffed or uncuffed 4.0 mm
- ○ cuffed or uncuffed 4.5 mm
- ○ cuffed or uncuffed 5.0 mm
- ○ cuffed or uncuffed 5.5 mm
- ○ cuffed 6.0 mm
- ○ cuffed 6.5 mm
- ○ cuffed 7.0 mm
- ○ cuffed 7.5 mm
- ○ cuffed 8.0 mm

Feeding tubes
- ○ 5F
- ○ 8F

Laryngoscope blades
- ○ straight: 0
- ○ straight: 1
- ○ straight: 2
- ○ straight: 3
- ○ curved: 2
- ○ curved: 3

- ○ Laryngoscope handle

Magill forceps
- ○ pediatric
- ○ adult

Nasopharyngeal airways
- ○ infant
- ○ child
- ○ adult

Oropharyngeal airways
- ○ size 0
- ○ size 1
- ○ size 2
- ○ size 3
- ○ size 4
- ○ size 5

Stylets for endotracheal tubes
- ○ pediatric
- ○ adult

Suction catheters
- ○ infant
- ○ child
- ○ adult

Tracheostomy tubes _
- ○ 2.5 mm
- ○ 3.0 mm
- ○ 3.5 mm
- ○ 4.0 mm
- ○ 4.5 mm
- ○ 5.0 mm
- ○ 5.5 mm

- ○ Yankauer suction tip

Bag-mask device, self inflating
- ○ infant: 450 ml
- ○ adult: 1000 ml

Masks to fit bag-mask device adaptor
- ○ neonatal

Equipment/Supplies: Respiratory, Continued

- ○ infant
- ○ child
- ○ adult

Clear oxygen masks
- ○ standard infant
- ○ standard child
- ○ standard adult
- ○ partial nonrebreather infant
- ○ nonrebreather child
- ○ nonrebreather adult

Nasal cannulas
- ○ infant
- ○ child
- ○ adult

Nasogastric tubes:
- ○ infant, 8F
- ○ child, 10F
- ○ adult, 14-18F

Laryngeal mask airway
- ○ size: 1
- ○ size: 1.5
- ○ size: 2
- ○ size: 2.5
- ○ size: 3
- ○ size: 4
- ○ size: 5

Equipment/Supplies: Specialized Pediatric Trays or Kits

- ○ Lumbar-puncture tray (including infant 22 gauge, pediatric –22 gauge, and adult 18-21 gauge), lumbar puncture needles

- ○ Supplies/kit for patients with difficult airway (supraglottic airways of all sizes, laryngeal mask airway, needle cricothyrotomy supplies, surgical cricothyrotomy kit)

- ○ Tube thoracostomy tray

Chest tubes to include:
- ○ infant: 10-12F
- ○ child: 16-24 F
- ○ adult: 28-40 F

- ○ Newborn delivery kit, including equipment for resuscitation of an infant (umbilical clamp, scissors, bulb syringe, and towel)

- ○ Urinary catheterization kits and urinary (indwelling) catheters (6F–22F)

This checklist is based on the American Academy of Pediatrics, the American College of Emergency Physicians, and the Emergency Nurses Association 2009 joint policy statement "Guidelines for Care of Children in the Emergency Department," which can be found online at: http://aappolicy.aappublications.org/cgi/reprint/pediatrics;124/4/1233.pdf.

Section 12—Pediatric Dietary Needs

Purpose: In order to adequately prepare for the influx of pediatric patients that may result from a disaster involving children, hospitals must also consider the requirements for providing age-appropriate food and potable water to this population while they are patients or visitors in the facility. The *Pediatric Dietary Needs* section provides nutritional guidelines for hospitals that do not typically provide pediatric in-patient services. The recommendations in this section include:

- Pediatric dietary recommendations for healthy children and children with special needs; and sample disaster menus for children including menus for special dietary needs.
- The disaster menus focus on foods that require little to no preparation and are both easy and inexpensive to store.

General Guidelines

- NYSDOH recommends that hospitals maintain access to a 5-day food and drinking water supply for use during an emergency. It is also recommended that hospitals develop a network of resources for supplies of food and water if the routine supplier is unavailable or unable to meet the demand. A memorandum of understanding with local stores for immediate delivery of food and formula may be necessary.

- The American Academy of Pediatrics (AAP) recommends exclusive breastfeeding for the first year and that the introduction of solids be delayed until around six months of age. If the mom and baby are breastfeeding, staff should do whatever they can to support continued breastfeeding for the duration of their involvement in the disaster response. When that is not possible, dietary guidelines should be adhered to as closely as possible in the interest of safety and support for normal growth and development.   AAP's recommendations may be found at: https://brightfutures.aap.org/Bright%20Futures%20Documents/BFNutrition3rdEditionSupervision.pdf

- The goal is to provide a safe and nurturing environment. In order to do this, staff must be able to recognize and respond to hunger and satiety cues, to recognize the infant's/child's developmental abilities and feeding skills; to balance the need for assistance with the need for self-feeding; and to allow the infant/child to begin and to guide the feeding interaction.

- Bottles must never be propped.

- Food should never be used as a reward or a punishment. Our goal with respect to nutrition is always to promote healthy behaviors.

- Culture has a huge impact on the way families eat. For many children, there are culture-specific foods that convey caring and being nurtured through their association with family meals. Disasters may disrupt relationships with family and traditional food as the environment becomes chaotic and as the child and/or family is in care. This may play out in the rejection of food that is offered or the child being slow to accept offered food.

- Lactose intolerance is more common in those with non-European ancestry. Symptoms may or may not be avoided by consuming smaller portions of milk and milk products, by consuming lactose-free milk or milk products, or through offering lactase tablets with milk and milk products. If the child or adolescent cannot tolerate any lactose-containing products, health professionals should suggest other good sources of calcium, such as calcium-fortified orange juice or dark, leafy vegetables.

- The child's oral health may also have an impact on what the child is able to tolerate and what he/she is able to chew. Dental caries and periodontal disease are some of the most common diseases of childhood and become more prevalent with the advancing age of the child. A good oral risk assessment will ensure early recognition of dental conditions impacting nutrition and intake and allow the clinician to tailor recommended diet to the child's condition. Children with special health care needs are at heightened risk for oral issues.

- **A note of caution:** *New data show a dramatic increase in the incidence of food allergies of all kinds in children.* Incomplete history or new onset may require medical intervention, including treatment with epinephrine. Auto-injectors and training in the recognition and intervention for acute allergies are recommended for staff.

- **Food safety is paramount**. Food must be hygienically prepared and safely handles, and must be developmentally appropriate to avoid injuries or death from choking.

The nutritional supplies recommended for both healthy children and those with special dietary needs are listed in *Table 12.1*.

Table 12.1–Pediatric Dietary Recommendations[1]

Age	0 to 6 months	6 months to 1 year	1 to 2 years	2 years and above
Healthy Children	These children are breast-fed or formula-fed by bottle only. **Comments:** If the mother is not available to breastfeed, the first choice is to give breast milk by bottle. Some breast-fed children may not immediately take bottle-feeding. **Continue to feed: eventually the child will feed from the bottle.** **Recommendation:** Ready-to-feed formula is preferred since it is immediately ready for use and requires no	**6-9 months–** baby cereal, jarred baby food or mashed table food is appropriate, along with formula or breast milk. **9-12 months–**soft, bite-sized pieces of food (i.e., vegetables, mashed potatoes and meats) along with formula or breast milk.	This age group eats table food. Young children will need soft, bite-sized foods. Avoid foods that can cause choking such as hot dogs, grapes and chunks of meat unless cut in pea-sized pieces. **Hydration:** Water,	This age group eats table food. Young children will need finger foods. Avoid foods that can cause choking such as hot dogs or grapes for youngest children. **Hydration:** Water, Pedialyte

	refrigeration or preparation. Powdered baby formula may be used as long as a safe water supply is available. Powdered formula will have a longer shelf life than ready-to-feed formula. There should be milk-based, soy-based and hypoallergenic formula available.		Pedialyte See sample menu below.	See sample menu below.

Children with Special Needs	**Patients with feeding tubes:** There are 3 types of tube feedings: Nasogastric (N/G), orogastric (O/G), and gastrostomy (G/T). The first 2 are used for acute patients; the third is used for chronic patients. **N/G or O/G Tube:** Used for both nasogastric and orogastric feedings and are temporary measures, mostly used in pediatric emergency rooms or pediatric in-patient areas for acute feeding issues, gastric decompression, and/or delivery of oral medications such as activated charcoal. **G/T Tube:** Used with a 60cc syringe, catheter tip and a bolus continuous feed or pump. **Infants (0 to 12 months):** Infant formula should be used through the tube. **12 months to 18 years of age:** Pediatric formulas should be used (i.e., Resource Just for Kids, PediaSure or Nutren Jr.). For adolescents, adult enteral product may be appropriate, based on clinical judgment. (Powdered products similar to Pediasure are now available.) **Hydration:** Tap or bottled water. **Comments:** - The same feeding pump used for adults can also be used to feed children. - Use saline water to clean the area when the feeding tube is inserted into the patient. - Change feeding bags every 8 hours and clean prior to adding more formula.
Diabetic Children	The nutritional needs of this group will be determined by the patient's body weight and (insulin) medicine requirements. **Recommendation:** Patients may require between meal snacks to control blood glucose.

Table 12.2–Sample Pediatric Disaster Menu

The following sample diet for pediatric patients lists foods that require the minimal amount of preparation or power supply to maintain temperatures.

	Day 1	Day 2	Day 3
	Breakfast	**Breakfast**	**Breakfast**
0 to 6 months	• Breast milk or milk- or soy-based formula	• Breast milk or milk- or soy-based formula	• Breast milk or milk- or soy-based formula
6 months to 1 year	• Iron-fortified baby cereal • Jarred baby fruit • Breast milk or milk- or soy-based formula	• Iron-fortified baby cereal • Jarred baby fruit • Breast milk or milk- or soy-based formula	• Iron-fortified baby cereal • Jarred baby fruit • Breast milk or milk- or soy-based formula
>1 year	• Cheerios (or substitute) • UHT milk (1 to 2 years) or powdered milk (>2years) • Diced canned fruit	• Cheerios (or substitute) • UHT milk (1 to 2 years) or powdered milk (>2years) • Diced canned fruit	• Cheerios (or substitute) • UHT milk (1 to 2 years) or powdered milk (>2years) • Diced canned fruit
	Lunch	**Lunch**	**Lunch**
0 to 6 months	• Breast milk or milk- or soy-based formula	• Breast milk or milk- or soy-based formula	• Breast milk or milk- or soy-based formula
6 months to 1 year	• Jarred baby meat • Jarred baby vegetable • Jarred baby fruit • Breast milk or milk- or soy-based formula	• Jarred baby meat • Jarred baby vegetable • Jarred baby fruit • Breast milk or milk- or soy-based formula	• Jarred baby meat • Jarred baby vegetable • Jarred baby fruit • Breast milk or milk- or soy-based formula
1 to 2 years	• Canned beef stew • Jarred baby vegetable • Diced peaches • Bread/crackers • UHT milk	• Macaroni and cheese • Jarred baby vegetable • Diced pears • Bread/crackers • UHT milk	• Tuna or canned chicken • Jarred baby vegetable • Diced fruit cocktail • Bread/crackers • UHT milk
>2 years	• Cream cheese/jelly sandwich • Diced peaches • Graham crackers • Powdered milk	• Macaroni and cheese • Diced pears • Graham crackers • Powdered milk	• Peanut butter*/jelly sandwich • Diced fruit cocktail • Graham crackers • Powdered milk
	Dinner	**Dinner**	**Dinner**
0 to 6 months	• Breast milk or milk- or soy-based formula	• Breast milk or milk- or soy-based formula	• Breast milk or milk- or soy-based formula
6 months to 1 year	• Jarred baby meat • Jarred baby vegetable • Jarred baby fruit • Breast milk or milk- or soy-based formula	• Jarred baby meat • Jarred baby vegetable • Jarred baby fruit • Breast milk or milk- or soy-based formula	• Jarred baby meat • Jarred baby vegetable • Jarred baby fruit • Breast milk or milk- or soy-based formula
1 to 2 years	• Cheese slices–chopped • Jarred baby vegetable • Applesauce • Bread/crackers • UHT milk	• Canned chicken– chopped • Jarred baby vegetable • Diced peaches • Bread/crackers • UHT milk	• Cheese ravioli • Jarred baby vegetable • Baby fruit • Bread/crackers • UHT milk
>2 years	• Cheese sandwich • Canned pineapple • Graham crackers • Powdered milk	• Chicken sandwich • Diced peaches • Graham crackers • Powdered milk	• Cheese ravioli • Mandarin oranges • Graham crackers • Powdered milk
*Be alert for allergies.			

Table 12.3–Pediatric Nutrition Guidelines for Primary Healthcare Providers

When a child presents with several red flags, it is recommended to refer the caregiver to a registered dietitian (RD) for a nutritional assessment.

Age	Developmental Characteristics	Guidelines	Red Flags

Birth to 6 months	• Sucks well on nipple[2]
	
	• Finishes each feeding within 45 minutes by age 4 months[2]
	
	• Signs of hunger in newborns are increased alertness or activity, mouthing or rooting. Crying is a late indicator of hunger[3]
		• Breastfeeding is recommended for the first year of life for healthy term infants, with solid food added at six months of age.[4,5]
		
		• Encourage parents to feed whenever baby show signs of hunger[3]
		
		• Encourage parents to hold their baby during feedings and make eye contact[6]
		
		• Breastfed or partially breastfed infants drinking less than 1L (32oz) formula daily should receive a daily vitamin D supplement of 400IU (10µg)[4,7]
		
		• Dark-skinned infants and infants whose mothers enter pregnancy and lactation with low vitamin D status are particularly at risk for developing vitamin D deficiency rickets;[7] therefore it is important to promote the recommendation for adequate vitamin D to these parents
		
		• If an infant is not breastfed or is partially breastfed, cow's milk-based iron-fortified infant formulas are the most acceptable alternative[1,4]
		
		• Hypoallergenic formula should be given if allergy to milk-based formula is suspected[8]
		
		• Soy-based formula should be given to infants who cannot take dairy-based products for health, cultural, religious or personal reasons, such as vegan lifestyle or galactosemia[4]
		
		• Research has shown that there is no link between iron-fortified infant formula and constipation[8,9]
			• Serial growth measurements have unexpectedly crossed 2 or more centiles downwards (failure to thrive)[11]
			
			• Newborn not being fed whenever they show signs of hunger[3]
			
			• Healthy, full-term breastfed infant:
			  ○ Loses more than 7% of birth weight
			  ○ Does not regain birth weight by 10 days
			  ○ Does not have at least 3 bowel movements each day[2]
			  ○ Does not have at least 6 wet diapers each day by day 4 with urine that is clear or pale yellow[12,13]
			
			• During the first 4 months, infant not being fed frequently[4]
			
			• Exclusively breastfed infant is not receiving a vitamin D supplement, particularly those at risk[4,7]
			
			• Infant formula is not iron-fortified[4]
			
			• Liquids (including water) or solids other than breast milk or iron-fortified formula are given before 4 months (6 months is recommended)[4,10]
			
			• Infant is fed using a propped bottle[4,7]
			
			• Infant cereal is given in a bottle[1,4]
			
			• Private well water used for infant feeding is not being regularly tested[4]
			
			• For the first 4 months, water for infant formula is not brought to a rolling boil for 2 minutes[4]
			
			• Infant formula is not being mixed correctly (i.e., correct dilution)[1]

Table 12.3–Pediatric Nutrition Guidelines for Primary Healthcare Providers, continued

Age	Developmental Characteristics	Guidelines	Red Flags
Birth to 6 months		• Breastfed infants tend to become leaner than formula-fed infants after 3 to 4 months. This should be anticipated when assessing growth to avoid unnecessary supplementation with formula or early introduction of solids[1,11] • Fruit juice, water or any beverages other than breast milk or formula should not be given[1,4,5] • To prevent infant botulism, honey should not be given prior to 1 year of age[4] • For the prevention of allergy, the avoidance of solid food for at least 4 months and preferably 6 months is recommended[10]	
6 to 9 months	• At 6 months, babies are physiologically and developmentally ready for solid foods[4] • Sits independently for a short time[14] • Drinks from a cup held by an adult[1] • Eats soft food from a spoon or adult's fingers[2] • Uses both hands to hold a bottle[14] • Prefers parents to feed[4,6] • Plays with spoon[1] • Initial refusal of new flavors and textures is common. It may take 3-10 offerings before an infant accepts a new food[1] • Finger-feeding can be introduced[4, 6] • By 9 months, picks up small items using thumb and first finger (e.g., oat ring cereal)[2]	• Continued breastfeeding is recommended[4,5] • If infant is not breastfed or is partially breastfed, cow's milk-based iron-fortified infant formulas are the most acceptable alternative until 9 to 12 months[1,4] • For infants unable to take cow's milk products, give commercial soy formula until 2 years[4] • At 6 months, introduce iron-containing foods, such as iron-fortified cereals (see *Dietary sources of iron* later in this section).[4,5] Introduce vegetables and fruit next. At about 9 months, introduce whole cow's milk and milk products[4,15] • Introduce one new food at a time with an interval of 2 to 7 days before introducing another to allow infant to acquire a taste for a new food and make it easier to identify the cause of an allergic reaction[1,15]	• Serial growth measurements have unexpectedly crossed 2 or more centiles downwards[11] • Breastfed or partially breastfed infant drinking less than 32oz (1L) formula not receiving a vitamin D supplement, particularly those at risk[4,7] • Infant formula is not being mixed correctly (i.e., correct dilution)[1] • Cow's milk is given instead of breast milk or infant formula[4] • Iron-containing foods have not been introduced by 7 months of age[4,16] • Infant is not eating willingly or parents imply that they force-feed[1] • Infant is drinking more than 4oz (125mL) of fruit juice per day[15,17] • Fruit drinks, pop, coffee, tea, cola, hot chocolate, soy beverage, other vegetarian beverages, herbal tea or herbal products, egg white or honey is given[4]

Table 12.3–Pediatric Nutrition Guidelines for Primary Healthcare Providers, continued

Age	Developmental Characteristics	Guidelines	Red Flags
6 to 9 months	• Some infants have a more sensitive gag reflex and may not tolerate anything but pureed foods at first[8]	• Start with small serving sizes (1 to 3tsp)[1] • Complementary foods should initially be provided 2 to 3 times a day[15] • Infants will indicate hunger or satiety. Forced feeding may promote negative associations with eating[1] • Mealtime environment should be free of distractions such as television and activities[18] • Gradually offer food with more texture, progressing from pureed to mashed consistency and then to soft finger foods of about 1.4-inch pieces[8,15] • Offer some breast milk or formula in a cup. Use a cup regularly with meals by 8 months of age[8] • Wait until 1 year of age to introduce egg white to minimize the risk of allergic reactions[4] • Honey should not be given prior to 1 year of age[4] • Coffee, tea, cola and hot chocolate should not be given[4]	• Infant cereal is given in a bottle[1,4] • Infant is fed using a propped bottle[1,4]

Table 12.3−Pediatric Nutrition Guidelines for Primary Healthcare Providers, continued

Age	Developmental Characteristics	Guidelines	Red Flags
9 to 12 months	• Begins to take an active independent role in feeding[8] • Assists with spoon; some become independent[14] • Refining pincer grasp[14] • Can hold cup and suck or sip contents, but may spill[1,8,14] • More willing to accept lumpy textures, especially when self-feeding[8] • Initial refusal of new flavors and textures is common. It may take up to 10 offerings before infant accepts a new food[8] • Licks food from lower lip[1]	• Continued breastfeeding is recommended[4,5] • Breastfed babies should receive a daily vitamin D supplement until the infant's diet includes at least 400IU (10µg)/day from other dietary sources (see *Dietary sources of vitamin D* later in this section) or until 1 year of age.[4,7] • Between 9-11 months, increase the number of times infants are fed complementary foods to 3 to 4 times a day[15] • Parents/caregivers should encourage self-feeding by offering more textured finger/table foods[1,15] • Include baby at the table for family mealtimes[18] • Mealtime environment should be free of distractions like television and activities[18] • Whole (3.25%) cow's milk can complement or replace breast milk or replace formula between 9 to 12 months.[4,15] 1% or 2% milk is not recommended until age 2.[4] Skim milk is inappropriate before age 2[4] • Limit deli and luncheon meats such as hot dogs*, bacon and smoked meat[19] • Fruit juice offers no nutritional benefits over whole fruit[17] • Offer a cup with breast milk, formula, cow's milk, 100% juice or water during meals so that a natural transition from bottle to cup will take place[1,8]	• Serial growth measurements have unexpectedly crossed 2 or more centiles downwards[11] • Breastfed or partially breastfed infant drinking less than 1L (32oz) formula not receiving a vitamin D supplement, particularly those at risk[4,7] • At 10 months, consistently refuses lumpy or textured foods[16] • Infant is not supervised during feeding[4] • Drinks juice in a bottle or a transportable covered cup that allows the baby to consume juice easily throughout the day[17] • Fruit drinks, pop, coffee, tea, cola, hot chocolate, soy beverage, other vegetarian beverages, herbal tea or herbal products, egg white or honey is given[4, 17] *Round foods, like hot dogs, that could block the trachea are a choking hazard and should be chopped to small pieces if fed to young children. Other choking hazards include dry or sticky foods like: peanut butter, popcorn.

Table 12.3–Pediatric Nutrition Guidelines for Primary Healthcare Providers, continued

Age	Developmental Characteristics	Guidelines	Red Flags
12 to 18 months	• Picks up and eats finger foods[2] • Grasps spoon with whole hand[14] • Holds cup with 2 hands[14] • Holds and tips bottle[14] • Compared with the first year of life, a decreased or sporadic appetite is common[1] • Unfamiliar foods are often rejected the first time[1]	• Whole (3.25%) cow's milk can complement or replace breast milk or replace formula. 1% or 2% milk is not recommended until age 2. Skim milk is inappropriate before age 2[4] • If soy formula is given to babies who cannot take dairy-based products, continue until 2 years of age. Soy beverage, rice milk or other vegetarian beverages are not recommended under 2 years of age due to low fat content[4] • At 12 months of age, babies should have a daily intake of 5µg (200IU) of vitamin D[4] that they can get with 2 cups (500mL) of milk (see *Dietary sources of vitamin D* later in this section). A supplement may need to be recommended[4,7] • Drinking too much milk can lead to iron deficiency. Babies 12 months of age or older should drink 16 to 24oz (500 to 750mL) of milk/day[20] • Parents should encourage child to feed themselves at the beginning of a meal when they are hungry, but help if they tire later in the meal[4] • The child should be included at family mealtimes[18] • Continue to provide 3 to 4 meals a day. Additional nutritious snacks may be offered 1 to 2 times a day[15] • By 12 months of age, babies should be eating a variety of foods[1,4]	• Serial growth measurements have unexpectedly crossed 2 or more centiles downwards[11] • Breastfed child not receiving a vitamin D supplement[4,7] • Skim milk is regularly given[4] • Drinking liquids primarily from a baby bottle[16] • Not eating a variety of table foods[4] • Consistently refuses lumpy or textured foods[16] • At 15 months of age, does not finger/self-feed[4,16,18] • Parents not recognizing and responding to the child's verbal and non-verbal hunger cues[4] • Child is not supervised during feeding[4,18] • Excessive fluid consumption, e.g., milk (more than 24oz daily),[20] juice (more than 4 to 6oz daily),[17] pop and fruit drinks[1,4] *Round foods, like hot dogs, that could block the trachea are a choking hazard and should be chopped to small pieces if fed to young children. Other choking hazards include dry or sticky foods like: peanut butter, popcorn.

Age	Developmental Characteristics	Guidelines	Red Flags
12 to 18 months		- If a child is eating according to AAP or Canada's Food Guide, is growing well and is healthy, vitamin/mineral supplements are rarely necessary. The nutrient of greatest concern during this period is iron[20] - The development of healthy eating skills is a shared responsibility: parents and caregivers should provide a selection of nutritious, age-appropriate foods and decide when and where food is eaten; babies and children should decide how much they want to eat. Pressuring a child to eat may lead to overeating or the development of aversions to certain foods[1,4,18] - Fruit juice offers no nutritional benefits over whole fruit[17] - Excessive fruit juice consumption may be associated with diarrhea, flatulence, abdominal distension, tooth decay and poor weight gain[8,18] - Fruit drinks and pop are not recommended as they displace nutrient-dense foods and beverages. Encourage parents to offer water[18]	

Table 12.3–Pediatric Nutrition Guidelines for Primary Healthcare Providers, continued

Age	Developmental Characteristics	Guidelines	Red Flags
18 to 24 months	• Chews broad range of foods[14] • Self-feeding predominates[14] • Displays curiosity and desire to be independent[1] • Food neophobia (fear of the new) increases through early childhood and then declines.[22] Unfamiliar foods are often rejected the first time[1] • Food likes and dislikes become prominent[1] • Tends to go on food jags (refusal of all but 4 or 5 favorite foods over an extended period)[18] • In non-controlling, non-coercive conditions, healthy children have the ability to self-regulate the amount of food and energy consumed[23]	• Small, nutritious, frequent and energy-dense feedings are important to meet nutrient and energy needs[4] • Avoid foods with the potential to cause choking (see *Choking and Aspiration* below)[1,4,18] • Limit deli and luncheon meats such as hot dogs, bacon and smoked meat[19] • Parents should role-model healthy eating and introduce age-appropriate table manners[8] • Let the child assume responsibility for how much to eat. Forcing a child to clean their plate may lead to overeating or the development of aversions to certain foods[1,18] • 15 to 20 minutes is an appropriate length of time to stay at the table[18] • If a child is eating according to AAP Guide, is growing well and is healthy, vitamin/mineral supplements are rarely necessary. The nutrient of greatest concern during this period is iron[20] • Limit fluids such as juice and milk between meals[1] • Fruit drinks and pop are not recommended as they displace nutrient-dense foods and beverages. Encourage parents to offer water[18]	• Serial growth measurements have unexpectedly crossed 2 or more centiles downwards[11] • Not eating a variety of table foods[4] • Skim milk is given regularly[4] • Soy beverage, rice milk, other vegetarian beverages or herbal teas are given[4] • Child is not supervised when eating[4,18] • Child does not finger/self-feed[4,16,18] • Drinking liquids primarily from a baby bottle[16] • Parents pressure or reward child to eat[18] • Child 'grazes' on food all day[18] • Excessive fluid consumption, e.g., milk (more than 24oz daily,[20] juice (more than 4 to 6oz daily,[17] pop and fruit drinks[1,4] *Round foods, like hot dogs, that could block the trachea are a choking hazard and should be chopped to small pieces if fed to young children. Other choking hazards include dry or sticky foods like: peanut butter, popcorn.

Table 12.3–Pediatric Nutrition Guidelines for Primary Healthcare Providers, continued

Age	Developmental Characteristics	Guidelines	Red Flags
2 to 3 years	- By 2 years of age, eats most foods without coughing and choking[2] - By 2 years of age, eats with a utensil with little spilling[2] - By 30 months of age, lifts and drinks from a cup and replaces it on the table[2] - May be resistant to new foods[18] - Food preferences increase with frequency of exposure. It may take 5 to 15 exposures to a new food before a child learns to like it[21,24] - It is normal for children to lose interest in mealtimes. When hungry, they will focus on eating. When satisfied, their attention turns elsewhere[1,19]	- Children aged 2 and older can get the nutrients and calories they need for healthy growth and development by following Canada's Food Guide[19] - AAP recommends that children aged 2 to 3 eat 2 cups (500mL) of vegetables and fruit each day[19] (see *Pesticides on Vegetables and Fruit* later in this section for ways to minimize pesticide residues) - Offer 2 cups (500mL) of milk or fortified soy beverage daily to help meet the vitamin D requirement[19] - Offer a variety of nutritious foods, including some choices that contain fat such as milk and peanut butter[19] - Serve small, nutritious meals and snacks and allow the child to ask for seconds[8,19] - Structure and routine for eating is important for young children. Grazing between meals and snacks should be limited[18] - The amount of food eaten will vary day to day depending on the child's appetite, activity level and whether they are experiencing a growth spurt, or if they are excited or overly tired[19] - Let the child assume responsibility for how much to eat. Forcing a child to clean their plate may lead to overeating or the development of aversions to certain foods[1,18,19]	- Serial growth measurements have unexpectedly crossed 2 or more centiles downwards[11] - BMI-for-age ≤5th percentile or ≥95th percentile[11] - Drinking liquids primarily from a baby bottle[16,18] - Excessive fluid consumption, e.g., milk (more than 24oz daily),[20] juice (more than 4 to 6oz daily),[17] pop and fruit drinks[1,4] - Child does not self-feed[4,16,18] - Parent not allowing the child to decide how much to eat[1,18,19] - Parents are using a highly restrictive approach to feeding[18] 'Grazes' on food or beverages throughout the day[18] - More than 2 hours of TV-watching daily[23] *Round foods, like hot dogs, that could block the trachea are a choking hazard and should be chopped to small pieces if fed to young children. Other choking hazards include dry or sticky foods like: peanut butter, popcorn.

Table 12.3–Pediatric Nutrition Guidelines for Primary Healthcare Providers, continued

Age	Developmental Characteristics	Guidelines	Red Flags
2 to 3 years		• Encourage parents to be patient. If an unfamiliar food is rejected the first time, it can be offered again later[19] • Food should not be used as a reward[1,18,21] • Encourage parents to sit down and eat with the child, provide a pleasant setting and leave the TV off during mealtimes[8,19, 23] • A multivitamin is rarely needed for a healthy child who is growing well and following AAP guidelines[19] • Fruit drinks and pop are not recommended as they displace nutrient-dense foods and beverages. Encourage parents to offer water[18]	

Age	Developmental Characteristics	Guidelines	Red Flags
3 to 6 years (pre-schoolers)	• By age 4, looks for adult approval[2] • Food preferences increase with frequency of exposure. It may take 5 to 15 exposures to a new food before a child learns to like it[21,24] • It is normal for children to lose interest in mealtimes. When hungry, they will focus on eating. When satisfied, their attention turns elsewhere[19]	• Serve small, nutritious meals and snacks and allow the child to ask for seconds[8,19] • The amount of food eaten will vary day to day depending on the child's appetite, activity level and whether they are experiencing a growth spurt or if they are excited or overly tired[19] • Encourage parents to sit down and eat with the child, provide a pleasant setting and leave the TV off during mealtimes[8,19] • The use of external cues related to feeding such as prompts or rewards is likely to build resistance, food dislikes and lack of self-regulation[1,18,21,22] • If new food is rejected, offer again. [19]	• Serial growth measurements have unexpectedly crossed 2 or more centiles[11] • BMI-for-age ≤5th percentile or ≥95th percentile[11] • NutriSTEP* (parent-administered nutrition screen for 3- to 5-year-olds) score of 26 or greater (i.e., high nutrition risk)[24] * http://www.nutristep.ca/ • Parents are using a highly restrictive approach to feeding[18] • Does not self-feed[4,16,18] • Not eating a variety of table foods[19] • Does not eat at regular times throughout the day (breakfast, lunch, supper and 2 to 3 snacks)[18] • Drinking liquids primarily from a baby bottle[16,18]

Table 12.3–Pediatric Nutrition Guidelines for Primary Healthcare Providers, continued

Age	Developmental Characteristics	Guidelines	Red Flags
3 to 6 years (pre-schoolers)		• Let the child assume responsibility for how much to eat. Forcing a child to clean their plate may lead to overeating or the development of aversions to certain foods[1,18,19] • Encourage parents to involve their child in simple food-related tasks (e.g., making muffins together) to encourage them to try these foods[19] • Fruit drinks and pop are not recommended as they displace nutrient-dense foods and beverages. Encourage parents to offer water[18] • Limit TV watching to 1 to 2 hours or less daily[23]	• Excessive fluid consumption, e.g., milk (more than 24oz daily),[20] juice (more than 4 to 6oz daily),[17] pop and fruit drinks[1,4] • More than 2 hours of TV-watching daily[23] *Round foods, like hot dogs, that could block the trachea are a choking hazard and should be chopped to small pieces if fed to young children. Other choking hazards include dry or sticky foods like: peanut butter, popcorn.

General Risk Factors that Indicate the Intervention of a Registered Dietitian (RD) or other Primary Healthcare Provider

• Family is experiencing problems around feeding, mealtimes are unpleasant, and infant/child refuses many foods, or drinks excessive fluids throughout the day so is not hungry at mealtimes. Parents are possibly force-feeding or offering inappropriate amounts of food.

• Parents have distorted issues with their own eating and/or body image.

• Infant/child has medical problems that make eating or drinking a problem such as swallowing issues, gagging or choking.[14]

• Infant/child has other health problems that may be related to diet such as iron deficiency anemia, constipation, obesity, or body image issues.

• Family has different beliefs related to foods (e.g., the use of herbal products, exclusion of food groups such as meat and meat alternatives, the use of unsafe products such as unpasteurized milk).

• Family is low income. In order for families to access foods that will nourish them, they need to have enough money.

• Family has problems with adequate food storage, cooking facilities or provision of adequate amounts of food because of lack of information.

Dietary Sources of Important Nutrients

Dietary sources of iron: Iron-fortified infant cereal, egg yolk, beef, chicken, turkey, lamb, fish, pork, legumes (beans, lentils, chick peas) and tofu.

Iron from meat sources is better absorbed than iron from non-meat sources. However, as a first food, some children may not like the taste or texture of meat and refuse to eat this food. Infant cereal may have a more palatable taste and parents may be more successful starting with this type of food as a first food.

Dietary sources of vitamin D: Fortified cow's milk (88IU in 250mL); fortified infant formula (100IU in 250mL); fortified plant-based beverage (80IU in 250mL); fortified margarine (25IU in 5mL); cooked salmon (103IU in 1oz); and egg yolk (25IU in one egg).[7]

Choking and Aspiration

Hard, small and round, or smooth and sticky solid foods can block a young child's small airway. The following foods are not safe for infants and children under 4 years of age: Popcorn, hard candies, gum, cough drops, raisins, peanuts or other nuts, sunflower seeds, fish with bones, and snacks using toothpicks or skewers. The following foods are safer for infants and young children when they are prepared as described: Wieners diced or cut lengthwise, grated raw vegetables or fruit, fruit with pits removed, chopped grapes, and peanut butter spread thinly on crackers or bread. Peanut butter served alone or on a spoon is potentially unsafe because it can stick in the palate or posterior pharynx leading to asphyxia.[4]

Bacteria and Pesticides on Vegetables and Fruit

A healthy diet rich in vegetables and fruit may help reduce the risk of cardiovascular disease and some types of cancer.[19] To reduce or eliminate pesticide residues and bacteria on fresh vegetables and fruit, follow these FDA recommendations:[25]

- Choose produce that is not damaged or bruised.
- Keep fresh products that are not going to be cooked away from raw meats, poultry and seafood.
- Wash all fresh vegetables and fruit with running water and dry with a clean cloth or paper towels, if possible.
- Use a small scrub brush to clean the outer skin of vegetables and fruit, if appropriate (for example, before eating apples, potatoes, cucumbers or other produce in which you eat the outer skin).
- Peel vegetables and fruit and trim the outer leaves of leafy vegetables, along with washing them thoroughly.

References

1. American Dietetic Association Pediatric Nutrition Practice Group. Infant Feedings: Guidelines for preparation of human milk and formula in health care facilities. 2nd ed. Chicago, IL: American Dietetic Association; 2015.

2. Nipissing District Developmental Screen. Nipissing District Developmental Screen Web site. Available at: http://www.ndds.ca/usa/. Accessed January 20, 2016.

3. American Academy of Pediatrics. Bright Futures: Nutrition. Available at: https://brightfutures.aap.org/Bright%20Futures%20Documents/BFNutrition3rdEditionSupervision.pdf. Accessed January 20, 2016.

4. Health Canada. Nutrition for Healthy Term Infants–Statement of the Joint Working Group. 2015. Available at: http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/index-eng.php Accessed January 20, 2016.

5. American Academy of Pediatrics. Policy Statement: Breastfeeding and the Use of Human Milk. Available at: https://www2.aap.org/breastfeeding/files/pdf/Breastfeeding2012ExecSum.pdf Accessed January 20, 2016.

6. Zero to Three. Healthy from the Start: How feeding nurtures your young child's body, heart and mind. Zero to Three: National Center for Infants, Toddlers and Families; n/d. Available at: https://www.zerotothree.org/resources/series/healthy-minds-nurturing-your-child-s-development Accessed: January 20, 2016.

7. Health Canada. Vitamin D supplementation for breastfed infants–2004 Health Canada Recommendation. Available at: http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/index-eng.php#a6 Accessed January 20, 2016.

8. American Dietetic Association. *Pediatric Nutrition Care Manual.* 2015 Update Summary. Chicago, IL: American Dietetic Association; 2015.

9. Singhal A, Morley R, Abbott R, Fairweather-Tait S, Stephenson T, Lucas A. Clinical safety of iron-fortified formulas. *Pediatrics* [serial online]. 2000;105(3):e38. Available at http://www.ncbi.nlm.nih.gov/pubmed/10699140 Accessed January 20, 2016.

10. American Academy of Pediatrics. Common Food Allergies. Available at: https://www.healthychildren.org/English/healthy-living/nutrition/Pages/Common-Food-Allergies.aspx. Accessed January 20, 2016.

11. Dietitians of Canada, Canadian Pediatric Society, The College of Family Physicians of Canada, Community Health Nurses Association of Canada. The use of growth charts for assessing and monitoring growth in Canadian infants and children. *Pediatr Child Health* [serial online]. 2004;9(3):171-180. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2720488/. Accessed January 20, 2016.

12. International Lactation Consultant Association. Clinical Guidelines for the Establishment of Exclusive Breastfeeding. 2nd ed. Raleigh, NC: International Lactation Consultant Association; 2005. Available at: http://www.breastcrawl.org/pdf/ilca-clinical-guidelines-2005.pdf Accessed January 20, 2016.

13. Health Canada. Family-Centered Maternity and Newborn Care: National Guidelines. 4th ed. Ottawa, ON: Minister of Public Works and Government Services; 2000. Available at: http://www.phac-aspc.gc.ca/hp-ps/dca-dea/publications/fcm-smp/index-eng.php. Accessed January 20, 2016.

14. American Speech-Language-Hearing Association. Pediatric Dysphagia. Available at: http://www.asha.org/PRPSpecificTopic.aspx?folderid=8589934965&section=Overview. Accessed January 20, 2016.

15. American Academy of Pediatrics. Starting Solid Foods. Available at: https://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/Switching-To-Solid-Foods.aspx. Accessed: January 20, 2016.

16. American Academy of Pediatrics. Vitamin and Iron Supplements. Available at: https://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/Vitamin-Iron-Supplements.aspx. Accessed: January 20, 2016.

17. American Academy of Pediatrics. Where We Stand: Fruit Juice. Available at: https://www.healthychildren.org/English/healthy-living/nutrition/Pages/Where-We-Stand-Fruit-Juice.aspx. Accessed January 20, 2016.

18. American Academy of Pediatrics. How Often and How Much Should Your Baby Eat?; 2015. https://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/How-Often-and-How-Much-Should-Your-Baby-Eat.aspx. Accessed January 20, 2016.

19. American Academy of Pediatrics, Endorsed Policy Statement. Dietary Recommendations for Children and Adolescents. *Pediatrics* 117(2), February 2006. Available at: http://pediatrics.aappublications.org/content/117/2/544. Accessed January 20, 2016.

20. Kazal LA Jr. Prevention of iron deficiency in infants and toddlers. *Am Fam Physician* [serial online]. 2002;66:1217-1224,1227. Available at: http://www.aafp.org/afp/20021001/1217.html. Accessed January 20, 2016.

21. Birch LL. Development of food preferences. *Annu Rev Nutr*. 1999;19:41-62. Available at: http://www.healthybeveragesinchildcare.org/Birch_1999_Development_of_food_preferences.pdf. Accessed January 20, 2016.

22. Johnson SL. Improving preschoolers' self-regulation of energy intake. *Pediatrics* [serial online]. 2000;106(6):1429-1435. Available at: http://pediatrics.aappublications.org/cgi/content/abstract/106/6/1429 or http://www.ncbi.nlm.nih.gov/pubmed/11099599. Accessed January 20, 2016.

23. Strausburger VC, Jordan AB, Donnerstein E. Health effects of media on children and adolescents. *Pediatrics.* 125(4), April 2010.

24. Dietitians of Canada. Preschool Nutrition Screening Tools Background. In: Practice-based Evidence in Nutrition [PEN]. August 15, 2007. Available at: http://www.nutristep.ca/. Accessed January 20, 2016.

25. US Food and Drug Administration. Produce: Selecting and serving it safely. (Includes video.) Available at: http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm114299.htm. Accessed January 20, 2016.

Resources

http://www.FoodSafety.gov - Official gateway to food safety information from federal agencies.

http://www.foodsafety.gov/risk/index.html - Helpful information for those at higher risk of food-related illness.

https://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/Pages/Committee-On-Nutrition.aspx - American Academy of Pediatrics Committee on Nutrition

Section 13–Emergency Preparedness for Childbirth

Purpose: This section is presented under the supposition that all hospitals need to recognize the potential for receiving obstetric patients during a disaster and appropriately plan for obstetric mass care. In a disaster event, the following may occur:

- Obstetric patients might present to ANY hospital.
- Transfer of patients to specialized hospitals might not be feasible.

All hospitals and all providers must be prepared to deliver care to obstetric patients during disasters. It is likely that the Emergency Department will become saturated with patients who are critically or moderately ill or injured during a disaster. Therefore, obstetric patients ready to deliver may be transferred to other units in the hospital.

This section is intended to serve as a general guide to staff who may need to assist/perform uncomplicated deliveries outside the Emergency Department or on a nursing unit in a facility, which does not usually provide obstetric services.

General Guidelines

- Pregnant women have unique needs in a disaster, often experiencing greater risk for health complications associated with pregnancy, such as premature labor, premature birth, birth of low birth-weight infants, and neonatal and infant deaths.
- In emergencies, pregnant women may experience additional stress. Stress, in conjunction with lack of appropriate hydration and nutrition, can result in premature labor and delivery.
- Emergency situations can disrupt transportation and access to the planned delivery environment. This can result in both physical and psychological implications.
- Treatment of women and infants can also be complicated by lack of access to medical records, as well as lack of access to necessities, such as diapers, formula, baby bottles and clothing.
- Without appropriate supports, there is the possibility of increased morbidity and mortality. Every hospital in New York should be aware of and in contact with their Regional Perinatal Center (RPC). The RPCs can provide telephone guidance in case of emergency and can share emergency protocols.
- In addition, each hospital should keep a recent edition of one of the standard obstetrics and pediatric texts conveniently located in the ER.

Emergency Obstetric Package for Hospitals That Do Not Provide Delivery Services

The following supplies will help your facility be prepared for birth:

Basic supplies for childbirth:

- 3 curved Kelly clamps
- 2 Mayo scissors
- 1 sponge stick
- 1 needle holder
- 1 large basin or 1 large kidney basin (for placenta)
- 1 10-pack sterile gauze sponges
- 1 Holister cord clamp (If no cord clamp, may use sterile gauze to tie off cord)
- Suction catheters
- 1 bulb syringe
- 4 sterile towels

For perineal laceration repair:

- 1 11.2-inch 20-gauge needle
- 1 10-cc syringe
- 1% lidocaine
- Chromic "000" or Vicryl "000" suture
- Betadine solution

Medication for Mother:

- 2 10-unit vials Pitocin (oxytocin injection)
- Rhogam [Rho(D) Immune Globulin (Human)], if necessary

Medication for Infant:

- Erythromycin 1% eye ointment
- Phytonadione 1.2cc for injection (vitamin K)

Note: Preassembled kits are available commercially. However, these kits do not necessarily include clamps and scissors.

Due to lack of continuous fetal monitoring equipment, neonatal resuscitation must be available and ready to be implemented at every delivery. (See *Appendices 13-1* through *13-4* at the end of this section for a review of newborn resuscitation.) Resuscitation equipment should be prepared and checked prior to delivery of the infant. This includes suction catheters (8F or 10F) for suctioning of meconium, and other emergency equipment noted later in this toolkit.

The following PDF link contains excerpts from *Giving Birth "in Place": A Guide to Emergency Preparedness for Childbirth* (American College of Nurse-Midwives, 2003) and is reprinted in this modified version with permission.

Urgent Maternal History

The first step in developing a plan for managing obstetric patients by a hospital that does not typically handle obstetric patients is to determine how pregnant and laboring women will be triaged and cared for, which may be required during a pandemic influenza outbreak. The following questions may prove helpful in making those determinations.

Note: This is not a complete obstetric history. Rather, this is an abbreviated 'urgent maternal history' to help make triage decisions.

Determine how pregnant laboring women will be triaged and cared for.

- Is the baby more than 4 weeks early?
- What is your due date?
- What baby is this for you?
- If this is not your first baby, did you have any complications with your previous delivery?
- If the water has broken, what color was it?
- Are multiple births expected?
- What drugs/medications are you currently taking?
- Are you allergic to any medications?
- Have you used any narcotic drugs recently?
- Do you know your blood type?
- Have there been any complications during your pregnancy such as high blood pressure, swelling of the hands or feet, severe headaches, gestational diabetes or bleeding?

Guidelines for Uncomplicated Deliveries

Develop a plan for transferring high-risk deliveries or an alternate means of communication with a High Risk Obstetrician Specialist if transfer is not possible. The following are guidelines for an uncomplicated delivery:

During labor: First Stage
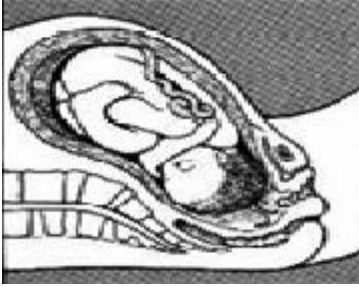
First Stage

If the baby has been head down during the last weeks of pregnancy, chances are good that the baby will be head first at birth. This is the most common position for a baby. First labors can last for 12 hours or more while the next babies can come much faster.

- Keep the mother-to-be comfortable. It is good for her to walk, take a shower, get a massage and move, even if she is in bed. The mother-to-be may want to spend a lot of time in bed, or she may prefer to be on her feet or in a chair. Whatever feels best is OK.
- Be sure she drinks lots of fluids. Water, tea and juice are the best.
- Encourage her to go to the bathroom every hour.
- Maintain a calm and encouraging atmosphere.
- Use standard precautions.
- Wash hands often.
- Decide how to help other members of the family. Will they be present for the birth? What do they need to feel safe? Note: Anyone with any signs of flu should not be allowed into the delivery area. The mother-to-be should have at least one person who can be with her at all times, but other than that, it will be up to the hospital to decide how many can be present. Space may be an issue, and the mother-to-be should be made aware that she might not be able to have everyone present that she wants, due to the nature of flu and how easily it is spread.
- Reassure the mother-to-be that it is OK to make noise during labor and that this may actually help. Making groaning or crying noise during labor is OK.

The urge to push: Second Stage
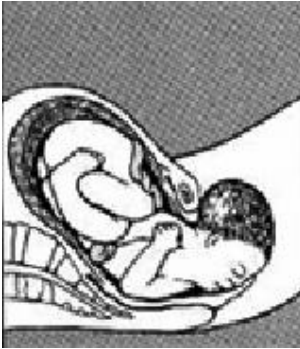
Second Stage

The longest part of labor is the time it takes for the cervix to open wide enough for the baby to pass into the birth canal or vagina (first stage). You can tell the cervix has opened all the way (fully dilated) when the mother has a very strong need to push (second stage). She cannot hold back that urge and may make sounds like she is going to the bathroom. Once she starts pushing, the baby can be born in a few minutes or a couple of hours. As birth gets closer, the area around the vagina begins to bulge out until the top of the baby's head is seen at the vaginal opening. The mother should be encouraged to push the baby's head out gently in any position that is comfortable for her. She does not have to lie on her back in bed; however, you will feel safer if she is lying down or squatting so the baby can slip gently onto a soft surface.

Put on your gloves and get in a place where you can see the baby come out. Remind the mother-to-be to push gently even when she wants to push hard. As the baby comes out, mom will feel a lot of burning around the vagina and this is when she may make a lot of noise. Support the baby's head by gently cradling it in your hands.
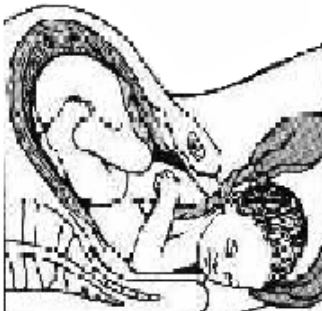
Remove cord if it is around the neck

After the head is born, determine if the cord is around the baby's neck. Reach behind the back of the baby's head, toward the back of the neck with your index finger. If you find a cord around the neck, this is not an emergency. Gently lift the cord over the baby's head, or loosen it so there is room for the body to slip through the loop of cord. **If you are unable to unwrap it from around the neck, clamp it in 2 places and cut the cord between the 2 clamps. Otherwise, do not rush to cut the cord**.
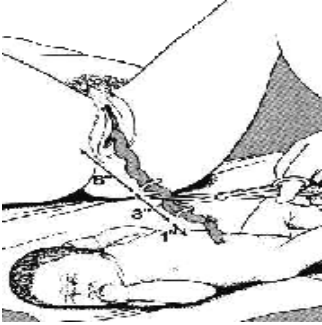
Cutting the umbilical cord

Continue to lightly cradle the baby's head between your hands. The baby's head will turn to one side and with the next contraction, the mother should push to deliver the body.

Gently support the body as it is born. Either bring the baby up to the mother and place her on the mother's chest
or
if the body does not come out, push firmly on the side of the baby's head to move the head down toward the mother's back. The shoulder will be born. The rest of the body should slip out easily followed by a lot of blood colored water.

If the head is born but the body does not come after 3 pushes, the mom must lie down on her back, put 2 pillows under her bottom, bring her knees up to her chest, have her grab her knees and push hard with each contraction. **If the head still will not deliver, adopt a CPR Chest Compression Stance just above the mother's pubic bone, apply firm downward compressions, and encourage a strong push**. This will release the shoulder that may be impinged behind the pubic bone.

After the baby is born, place her or him on the mother's chest and tummy, skin to skin, and cover both with towels. If the baby is not crying, rub her back firmly. If she still does not cry, lay her down so that she is looking up at the ceiling, tilt her head back to straighten her airway and keep rubbing. Not every baby has to cry, but this is the best way to be sure the baby is getting the air she needs. Use a bulb syringe to clear the airway by suctioning the mouth and both nares.

Bulb Syringe

a. Removal of secretions from mouth

b. Removal of secretions from nose

SUSAN GILBERT
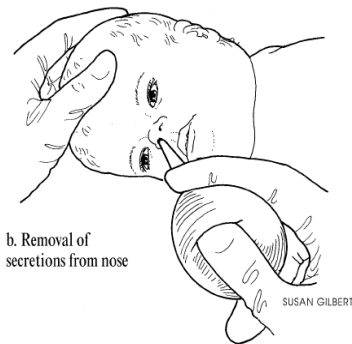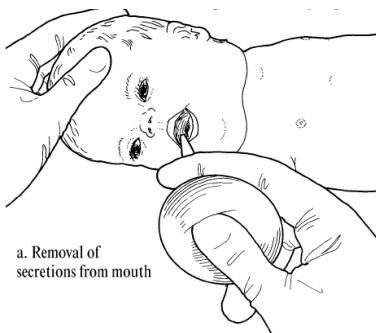
Note the time the baby was born for the birth certificate.

The Baby

At the time of birth, most babies are blue or dusky. Some cry right away and others do not. If the baby is not crying, **gently stimulate by:**

- Flicking 1 finger against the newborn's heel
- Lightly slapping the sole of the newborn's foot or rubbing the sole of the newborn's foot
- Gently rubbing the lower back
- If needed, repeat for 10 to 15 seconds only

Never hold the baby upside down, slap the buttocks, squeeze, shake, or immerse in hot or cold water. **If the baby is still not breathing, begin resuscitation.** (See review of newborn oxygenation/resuscitation in *Appendices 13-1* through *13-4* at the end of this section.)

If the baby is gagging on fluids in her mouth and turning blue, use the baby blanket to wipe the fluids out of her mouth and nose. Position and suction the baby as pictured below by first positioning the airway with the head slightly lower than the body. Then, elevate the shoulders with a 1-inch pad, turn the infant's head to the side and suction the mouth first with the bulb syringe inserted 1 to 1.5 inches. Do this 2 to 3 times. Follow by suctioning the nose with the bulb syringe inserted 0.5 inches into the nostril. NOTE: If the nose was suctioned before the mouth, the newborn may be stimulated to breathe in, and may inhale any fluid or secretions in the mouth.

Once the baby starts to cry, her color will be more like her mother, but her hands and feet will still be blue. Now is the time to keep the baby warm. Dry and warm the baby quickly to prevent heat loss by working quickly and efficiently. Use gentle rubbing to dry the baby thoroughly. Discard the towels used for drying and wrap the baby in a clean, dry towel or blanket. Put a hat on the baby and place the baby on top of the mother. The mother can help keep the baby warm with her body heat. It is also acceptable to **place the baby skin-to-skin** and cover baby and mother with a blanket.

The Umbilical Cord

The first priorities are to dry, warm, suction and position the baby. There is no rush to cut the cord. All you have to do is keep the baby close to the mother so the cord is not pulled tight. There are no nerve endings in the cord so it does not hurt either the baby or the mother when it is cut. It is very slippery so take your time, as there is no rush. The baby will cry when she is uncovered because she is cold, not because she is in pain.

If you pick the cord up between your fingers, you can feel the baby's pulse. The cord should be tightly clamped or tied in 2 places. The first clamp or tie should be approximately 8 to 10 inches from the baby. The second clamp or tie should be approximately 1 inch from the baby. Cut between the 2 clamps when the pulse ceases which will stop within about 10 minutes. Remember the cord is connected to the placenta, which is still inside the mother. After it is cut, place the end of the cord that is still connected to the mother's placenta into the basin. Cover the baby again to keep her warm.

What if the Baby is Coming Bottom First?

A few babies are born bottom first. You will probably not know this is the case until the mother-to-be pushes and you see a bottom or feet and not a head coming out. At that time, you must:

- Bring the mother's bottom to the edge of the bed and have her legs pulled up to her chest.
- Prepare a soft landing spot for the baby on the floor.
- Let the baby's body and arms come out without touching the baby. You will be looking at the baby's back. Yes, you have to let her little bottom hang down toward the floor even if you are afraid she will fall. If you have to touch something, grab another pillow for the landing zone.
- When the head slips out grab the baby under the arms and bring her up to the mom.

If the baby's arms are out but the head does not come with the next contraction, you should have the mother get out of bed, squat and push.

Put the baby to breast: Even if the mother did not plan to breastfeed, one of the safest things you can do for the baby is put the baby to breast. Breastfeeding the baby helps keep the mother from bleeding too much and gets the baby the food it needs right away. If the cord is too short to allow the baby to reach the breast, it is OK to wait until you cut the cord.

Once the baby is done nursing and you are awaiting the delivery of the placenta, you may wish to weigh the baby and obtain its length. This is also the time to administer the eye prophylaxis (erythromycin 1% ointment applied to each eyelid) and vitamin K (Phytonadione 1.2cc IM injected into the infant's thigh muscle).

The Placenta or Afterbirth (Third Stage):
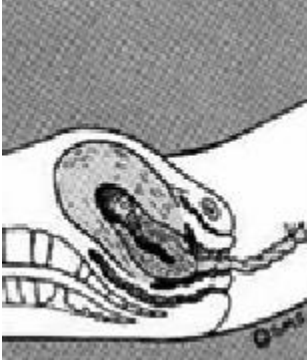
Third Stage

The placenta looks like a big piece of raw meat with a shiny film on one side. On the other side, it has membranes attached to the placenta (the membranes look like skin that has been peeled off). When the placenta is ready to come, you will see a gush of blood from the vagina and the cord will get a little longer. Put the bowl close to the mother's vagina and put more waterproof pads under her bottom. Ask the mother to sit up and push out the placenta into the basin.

There will be a lot of blood and water coming after the placenta. Firmly rub the mother's stomach below her belly button while supporting her lower abdomen until most of the bleeding stops (see picture below). This will hurt but needs to be done. The heaviest bleeding should stop in a minute and then the bleeding will be more like a heavy period. If the bleeding increases again, very firmly rub the mother's lower belly until the bleeding slows. When it is firm, you will be able to feel a uterus, which is the size of a large grapefruit, in the lower belly. A firm uterus is a good thing as it will stop the mom from bleeding too much.

If the uterus will not stay firm and the bleeding is heavy, give 10 units Pitocin (oxytocin injection) IM in the mother's thigh or gluteal muscle. Continue to massage the uterus until the bleeding is under control. If the bleeding is not under control, then repeat Pitocin.

The mother's bottom and uterus may be sore. You may see places where the mother's skin has torn around her vagina. Most of these tears will heal without any problems. If the laceration is deep and the area below the vagina is visually open, repair the laceration by injecting 1% lidocaine into the edges of the laceration and repair with Chromic "000" or Vicryl "000" (whatever you have available). Cleanse the area with Betadine (povidone-iodine 10%). The mother will feel better when you put an ice pack on her bottom where the baby came out and then put the sanitary pad on top of the ice pack. She may want to take pain medication at this time.

Clean-up

After the mother has delivered the placenta and the bleeding has slowed down, give her a drink of juice, soup, or milk and something to eat like crackers and cheese or a peanut butter and jelly sandwich. Using standard precautions, change the bedding. Put a diaper and tee shirt or 'onesie' on the baby. Remember that the baby can be placed on the mother's chest for warmth.

Breastfeeding

- It is important for the mother to breastfeed the baby in the first hour after birth and at least every 2 hours until her milk comes in.
- Breastfeeding will keep the uterus firm and decrease bleeding.
- Colostrum, the liquid that is in the breast right after birth until the milk comes in, will give the baby all of the food she needs and it will help prevent infection.
- Even if the emergency continues for days, weeks or months, there will always be a ready supply of safe and perfect food for the baby.

Getting Started with Breastfeeding: A newborn will nurse best in the first hour after birth when she is awake and alert. The mother may be more comfortable if she lies on her side with pillows under her head. The mother and baby should be face-to-face and belly-to-belly. The baby will also nurse better if they are skin-to-skin.

The mother should place her nipple and breast against the baby's lips. The baby will lick and try to nurse. The mother needs to help by placing her nipple into the baby's open mouth. It may take a few tries before the baby can start sucking. If the baby is sleepy, rub her belly and back firmly to wake her up. If the baby is too sleepy, try uncovering her for a short time and rubbing the mother's nipple against the baby's lips. If the mother gets tired, take short breaks and start again. Once the baby nurses for the first time it gets easier.

What to Avoid

- Do not use a pacifier or a bottle to start the baby sucking. It confuses some babies because they do not suck the same on the mother's breast as on a bottle or pacifier.

- Do not separate the mother and baby for very long. The more they stay together, including when they sleep; the sooner breastfeeding will be well established. If a bassinet is not available, alternate sleeping arrangements for baby need to be considered as mentioned below:

  o The baby can be placed in an approved crib, sleep surface or other improvised container with sides. In an emergency, a drawer or a bin may be used. There must be plenty of room between the baby and the sides of the container, so that the baby's face is in no danger of being pressed against the sides or mattress.

  o Remove soft, fluffy and loose bedding and stuffed toys from the baby's sleep area. Always place the baby on his or her back to sleep, even for naps. Make sure the baby's face and head stay uncovered during sleep.

  o Do not dress the baby too warmly. Do not let the baby get too warm during sleep.

  o Make sure everyone who cares for the baby knows to place the baby on his or her back to sleep.

  o When the baby and the mother are ready for discharge, review safe sleeping arrangements with the mother and stress that she should not let anyone smoke around the baby.

Care of the Mother

- The mother should go to the bathroom within 1 to 2 hours after the baby is born.

- If the room is cold, you can use hot water bottles to keep the baby warm. Just wrap the warm bottle in a blanket and place it next to the baby's back, or place the baby skin-to-skin with the mother if able.

- After birth, women are usually offered Tylenol, Advil or another non-aspirin product for pain every 3 to 4 hours, as needed. This would be a good choice if the mother does not have an allergy to this medication.

- When a new mother gets out of bed for the first time, she may feel dizzy. It is important that the mother is not holding the baby as she tries to get up. She can leave the baby on the center of the bed or place the baby in a crib, if one is available.
  - Have her get up slowly.
  - Have her sit up on the side of the bed to see how she feels.
  - Have an adult take her to the bathroom and wait to be sure that she is not feeling faint.
  - If she says she is going to faint BELIEVE HER and have her lie down on the floor.
  - Do not attempt to walk her back to bed.
  - You have about 10 seconds to get her down on the floor before she passes out and bangs her head on the way down.
  - Once she is down flat, she will wake up and feel better. Just wait a few minutes and then carefully help her back to bed.

- In a couple of hours, the mother may want to take a shower. Be sure she has had something to eat and is not dizzy when she gets up. It is good to have someone close by as dizziness can return quickly.

Psychosocial Considerations

The hours and days after a birth occurs are considered very important in the future psychological and physical growth of the infant. Maternal bonding with the infant usually begins to occur during the pregnancy, strengthened by the feeling of fetal movement, the visualization of the infant through sonography, and for the infant, developed through the familiarity with the mother's voice and heartbeat while in-utero. Ideally, the process of childbirth also reinforces this bond.

What happens around the time of birth and in the first few hours afterwards may affect the formation of a strong emotional bond between the mother and the infant. Situational factors such as a traumatic birth situation, stress, lack of social support, and the feelings and behaviors of the partner may also affect the bonding experience. Touch, response and mutual gazing are felt to increase the feeling of emotional connectedness. Physiologically, the production of oxytocin during lactation, causing an increase in parasympathetic activity, is also felt to decrease anxiety and increase the opportunity for strong emotional attachment to the infant.

When it comes to bonding, it is not a 'now or never' or 'instant mother love or never' situation. While the experiences immediately following childbirth may provide an important 'head start,' bonding can develop later. It is possible to catch up if the baby and mother are separated due to prematurity or a cesarean birth. Bonding also is not something that cements the parent-infant emotional relationship forever.

Following the birth, caregivers should consider to:

- Postpone routine procedures that will interfere with the immediate post-birth bonding period. Putting ointment in baby's eyes or administering the vitamin K injection can wait so that the infant can clearly visualize the parents and the parents can see into the infant's eyes.

- Let the baby stay connected with the mother. Put the baby on the chest or abdomen of the mother immediately after birth or after suctioning and the cutting of the cord unless medical intervention is needed that would preclude this.

- Encourage touching and gentle massaging of the infant. Allow skin-to-skin contact. While the infant is making the transition to breathing air, stroking will stimulate the infant to breathe more rhythmically.

- Encourage the mother to coo and talk to the infant. Studies show that mothers have a unique cadence and tone to their voices to which infants respond. The baby will be familiar with the mother's voice after hearing her speak while in-utero.

- Position the infant at a distance of 8 to 10 inches to optimize gazing. This is the usual nipple-to-eye distance. Encourage the mother to gaze at the infant and look into the infant's eyes. Let the baby breastfeed right after birth. Nipple stimulation increases oxytocin production and increases the contraction of the uterus, which lessens the risk of post-partum hemorrhage. Early nipple stimulation also stimulates the release of prolactin, which supports initiation of mothering behaviors. Some babies will be content to simply lick the nipple, while others will have a strong suck immediately after birth.

- Let the baby room in with the mother whenever baby and mother's health allows. The opportunity for tactile, visual, auditory and olfactory input for the mother will increase the opportunity for a strong emotional attachment to form between mother and infant.

- Allow the mother opportunities to discuss her feelings, if she wants to. Her feelings may cover a gamut from loving the glow of motherhood and love at first sight, to excitement, to a feeling of achievement, to relief the birthing is over. Some may want to be left alone for a while, as well. Some may want the opportunity to shower and pull their self together.

- Be sensitive and encouraging. Women who have not been able to carry through on their birth plan may have some feelings of guilt or discontent. It may be helpful to point out the positives of the situation. In addition, mothers may be encouraged to know you have faith in their abilities to meet the baby's needs and to mother well.

Appendices

Appendix 13-1

Overview of newborn resuscitation

Neonatal Resuscitation Algorithm—2015 Update

```
┌─────────────────────────────────────┐
│  Antenatal counseling                │
│  Team briefing and equipment check   │
└─────────────────────────────────────┘
                 │
             ┌───────┐
             │ Birth │
             └───────┘
                 │
          Term gestation?        Yes      Infant stays with mother for routine
          Good tone?          ────────►    care: warm and maintain normal
          Breathing or crying?             temperature, position airway, clear
                 │ No                      secretions if needed, dry.
                 ▼                         Ongoing evaluation
   Warm and maintain normal temperature,
   position airway, clear secretions if
   needed, dry, stimulate
                 │
          Apnea or gasping?       No      Labored breathing or
          HR below 100/min?    ────────►  persistent cyanosis?
                 │ Yes                           │ Yes
                 ▼                                ▼
            PPV                          Position and clear airway
            SpO2 monitor                 SpO2 monitor
            Consider ECG monitor         Supplementary O2 as needed
                 │                       Consider CPAP
                 ▼
          HR below 100/min?      No      Postresuscitation care
                 │ Yes        ────────►  Team debriefing
                 ▼
   Check chest movement
   Ventilation corrective steps if needed
   ETT or laryngeal mask if needed
                 │
          HR below 60/min?  ── No ──┐
                 │ Yes
                 ▼
   Intubate if not already done
   Chest compressions
   Coordinate with PPV
   100% O2
   ECG monitor
   Consider emergency UVC
                 │
          HR below 60/min?
                 │ Yes
                 ▼
   IV epinephrine
   If HR persistently below 60/min
   Consider hypovolemia
   Consider pneumothorax
```

1 minute

Targeted Preductal SpO_2 After Birth	
1 min	60%-65%
2 min	65%-70%
3 min	70%-75%
4 min	75%-80%
5 min	80%-85%
10 min	85%-95%

Appendix 13-2

Provide Supplemental Oxygen

After gentle stimulation, assess the baby: If breathing without assistance, but the baby has blue skin tones to the chest, abdomen and lips, provide supplemental oxygen.

There are several ways to deliver oxygen to a baby. Which method is used depends on how much oxygen is needed and whether the baby needs a breathing machine.

An oxygen hood is used for babies who can breathe on their own but still need extra oxygen. A hood is a plastic dome or box with warm, moist oxygen inside. The hood is placed over the baby's head.

A thin, soft, plastic tube called a nasal cannula may be used instead of a hood. This tube has soft prongs that gently fit into the baby's nose. Oxygen flows through the tube. The baby must be able to breathe without assistance to use this type of oxygen therapy.

Another method is a nasal CPAP system. CPAP stands for continuous positive airway pressure. It is used for babies who need more help breathing than they can get from an oxygen hood or nasal cannula, but do not need a machine to completely breathe for them. A CPAP machine delivers oxygen through tubes with soft nasal prongs. The air is under higher pressure, which helps the lungs better expand (inflate). CPAP can be given with a ventilator.

Finally, a breathing machine or ventilator may be needed to deliver increased oxygen and breathe for the baby. The oxygen flows through a tube placed down the baby's windpipe. The ventilator will also breathe for the baby if the baby is too weak, tired, or sick to breathe.

If the baby remains blue after 30-60 seconds of supplemental oxygen *or has a pulse less than 100/min*, begin assisted ventilation at a rate of 60/min.

Appendix 13-3

Assisted Ventilations
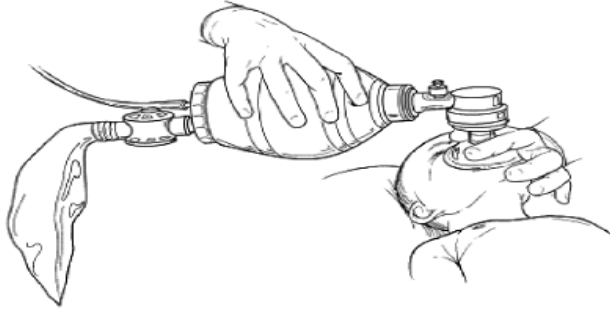
If, after gentle stimulation the newborn is not breathing
or
has gasping respirations:

- Assist ventilations at a rate of 60/min.
- Use a BVM with snug fitting mask.
- Attach oxygen source to reservoir.
- Squeeze bag only enough to achieve chest rise.
- After 30 seconds, assess breathing effort and pulse.

Continue assisted ventilations until the new born is breathing 40-60/min, without assistance and has a sustained heart rate of at least 100/min. Pulse is singularly the most reliable indicator of oxygenation and circulation in the newborn. Normal pulse rate range is 120-180/min.

Pulse rate less than 100/min. indicates low blood oxygen.

Assessing the Pulse

Using the brachial pulse or the base of the umbilical cord at the baby's abdomen; if the pulse is between 80-100/min, continue assisted ventilations. If the pulse is absent or less than 80/min, begin chest compressions with assisted ventilations.

Appendix 13-4

Cardiopulmonary Resuscitation (CPR)

Infant CPR, Thumb Technique

a. Thumbs on chest, side by side

b. Thumbs on chest, overlapping

SUSAN GILBERT
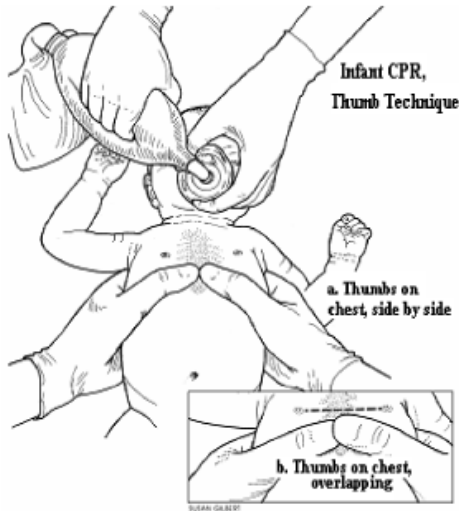
Compression to ventilation ratio is 3:1 at a rate of 90 compressions and 30 ventilations delivered per minute.

- Two people are required to perform CPR.
- Depress chest 0.5 to 0.75 inches.
- Ventilation with BVM, maintaining airway positioning.
- Continue chest compressions until the heart rate reaches 80/min.
- Continue assisted ventilations until the heart rate is sustained at 100/min., and the child is breathing without assistance at 40-60 min.

Section 14–The Psychosocial Needs of Children during a Disaster

Purpose: To properly care for children in hospitals, it is necessary to consider both their physical and mental health needs and to treat them in the context of the family unit. Children's responses to disaster and hospitalization may share some aspects of adult responses, but are distinguished by the developmental contexts in which children of varying ages experience, mediate and communicate the impact of associated events and procedures. An unfamiliar environment such as a medical setting can be made to feel safer for pediatric visitors and patients by including familiar people, familiar things and routines. There may be cultural differences that may cause a group of children exposed to the same trauma to react differently. Staff must ensure that mental health staff are empathetic to each of these variances. Lastly, there are legal concerns regarding the treatment and release of children, which each hospital should consider when creating the pediatric response portion of its disaster plan.

General Guidelines

- When describing the hospital experience to children of any age, it is important to be honest in your description and in answering any questions they may have. However, it is important not to give preconceived notions about what a child may feel. Caregivers should avoid the use of the words 'pain' and 'scary' in describing experiences the child may have since everyone feels pain and emotions differently.

- Since young children (preschool through school-aged) learn best by experience, provide as much information as you can to help the child learn about their upcoming experience. Describe what the child may smell, hear, touch and feel, using as many tangible items as possible, such as dolls and books.

- Children's reactions and symptoms can be expressed through behavior, thoughts, emotions, and physical reactions. Children's fears about their own safety can contribute to symptoms of anxiety and depression and may lead to oppositional and aggressive behavior. This may be an attempt to reassert some sense of control and should be recognized as such.

- Don't leave children unaccompanied in front of a television, for example, with the news on, but allow them to talk about what is going on if they choose. Clarify misconceptions with simple, truthful explanations.

- Refrain from having conversations about the disaster in front of the children or within hearing distance. This can lead to misunderstandings and misconceptions.

- Gather unit staff and develop language for describing events of the disaster. Ensure that all staff are educated accordingly and then communicate this information consistently to avoid adding to the children's confusion.

- Opportunities for play are important for learning, expression of feelings, normalcy, escape and mastery. Age-appropriate toys and diversionary activities are helpful to have on hand. This may include puzzles, books, simple art supplies, videos/DVDs and audiotapes/CDs. If possible, allow children to interact in groups and monitor for misconceptions. Answer questions reassuringly but honestly. Take the child's age and development level into

consideration. Use pacing, for example, "There was a big explosion and many people were badly hurt. What else would you like to know?"

- Try not to separate children from their primary caregivers for extended periods. Allow a parent/caregiver to accompany the child to procedures as much as possible. To encourage feelings of safety and familiarity try to limit the number of staff caregiver (i.e., assign the same nurse to care for specific children).

- Parents will be most helpful when they are/feel informed. If they are upset from not knowing what is going on, that tension is going to affect the child.

- Assess for any underlying mental health disorder that may require immediate psychiatric consultation such as trouble sleeping, lack of appetite and physical complaints with no medical basis.

- Review with staff information about varying cultural responses to trauma and death.

- Children and teens need to be reassured that the staff at the hospital and professionals in the field are working to keep them safe, help protect everyone, assist those who are hurt, and look for people who cannot be found (in general) and their family and friends (specifically).

- Give children and teens opportunities to tell their story and exercise acceptance and patience if they are unable to do so at the time. Provide a variety of mediums to facilitate this: tape or video recorder, art materials or journals. On the other hand, restrict the amount of "storytelling" by others that the children or teens are exposed to in the initial aftermath.

- It may be helpful to gather information ahead of time about varying cultural responses to trauma and death. This can be very helpful in assisting caregivers in understanding family and child reactions.

- Have available a list of community resources (mental health and counseling services, etc.) for distribution to parents/caregivers upon discharge. This can be very helpful in dealing with responses that arise after the immediate emergency is over.

- Identify staff within the hospital that can assist with addressing the emotional and psychological issues (i.e., social workers, psychologists, psychiatrists, chaplains and psychiatric nurses) and have an on-call list available for unit staff.

- Dedicate a 'safe area' where no procedures take place.

- Identify resources for staff support to cope with their impact upon seeing injured and/or dying children.

- Identify community resources that may be able to donate services, supplies, etc., specifically for the children. Distribute a list of community resources to parents/caregivers on discharge.

- Form and activate a disaster mental health response team for patient care caregiver support.

How Children Can React to a Disaster

Children react differently to stressful events than adults. Their response may be delayed and hard to detect. They may find it difficult to express their feelings.

- Staff needs to be aware of changes in children's behavior such as extra clinging or a change in appetite. Parents, teachers and other caring adults who know the child are in the best position to notice these changes.
- Do not wait for the child to come to you. Ask questions such as "Are you having trouble sleeping?" or "Are you feeling less safe than before?"
- Some children are more likely to have emotional reactions to the events, including:
  - Children who witnessed the event firsthand or whose parent, relative or friend was killed or injured;
  - Children who are displaced from their home or schools;
  - Children who have a past history of emotional problems;
  - Children who have a past history of trauma, either as a victim or as a witness to violence or abuse; or
  - Children with an adult in their life who is having difficulty with their emotions, or who is a witness to violence or a victim of domestic violence.

The chart that follows outlines psychological characteristics of various aged children and suggests caregiver behaviors that support successful interactions. Not all children exhibit all symptoms and their reactions may change over the first days or weeks following a crisis.

Children's Characteristics, Reactions and Interactions

Age	Characteristics	Typical Reactions	Keys to Successful Interactions
Newborn: Birth to 1 Month	• Likes to be held. • Likes to be kept warm. • May be soothed by having something to suck on or being bundled.	• May startle easily. • Anxiety increases when separated from parent or caregiver.	• Speak softly. • Use simple words. • Use the child's name. • Use familiar objects from home such as a stuffed animal, blanket,

Infant: 1 to 12 months	• Likes to be held. • Familiar objects from home can be soothing.		or toy to help comfort the infant before, during or after a procedure. • Parent/caregiver should be nearby. • Enlist the parent's/caregiver's help. • Distract with a toy or penlight. • Examine infants and young children on a parent's lap. • Examining the child in the direction of the toes to the head is less threatening. • Talk to the infant throughout the examination. • Avoid loud noises and bright lights.
Toddler: 1 to 3 years	• Do not like (or are unable) to sit still. • May grab at the penlight or push your hand away.	• Have fears of separation from family. • May be unusually fearful, "fussy," clingy and have crying bouts. • Have problems sleeping. • Startle easily.	• Make a game of assessment. • Parent/caregiver should be nearby and allowed to stay overnight. • Adjust your height to that of the child. • Distract the child with a toy or penlight. • Examine in the direction of the toes to the head. • Do not ask the child's permission to perform an examination if it will be performed in any case. • Allow the parent/caregiver to participate. • Respect modesty, keeping child covered when possible. • If possible, let family visit/stay.

Children's Characteristics, Reactions and Interactions, continued

Age	Characteristics	Typical Reactions	Keys to Successful Interactions
Preschooler: 3 to 6 years	• Most can sit still on request. • Understands speech. • Will make up explanations for anything not understood. • Learns best through play and "medical play". • Able to make choices when choices are possible. • No clear concept of future events.	• Have fears of being separated from parent/ caregiver. • Can be unusually fearful, clingy and have crying bouts. • Regress to outgrown behaviors, such as bed-wetting or baby talk. • Have nightmares or trouble sleeping. • Have stomachaches, headaches or other physical complaints that do not have a medical basis. • Startle easily. • May have loss or increase in appetite.	• Explain actions using simple language. • Tell the child what will happen next. • Tell child just before procedure if something will hurt. • Distract child with a story. • Respect modesty, keeping child covered when possible. • Do not ask the child's permission to perform an examination if it will be performed in any case. • Parent or caregiver should be allowed to stay overnight with child to allay fears. • Allow the child to make choices when possible.
School-Aged: 6 to 12 years	• Expresses feelings and gains sense of control over what is happening to them through play. • Cooperation is gained through trust.	• May have unusual outbursts of anger. • May have nightmares or problems sleeping. • May withdraw from family and friends. • May engage in repeated play that depicts the disturbing events repeatedly. • Can be fearful, anxious or preoccupied with safety and danger. • May revert to outgrown behavior. • Express feelings of guilt. • Have frequent somatic complaints. • Problems focusing, w/ disturbing feelings.	• Introduce yourself to child at the beginning of the interaction. • Be friendly and sympathetic. • Honesty is especially important. • Describe actions before carrying them out. • Reassure the child if injury is not severe. • Allow the child to make choices when possible.

Children's Characteristics, Reactions and Interactions, continued

Age	Characteristics	Typical Reactions	Keys to Successful Interactions
Adolescent: 12 to 18 years	• Wants to be treated with respect. • May resent not being included in discussions about their treatment. • Values privacy and modesty. • Do not assume teens manage emotions the same way adults do.	• Appetite changes. • May suffer from headaches or gastrointestinal problems. • Loss of interest in social activities. • Sadness or depression. • Feelings of anger and aggression. • Isolation from others and less interest in friendships. • Repetitive behaviors such as hand washing.	• Introduce yourself at the beginning of the interaction. • Speak in a respectful, friendly manner. • Get history from patient if possible. • Address the adolescent directly, respecting independence. • Respect the modesty of the patient throughout the examination. • Consider asking questions about sexual activity, or drug or alcohol use. The patient may be reluctant to answer such questions honestly in the parent's presence. • Allow parents to be involved in the examination if the patient wishes.

Psychological Triage following Disaster

Psychological triage should be conducted after a disaster to determine those in need of mental health crisis intervention and to identify those who do not need additional intervention and can manage independently.

Children who are more likely to have a stronger or more problematic emotional response are those who/whose:
- Witnessed the event first-hand
- Parent , relative or friend was killed or injured
- Are displaced from their homes or schools
- Have a past history of mental problems
- Have a past history of trauma, either as a victim or witness to abuse or violence
- Have an adult in their life who is having difficulty with their emotions, a witness to violence or a victim of domestic violence

Development-Specific Guidelines for Treating Children in the Hospital

Infants
- Try to let a parent/caregiver stay with the baby during medical procedures and, when possible, to hold the baby during that time.
- Use familiar objects from home such as a stuffed animal, blanket, music box or toy to help comfort the baby before, during or after a procedure.

Toddlers and Preschool-aged Children
- Try not to have conversations about the child's care in their presence unless you are including them in the conversation. Children overhear much more than adults think and without any explanation, the information may seem terribly frightening.
- Let a parent/caregiver stay overnight with the child if possible. If appropriate, let other family members, including brothers and sisters, come and visit or stay.
- Reassure the child that the hospitalization is not a punishment. Try to avoid using good/bad labels particularly during a procedure. For example, do not say, "See, you were so good, the doctor only had to do this once." Instead, you can say, "You did such a good job of sitting still. I know that was hard."
- Children learn best through play and 'medical play' that can be particularly useful. Allow them to handle some medical equipment such as a stethoscope, blood pressure cuff, etc. Allow them to practice the procedure on a doll.
- Allow the child to make choices whenever possible, but never offer a choice when none exists. For example, do not say, "Would you like to come into the treatment room now so the doctor can look at you?" It would better to say, "Do you want to bring your bear or blanket with you into the treatment room?"

All Children Under Age 5
- Try to keep to normal routines and favorite rituals as much as possible.
- Limit exposure to TV programs and adult conversations about the events.

- Ask what makes them feel better.
- Give plenty of hugs and physical reassurance.
- Provide opportunities for them to be creative and find other ways to express themselves.

School-aged Children

- School-aged children can be given more specific information about what is going to happen to them. Many medical terms can be confusing for children. For example, the term 'IV' could be confused with the word 'ivy' or 'dye' with 'die.' Give simple, specific explanations for procedures.

- This is a great age for medical play, which involves children communicating their understanding and fears through play with medical equipment. Allow the child the opportunity to reenact events through play with different kinds of toys or art materials. This is an important way for school-aged children to express their feelings and gain a sense of control over what is happening to them.

- Always respect the child's privacy and encourage others to do the same by knocking before entering the room and being sensitive to who is around when examinations are being conducted.

- Sometimes, when in a stressful situation like being in a hospital, children at this age regress, or begin exhibiting behaviors that they had grown out of, like thumb sucking and bed-wetting. Do not berate them ("Come on, you're a big girl now!") or punish them for this behavior. Encourage the child to express his/her feelings and discharge emotions through play.

- Do not be afraid to ask them directly what is on their mind and answer their questions honestly.

- Listen to the child's repeated retelling of the event.

- Talk to them about any news that they have seen and any adult conversations that they have heard.

- Make sure they have opportunities to talk with peers if possible.

- Set gentle but firm limits for acting out behavior.

- Encourage verbal and play expression of thoughts and feelings.

Adolescents

- Try not to have conversations about a teen's care in his/her presence unless you are including him/her in the conversation. Adolescents can understand much more about their bodies and what is happening to them than can younger children; because of this they may resent not being included in discussions about their condition or treatment.

- Do not assume that teens manage their emotions the same way as adults do. Give them opportunities to discuss what is happening with staff both with and without the parent/caregiver being present, so they can ask questions. Do not treat the teen's questions as silly or outlandish.

- Respect the teen's privacy and encourage others to do the same by knocking before entering the room and being sensitive to who is around when examinations are being conducted.

- Adolescents are particularly concerned about body image. They do not want to be perceived as different from peers because of an illness or injury. Be especially sensitive to

the physical changes the adolescent may experience when explaining any procedures, injuries or treatments they may have.

When to Consult a Mental Health Professional

- Consultation with a mental health professional may be useful at any of these times.
- However, psychiatric consultation should be sought if any of the following is exhibited:
- Excessive fear of something terrible happening to their parents or loved ones
- Excessive and uncontrollable worry about things, such as unfamiliar people, places or activities
- Fear of not being able to escape if something goes wrong
- Suicidal thoughts or the desire to hurt others
- If the child has hallucinations expressing feelings of being helpless, hopeless, and worthless

Legal Considerations

The following are legal questions and issues that may arise during a disaster. Having policies and procedures in place prior to an event should be considered.

- For unaccompanied children during a disaster, consent is not needed to treat for a life- or limb-threatening situation. Is parental consent needed to treat a child victim with minor injuries? With psychological injuries?
- Is parental consent required to decontaminate an unaccompanied child? What if the child is asymptomatic? What if the child is refusing?
- What medical or social information can be released and to whom can it be released during a disaster?
- Check HIPAA rules and your legal counsel's guidance concerning unidentified patient locator protocols, such as posting Polaroid photographs of unidentified children.
- To whom can children be released, and if planning to release to someone other than the parent or caregiver, what permission or information is first needed? What is your protocol for releasing children if no legal guardian or parent can be found or if no permission document is provided?

Supporting Families Following a Disaster

It is important to understand that caregivers have the potential to positively influence their child's post-disaster functioning. It follows that assisting families can have a beneficial impact on the mental health of their children who have experienced the disaster.

In assisting families following a disaster, keep the following in mind in order for your efforts to have the most positive impact:

- Make sure that you do not undermine the caregiver's authority.
- Support caregivers by listening, answering questions, and providing needed information.
- Point out the family's strengths.
- Encourage caregivers to take care of themselves in order to feel their best and care for the child.
- Connect families with resources in their communities for needed assistance and services.
- Inform caregivers about general trauma-related stress symptoms* that their children may experience, such as:
  - Reenacting the disaster/trauma in play
  - Intrusive imagery such as flashbacks
  - Sleep disturbances
  - Somatic complaints
  - Anxiety responses (e.g., hypervigilance, avoidance, fear)
  - Strong emotions such as guilt and anger
  - Disruption in normal social and developmental tasks or performance
- Normalize children's potential responses to trauma with their caregivers
  - Some children may never experience problematic symptoms post-disaster, whereas other children will have symptoms immediately or months/years later
- Provide caregivers with factual information
- Instill hope about treatment and recovery

* These symptoms may also indicate post-traumatic stress disorder in children.

Mental Health Assessment and Intervention

Following a disaster, various assessments and interventions can be employed to determine mental health status of children/families. The particular intervention is dependent on each unique situation (e.g., intensity of mental health impact from the disaster). Consider that a child may not show overt symptoms of having experienced a traumatic event, but may have internalized, repressed or dissociated symptoms that may surface later. Descriptions and an overview of these assessment and intervention types follow:

Assessment Types

Informal assessment:
- Conversation-based
- Assesses both the child's and family's post-disaster functioning

Formal assessment:
- Surveys, indexes, inventories, checklists and questionnaires
- Assesses both the child's and family's post-disaster functioning
- May require additional training

Intervention Types

The selected intervention type should depend on when help is being offered, the scope of the intervention(s), and the needs of the survivors and community.

Universal interventions:
- Promote positive coping
- Address commonly occurring worries/emotions of a community
- Involve working with families to assist children by:
    - Reuniting children with their families and supportive adults
    - Supplying children and their families with food, water, and shelter
    - Providing caregivers with information regarding disaster and recovery
    - Offering caregivers techniques to help their child's mental health
    - Referring children and their families to appropriate resources

For example, Psychological First Aid (PFA) is the universal intervention of choice in the immediate aftermath of traumatic events. The PFA strategy is to assist children's caregivers and families so that the families can help the children.

Intense/selected interventions:
- Used when universal interventions have not reduced the child's distress
- Appropriate for children who show marked signs of distress that interfere with social behavior, psychological functioning, and/or school work
- Require specialized training, but disaster responders should be aware of these interventions so that they can refer children to specialists and educate children's caregivers
- May be done in group or family settings in order to restore personal safety, normalize experiences, help disaster survivors feel heard/validated and reduce stress

Indicated interventions:
- Used as the most immediate and intense type of intervention, appropriate for:
    - Those with comorbid issues pre-disaster
    - Those exhibiting extremely impaired mental functioning
    - Those at acute risk of hurting their self or others
    - Those with life-threatening medical issues

- Should be activated as part of a full range of intervention types for these children

Note: The preceding content, Supporting Families Following a Disaster, was gleaned from Disaster Mental Health: Assisting Children and Families, a PowerPoint training presentation developed by the Institute for Disaster Mental Health at SUNY New Paltz and funded by the New York State Department of Health.

Understanding Death–Developmental and Cultural Considerations

Children and teens need to understand the cause of a death and the meaning of death itself. Understanding the meaning of death includes understanding non-functionality, irreversibility and universality. An example of non-functionality that is helpful for young children is "when someone dies we mean their body totally stops working and it cannot be reversed."

Developmental Stages

Pre-verbal: Children under 2 years of age cannot articulate their own feelings verbally, nor easily understand even a simple explanation of death. However, these children do respond to the emotional state of those around them, especially their caregivers. Physical connections are important, as are simply labeling behaviors and feelings (crying, sadness). When a pre-verbal child has lost a parent or family member, it is important to provide as much familiarity and consistency as possible.

Preschool (2 to 5 years): Preschool children think death is reversible and temporary, like going to sleep or when a parent goes to work. The child believes that people who die will come back. They require simple explanations with continual review and reinforcement.

School-aged children (5 to 9 years): Children begin to understand the finality of death; some do and some may not. Make sure the child does not feel responsible in any way for the death.

Latency (9 to 13 years): Children's understanding is nearer to adult understanding of death. They are more aware of the finality of death and the impact the death has on them.

Teens (13 to 18 years): Adolescents generally have an adult understanding about death. They are very reliant on support from their peer group.

Giving bad news: The child or teen's developmental and cognitive levels should be taken into consideration when giving information about the death of a parent or family member. For younger children or in the case of a violent, unexpected death, distilling the information in small pieces makes it more understandable cognitively and manageable psychologically.

Cultural Differences in Dealing with Death and Dying

Every culture has its own rituals and manner of mourning. Over time and through immigration and contact between different groups in the US, mourning patterns of ethnic groups have changed and continue to change constantly. Clinicians should be careful about definitions of "normality" in assessing families' responses to death. Additionally, healthcare providers should remember not to assume people within any particular cultural group fit a pattern when mourning. Each family unit and each individual needs to be treated and assessed on an individual case-by-case basis.

- It is important for staff to appreciate an ethnic group's particular attitudes about mourning and to find out from a family member what its ethnic group believes about the nature of death, the rituals that should surround it, and the expectations of afterlife.

- A failure to carry out death rituals often contributes to a family's experience of unresolved loss.

- Helping family members deal with a loss often means showing respect for their particular cultural heritage and actively encouraging them to determine how they will commemorate the death of a relative.

- While it is generally better to encourage families toward openness about death, it is also crucial to respect their cultural values and timing for dealing with the emotional aftermath of a loss.

- Staff may inquire the following:
  - What are the prescribed rituals for handling dying, disposition of the body and to commemorate the loss?
  - What are the group's beliefs about what happens after death?
  - What are the group's beliefs about appropriate emotional expressions?
  - What are the gender roles for handling the death?

- Staff should identify personnel in their setting who may be able to provide more details regarding specific cultural groups such as Pastoral Care, Social Work or even particular staff members from various cultural groups.

Obtaining Mental Health Services in the Community

Every child experiences emotional difficulties from time to time, but at some point, a child's problems may warrant professional attention.

Community mental health resources must be addressed during the disaster planning phase so that the healthcare provider can be confident that a referral will be appropriate. If the facility does not have mental health resources, it is recommended to have referral agreements in place.

In the planning phase, it is important to ascertain the capacity of various mental health providers/facilities for treating families and children of various ages. Contacting the child's pediatrician for a referral to a mental health professional or clinic may also be helpful.

After a Disaster—a Guide for Parents and Caregivers

Fact Sheet—From the National Institute of Mental Health

Natural disasters such as tornados or man-made tragedies such as bombings can leave children feeling frightened, confused and insecure. Whether a child has personally experienced trauma, has merely seen the event on television, or heard it discussed by adults, it is important for parents, caregivers and teachers to be informed and ready to help if reactions to stress begin to occur.

Children respond to trauma in many different ways. Some may have reactions very soon after the event; others may seem to be doing fine for weeks or months, and then begin to show worrisome behavior. Knowing the signs that are common at different ages can help parents and teachers to recognize problems and respond appropriately.

Preschool age

Children from one to 5 years of age find it particularly hard to adjust to change and loss. In addition, these youngsters have not yet developed their own coping skills, so they must depend on parents, family members and teachers to help them through difficult times.

Very young children may regress to an earlier behavioral stage after a traumatic event. For example, preschoolers may resume thumb sucking or bedwetting or may become afraid of strangers, animals, darkness, or 'monsters.' They may cling to a parent or teacher or become very attached to a place where they feel safe.

Changes in eating and sleeping habits are common, as are unexplainable aches and pains. Other symptoms to watch for are disobedience, hyperactivity, speech difficulties, and aggressive or withdrawn behavior. Preschoolers may tell exaggerated stories about the traumatic event or may speak of it repeatedly.

Early childhood

Children aged 5 to 11 may have some of the same reactions as younger boys and girls. In addition, they may withdraw from playgroups and friends, compete more for the attention of parents, fear going to school, allow school performance to drop, become aggressive, or find it hard to concentrate. These children may also return to behaviors that are 'more childish'; for example, they may ask to be fed or dressed.

Adolescence

Children aged 12 to 14 are likely to have vague physical complaints when under stress and may abandon chores, schoolwork and other responsibilities they previously handled. While on the one hand they may compete vigorously for attention from parents and teachers, they may also withdraw, resist authority, become disruptive at home or in the classroom, or even begin to experiment with high-risk behaviors such as drinking or drug abuse. These young people are at a developmental stage in which the opinions of others are very important. They need to be thought of as 'normal' by their friends and are less concerned about relating well with adults or participating in recreation or family activities they once enjoyed. In later adolescence, teens may experience feelings of helplessness and guilt because they are unable to assume full adult responsibilities as the community responds to the disaster. Older teens may also deny the extent of their emotional reactions to the traumatic event.

Helping Children Cope with Fear and Anxiety

Whether tragic events touch your family personally or are brought into your home via newspapers and television, you can help children cope with the anxiety that violence, death and disasters can cause.

Listening and talking to children about their concerns can reassure them that they will be safe. Start by encouraging them to discuss how they have been affected by what is happening around them. Even young children may have specific questions about tragedies. Children react to stress at their own developmental level.

The *Caring for Every Child's Mental Health* communications campaign offers these pointers for parents/caregivers:

- **Encourage children to ask questions.** Listen to what they say. Provide comfort and assurance that address their specific fears. It is OK to admit you cannot answer all of their questions.
- **Talk on their level.** Communicate with your children in a way they can understand. Do not get too technical or complicated.
- **Find out what frightens them.** Encourage your children to talk about fears they may have. They may worry that someone will harm them at school or that someone will try to hurt you.
- **Focus on the positive.** Reinforce the fact that most people are kind and caring. Remind your child of the heroic actions taken by ordinary people to help victims of tragedy.
- **Pay attention.** Your children's play and drawings may give you a glimpse into their questions or concerns. Ask them to tell you what is going on in the game or the picture. It is an opportunity to clarify any misconceptions, answer questions, and give reassurance.
- **Develop a plan.** Establish a family emergency plan for the future, such as a meeting place where everyone should gather if something unexpected happens in your family or neighborhood. It can help you and your children feel safer.

If you are concerned about your child's reaction to stress or trauma, call your physician or a community mental health center.

The *Caring for Every Child's Mental Health* communications campaign is part of The Comprehensive Community Mental Health Services for Children and Their Families Program of the Federal Center for Mental Health Services Administration, U.S. Department of Health and Human Services. Parents and caregivers who wish to learn more about mental well-being in children should call 1-800-789-2647 (toll-free) or visit the Caring for Every Child's Mental Health communications campaign (http://mentalhealth.samhsa.gov/child/) to download a free publications catalog (Order No. CA-0000).

How to Help

Reassurance is the key to helping children through a traumatic time. Very young children need a lot of cuddling, as well as verbal support. Answer questions about the disaster honestly, but do not dwell on frightening details or allow the subject to dominate family or classroom time indefinitely. Encourage children of all ages to express emotions through conversation, drawing, or playing and to find a way to help others who were affected by the disaster.

Try to maintain normal routines and encourage children to participate in enjoyable activities. Reduce expectations temporarily about performance in school or at home, perhaps by substituting less demanding responsibilities for normal chores. Finally, acknowledge that you too may have reactions associated with the traumatic event and take steps to promote your own physical and emotional healing.

When to Seek More Help

Consultation with a mental health professional may be useful at any of these times. However, psychiatric consultation should be sought if any of the following is exhibited:

- Excessive fear of something terrible happening to their parents or loved ones.
- Excessive and uncontrollable worry about things, such as unfamiliar people, places or activities.
- Fear of not being able to escape if something goes wrong.
- Suicidal thoughts or the desire to hurt others.
- If the child has hallucinations.
- Expressing feelings of being helpless, hopeless, and worthless.

Online Resources for Pediatric Psychosocial Issues

American Academy of Pediatrics
Children, Terrorism and Disaster. Useful website with multiple documents related to children's needs during disasters.
http://www.aap.org/disasters/

American Academy of Pediatrics
How Pediatricians Can Respond to the Psychosocial Implications of Disasters. Policy statement.
http://pediatrics.aappublications.org/content/103/2/521

American Academy of Pediatrics
Family Readiness Kit–Preparing to Handle Disaster; Helping Children after a Disaster
https://www.aap.org/en-us/Documents/aapfrkfull.pdf

Federal Emergency Management Agency (FEMA)
Website with multiple games, coloring books, and materials aimed at younger, computer-savvy children.
https://www.fema.gov/children-and-disasters

National Child Traumatic Stress Network
http://www.nctsnet.org/nccts/nav.do?pid=hom_main

National Mental Health Information Center
Publications on Disaster and Trauma
http://mentalhealth.samhsa.gov/publications/Publications_browse.asp?ID=181&Topic=Disaster%2FTrauma

American Academy of Pediatrics
Psychosocial Issues for Children and Families in Disasters: A Guide for the Primary Care Physician
http://www.ce-credit.com/articles/100178/ChildrenDisasters100178.pdf

New York State Office of Mental Health
https://www.omh.ny.gov/

New York University Child Study Center
http://www.aboutourkids.org

Congress EP. Clinical work with culturally diverse dying patients. *Ethics Network News*. 1997; 4(3):5-6. Available at: http://www.angelfire.com/on/NYCLTCethicsnetwork/econgress.html. Accessed February 8, 2010.

National Center for Post-traumatic Stress Disorder
Terrorist Attacks and Children website
http://www.ptsd.va.gov/professional/trauma/disasterterrorism/terrorist_attacks_and_children.asp

Section 15—Family Information & Support Center (FISC)

Purpose: It is recommended that hospitals establish a Family Information and Support Center (FISC) as part of their Disaster Preparedness Plan to assist victims and their families during a mass casualty event.

Introduction

Disasters, whether natural or man-made, produce effects that have psychological repercussions beyond individuals and families, extending to broader sections of the affected community.[1] Healthcare facilities should be prepared to handle these disasters from a family-centered, psychosocial perspective, in addition to the crisis and acute medical management of victims.

During 9/11 many family members and friends went from one hospital to another looking for their loved ones. Every time families arrived at a different hospital to find out that their loved ones were not there, their confusion, fears and anxiety levels increased. During the Katrina disaster, many families were evacuated outside their own state of Louisiana, making family reunification tedious and lengthy, and adding emotional distress to an already bewildering situation.

Children injured or involved in a disaster bring additional emotional distress. It has been estimated that for every child arriving at the emergency department, the hospital can expect an average of 4 to 5 arriving family or caregivers. Staff in the emergency department will be faced with the medical management of multiple victims and will not have the time, space and training that this population of concerned family members requires.

For these reasons, it is recommended that hospitals establish a FISC as part of their emergency preparedness plan.

The Role of Information During Disasters

Information has a dual role in enabling effective coping mechanisms. First, active seeing of information can help the people regain a sense of control.[2] Second, the availability of information reduces a sense of certainty inherent in traumatic events[3] and hastens the interpretation of a situation. When people turn to an informed center, they are inevitably distraught and provision of essential information on a missing person is the first step in enabling the process of coping.[4]

Together with emotional support, families are informed of the following in the FISC:

- The circumstances of the event (where, when, how and what happened);
- The evacuation of casualties (whether more are injured or still arriving to the hospital);
- Other hospitals where victims are being taken to and when the evacuation is complete; and

- The victim identification stages and psychological reactions to trauma and related symptoms.[5,6]

FISC Objectives and Functions[7]

The FISC has three main objectives:

1. Provide the necessary reliable information via the systematic organizational framework and provide assistance in the identification process;

2. Assist relatives coping with uncertainty, stress and stages of adaptation; and

3. Enable the medical staff to concentrate freely on their treatment of the casualties, especially in the acute stage of the proceedings, while providing a formal support system for bewildered and anxious relatives and friends.

The FISC also serves these functions:

- Provides accurate information;

- Provides psychological first aid to distraught families;

- Offers crisis counseling or refers individuals and families for immediate mental health services;

- Escorts and provides comforting services to families;

- Offers temporary childcare for well children of either the injured or of family members who need to assist the injured;

- Helps to locate patients and reunite families within the hospital;

- Contacts family members to arrange care of children present at hospital;

- Makes or helps to make in-place shelter arrangements or community placement of children who do not have a safe place to be or a family member who can care for them;

- Provides for the communications needs of families (phone, e-mail); and

- Protects families from intrusion by media or curious bystanders.

Structure of the FISC[7]

The FISC structure should be divided into 2 main areas:

1. The Main FISC Unit is the physical location of the FISC; and

2. The Hospital Peripheral Units that are the hospital units with which staff will need to be in constant communication during the immediate phase following a disaster.

The Main FISC Unit

This unit should be able to have contact with the public, via phone or in person. It deals with the widest range of activities and has the largest number of professional personnel allocated to it. It is recommended that facilities identify physical space for FISC, wired with telephone and Internet connections.

The structure of the Main FISC Unit is as follows:

- **Reception Area:** At any given time, there may be hundreds of families and friends in contact with FISC at varying stages of the disaster. The simultaneous presence of all these people, especially in the earlier stages, requires expertise in crowd management.

  Here, social workers or assigned staff may be allocated to the families and friends as they arrive. This social worker or assigned staff member takes in information from arriving family members and assigns them a social worker. Coordination among staff members prevents unnecessary doubling up and allows optimal use of staffing resources.

  A central waiting area should be large enough to accommodate family members seeking information. This area should be away from the Emergency Department area but ideally in close proximity or easily accessible to facilitate communication. There should be conveniently located bathroom facilities.

- **Information Desk:** The information provided by the social worker or assigned staff member who is operating the information desk in person and via telephone is based on constantly updated data retrieved from the computer, social workers in the field and the Incident Command Center.

- **Photograph/Identification Room:** This room is utilized for those people without confirmatory information on a missing relative. It is assumed that the missing relative is among the casualties. At this stage of the proceedings, the need for support is at its greatest and requires sensitive and careful intervention. Only the closest relatives are brought to this room. This will also serve as the center for family reunification through photograph identification.

- **Consultation Areas:** Side rooms are used for those members of the public that express extreme stress reactions (i.e., shock or pain). When the social worker or assigned staff member identifies a family reacting in an extremely volatile and agitated manner and feels that they would benefit from personal, supportive attention in a quiet atmosphere, they are encouraged to withdraw to a side room provided for this purpose. This area separates the family from the rest of the public in order to prevent a panic chain reaction. These areas should at least minimally be furnished with chairs, desk or table, tissues, trashcan and a telephone.

- **Pediatric Safe Area:** As discussed in *Section 5–Security*, the Pediatric Safe Area may be located within the FISC. The Pediatric Safe Area is a designated place for unaccompanied children who have been discharged from the Emergency Department or who have been separated from their caregivers. These children are awaiting reunification with appropriate family members or others.

  If the Pediatric Safe Area is located within the FISC, set aside a portion of the large room to accommodate child-sized furniture with a selection of toys, games, art materials and books. This area should have a regularly assigned adult, Pediatric Safe Area Coordinator and appropriate security staff (either staff or volunteer) to attend to the children. If your organization has a Child Life Program, they may be the most experienced to setup and monitor the Pediatric Safe Area.

Peripheral Hospital Units

In addition to the Main FISC Unit, the hospital will need to be in close contact with other areas. Consider planning FISC linkage with the following:

- **Emergency Department:** The emergency department (ED) is the first venue for the injured. ED care is extremely intensive and short term. All identity/location information obtained by social workers during the interviews with patients will be communicated to the main information center.

- **Incident Command Center:** Most of the information related to the disaster will come to the Incident Command Center. Any information related to patients' families is passed on to the Director of Human Services, who will in turn contact the Main FISC Unit head appointee to relay the information and brief the staff on changes relevant to the incident.

- **Intensive Care Unit:** Social workers or designated staff assigned to this area will collect information about the physical characteristics of patients (such as tattoos, scars or other outstanding distinguishing features) that can be used to further identify individuals and communicate this information to the FISC.

FISC Information Flow

- Information on patient status and identification will come to the FISC from the ED, ICU, other hospitals, EMS, the morgue, the Medical Examiner's Office and the Incident Command Center. Information may come to the FISC via fax or telephone, electronically or by runners.

- The FISC will act as a liaison between the families and the peripheral units.

- The FISC is in constant communication with the Incident Command Center.

- Any media seeking information about patients, families or the nature/status of the event should be directed to the hospital's Public Information Officer.

- It is recommended that hospitals continue to develop communication systems and protocols to facilitate the flow of information within the facility, within the community, and with other city, county and state agencies.

FISC Staffing

It is recommended that the facility plan for staffing as stated below:

- **Director/Coordinator:** The unit should be directed by the Human Services or Social Work administrator or manager.

- **Assigned Professional Staff:** Assigned staff may include social workers, caseworkers, mental health practitioners, child life specialists, chaplains, human resources personnel, and pre-screened volunteers.

- **Volunteers:** Volunteers should be pre-screened and already trained as hospital volunteers. Volunteers might also include fieldwork students assigned to the ancillary services, clergy from nearby religious institutions and personnel from community-based human services organizations.

- **Red Cross Liaison:** A liaison from the American Red Cross could be very useful in providing communication and on-site support.

- **Patient Information Officer:** A Patient Information Officer should be assigned to the Information Desk. This person could be very helpful in reuniting families who become

separated and sharing communication about family members currently admitted to other units.

- **Security:** Hospital security personnel must be assigned to the area. Security personnel should be trained in normal human reactions to disasters and how to handle psychologically fragile individuals.
- **Translators/Interpreters:** In the event of a disaster, translators/interpreters may be needed. When individuals are stressed by a disaster, they may have more difficulty understanding directions, whether or not English is their first language.
- **Runners:** Runners should be assigned to deliver or pick up information/hard data to and from the FISC and all other areas of the hospital.

FISC Equipment, Materials and Supplies

Listed below are some of the equipment, materials and supplies likely to be needed:

Area:	Supplies Needed:
Information Desk	- Computer with Internet connection - Fax machine - Digital camera with related software - Multiple phone lines to facilitate in-house communication - Pen and paper - Quarters for pay-phone calls - Tissues - Staplers - Message board with scotch tape or tacks - Dry-erase boards with markers and erasers
Reception Area	- Refreshments - Cups, napkins, paper goods
Pediatric Safe Area	- Diapers and extra children's underwear - Clothing or tee-shirts in small sizes - Formula - Age-appropriate toys - Infant seats/play pens - Areas for sleeping - Age-appropriate books and other diversions - See *Section 5–Security* for more information
Throughout	- Clearly defined signage - Comfort

Training Staff in the FISC

- *Just In Time* training can be given to staff that would be potentially assigned to the FISC Center, along with a job action sheet, if needed.

- Training should review protocols and check lists on how to screen, support and triage families who need psychological first aid.

- Refer to *Section 14–Psychosocial Needs* for pertinent information on interactions with families, typical reactions to disaster and signs of trauma. Also, see *FISC Educational Tools #2 and #3*.

- Off- or on-site training or briefing sessions with pre-screened volunteers from the community should include how to facilitate communication for mobilization.

- There should be a plan for staffing each shift and for on-call response for each discipline or service assigned to the Center.

- There should be periodic mass casualty event in-service training for mental health providers.

FISC Activation

- After notification of disaster and at the direction of the Incident Command Center, the designated coordinator of the Family Information and Support Center mobilizes with other directors of service or managers in the human service/human resources, MIS, telecommunications and housekeeping departments to set up physical space for the Center.

- Previously identified hospital personnel who are in-house are scheduled for shifts as needed.

- Coordinator or other assigned supervisory staff assesses the need to call in additional staff and outside volunteers or agencies (i.e., Red Cross).

- Information systems are tested and ready to go.

- Supervisors of participating departments provide shift coverage within their own discipline or, in a smaller facility, the Center coordinator deals with shift coverage directly from the pool of assigned hospital personnel.

Interactions with Families

- Families need to be provided with the most up-to-date information available in a supportive and safe environment.

- Upon arrival to the FISC, families either are logged in via an electronic database or sign-in book. Registered families are reviewed periodically for information coming into the FISC.

- Assign a social worker or other support staff member to families that are identified as exhibiting overt psychological upset or need to be given bad news.[8]

- Professional staff or trained volunteers should be assigned to circulate throughout the Center to answer general questions, offer comfort and support, provide directions and supply information about the facility. For age-specific communications guidelines, see *FISC Educational Tools for Staff #4*.

- If possible, there should be a dedicated social support person in the children's area.

Identification of Identified or Unidentified Victims/Family Members

- Information is gathered from various sources, including Emergency Medical Services, the ICU, and the Emergency Department and from families themselves. Data on unidentified injured victims (i.e., gender, approximate age, physical characteristics) are gathered on admission to the Emergency Department. All personal details and pictures are transferred to the FISC via fax, electronically or by runners.

- Under intense stress, family members often fail to remember essential identifying details. To minimize critical errors, the intake process must be conducted with great caution. To achieve a higher level of accuracy, use structured forms for data collection. (See *Section 5–Security* for sample Child Identification Survey Form.)

- Unaccompanied children may either be brought to the facility unharmed, treated medically but with no adult readily available to care for them, or may have come to the facility with an adult who is being treated urgently. These children should also be photographed and given an ID bracelet with their personal information and that of their family member, if appropriate. (See *Section 5–Security*.) This information should then be forwarded to the FISC.

- Adults coming to the hospital to claim children will have to show ID. We recommend that the adult (to the best of their ability) bring a picture that shows the person pictured together with the child before a child is released to them. Before releasing the child, driver's license numbers or other ways to identify the claiming adult should be recorded. Photographing the claiming adult should be considered.

- Individuals who must identify a deceased family member may be brought to the Photo Identification Room to view photos with an assigned social worker that can also accompany them to the morgue area. Pictures of victims that are beyond recognition should not be shown to family members. The Medical Examiner's Office may have a primary role here.

Day Care for Dependents of Hospital Staff Members

In addition to caring for families of victims, it is suggested that consideration be given to establishing an extension of the FISC as a safe space for the dependents of hospital staff who are working during a disaster and do not have a safe place for their children. This decision will need to be made in the context of the emergency, as it may be counter to recommendations that would be made for infection control and social distancing.

FISC Educational Tools for Staff #1

Psychological First Aid for Disaster Survivors

1. Re-create a sense of safety
   o Provide for basic needs (food, clothing, medical care)
   o Ensure that survivors are safe and protected from reminders of the event
   o Protect survivors and family members from on-lookers and the media
   o Help them establish a 'personal space' and preserve privacy and modesty
2. Encourage social support
   o Help survivors connect with family and friends
   o Most urgently, help connect children with their parents
   o Educate family and friends about survivors' normal reaction and how they can help
3. Re-establish a sense of efficacy
   o Give survivors accurate, simple information about plans and events
   o Allow survivors to discuss events and feelings, but do not probe
   o Encourage them to re-establish normal routines and roles when possible
   o Help resolve practical problems, such as getting transportation or relief vouchers
   o Discuss self-care and strategies to reduce anxiety, such as relaxation techniques
   o Encourage survivors to support and assist others

FISC Educational Tools for Staff #2

Normal Reactions to Disaster for Adults and Children

Age	Parameter	Normal Reactions May Include:
All Ages	**Emotional**	- Shock - Fear - Grief - Anger - Guilt - Shame - Helplessness - Hopelessness - Numbness - Emptiness - Decreased ability to feel interest, pleasure, love
	Cognitive	- Confusion - Disorientation - Indecisiveness - Worry - Shortened attention span - Poor concentration - Memory difficulties - Unwanted memories - Self-blame
	Physical	- Tension - Fatigue - Edginess - Insomnia - Generalized aches & pains - Startles easily - Rapid heartbeat - Nausea - Decreased appetite - Decreased sex drive
	Interpersonal	- Difficulties being intimate - Being over-controlling - Feeling rejected or abandoned

Normal Reactions to Disaster for Adults and Children, continued

Age	Parameter	Normal Reactions May Include:
Pre-school	**Emotional**	• Separation fears • Temper tantrums
	Cognitive	• See All Ages
	Physical	• Regression • Fussiness • Somatic complaints • Sleep disturbances including nightmares, somnambulism and night terrors
	Interpersonal	• Likely to seek comfort
School-age	**Emotional**	All of above, plus: • Excessive guilt and worries about others' safety
	Cognitive	• Poor concentration and loss of school performance
	Interpersonal	• Repetitious re-telling or play related to trauma
Adolescent	**Emotional**	• Depression • Wish for revenge
	Cognitive	• Altered view of the future
	Physical	• Sleeping disturbances • Eating disturbances
	Interpersonal	• Acting out

Children's age-specific disaster response:

FISC Educational Tools for Staff #3

Mental Health Consequences of Disaster
An Overview for Emergency Department Staff

Developmental Considerations in the Comprehension of Death in Children and Adolescents			
	Infants	**Preschool**	**School-Aged**	**Adolescents**
Developmental considerations	• Object permanence • Establishing trust • Dependency for basic needs	• Magical thinking • No concept of time • Egocentric	• Logical thinking • Concept of time • Differentiation of self from others	• Abstract thinking • Establishing independence • Identity formation • Feelings of omnipotence
Effect of disaster	• Destroyed routine • Loss of loved ones			
Behavioral changes seen as result of disaster	• Regression • Detachment	• Posttraumatic play • Withdrawal • Apathy	• School problems • Anxiety • Anger • Somatic complaints • Post-traumatic play	• Risk-taking • Somatic experiences • Depression • Anger • Hostility to others • Self-doubt • Shame • Guilt
View of disaster	• No comprehension	• Reversible	• Understands loss as a consequence of injury and illness	• Full understanding

Modified from: American Academy of Pediatric Workgroup on Disasters, *Psychological issues for children and families in disasters: a guide for the primary care physician*. US Department of Health and Human Services, 1995 [DHHS Publication (SMA) 95-3022].

FISC Educational Tools for Staff #4

Helping Children Deal with Disasters

Listen to the child

- Ask the child what he/she knows, what they heard, or what their friends are saying

- Ask the child how they are feeling. They may feel angry, scared, sad or anxious

- Let the child know that you understand their feelings

- It is important not to laugh at the child's fears, even if they seem silly to you

- Let the child ask questions

- When the child asks questions, answer briefly and honestly

- Remember: it is OK to answer, "I don't know."

Try to make the child feel safe

- Let the child know that many people (police, teachers, doctors and our President) are working hard to:
    - Take care of the hurt people
    - Help keep us safe

- If the child is worried that his/her home is not safe, explain the nature of the event as simply as possible

- Try to keep to the child's regular routine as much as possible

Adapted from: Child Life Department, (2001) Bellevue Hospital Center Pediatric Resource Center

References

1. Hartsough DM. Planning for disaster: a new community outreach program for mental health centers. *J Community Psychol*. 1982;10(3):255-264.

2. Cohen F, Lazarus RS. Coping with the stresses of illness. In: Stone GC, Cohen F, Adler NE, assoc eds. *Health Psychology–A Handbook: Theories, Applications, and Challenges of a Psychological Approach to the Health Care System*. San Francisco, CA: Jossey-Bass; 1979.

3. Lazarus R, Folkman S. *Stress, appraisal, and coping*. New York, NY: Springer Publishing Company, Inc; 1984.

4. Drory M, Posen J, Vilner D, Ginzburg K. Mass casualties: an organizational model of a hospital information center in Tel Aviv. *Soc Work Health Care*. 1998;27(4):83-96.

5. Curtis JM. Elements of critical incident debriefing. *Psychol Rep*. 1995;77(1):91-96.

6. Everly GS Jr. The role of the Critical Incident Stress Debriefing (CISD) process in disaster counseling. *J Ment Health Counsel*. 1995;17(3):278-290.

7. Gagin R, Cohen M, Peled-Avram M. Family support and victim identification in mass casualty terrorist attacks: an integrative approach. *Int J Emerg Ment Health*. 2005;7(2):125-131.

8. Bell JL. Traumatic event debriefing: service delivery designs and the role of social work. *Soc Work*. 1995;40(1):36-43.