



Children with Special Health Care Needs



- 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 developmental age, not chronological age.
- Look for MedicAlert[®] jewelry or health forms, if usual caregiver is not available.
- Bring necessary specialized equipment 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). **Reassess** 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

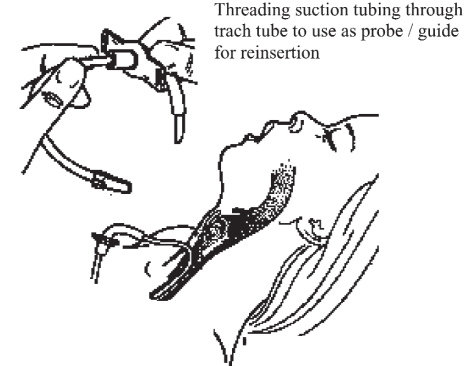
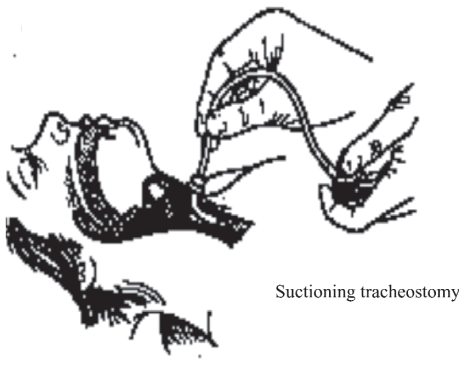
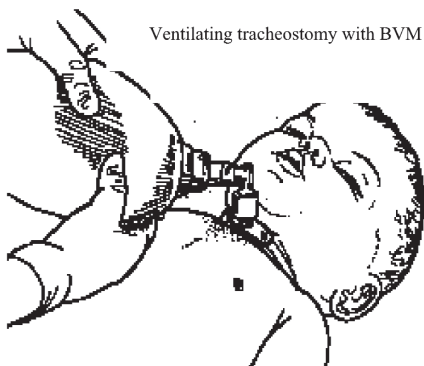
Suction as needed – no more than 10 sec. Insert no more than 3/4 length of neck

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.



This reference card should not be considered to replace or supercede regional prehospital medical treatment protocols.

3/03

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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

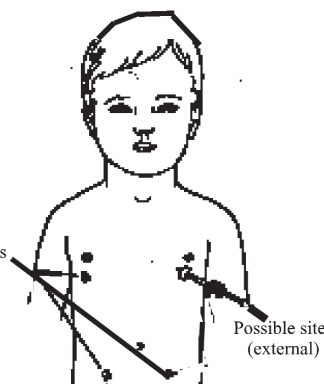
- **Displaced** – total or partial dislodgement or movement out of vein into internal tissues
- **Obstructed** – blood clot, protein, crystallized medications / IV nutrition
- **Pericardial Tamponade** - fluid in the pericardial sac due to perforation by catheter **or**
- **Pulmonary problems** – pneumothorax, 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)



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.

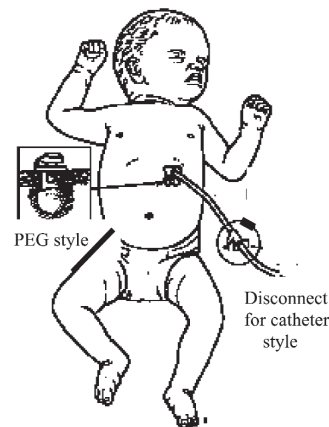
Types: Button / catheter type gastrostomy (G) tube – (stomach) or jejeunal (J) tube – (intestine)

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



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
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