



New York Ambulatory  
Cardiovascular Society



# Advancing Cardiology Procedures in Ambulatory Surgical Centers

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# What is an ASC?

Ambulatory Surgery Centers (ASCs) are designed for outpatient surgical procedures that don't require hospital admission. The procedures are generally low- to moderate-risk, have short recovery times, and allow patients to go home the same day.





# Federal & State Requirements

Requirement	Federal (CMS)	New York State
<b>Medicare Participation</b>	CMS Certification	Not required but often pursued
<b>CON Process</b>	Not required federally	Mandatory through NYSDOH
<b>State License</b>	Required by state law	Must be licensed under Article 28
<b>Accreditation</b>	Optional but beneficial	Required if seeking CMS certification via deemed status
<b>Hospital Transfer Agreement</b>	Strongly recommended	Required
<b>Infection Control Program</b>	Required	Required with designated infection control officer
<b>QAPI Program</b>	Required	Required
<b>Life Safety Code Compliance</b>	Required	Enforced by state building codes



# NYS Requirements

## Extensive Certification Process

- **Conduct** market study and feasibility analysis
- **Submit** a Certificate of Need application
- **Design** and **construct** facility per NYSDOH standards
- **Apply** for Article 28 licensure
- **Obtain** Medicare certification (optional)
- **Undergo** inspections and **achieve** accreditation (if needed)
- **Hire** qualified staff and implement operational policies
- **Begin** operations

## Extensive Documentation

- Certificate of Need (CON) Application Packet
- Architectural Design Plans
- Article 28 License Application
- Policy and Procedure Manual
- Staff Training Records
- Informed Consent Forms
- Transfer Agreements (with hospitals)
- Emergency Management Plan
- Credentialing Files
- Quality Assurance Program (QAPI) Plan

# Continued ASC Growth Since the 1980s

Time Frame	# of ASCs	Procedures/year	Share of Outpatient Surgeries
<b>Late 1980s</b>	~1,000	—	Minimal
<b>2004</b>	>4,000	~8 M	Increasing
<b>2010</b>	>5,000	~23 M	~37%
<b>2022–23</b>	~6,200	>1.2 B	60–70%
<b>2033 (Proj.)</b>	—	~110 M	Likely >70%

[https://www.ascassociation.org/advancingsurgicalcare/asc/historyofascs?utm\\_source=chatgpt.com](https://www.ascassociation.org/advancingsurgicalcare/asc/historyofascs?utm_source=chatgpt.com)



# Typical Procedures

## Established Procedures

- Orthopedic
- Ophthalmology
- Gastroenterology
- Pain Management
- Gynecology
- Urology
- ENT
- Plastic and Cosmetic Surgery
- Podiatry

## Current Trends: Emerging

Advanced Spinal Procedures  
Cardiology  
Interventional Radiology

## Exclusions

- High-risk surgeries
- Open abdominal, cranial, thoracic or vascular bypass procedures
- Any case involving overnight stay

# Peer Review: ASCs by State

How does New York State Compare?



State	2023 Pop. Est.	Number of ASCs	Per Capita
California	38.94M	894	43,557
Florida	22.63M	509	44,460
Texas	30.50M	488	62,500
Michigan	10.14M	118	85,932
Illinois	12.71M	133	95,564
<b>New York</b>	<b>19.57M</b>	<b>180</b>	<b>108,722</b>

US Census Estimates, ASCA Sourced Data

# States Allowing Cardiac Procedures in the ASC

State	Cardiac procedures allowed in an ASC?	Cardiac procedures addressed through CON laws?	Cardiac procedures explicitly addressed through administrative code or statute on ASCs or Hospitals?
Alabama	Yes	Yes	No
Alaska	Yes	No	No
Arizona	Yes	NA, no CON law	No
Delaware	Yes	No	No
Florida	Yes	No	No
Georgia	Yes	Yes	No
Idaho	Yes	NA, no CON law	NA
Illinois	Yes	Yes	Yes
Indiana	Yes	NA, no CON law	Yes
Kansas	Yes	NA, no CON law	No
Kentucky	Yes	Yes	No
Louisiana	Yes	No	Yes
Maine	Yes	Yes	No
Maryland	Yes	No	Yes
Michigan	Yes	Yes	No
Minnesota	Yes	NA, no CON law	No
Mississippi	Yes	Yes	No
Missouri	Yes	Yes	No
Montana	Yes	No	No
Nebraska	Yes	No	No
New Mexico	Yes	NA, no CON law	No
North Carolina	Yes	Yes	No
North Dakota	Yes	NA, no CON law	NA
Oklahoma	Yes	No	No
Oregon	Yes	Yes	No
Pennsylvania	Yes	NA, no CON law	Yes
Rhode Island	Yes	No	No
South Carolina	Yes	No	Yes
South Dakota	Yes	NA, no CON law	No
Tennessee	Yes	Yes	No
Texas	Yes	NA, no CON law	No
Utah	Yes	NA, no CON law	No
Vermont	Yes	Yes	No
West Virginia	Yes	Yes	Yes
Wisconsin	Yes	NA, no CON law	No
Wyoming	Yes	NA, no CON law	No



## ASC Cardiac Procedure Status by State

State	Cardiac procedures allowed in an ASC?	Cardiac procedures addressed through CON laws?	Cardiac procedures explicitly addressed through administrative code or statute on ASCs or Hospitals?
Arkansas	No	No	No
California	No	NA, no CON law	Yes
Colorado	No	NA, no CON law	No
Connecticut	No	Yes	No
Hawaii	No	Yes	No
Iowa	No	Yes	NA
Massachusetts	No	No	Yes
Nevada	No	No	Yes
New Hampshire	No	NA, no CON law	Yes
New Jersey	No	Yes	No
New York	No	Yes	No
Ohio	No	No	Yes
Virginia	No	Yes	No
Washington	No	Yes	Yes



# Hospital-Based Cath Labs are Low Margin and High-Resource Utilization

Percent of Procedures in Hospital-Based Cath Labs

Diagnostic Only	PCI
<b>72%</b> <b>(Normal Rate 39%)</b> Patel, MR, NEJM 362: 886-895	<b>28%</b>

# Patient Satisfaction

While clinical outcomes are consistent with hospital facilities, patient satisfaction surveys suggests patients prefer the ASC setting

2015 Patient Satisfaction		
	ASC	Hospital
Overall Satisfaction	97.9%	71%
Patient Would Recommend	98.6%	71%
Return Rate	61.0%	31%

# Safety of Cath and PCI

Randomized controlled clinical trials show that Percutaneous Coronary Intervention (PCI) outcomes at sites without surgical backup are the same

## Two randomized clinical trials support the safety of non-emergent procedures in ASC-like settings (sites without onsite surgical backup)

### CPORT-E: N Engl J Med 2012; 366: 1792-1802

18,867 patients with stable CAD or ACS underwent non-emergency PCI at a hospital with (n = 4,718) or without (n = 14,149) on-site cardiac surgery from April 2006 to March 2011.

**Findings:** Elective percutaneous coronary intervention (PCI) performed at hospitals without on-site cardiac surgery is non-inferior to similar procedures performed at hospitals with surgical capabilities.

### 9 Month Outcomes

	No on-site surgery (n=14,149)	On-site surgery (n=4,718)	P value
Death	3.2%	3.2%	
TVR	6.5%	5.4%	0.01 (for superiority)
MI	3.1%	3.1%	
MACE	12.1%	11.2%	0.01 (for non-inferiority)

# Safety of Cath and PCI

## Summary of randomized controlled studies cont.

### **MASS COMM: N Engl J Med 2013; 368: 1498-1508**

3,691 patients who presented for elective PCI at hospitals in Massachusetts without on-site surgery capabilities between July 7, 2006, and September 29, 2011. The patients were randomized in a 3:1 fashion to undergo PCI at the initial hospital (n = 2,774) or be transferred to another with on-site surgical back-up (n = 917).

**Findings:** Patients undergoing non-emergency percutaneous coronary intervention (PCI) experience similar outcomes whether they are treated at hospitals that possess on-site cardiac surgery capabilities or do not offer such services.

	No on-site surgery (n=2,774)	On-site surgery (n=917)	P value
MACE	9.5%	9.4%	<0.001 (for non-inferiority)
DEATH	0.7%	0.3%	0.39
MI	6.5%	6.5%	1.00
Repeat revascularization	2.7%	3.5%	0.25
Stroke	0.4%	0.1%	0.21

	No on-site surgery (n=2,774)	On-site surgery (n=917)	P value
MACE	17.3%	17.8%	<0.001 (for non-inferiority)
DEATH	2.3%	2.4%	0.89
MI	8.6%	7.8%	0.55
Repeat revascularization	8.5%	9.9%	0.24
Stroke	1.0%	0.8%	0.83

# Safety of Cath and PCI

## Summary of evidence: Meta analyses

Three studies conducted primarily with registry data have examined the use of non-emergent (non-primary) PCI at facilities with and without on-site surgery.

**Findings:** Overall, mortality and the need for emergency CABG surgery did not differ between hospitals with and without on-site surgery.

	On-site surgery	No. of Patients	Mortality		Emergency CABG		Comments
			Incidence	OR (95% CI)	Incidence	OR (95% CI)	
Zia (2011)	No	28,552	1.6%	1.03 (0.64-1.66)	1.0	1.38 (0.65-2.95)	6 studies included in analysis
	Yes	881,261	2.1%		0.9		
Singh M (2011)	No	30,423	0.9%	1.15 (0.93-1.41)	0.17	1.21 (0.52-2.85)	9 studies included in analysis
	Yes	883,865	0.8%		0.29		
Singh PP (2011)	No	1,812	0.17%	2.3 (0.60-12.97)	0.11	0.47 (0.07-3.19)	4 studies included in analysis (2 with data on mortality and CABG); RR calculated rather than OR
	Yes	4,039	0.72%		0.02		

# Guidelines of Cath and PCI in ASC

National Cardiovascular Partners (NCP) has established admission criteria and a screening process that promotes safe and effective patient care in the outpatient setting

## Patient Selection

Admission Criteria	Contraindications
<ul style="list-style-type: none"><li>• Physician's order for the procedure with a provisional diagnosis</li><li>• History and Physical performed within the last 30 days</li><li>• Patient must be 18 years of age or older</li><li>• Diagnostic test results, as required. (Must be within 30 days of procedure)</li><li>• ASA Classification documented. (ASA 1, 2 or 3) *</li><li>• Patient must demonstrate ability to use judgement and follow instructions</li><li>• A responsible adult must be available to accompany patient</li></ul>	<ul style="list-style-type: none"><li>• Creatinine &gt; 2.0 (unless on Dialysis)</li><li>• Potassium &gt; 5.8 (unless on Dialysis)</li><li>• Weight &gt; 450 lbs</li><li>• Hemoglobin &lt; 8.0 (unless chronic anemia)</li><li>• INR &gt; 1.8</li><li>• Active, untreated infection</li><li>• Hx of Anaphylactic shock with Iodine exposure</li><li>• Unable to lie flat due to Hypoxia</li><li>• Type C Lesions</li><li>• Unprotected Left Main</li><li>• Acute Coronary Syndrome</li></ul>

*\*American Society of Anesthesiologists Patient Classification*

## Credentialing

Procedure	Required documentation for initial appointment
Diagnostic Cardiac	Must have an appointment/privileges for Cardiac Cath in good standing at a hospital
Interventional Cardiac	Must have an appointment/privileges for intervention in good standing at a hospital

# Why are we Here?



## CMS ASC Approved Procedure List Updated November 2018

CMS Added 12 cardiac CPT codes, and 5 related ancillary procedures in 2019

### **12 Diagnostic Cardiac Catheterization Codes (Primary Procedures)**

- **93451** – Right heart catheterization (incl. O<sub>2</sub> saturation & cardiac output)
- **93452** – Left heart catheterization (incl. left ventriculography)
- **93453** – Combined right and left heart catheterization
- **93454** – Coronary artery catheterization for angiography
- **93455** – Coronary artery(s) catheterization with bypass graft angiography
- **93456** – Coronary artery catheterization with right heart catheterization
- **93457** – Coronary angiography + graft angiography + right heart catheterization
- **93458** – Coronary angiography + left heart catheterization
- **93459** – Coronary angiography + ventriculography + graft angiography
- **93460** – Coronary angiography + right & left heart catheterization
- **93461** – Coronary angiography + ventriculography + graft angiography + bi-ventricular cath
- **93462** – Left heart catheterization via transseptal or transapical puncture

### **5 Ancillary Cardiac Cath Add-On Codes**

- **93566** – Selective right ventricular or right atrial angiography injection
- **93567** – Supravalvular aortography injection
- **93568** – Pulmonary angiography injection
- **93571** – Intravascular Doppler (or pressure) flow reserve measurement, initial vessel
- **93572** – Intravascular Doppler flow reserve measurement, each additional vessel





# Peer Review: PCI Allowance By State

State	PCI Allowed?	Notes
Florida	YES	Approved by Regulation
Texas	YES	Approved by Regulation
Michigan	YES	Approved by Regulation
Illinois	YES	Approved by Regulation
<b>New York</b>	<b>NO</b>	Regs use the term "hospital" which is elsewhere in 10 CRR-NY 700.2 defined to not include ASCs.

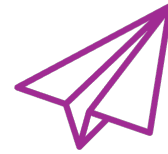


# Modifications to Existing ASCs to Accommodate PCI's in ASCs

Structural	Staffing	Safety
<ul style="list-style-type: none"><li>• Reimbursements for Implants</li><li>• Change current regs so that eye procedures can occur in ASCs after they become OBS only procedures.</li><li>• HOPD / ASC Payment Parity</li><li>• Impact of decreasing the profit margins of lower-level procedures</li></ul>	<ul style="list-style-type: none"><li>• Addressing the shortage of anesthesiologists</li><li>• Training</li></ul>	<ul style="list-style-type: none"><li>• ACLS Certification of Staff</li><li>• Crash Carts and defibrillators</li><li>• Oxygen</li><li>• Transport policies and agreements</li></ul>

# Hospitals Benefits from PCI's in ASCs

Benefits To Hospital	Impact
Higher inpatient capacity	Focus on complex PCI & emergent care
Financial sustainability	Free up resources, captures JV revenue
System-wide care coordination	Extends reach without overextension
Physician alignment	More autonomy, shared incentives
Improved patient access	More options with same safety standards
Higher acuity patients and procedures	Improved Reimbursements
Improved focus on untreated patients	Increased volumes and improved patient outcomes



# Thank You!



*[ambulatorycardiology.org](http://ambulatorycardiology.org)*

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