

## Indications for PCI After STEMI

PCI remains a non-surgical option for treating multiple cardiovascular conditions involving obstructive coronary artery disease. The following tables from the *2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention* provide recommendations to help physicians know the indications for the use of PCI versus coronary angiography in patients who have suffered a STEMI.

Appendix 4E. General Considerations in Deciding Between Early Invasive Strategy and Initial Conservative Strategy	
Early Invasive Strategy Generally Preferred	Initial Conservative Strategy Generally Preferred or Reasonable
<ul style="list-style-type: none"> <li>• Recurrent angina or ischemia at rest or with low-level activities despite intensive medical therapy</li> <li>• Elevated cardiac biomarkers (TnT or TnI)</li> <li>• New or presumably new ST-segment depression</li> <li>• Signs or symptoms of heart failure</li> <li>• Hemodynamic instability</li> <li>• High-risk score (eg, GRACE, TIMI)</li> <li>• Sustained ventricular tachycardia</li> <li>• PCI within 6 mo</li> <li>• Prior CABG</li> <li>• Diabetes mellitus</li> <li>• Mild to moderate renal dysfunction</li> <li>• Reduced LV function (LVEF &lt;40%)</li> </ul>	<ul style="list-style-type: none"> <li>• Low-risk score (eg, GRACE, TIMI)</li> <li>• Absence of high-risk features</li> <li>• High risk for catheterization-related complications</li> <li>• Patient not a candidate for revascularization (with either PCI or CABG)</li> <li>• Patient prefers conservative therapy</li> </ul>
<p>CABG indicates coronary artery bypass graft surgery; GRACE, Global Registry of Acute Coronary Events; LV, left ventricular; LVEF, left ventricular ejection fraction; PCI, percutaneous coronary intervention; TIMI, Thrombolysis In Myocardial Infarction; TnI, troponin I; and TnT, troponin T.</p>	

Table 9. Indications for Coronary Angiography in STEMI			
Indications	COR	LOE	References
Immediate coronary angiography			
Candidate for primary PCI	I	A	351,379–382
Severe heart failure or cardiogenic shock (if suitable revascularization candidate)	I	B	383,384
Moderate to large area of myocardium at risk and evidence of failed fibrinolysis	IIa	B	385,386
Coronary angiography 3 to 24 h after fibrinolysis			
Hemodynamically stable patients with evidence for successful fibrinolysis	IIa	A	387–391
Coronary angiography before hospital discharge			
Stable patients	IIb	C	N/A
Coronary angiography at any time			
Patients in whom the risks of revascularization are likely to outweigh the benefits or the patient or designee does not want invasive care	III: No Benefit	C	N/A
<p>COR indicates class of recommendation; LOE, level of evidence; N/A, not applicable; PCI, percutaneous coronary intervention; and STEMI, ST-elevation myocardial infarction.</p>			

**Table 10. Indications for PCI in STEMI**

Indications	COR	LOE	References
<b>Primary PCI*</b>			
STEMI symptoms within 12 h	I	A	379–382
Severe heart failure or cardiogenic shock	I	B	383,384
Contraindications to fibrinolytic therapy with ischemic symptoms <12 h	I	B	399,400
Clinical and/or electrocardiographic evidence of ongoing ischemia between 12 and 24 h after symptom onset	IIa	B	401–403
Asymptomatic patients presenting between 12 and 24 h after symptom onset and higher risk	IIb	C	N/A
Noninfarct artery PCI at the time of primary PCI in patients without hemodynamic compromise	III: Harm	B	404–408
<b>Delayed or elective PCI in patients with STEMI</b>			
Clinical evidence for fibrinolytic failure or infarct artery reocclusion	IIa	B	385,386
Patent infarct artery 3 to 24 h after fibrinolytic therapy	IIa	B	390,391
Ischemia on noninvasive testing	IIa	B	410,411
Hemodynamically significant stenosis in a patent infarct artery >24 h after STEMI	IIb	B	413–417
Totally occluded infarct artery >24 h after STEMI in a hemodynamically stable asymptomatic patient without evidence of severe ischemia	III: No Benefit	B	418–420
<p>*Systems goal of performing primary PCI within 90 min of first medical contact when the patient presents to a hospital with PCI capability<sup>394,395</sup> (Class I; LOE: B) and within 120 min when the patient presents to a hospital without PCI capability<sup>396–398</sup> (Class I; LOE: B).            COR indicates class of recommendation; LOE, level of evidence; N/A, not applicable; PCI, percutaneous coronary intervention; and STEMI, ST-elevation myocardial infarction.</p>			