## Risk Factors that Increase Vascular Complications After PCI

A variety of factors affect whether or not vascular complications occur after PCI. Patient traits, surgical technique, and perioperative medications are the most commonly noted.

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| **PATIENT***: The patient's history and physical should include a comprehensive review of medications and assessment of risk factors. The use of a risk model/identification tool that is included in the patient's chart can help stratify patients who may need additional observation. | |
| Age | Greater than 70 |
| Gender | Female |
| Physical Habitus | Extremely thin OR morbidly obese |
| Acute Conditions | • STEMI<br>• Previous PCI<br>• Shock within 24 hours before and/or at start of PCI or Salvage procedure<br>• Cardiac arrest within 24 hours of procedure<br>• Subacute stent thrombosis |
| Co-morbidities | • Chronic Renal disease (on dialysis) or GFR of 30-44ml/min<br>• Hemoglobin greater than 15 or less than 13<br>• Peripheral Vascular Disease<br>• Hypertension<br>• Low Platelet Count and Low Hematocrit at baseline<br>• CHF<br>• COPD<br>• Coagulopathies |
| **SURGICAL TECHNIQUE** | |
| Puncture | • High stick – puncturing the inferior epigastric artery<br>• Low stick - below the femoral bifurcation<br>• Posterior wall – puncture through the back wall of the artery<br>• Repeat attempts |
| Sheath Size | 6F, 7F, 8F guides |
| Procedural Time | Greater than 1.4hours |
| Vascular Closure Device | Particularly for retroperitoneal bleed |
| Nurse Sheath Removal | Technician should remove and apply manual pressure |
| Late Ambulation | Prolonged time between sheath removal and ambulation |
| **PERIPROCEDURAL MEDICATION** | |
| Anticoagulation | • Heparin use (activated clotting time greater than 350s<br>• Use of GPI<br>• Dosing Heparin and GPI without basing it on weight and renal clearance |
| Anticoagulation | Heparin infusion |

*This tool is a part of the Bleeding Risk Toolkit available through the ACC Quality Improvement for Institutions program on CVQuality.ACC.org.*


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