

Mechanical Compression

"A Randomized Trial of Vascular Hemostasis Techniques to Reduce Femoral Vascular Complications After Coronary Intervention";
- Pracyk, Wall, Longabaugh, et al;
American Journal of Cardiology, 1998 (81:970-976).

This prospective, randomized study compared mechanical clamp compression with manual compression for achieving hemostasis following catheterization using the femoral approach. Incidence of complications was compared between the two approaches, using a "composite of ultrasound-defined femoral vascular complications" as primary endpoint. All 778 patients had both arterial and venous sheaths placed and heparin (10000 to 12000 IU) administered as IV bolus, with additional heparin added to maintain ACT>300 seconds during the interventional procedure. The study found that: "compared to manual compression, mechanical clamp hemostasis reduced the primary adverse end point by 63% (p=0.041)", and "utilization of a mechanical clamp rather than conventional hand pressure to attain vascular hemostasis significantly reduces ultrasound-defined femoral vascular pathology".

"Manual Versus Mechanical Compression for Femoral Artery Hemostasis After Cardiac Catheterization";
- Simon, Bumgarner, Clark, et al;
American Journal of Critical Care, July, 1998 (7:308-313).

This study sought to determine if use of a mechanical clamp is as effective as standard manual pressure for post-catheterization hemostasis. A total of 720 patients undergoing diagnostic catheterization at two community hospitals were included. The data indicated only one significant difference between the two techniques: compression time was approximately two minutes longer for mechanical compression. The study found that, of 136 patients who had previous catheterizations, 95 (70%) stated an explicit preference for mechanical over manual compression, indicating that the clamp was more comfortable. The study concluded that "Mechanical compression is as effective as manual compression for femoral artery hemostasis after cardiac catheterization."



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