MANAGEMENT ALGORITHM FOR INITIAL EVALUATION OF PENETRATING EXTREMITY TRAUMA

Prioritized management of airway, breathing, & fluid resuscitation (circulation)

Active (arterial) wound hemorrhage expanding wound hematoma absent or near-absent pulse

YES ➔ Straight to OR for exploration. (Pre-operative arteriography usually not indicated)

NO

History or other evidence of major assoc. hemorrhage large hematoma decreased pulse (asymmetric) audible bruit or thrill

YES ➔ Perform arteriogram (CT arteriogram) (duplex U/S of artery may be used alternatively)

NO

Measure ankle/brachial index (ABI) & determine ratio

ABI < 0.9

YES ➔ Perform CT arteriogram (duplex U/S of artery may be considered also)

NO

Local wound hemorrhage or wound care issues

NO

Local wound care discharge from the E.D. if no other injuries

YES ➔ Admit for local wound care & observation. plan early discharge

COMMENTS

➤ Exceptions may be made for more distal extremity wounds where major collateral perfusion may allow further diagnostic w/u

➤ In patients with other injuries or where arteriography will be significantly delayed, an "on-table" A/G can be performed via an arterial line placed in the femoral artery for lower extremity injuries.

➤ ABI screening may miss AV fistulae and pseudoaneurysms. All patients with proximity wounds should have clinical f/u visits

➤ Selected patients with "minimal" vascular injury may be successfully managed non-operatively & followed with 2-D ultrasonography. U/S may not be as sensitive as A/G for some injuries.

➤ Occasionally diabetics & pts. w/ severe PVD will have abnormally high ABI's due to the lack of "compressibility" of the vessels, BEWARE.