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## Vascular Intervention

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**Purpose:** To provide a guideline for the timing of vascular interventions for hemorrhage control

**Definition:** Hemodynamically unstable is defined as 2 out of the following 3 criteria met:

- Confirmed BP < 90
  - Confirmed means more than 1 reading
- HR > 100
- RR > 30

**Guidelines:**

A. Solid Organs: See Management of Solid Organ Injuries Guideline

i. Category A

1. Angioembolization should be considered for those patients that are: hemodynamically normal WITH ongoing resuscitation or hemodynamically unstable with clinical response to resuscitation and does not require an exploratory laparotomy per trauma surgeon discretion.
2. Must have an angioembolizable lesion
3. The procedure should begin within 60 minutes of Trauma Vascular Emergency activation
  - a. The response time is tracked from request to arterial puncture

ii. Category B

1. Angioembolization should be considered for those patients with an active arterial extravasation on CT or patients with a pseudoaneurysm (i.e., liver, spleen, other) who do not meet the Category A criteria
  - a. If intervention is deemed necessary, timing to be determined after discussion with the trauma surgeon and vascular team.

B. Non-Solid Organ:

i. Category A

1. Angioembolization should be considered for those patients that are
  - a. hemodynamically normal WITH ongoing resuscitation; or
  - b. hemodynamically unstable with clinical response to resuscitation
2. Must have an angioembolizable lesion

3. The procedure should begin within 60 minutes of Trauma Vascular Emergency activation only
  - a. If hemodynamical criteria met; or
  - b. At trauma surgeon/vascular surgeon discretion
  - c. The response time is traced from request to arterial puncture
- ii. Category B
  1. Angioembolization should be considered for those patients with an active arterial extravasation on CT or patients with a pseudoaneurysm (i.e. liver, spleen, other) who do not meet the Category A criteria
    - a. If intervention is deemed necessary, the timing of such is at the discretion of the surgeon

## References:

- American College of Surgeons (ACS). (2022). *Resources for the Optimal Care of the Injured Patient*.
- ACS TQIP and OTA. (2014). *Best Practices in the Management of Orthopaedic Trauma*.
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