Neurovascular Assessment

For More Information, Please Contact:
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Nursing Assessment

Neurovascular Assessment and Documentation:

- Obtain Baseline on Admission and at ordered intervals
- Always perform Bilateral Extremity Assessment for comparison and document
- Report Abnormalities
- If Doppler used for pulses, document as doppler signal
- Documentation should include Color, Temp, Capillary Refill, Pulse Strength, Edema, Sensation, Pain, and Motor Strength.
Nursing Assessment

Neurovascular assessment:
- Color: pink (normal), pale (inadequate arterial supply), cyanotic (possible inadequate venous return)
Neurovascular Assessment

- Temperature - (warm)
- Capillary refill - normal less than or = 2 seconds
- Peripheral pulses:
  - 0 = no palpable pulse
  - 1 = weak, barely palpable
  - 2 = palpable
  - 3 = strong, easily palpable
  - 4 = bounding
Upper Extremity Pulse Assessment

Assess for most distal pulse – Radial. If unable to palpate, assess by doppler. Continue to assess other pulse points for most distal pulse. Report abnormalities.
Assess for most distal pulse – Dorsalis Pedis. If unable to palpate, assess by doppler. Continue to assess other pulse points for most distal pulse. Report abnormalities.
Neurovascular Assessment

- **Edema**: Important to monitor for increased swelling as this can lead to neurovascular compromise.

- **Sensation**: Ask patient “Where are you touching?” rather than “Do you feel this?”

- **Pain**: Constant, intermittent, dull or burning
Neurovascular Assessment

- Grade Muscle Strength -
  - 5 - Normal strength
  - 4 - movement against gravity with some resistance
  - 3 - no resistance, some movement against gravity is possible
  - 2 - very weak motion, movement is dependent on position or gravity assisted
  - 1 - muscles contract but are ineffective with no movement
  - 0 - no muscle contraction, no movement
Compartment syndrome is increased pressure within closed facial space, caused by swelling or bleeding, leading to muscle and nerve death, from ischemia in as little as four hours. It can be caused by acute fracture, crush injury, constrictive cast bandages, Vascular Reconstruction for acute ischemia etc.
Know your 6 P’s

Compartiment Syndrome

- Assessment
  - Pain - out of proportion and not responsive to narcotic analgesics
  - Paresthesias - feels like pins and needles
  - Pressure - tense or tight compartment, edematous, shiny skin
  - Pallor - extremity appears pale
  - Paralysis - loss of function of limb
  - Pulselessness - way too late of sign
Compartment Syndrome

- **Treatment:**
  - Relieve pressure (bi-valve cast)
  - May check compartment pressures (normal is 8 and above 30 indicates needs for fasciotomy)