

Peripheral Nerve Injuries: Positioning

Anesthetic Pearls: Anesthetic Implications and Management of Peripheral Nerve Injuries

- Ulnar nerve – #1 post-op peripheral neuropathy
 - Brachial plexus – #2 post-op peripheral neuropathy
 - Common Peroneal nerve – most common lower extremity injury
1. Wrist Drop = Radial n.
 2. Foot Drop = Common peroneal n.
 3. Claw Hand = Ulnar n.
 4. OB/delivery = Obturator n. and femoral n.
 5. Diabetic = Lateral femoral cutaneous n. (meralgia paresthetica)

Etiology: position related stretching, compression, (or preoperative neuropathy), coexisting diseases (DM, ETOH), cervical rib, cardiac surgery, hypothermia, hypotension, prolonged (>3 hours) application of tourniquet

Diagnosis & Treatment: Neurology consult and possible EMG immediately post-op. Signs of denervation take approximately 18-21 days to develop, therefore if neuropathy present pre-op can be detected. Recovery can take 3-12 months. Appropriate OT & PT.

Ulnar: Most common nerve injury, theoretic advantage to keep patients arm supinated. Inability to abduct or oppose the 5th finger. Decreased sensation to medial 1.5 fingers.

Brachial Plexus: 2nd most common injury, stretching or compression with arm abduction and head rotation to opposite side, ? increase with cardiac surgery and spreading of the sternum.

Radial: Pressure upper arm over humerus by ether screen, BP cuff that stays inflated. Wrist drop, inability to extend finger at MCP joints, decreased abduction thumb and sensation dorsal surface lateral 3.5 fingers.

Median: Most commonly due to extravasation of drugs through antecubital IV into antecubital fossa. Inability to oppose 1st and 5th fingers, decreased sensation palmar surface lateral 3.5 fingers.

Sciatic: IM injection in buttocks. Weakness all muscles below knee and decreased sensation lateral half of the leg and almost all of foot.

Common Peroneal: #1 injured nerve lower extremity. Compression at fibula causes foot drop.

Femoral: OB stirrups, lithotomy position. Decreased flexion hip and extension of the knee. Decreased sensation superior thigh and medial-anteromedial side of the leg.

Obturator: Difficult forceps delivery or excessive flexion of thigh to groin during delivery. Inability to adduct the leg and decreased sensation medial thigh.

