**Interscalene Block**

**Indications:** Surgery on shoulder, distal clavicle, proximal humerus

- **Transducer Position:** Supine, beach chair, or semi-reclined
- **Transducer Orientation:** 0°, linear array
- **Transducer Placement:** Over external jugular vein, approx 3 cm above clavicle
- **Needle:** 22G 5 cm short bevel needle
- **Nerve stimulation response:** Fascial, arm, lesser

**Neurostimulation Tips:**
- Motor response __________ (specify type and mA)
- Motor response at <0.5 mA:   NO

**Injection monitoring:**
- Injection pressure normal‡

**Ideal spread of LA:**
- 2-3 + McN

**Point of injection:**
- Internal Jugular Vein

**Ideal LA deposit:**
- In plane or out of plane

- Around AA, under the PMiM fascia
- Between ASM and MSM around trunks

**Number of injections:**
- Posterior and lateral to the artery

**Ideal LA deposit:**
- In plane, lateral to medial

**Local Anesthetic (LA):**
- Type, volume (ml), concentration %

**Premedication:** Medication(s), dose(s)

**Skin disinfection**

**Resuscitative equipment present**

**Patient consent obtained**

**Monitoring of Needle Placement and Injection During Nerve Blocks**

Combining Ultrasound + Nerve Stimulation + Resistance to Injection

**TREATMENT OF LOCAL ANESTHETIC TOXICITY**
1. Avoid hyperventilation, 100% O2
2. Administer cholinesterase (Evanap, Edrophonium, Propanol) or atropine
3. Intravenous infusion 0.25 mg/kg/min (500 ml over 30 minutes)

**DOCUMENTATION AND MONITORING CHECKLIST**
- Patient consent obtained
- Repository,核查
- Nerve stimulator present
- Patient monitoring applied (EKG, BP, Pulse Oxygenmetry)
- Premedication administered
- Local anesthetic type, volume, concentration %
- Injection monitoring
  - Motor response at <0.5 mA: YES
  - High resistance to injection: NO

**Avoid vertebral artery**

**Tips:**
- Not necessary to visualize/block individual nerves
- Injection of LA should result in swelling of the sheath
- Re-consider in patients with shortness of breath
- Avoid intravascular injection

**Upper Extremity Nerve Blocks**

**Supraventricular Block**

**Indications:** Surgery on humerus, elbow, hand

- **Transducer Position:** Supine, semi-lateral
- **Transducer Orientation:** 0°, linear array
- **Transducer Placement:** Perpendicular to and below clavicle, pointing latero-cranially
- **Needle:** 22G 5 cm short bevel needle
- **Nerve stimulation response:** Fixed twitch

**Neurostimulation Tips:**
- Motor response present

**Ideal spread of LA:**
- 2-3

**Point of injection:**
- Internal Jugular Vein

**Ideal LA deposit:**
- In plane, lateral to medial

**Local Anesthetic (LA):**
- Type, volume (ml), concentration %

**Premedication:** Medication(s), dose(s)

**Skin disinfection**

**Resuscitative equipment present**

**Patient consent obtained**

**Monitoring of Needle Placement and Injection During Nerve Blocks**

Combining Ultrasound + Nerve Stimulation + Resistance to Injection

**TREATMENT OF LOCAL ANESTHETIC TOXICITY**
1. Avoid hyperventilation, 100% O2
2. Administer cholinesterase (Evanap, Edrophonium, Propanol) or atropine
3. Intravenous infusion 0.25 mg/kg/min (500 ml over 30 minutes)

**DOCUMENTATION AND MONITORING CHECKLIST**
- Patient consent obtained
- Repository,核查
- Nerve stimulator present
- Patient monitoring applied (EKG, BP, Pulse Oxygenmetry)
- Premedication administered
- Local anesthetic type, volume, concentration %
- Injection monitoring
  - Motor response at <0.5 mA: YES
  - High resistance to injection: NO

**Avoid vertebral artery**

**Tips:**
- Not necessary to visualize/block individual nerves
- Injection of LA should result in swelling of the sheath
- Re-consider in patients with shortness of breath
- Avoid intravascular injection

**Infraclavicular Block**

**Indications:** Surgery on elbow, forearm, hand

- **Transducer Position:** Supine, semi-lateral
- **Transducer Orientation:** 0°, linear array
- **Transducer Placement:** Perpendicular to and below clavicle, pointing latero-cranially
- **Needle:** 22G 5 cm short bevel needle
- **Nerve stimulation response:** Fixed twitch

**Neurostimulation Tips:**
- Motor response present

**Ideal spread of LA:**
- 2-3

**Point of injection:**
- Internal Jugular Vein

**Ideal LA deposit:**
- In plane, lateral to medial

**Local Anesthetic (LA):**
- Type, volume (ml), concentration %

**Premedication:** Medication(s), dose(s)

**Skin disinfection**

**Resuscitative equipment present**

**Patient consent obtained**

**Monitoring of Needle Placement and Injection During Nerve Blocks**

Combining Ultrasound + Nerve Stimulation + Resistance to Injection

**TREATMENT OF LOCAL ANESTHETIC TOXICITY**
1. Avoid hyperventilation, 100% O2
2. Administer cholinesterase (Evanap, Edrophonium, Propanol) or atropine
3. Intravenous infusion 0.25 mg/kg/min (500 ml over 30 minutes)

**DOCUMENTATION AND MONITORING CHECKLIST**
- Patient consent obtained
- Repository,核查
- Nerve stimulator present
- Patient monitoring applied (EKG, BP, Pulse Oxygenmetry)
- Premedication administered
- Local anesthetic type, volume, concentration %
- Injection monitoring
  - Motor response at <0.5 mA: YES
  - High resistance to injection: NO

**Avoid vertebral artery**

**Tips:**
- Not necessary to visualize/block individual nerves
- Injection of LA should result in swelling of the sheath
- Re-consider in patients with shortness of breath
- Avoid intravascular injection

**Axillary Block**

**Indications:** Surgery on elbow, forearm, hand

- **Transducer Position:** Supine with arm abducted and flexed at elbow
- **Transducer Orientation:** 0°, linear array
- **Transducer Placement:** Perpendicular to and below clavicle, pointing latero-cranially
- **Needle:** 22G 5 cm short bevel needle
- **Nerve stimulation response:** Fixed twitch

**Neurostimulation Tips:**
- Motor response present

**Ideal spread of LA:**
- 2-3

**Point of injection:**
- Internal Jugular Vein

**Ideal LA deposit:**
- In plane, lateral to medial

**Local Anesthetic (LA):**
- Type, volume (ml), concentration %

**Premedication:** Medication(s), dose(s)

**Skin disinfection**

**Resuscitative equipment present**

**Patient consent obtained**

**Monitoring of Needle Placement and Injection During Nerve Blocks**

Combining Ultrasound + Nerve Stimulation + Resistance to Injection

**TREATMENT OF LOCAL ANESTHETIC TOXICITY**
1. Avoid hyperventilation, 100% O2
2. Administer cholinesterase (Evanap, Edrophonium, Propanol) or atropine
3. Intravenous infusion 0.25 mg/kg/min (500 ml over 30 minutes)

**DOCUMENTATION AND MONITORING CHECKLIST**
- Patient consent obtained
- Repository,核查
- Nerve stimulator present
- Patient monitoring applied (EKG, BP, Pulse Oxygenmetry)
- Premedication administered
- Local anesthetic type, volume, concentration %
- Injection monitoring
  - Motor response at <0.5 mA: YES
  - High resistance to injection: NO

**Avoid vertebral artery**

**Tips:**
- Not necessary to visualize/block individual nerves
- Injection of LA should result in swelling of the sheath
- Re-consider in patients with shortness of breath
- Avoid intravascular injection

**Upper Extremity Nerve Blocks**

**Supraclavicular Block**

**Indications:** Surgery on humerus, elbow, hand

- **Transducer Position:** Supine, semi-lateral
- **Transducer Orientation:** 0°, linear array
- **Transducer Placement:** Perpendicular to and below clavicle, pointing latero-cranially
- **Needle:** 22G 5 cm short bevel needle
- **Nerve stimulation response:** Fixed twitch

**Neurostimulation Tips:**
- Motor response present

**Ideal spread of LA:**
- 2-3

**Point of injection:**
- Internal Jugular Vein

**Ideal LA deposit:**
- In plane, lateral to medial

**Local Anesthetic (LA):**
- Type, volume (ml), concentration %

**Premedication:** Medication(s), dose(s)

**Skin disinfection**

**Resuscitative equipment present**

**Patient consent obtained**

**Monitoring of Needle Placement and Injection During Nerve Blocks**

Combining Ultrasound + Nerve Stimulation + Resistance to Injection

**TREATMENT OF LOCAL ANESTHETIC TOXICITY**
1. Avoid hyperventilation, 100% O2
2. Administer cholinesterase (Evanap, Edrophonium, Propanol) or atropine
3. Intravenous infusion 0.25 mg/kg/min (500 ml over 30 minutes)

**DOCUMENTATION AND MONITORING CHECKLIST**
- Patient consent obtained
- Repository,核查
- Nerve stimulator present
- Patient monitoring applied (EKG, BP, Pulse Oxygenmetry)
- Premedication administered
- Local anesthetic type, volume, concentration %
- Injection monitoring
  - Motor response at <0.5 mA: YES
  - High resistance to injection: NO

**Avoid vertebral artery**

**Tips:**
- Not necessary to visualize/block individual nerves
- Injection of LA should result in swelling of the sheath
- Re-consider in patients with shortness of breath
- Avoid intravascular injection