Regional Anaesthesia for Trauma

**Seromas**

- **Serratus plane**: risk factors: chest trauma.
  - **Identify**: starting with the probe in a transverse plane at the level of the brachial plexus, identify the serratus anterior muscle and the latissimus dorsi muscle. For the serratus plane, follow the brachial plexus cephalad until the target level (T4-T5) is reached.
  - **Target**: the aim is to inject in the fascial plane between the latissimus dorsi and serratus anterior muscle.
  - **Tips**: this plane is often used for axillary block. The needle should be positioned to avoid the brachial artery and vein. The needle should avoid the posterior axillary line to ensure safe injection.
  - **Avoid**: vascular puncture, intravascular injection, pneumothorax.

**Fascia iliaca**

- **Identification**: start with the probe in a sagittal plane just medial to the outer iliac crest. Identify the iliacus muscle. The fascial plane is between the iliobrachialis and the iliacus muscles.
  - **Target**: the target is the femoral nerve, which lies in the iliopsoas compartment. The needle should be directed anteriorly and inferiorly to avoid the iliacus muscle.
  - **Tips**: avoid the femoral vessels (femoral artery and vein) and the genitofemoral nerve. The needle should be directed towards the femoral condyle.
  - **Avoid**: vascular puncture, intravascular injection, pneumothorax.

**Ulnar nerve**

- **Identification**: on the medial side of the distal humerus, above the medial epicondyle, locate the nerve before it enters the cubital tunnel. The ulnar nerve is located deeper than the medial cutaneous nerve of the forearm.
  - **Target**: the target is the ulnar nerve, which lies in the ulnar groove. The needle should be directed posteriorly to avoid the cubital tunnel.
  - **Tips**: avoid the median nerve and the brachial artery. The needle should be directed towards the olecranon process.
  - **Avoid**: vascular puncture, intravascular injection, pneumothorax.

**Median nerve**

- **Identification**: at the popliteal crease, identify the popliteal artery and vein. The median nerve is located anterior to the popliteal vessels.
  - **Target**: the target is the median nerve, which lies in the adductor canal. The needle should be directed anteriorly to avoid the popliteal vessels.
  - **Tips**: avoid the common femoral artery and vein. The needle should be directed towards the adductor tubercle.
  - **Avoid**: vascular puncture, intravascular injection, pneumothorax.

**Radial nerve**

- **Identification**: at the level of the elbow, the brachial artery is easily palpable. The radial nerve is located posterior to the brachial artery.
  - **Target**: the target is the radial nerve, which is located in the radial groove. The needle should be directed posteriorly to avoid the brachial artery.
  - **Tips**: avoid the ulnar artery and the median nerve. The needle should be directed towards the radial styloid process.
  - **Avoid**: vascular puncture, intravascular injection, pneumothorax.

**Intercostal**

- **Identification**: use the rib as a transverse alignment between the anterior and posterior scalene muscles. Identify the scalene muscles and their branches.
  - **Target**: the target is the intercostal vessels, which lie in the intercostal space. The needle should be directed anteriorly to avoid the intercostal vessels.
  - **Tips**: avoid the pleura and the vertebral bodies. The needle should be directed towards the rib.
  - **Avoid**: vascular puncture, intravascular injection, pneumothorax.

**Supraclavicular**

- **Identification**: using a cephalic approach from the anterior border of the sternocleidomastoid muscle, locate the carotid sheath. The brachial plexus is located posterior to the carotid sheath.
  - **Target**: the target is the brachial plexus, which lies in the supraclavicular fossa. The needle should be directed posteriorly to avoid the carotid sheath.
  - **Tips**: avoid the common carotid artery and the subclavian artery. The needle should be directed towards the clavicle.
  - **Avoid**: vascular puncture, intravascular injection, pneumothorax.

**Popliteal fossa**

- **Identification**: above the knee, identify the popliteal vessels. The popliteal vessels lie in the popliteal fossa. The needle should be directed posteriorly to avoid the popliteal vessels.
  - **Target**: the target is the popliteal vessels, which lie in the popliteal fossa. The needle should be directed posteriorly to avoid the popliteal vessels.
  - **Tips**: avoid the posterior tibial artery and vein. The needle should be directed towards the fibula.
  - **Avoid**: vascular puncture, intravascular injection, pneumothorax.

**For further information and video demonstrations, visit www.BLOCKsR.com**

**Advanced blocks for experienced USGRA practitioners. Risks: multiple. Continuous pressure is required to retract the abdomen in an obese patient. This suprainguinal block is also suitable for catheter placement. The brachial plexus may be approached from the neck or from the shoulder.**

**Tips:**
- Use a clear marking pencil to draw the landmarks.
- Use a Doppler to avoid vessels.
- Use a nerve stimulator to confirm target.
- Use a paramedian approach to avoid the femoral vessels.

**Avoid:**
- Vascular puncture.
- Intravascular injection.
- Pneumothorax.

**For further information and video demonstrations, visit www.BLOCKsR.com**