



MIDDLE TENNESSEE
SCHOOL OF
ANESTHESIA

Reflecting Christ in Anesthesia Education

**REGIONAL ANESTHESIA
TOOLKIT IN RESOURCE LIMITED
COUNTRIES**

Anatomy and Physiology

Books:

[https://www.amazon.com/Hadzics-Textbook-](https://www.amazon.com/Hadzics-Textbook-Regional-Anesthesia-Management/dp/0071717595)

[Regional-Anesthesia-](https://www.amazon.com/Hadzics-Textbook-Regional-Anesthesia-Management/dp/0071717595)

[Management/dp/0071717595](https://www.amazon.com/Hadzics-Textbook-Regional-Anesthesia-Management/dp/0071717595)

Websites:

<https://www.nysora.com/topics/anatomy/function>

[nal-regional-anesthesia-anatomy/](https://www.nysora.com/topics/anatomy/function)

Video:

[https://www.youtube.com/watch?v=RLJ8aUw46](https://www.youtube.com/watch?v=RLJ8aUw468M)

[8M](https://www.youtube.com/watch?v=RLJ8aUw468M)

Understanding the anatomy of any regional anesthetic technique is the basis of being both successful and safe. In resource limited settings, resources considered standards of care, such as lipid emulsion or ultrasound, are not available. Ensuring a complete understanding of the pertinent anatomy when placing a regional anesthetic is the first line in preventing patient injury and providing a successful anesthetic. There are many different textbooks and websites that provide relevant anatomy for anyone placing a regional anesthetic. The textbook can be found online with a global shipping company, is referenced in journals, studies, and educational programs. The website was developed by a regional anesthesia educational program and has in-depth anatomy and physiology that is focused on pain and regional anesthesia. The video is a YouTube channel author who has 385,000 followers and this video has 20,000 likes.

<p>Indications</p>	
<p>*Website:</p> <p>https://doctorlib.info/anatomy/hadzic-peripheral-nerve-blocks-anatomy-ultrasound/1.html</p> <p>Video 1:</p> <p>https://www.youtube.com/watch?v=FpdL24OUYMs</p> <p>Video 2:</p> <p>https://www.youtube.com/watch?v=I5ehobv9A3Q&list=PLF2PbpJOr9t1a5FfhverJiA2N2zqA3P96&index=14</p>	<p>*Every regional anesthetic has specific indications for pain blocks or blocks meant for sole anesthetics.</p> <p>Understanding the indications is essential to determine if the chosen technique will accomplish the desired goals.</p> <p>The surgical procedure will determine the regional anesthetic chosen once the dermatome, osteotome, and myotomes can be successfully anesthetized for the surgery with the chosen peripheral nerve block. The resources mentioned below can be used with the addition of others as a learning opportunity for understanding the information.</p>
<p>Contraindications</p>	<p>All regional Anesthetics have absolute and relative contraindications that should be considered regardless of the block being performed.</p> <p>Absolute contraindications to the use of regional anesthesia include:</p> <ul style="list-style-type: none"> • The patient's refusal • Allergy to local anesthetics <p>Relative contraindications are:</p> <ul style="list-style-type: none"> • Active infection at the site of the injection • Patients with coagulopathies • Preexisting neurologic deficit • Inability to cooperate. <p>Website:</p> <p>https://www.ncbi.nlm.nih.gov/books/NBK563238/</p>

<p>Equipment</p>	<p>Equipment in resource limited settings can be limited or nonexistent. Therefore, an equipment list should be available for the providers to review with ideal resources.</p> <p>Website:</p> <p>https://www.nysora.com/topics/equipment/equipment-regional-anesthesia/</p>
<p>Personnel</p>	<p>Any provider performing regional anesthesia should have the proper training and credentialing in their respective location/hospital to perform "regional anesthesia."</p>
<p>Skin Asepsis</p>	<p>Skin Asepsis is effective in preventing preventable infections. The rate of infection following a single-shot peripheral nerve block is low. Alcohol and chlorhexidine are the most commonly used.</p> <p>Website:</p> <p>https://associationofanaesthetists-publications.onlinelibrary.wiley.com/doi/10.1111/anae.12844</p> <p>Website:</p> <p>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7807996/</p>

Technique	
Website: https://www.nysora.com/techniques/upper-extremity/axillary/ultrasound-guided-axillary-brachial-plexus-block/ Video: https://www.youtube.com/watch?v=ZySfAP2Gr4g	<p>The technique of the regional anesthetic will be dependent on the PNB chosen. There is a wide variety of nerve block techniques, but utilizing nerve stimulation or ultrasound-based techniques as a standardized method will allow the provider to remove unnecessary variables between patients.</p>
Complications	<p>All peripheral nerve blocks have the same complications.</p> <ol style="list-style-type: none"> 1. Block failure 2. Bleeding 3. Infection 4. Damage to surrounding structures 5. Permanent nerve injury 6. Intravascular uptake of local anesthetic resulting in systemic toxicity <p>Website: https://www.ncbi.nlm.nih.gov/books/NBK431109/ </p>