Video: Ultrasound-guided ulnar nerve block—Nerve Blocks: Part I. Upper Extremity.mp4

Speaker 1: [00:00:00] In this video, we will be discussing two methods of performing ulnar nerve blocks using ultrasound. First, we will be discussing the anatomy of the ulnar nerve seen on ultrasound. In these still images, we can see the orientation of our probe in the short axis view of the left wrist on the left, as well as an image of the short axis ultrasound view of the left wrist on the right. Notable anatomy includes the pisiform bone, shown by the white circle; the ulnar artery, shown by the red circle; and the ulnar nerve, shown by the yellow circle. Note how the ulnar nerve appears just adjacent and ulnar to the ulnar artery. Additionally, notice the transverse carpal ligament just deep to the ulnar artery and nerve.

[00:00:50] The provider should start by placing the probe on the distal wrist crease and identifying the right pisiform bone, the pulsating ulnar artery, and a hyperechoic honeycomb-like ulnar nerve, just ulnar to the artery. Using the pisiform as an anchor point, the user should scan with the probe distally and proximally to find the optimal view for the injection.

[00:01:16] Next, we will be discussing an ulnar nerve block in the short axis view using an out-of-plane technique. Here we have a live video of the injection, as seen by the provider, on the left and a live video of the injection on ultrasound on the right. The needle tip appears right about here under the center of the probe, and you will begin to see fluid being injected. However, it is just above the ulnar nerve and not in the correct anatomic plane. The needle will be adjusted to aim deeper. Once adjusted, you can see the needle tip here, followed by injection of fluid into the correct anatomic plane since you can see fluid beginning to encircle the ulnar nerve.

[00:02:23] Finally, we will be discussing an ulnar nerve block in the short axis view using an in-plane technique. Here, we have a still image showing the orientation of the probe on the left and a live video of the injection on ultrasound on the right. Let's quickly review some anatomy in this live video. We can identify the ulnar artery here, as well as the ulnar nerve here. In the in-plane technique, the needle will come ulnarly to radially. It should be in constant view under the probe, as seen here. We can see the needle slowly advancing toward the area of the ulnar nerve. Once the needle appears to be deep enough, we should see injection of fluid and confirmation of the correct anatomical site as the ulnar nerve becomes encircled by the injected fluid.