

## **Video: Ultrasound-guided median 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 median nerve blocks using ultrasound. First, we will be discussing the anatomy of the median nerve seen on ultrasound. In these still images, we can see the orientation of our probe in the short axis view of the wrist on the left, as well as an image of the short axis ultrasound view of the right wrist on the right. Notable anatomy includes the radial artery, shown by the red circle; the flexor digitorum tendons, shown by the green circle; the median nerve, shown by the yellow circle; the flexor carpi ulnaris, shown by the orange circle; and the flexor retinaculum, shown by the white circle. Note how superficial the median nerve is and how it lies just on top of the flexor digitorum tendons.

[00:00:54] The provider should start by placing the probe on the distal wrist crease and identifying the pulsating radial artery. The provider can then have the patient flex his or her fingers, which will highlight the flexor digitorum tendons and aid the provider in identifying the median nerve just superficial to the tendons. We can also identify the flexor carpi ulnaris and flexor retinaculum.

[00:01:20] Next, we will be discussing a median nerve block in the short axis view using an out-of-plane technique. Again, we can see the orientation of our probe in the short axis view of the wrist on the left and a live video on the right showing our injection. Quickly reviewing our anatomy, we have our median nerve and flexor digitorum tendons. We can begin to see the tip of the needle, subtly, in the top center of the screen, just adjacent to the median nerve. Injection of fluid then begins, and we can see it surrounding the nerve, indicating a successful nerve block.

[00:02:05] Finally, we will be discussing a median nerve block in the short axis view using an in-plane technique. Again, we can see the orientation of our probe in the short axis view of the wrist on the left, as well as a live video on the right showing our injection. Let's quickly review our anatomy. We can identify our median nerve just over our flexor digitorum tendons. We can also identify our flexor carpi ulnaris just ulnar. We can begin to see the needle entering the right side of the screen. During the approach of the median nerve, we lose sight of the needle tip. The probe needs to be adjusted to ascertain the exact position of the needle tip before injection to ensure that we do not inject the nerve itself. The tip is found passing through the outer edge of the nerve; thus, the needle needs to be pulled back before injection. Once properly positioned, we can see injection of fluid that begins to surround the nerve, indicating a successful nerve block.