Pinched Nerves Can Happen Anywhere

Physical Therapy in Corpus Christi for Elbow

Radial nerve compression is described, presenting in three peripheral areas in the arm: posterior interosseus nerve syndrome, radial tunnel syndrome, and superficial radial nerve compression. Humpl Physical Therapy & Sports Medicine Centers patients who are presented with arm pain, or paralysis, may find this article of interest, but should take caution that there is the possibility of nerve pinching to be occurring more proximally, like in the neck area.

Peripheral nerves to the arms and legs can get compressed, pinched, or entrapped in soft tissue causing sensory symptoms of pain, numbness, and tingling. This condition is called a peripheral neuropathy. If the motor portion of the nerve is affected, muscle weakness and paralysis called palsy can occur.

Carpal tunnel syndrome and sciatica are probably the two most common peripheral neuropathies. But any of the peripheral nerves can be affected and any place along the nerve as it leaves the spinal cord and travels down the arm or leg. In this first part of a two-part review on compression neuropathies, three more unusual compression neuropathies are presented. All three conditions are the result of one particular nerve being affected: the radial nerve in the forearm.

Compression of the radial nerve is fairly uncommon and can present as posterior interosseous nerve syndrome, radial tunnel syndrome, or superficial radial nerve compression. To help us understand these syndromes, the authors provided a detailed review of the radial nerve anatomy as it travels down the arm. The nerve gets started up near the neck as part of a group of nerves called the brachial plexus. Once it leaves the brachial plexus, the radial nerve travels down from the neck through the shoulder area to the upper arm and then down the forearm to the wrist and hand.

Loss of blood supply for any reason, direct injury to the nerve, or compression from swelling, scar tissue, or tumors can lead to changes in the nerve causing a peripheral neuropathy. Any local change of this sort can affect the tiny nerve fibers that raise an alarm sending pain messages along the nerve to the spinal cord and then up to the brain. Mild pressure can be treated conservatively without surgery.

The patient may begin with a trial of rest and antiinflammatory medications. Sometimes the treatment is as simple as removing a wristwatch or bracelet that is pressing on the nerve. The surgeon may follow up with steroid injections to confirm the diagnosis and/or help treat any of these problems that persist after the initial period of conservative care.

A hand therapist will advise the patient in ways to modify activities and positions of the arm to protect the nerve. The therapist may provide a splint for the patient to wear to accomplish the same thing. Sometimes special neural mobilization techniques can be used by the therapist to release tension from around the nerve and restore a more natural sliding and gliding of the nerve in its sheath (lining around the nerves) needed during arm motion.

More severe conditions can lead to deterioration of the nerve and may require surgical intervention. Surgery to release pressure from around the nerve is called nerve decompression. If there is a cyst, tumor, or scar tissue pressing on the nerve, the surgeon will remove it. The basic decompressive surgical procedure doesn't change much with these syndromes.
What is different about these syndromes is the way each one manifests itself. In other words, the patient's symptoms differ depending on where the nerve is affected. In the case of posterior interosseous nerve syndrome, benign tumors and swelling around the elbow from rheumatoid arthritis are the major causes of nerve palsy. The fingers and thumb drop and can no longer be extended or lifted up.

Patients with radial tunnel syndrome don't have weakness as much as they experience forearm and elbow pain that looks like tennis elbow. The pain gets worse with use of the elbow. But the physician can tell the difference between radial tunnel syndrome and tennis elbow by the location of tenderness when palpating (pressing on) the soft tissues around the elbow.

It's the superficial radial nerve compression syndrome that can be improved by removing tight or constricting objects from around the wrist. Because the nerve is close to the back of the wrist here, tight sleeves, a wrist watch, or even handcuffs can compress the nerve causing pain and loss of sensation along the back of the forearm, wrist, thumb, and index (first) finger. The nerve can also get stretched here when someone has a wrist fracture that is put back in place by manually applying traction to the wrist in a procedure called a closed reduction. Symptoms from compression of the superficial radial nerve are present even when the wrist is at rest and not moving. That helps differentiate it from other problems like de Quervain tenosynovitis.

What's not clear is the best way to treat each of these problems. Conservative care is always advised first but for how long? Weeks? Months? How many weeks or months should we wait to see improvement? When does the patient become a surgical candidate? Are there some problems and/or some patients that require surgery right away? What's the natural course (what happens over time) for each of these conditions?

The authors report there just isn't enough research available to answer these questions yet. There are some arguments over the use of peripheral nerve stimulation to treat these problems. Such stimulation is attempted using pulsed low-intensity infrared laser or direct electrical stimulation. No matter what kind of nonoperative treatment methods are used, anyone who does not get better during the first 12 weeks should at least be evaluated for surgery. The optimal timing for surgery remains another area where future research is needed.