

Numbness, tingling or pain in arms and hands? Peripheral nerve damage could be the culprit

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David Megee, MD

(PhysOrg.com) -- Ignoring persistent pain and disturbing bouts of tingling or numbness in your arms, elbow and hands won't make the problem go away: It's more likely to worsen conditions that are very treatable.

Overuse injuries to peripheral nerves in the upper extremities are a common but an often ignored problem, according to David Megee, MD, a plastic, reconstructive and hand surgery specialist with UC Health.

The [peripheral nervous system](#) is a vast network of specialized nerves responsible for transmitting messages sent from the central nervous system (brain and [spinal cord](#)) to the rest of the body. This includes

sensory information that allows us to feel the difference between, for example, hot and cold.

Megee says most peripheral [nerve](#) injuries can be corrected through [behavior modification](#) and improved body mechanics: avoiding repetitive tasks, applying principles of ergonomics and avoiding devices that apply physical pressure to sensitive areas. When this does not give the patient relief, surgery may help restore function.

"Many people work in an office environment where they are likely to hold their upper extremities in fixed positions for long periods of time—for example, using a computer mouse or talking on the telephone. But our joints aren't designed to be in fixed positions for long periods of time. It's important that people be aware of their body posture during work to avoid overuse injuries," explains Megee.

"If they do begin to experience persistent problems —like loss of sensation or shooting pain—they should seek medical advice without delay to prevent long term injuries."

Peripheral nerve injuries occur when individual nerves are pinched or subjected to chronic, unintended pressure. This can occur when tendons thicken or swell from overuse.

"This leads to nerve compression, which can cause pain or a sensation of tightness, weakness or numbness in the hand, wrist, fingertips or [elbow](#), depending on where that compression occurs," explains Megee.

Common [peripheral nerve injuries](#) affecting the wrist, hand, fingers and forearm include:

- Carpal tunnel syndrome: This syndrome occurs when the nerves passing through the arm's carpal tunnel (space between ligaments and

bone in the forearm) become traumatized by pressure. This is the most commonly diagnosed "pinching" nerve condition.

- **Cubital tunnel syndrome:** This condition is caused by increased pressure to the ulnar nerve—positioned right next to the interior elbow "funny bone." The nerve has very little padding to protect it, so it is particularly vulnerable to pressure—for example, from propping the elbow on an armrest.
- **Radial tunnel syndrome:** This condition occurs when the radial nerve—originating at the neck and traveling along the back of the arm to the hand—is pinched. The condition is worsened by repetitive tasks that require you to twist the wrist, as the nerve passes under the muscle used to perform this function.

In all three cases, the condition is diagnosed with electromyography or another similar nerve conduction test. Surgery is used to relieve pressure to the compromised nerve only after behavior modification techniques have failed to give the patient relief.

Provided by University of Cincinnati

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