Cubital Tunnel Syndrome: Diagnosis and Treatment

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Ulnar hand numbness is not always cubital tunnel.

Differential diagnosis is from fingertip to brain.

- Consider:
  - Thoracic outlet syndrome
  - C8 radiculopathy
  - Motor Neuron Disease (ALS, Primary Lateral Sclerosis)
  - Multiple Sclerosis (MS)
  - Peripheral neuropathy
  - Alcoholic neuropathy
  - Hereditary neuropathy with liability to pressure palsies (HNPP)
Ulnar nerve entrapment can occur at multiple levels, but it is most often at the cubital tunnel.

In advanced cases multiple physical signs are seen as sequela.

Traction plays a small role, while tunnel narrowing is the main culprit.
Patient education, activity modification, and night splinting is a mainstay of treatment.

Nerve glides, or neural mobilization, remain debated. Ultrasound unlikely to benefit.

- It is true that nerves are capable of viscoelastic deformation, but irritated nerves may not respond well.
- Patients may benefit from nerve glide exercises, but it is unclear that the nerve is being mobilized in all cases.
- Ultrasound is being studied further. It likely has no benefit. Some combinations of frequency and intensity may cause harm.

Ultrasound guided hydrodissection is gaining some popularity, without supporting evidence currently.

- Theorized to help mobilize the nerve to allow it to glide more easily with adjacent tissues.
- Anecdotally, some patients benefit from mild cases of cubital tunnel, usually in combination with education, activity modification, and night splinting.
- Potential for placebo effect?
- Similarly, corticosteroid injections likely have little therapeutic benefit.
Cubital tunnel release surgery is highly effective but decisions about specifics are multifactorial.

- Simple decompression
- Endoscopic simple decompression
- Decompression and Subcutaneous Transposition
- Intramuscular or Submuscular Transposition
- Medial epicondylectomy

Distal nerve transfer can be considered in specific circumstances, but is dependent on timing and electrodiagnostic findings.

Mobilization after surgery will depend on the specifics of the surgery, and the surgeon.
Summary:

1. There are other causes of numbness in the ulnar hand.
2. You can differentiate ulnar neuropathy from other causes using physical signs.
3. Electrophysiological studies are part of the diagnosis, but not everything.
4. Night splinting is a mainstay of therapy for cubital tunnel syndrome.
5. Nerve glides, ultrasound treatments need better study.
6. Hydro-dissection is gaining popularity, but not evidence. Corticosteroid injections probably don't help.
7. Cubital tunnel release is highly effective, but technique is affected by multiple patient and surgeon factors.
8. Distal nerve transfers are finding their place, but it has not been well defined yet.
9. Rehabilitation after cubital tunnel release is affected by the specific surgery and surgeon, and may require patience.

QUESTIONS?