





 **Heaven in Texas.....** 



 **40th annual symposium on
Sports medicine** 

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 **Financial Disclosure** 

**Dr. Fred Corley has no relevant
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commercial interests to disclose.**



Not your usual numbness and tingling



Nerve disorders...



- **67yo golfer with bilateral numbness and tingling worse on the right**
- **Thumb and index fingers worst**
- **Right CTR Feb 06- left CTR done July 06**
- **No improvement**



Nerve disorders...



- **A 20yo college student with three day history of numbness in both feet and fatigue.**



Nerve disorders...



- A 45yo marathon runner develops tingling in both hands
- Weakness in dorsiflexion and fibrillation in first dorsal interosseus



Nerve disorders...



- After a tackle a 24yo rugby player develops pain down both arms radiating from the neck. His neck is painful and stiff and he refuses to move it. He has marked weakness in both arms.

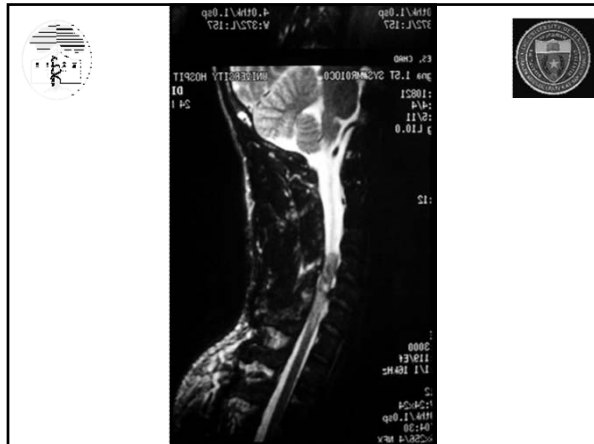




Nerve disorders...

- A 24yo rugby player develops quadriplegia after a tackle. It resolves completely over the next ten minutes.



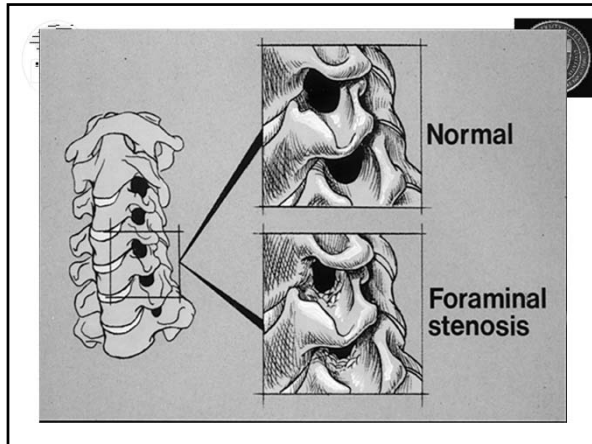


Nerve disorders...

- A 24yo rugby player over a weekend develops sudden severe pain in his right upper extremity followed by weakness. His sensory symptoms are minimal and he has no history of trauma.

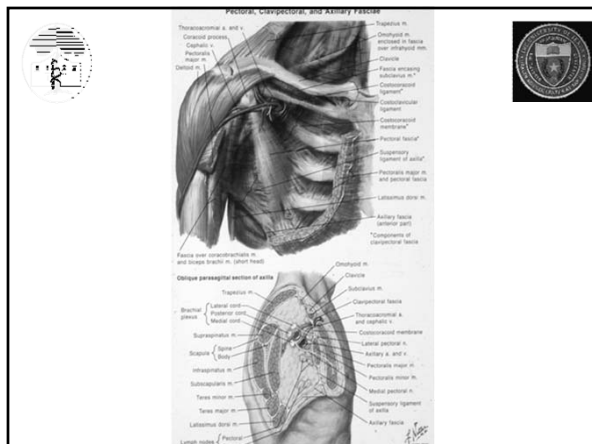
Nerve disorders...

- A 24yo rugby player develops pain in his neck, numbness, reflex changes and weakness.



Nerve disorders...

- **A 19yo defensive back comes out after making a tackle unable to move his arm with pain from his shoulder to his hand**





Nerve disorders...



- **Recognize peripheral nerve problems in the upper extremity**
- **Know acute treatment**
- **Be familiar with reconstructive techniques**
- **Know the principles and techniques of tendon transfers**



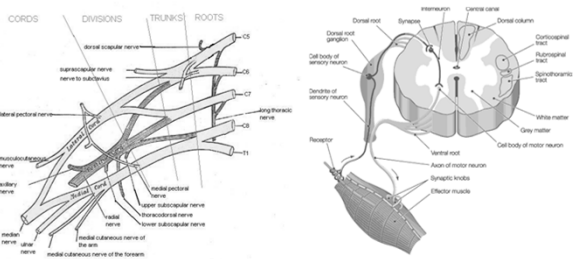
Nerve disorders...



- **Neuropraxia-conduction block with no anatomical disruption**
- **Axonotmesis-axon is disrupted, but the connective tissue envelopes are intact**
- **Neurotmesis-the nerve trunk is disrupted, and recovery can occur only if the nerve is repaired**



Nerve disorders...





Nerve disorders...



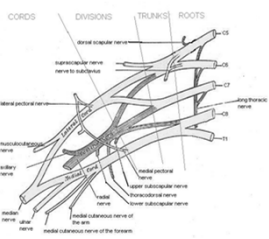
- **How to differentiate a nerve root injury from a peripheral nerve injury**
 - Rhomboid and serratus anterior muscle function
 - Meningocele on x-ray
 - Horner's syndrome
 - Histamine test
 - Fracture of the transverse process



Nerve disorders...



- **Scapula winging**

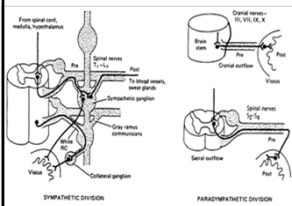




Nerve disorders...



- **Horner's Syndrome**

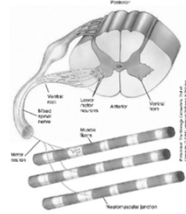




Nerve disorders...



- **Histamine stimulation test**





Nerve disorders...



• **What is the place for the electrodiagnostic exam in peripheral nerve problems**

- Axon degeneration or loss is best detected by a needle electrode exam but only after 21 days
- Segmental demyelination or focal conduction disturbance can be detected by ncv almost immediately after onset of the disease process



Nerve disorders...



• **Approach to the patient with a peripheral nerve injury**

- Waiting
- Primary nerve repair
- Nerve grafting
- Tendon transfers



Nerve disorders...



- **Primary nerve repair and exploration**
 - To establish a diagnosis
 - To restore continuity
 - To relieve a distorting source
 - To fix a fracture or an artery
 - If a lesion deepens
 - ??? If a defect occurs during manipulation



Nerve disorders...



- **Principles of tendon transfer**
 - One tendon-one function
 - Direct line of pull
 - Similar excursion
 - Similar strength
 - Expendable donor
 - Tissue equilibrium
 - Joint mobility
 - Synergy



Nerve disorders...



- **Principles of tendon transfer**
 - Tenodesis
 - Power versus positional motors

Nerve disorders...

Nerve disorders...


- **Nerve injuries associated with fractures**
 - 83% of nerve palsies in closed fractures recovered
 - 65% in open fractures recovered, most within four months
 - In the upper extremity with reasonable apposition of the fracture fragments and no signs of ischaemia, recovery could be awaited
 - Pain is the most important issue after nerve injury and must be watched closely

Nerve disorders...

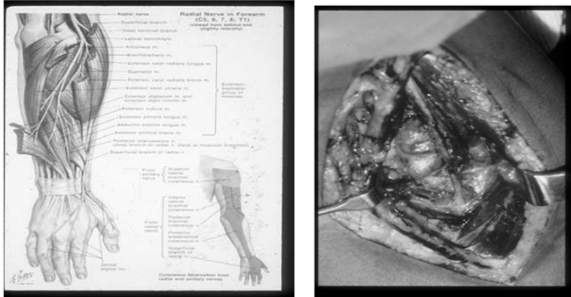
- **A 25 yo golfer has weakness and pain in his hand after a faulty golf swing**

Nerve disorders...

- An 18yo man is unable to extend his fingers

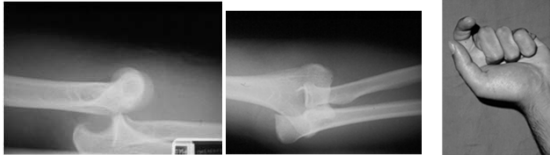


Nerve disorders...



Nerve disorders...

- A 38 yo man has weakness in his hand following an elbow dislocation





Nerve disorders...



- **Pronator syndrome**
- **Anterior interosseous nerve entrapment**
- **Carpal tunnel**





Nerve disorders...



- **Six months following spine surgery, the patient has this picture**





Nerve disorders...



- **Cervical rib.**
- **Thoracic outlet.**
- **Cubital tunnel.**
- **Guyons canal.**





Nerve disorders...

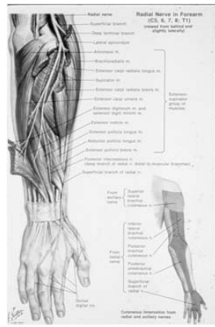


- A 28 yo man has a plate taken off his radius and complains of an inability to extend his digits





Nerve disorders...





Nerve disorders...



- A 45yo trap shooter has numbness and tingling in both hands following a tournament

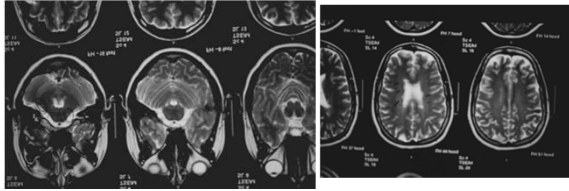




Nerve disorders...



- **He continues to have numbness and tingling following the surgery in both hands**

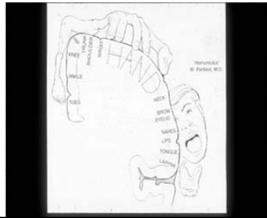




Nerve disorders...



- **Each person needs an adequate and full physical exam.**
- **Remember the upper extremity begins on the opposite side of the cerebral cortex.**





Gracias

