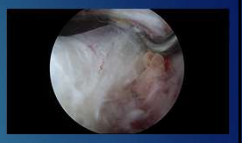
Suprascapular Nerve Decompression: Should I Do It and How?



Chicago Sports Medicine Symposium
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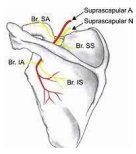
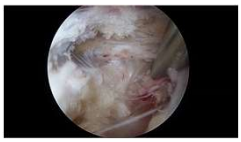
Anatomy

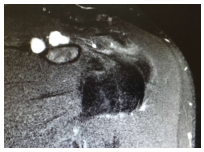
- Suprascapular nerve
  - Branch of superior trunk of brachial plexus
  - C5,6
- Motor innervation to supraspinatus and infraspinatus
- Compression points
  - Suprascapular notch
    - Suprascapular ligament (SSL)
  - Spinoglenoid notch

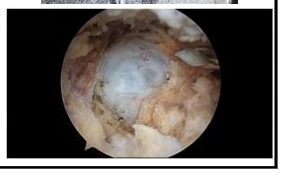




Etiologies

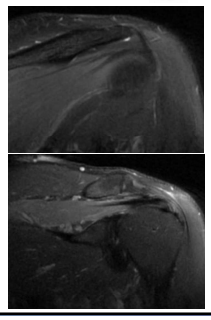
- Idiopathic SSN compression
  - Overhead athlete (volleyball) / repetitive overhead activity
  - Hypertrophic / ossified suprascapular ligament (e.g. post – traumatic)
- Cyst – based SSN compression
- Symptomatic treatment of functional RCTA
- Adjunct procedure during RCR of massive tear





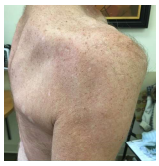
Imaging

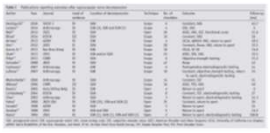
- MRI:
  - Cyst in SSNtch / SGNtch
  - Denervation signal in supraspinatus / infraspinatus
- EMG: evidence of pathologic change in suprascapular nerve and / or supraspinatus / infraspinatus muscle



Literature

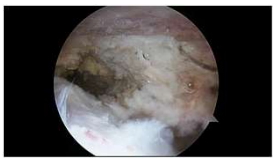
- Tokish et al., JSES, 2018
  - Systematic review of 21 studies
  - History
    - 97.8% deep, posterior shoulder pain
    - 31% traumatic event
    - 59% repetitive overhead activity
  - 18 studies documented whether EMG used preop
    - 94% patients underwent electrodiagnostic testing
    - 85% demonstrated electrodiagnostic pathology
  - Athletes (81% volleyball)
    - 88% RTP at preinjury level





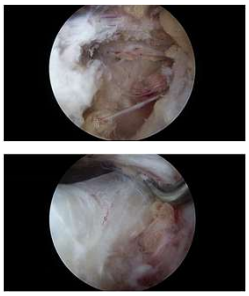
Technical Steps

- Dissect inferior aspect of distal clavicle
- Identify conoid ligament along distal, posterior border of clavicle
- Trace posterior border of conoid medially to suprascapular ligament
  - Dissect adipose tissue with radiofrequency wand / shaver



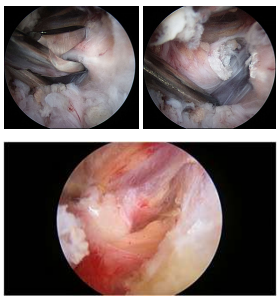
Technical Steps

- Establish
  - Neviaser portal
  - Accessory Neviaser portal
    - 1 – 1.5 cm medial to Neviaser portal
    - Used for blunt retraction of nerve during ligament release
- Use probe to dissect superior and inferior to SSL, mobilizing SSN and SSA
- Use Wissinger rod to retract SSN and SSA

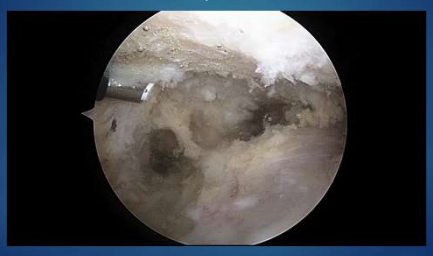


Technical Steps

- Release SSL using narrow, up – angle, meniscal punch
  - TAKE SMALL BITES
- Gently confirm mobility and decompression
  - Occasional small adhesions / fascial bands more posteriorly and medially



Arthroscopic Suprascapular Nerve Decompression



Rehab

- Sling for 3 – 5 days as comfort demands
- Early AROM with isometric activation of supraspinatus and infraspinatus
- Use of external NMES during early phases of rehab
- Advise can take 6 – 12 months for strength to return
  - May not see 100% return

THANK YOU

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