Soft tissue syndromes
one of the most common reasons
patients present to their doctor.

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No Disclosures

Some problems are difficult, but diagnosing
and treating soft tissue syndromes are not!

Regional pain syndromes to be
covered today

• Shoulder
• Elbow
• Wrist
• Hip
• Knee
• Ankle

Some definitions

• Tendon: The collagenous portion of a muscle at the
origin and insertion.
• Enthesis: The attachment of a tendon to bone.
• Bursa: Two membranes and the lubricated space
between, that allows near-frictionless motion of soft
tissue over bone.
• Ligament: Collagenous tissue connecting two bony
structures.
• Fascia: A layer or sheet of fibrous tissue that
separates or covers various soft tissues or organs.

Tendinitis

• History
  Pain with active motion
  Weakness
  May elicit an overuse history

• Exam
  Little discomfort with passive ROM
  Isometric contraction is always tender.
  Palpable tendons usually tender

Bursitis

• History
  Pain with active motion
  Weakness not prominent
  May elicit an overuse history

• Exam
  Passive ROM more uncomfortable than tendinitis
  Isometric contraction is tender
  Palpable bursae tender
Arthritis

- History
  - Pain with active motion
  - Weakness only related to pain
  - AM stiffness
- Exam
  - Passive ROM as uncomfortable as AROM
  - Isometrics not tender (the joint isn’t moving)
  - Crepitus in OA
  - Joint aspirate often inflammatory

Shoulder: Common causes of shoulder pain

- Tendinitis: Rotator cuff (+/- Ca²⁺), biceps
- Bursitis: Subacromial and subdeltoid bursae
- Adhesive capsulitis
- Arthritis: Glenohumeral, AC
- Neuropathy: Cervical, notalgia
- Dislocation/trauma: GH, AC separation, Fx
- Other: Cellulitis, pneumonia, cardiac

Shoulder: Normal anatomy

Shoulder: Subacromial approach
Shoulder: Posterior approach

Shoulder: Normal arthrogram

Shoulder: Chondrocalcinosis and AC osteophytes

Other therapies
- Physical therapy
- Systemic Steroids or NSAIDs
- Disease-specific therapy, e.g. colchicine for crystal disease
- MR imaging indicated primarily to guide surgery. Not needed for diagnosis or treatment.

Elbow
- Lateral epicondylitis (actually an enthesitis)
- Olecranon bursitis
- Arthritis is uncommon

Elbow: Lateral epicondylitis
Elbow: Tennis elbow strap

Elbow: Olecranon bursitis

Elbow: Olecranon bursitis

Other therapies

- Physical therapy
- Steroids or NSAIDs
- Disease-specific therapy, e.g. colchicine for crystal disease, antibiotics for infection, etc.
- Steroid injection of olecranon bursa should be avoided, due to risk of infection

Wrist

- Fracture: Colle’s
- Arthritis: Crystal
- Median neuropathy: carpal tunnel syndrome
- deQuervain’s tenosynovitis

Carpal tunnel syndrome

- Often overweight, middle-aged patient
- May have history of overuse/misuse
- Night pain, numbness in median distribution
- Tinel’s & Phalen’s signs
- EMG/NCS only necessary prior to surgery
- Therapeutic options include splint, rest, steroid injection, surgery
Wrist: rest

Wrist: splint

Wrist: Aspiration/Injection

Hip

- Bursitis
- Tendinitis
- Groin “pull”
- Arthritis
- Referred from spine

Hip: Bursitis

Hip: Trochanteric bursitis
Hip: Trochanteric bursa injection

Knee

- Trauma: meniscal or ligamentous tear, Fx
- Arthritis: Inflammatory and OA
- Bursitis: Pre-patellar, pes anserine, etc.

The knee is the first joint we’ve discussed today where routine plain films are often helpful!

Knee: Normal Anatomy

Knee: Chondrocalcinosis

Knee: Osteoarthritis
Ankle

- "Sprain" = traumatic ligamentous tear
- Fracture
- Arthritis
  - OA is uncommon in the ankle
  - Crystal arthritis is common
- Tendinitis
  - Peroneus longus et brevis
  - Tibialis posterior/FHL
  - Tibialis anterior
- Neuropathy, e.g. Tarsal tunnel syndrome

Ankle: Normal

Ankle & Foot: Normal

Ankle: Aspiration/Injection

Summary

- Soft tissue pain syndromes are among the most common reasons patients seek medical attention.
- A diagnosis is frequently evident after a proper history and exam. Usually, a film or other test is NOT required for accurate diagnosis and treatment.
- Embrace the principle of local therapy for a local problem.

Question 1

- 55 year old man with significant etoh use, hypertension and diabetes, with a decreased GFR presents with a swollen olecranon bursa. Aspiration is performed, and crystal exam of the fluid reveals sodium urate crystals.
Question 1

Which of the following is appropriate at this point?

a) Cortisone injection
b) NSAID therapy
c) Oral steroids

Question 2

• 50 year old woman with a 1 week history of severe R shoulder pain. On exam, her shoulder moves normally, but due to level of pain, a cortisone injection is administered. She presents back one week later with no improvement, but extension of the pain down to her elbow.

Question 2

What is the most likely diagnosis?

a) Recalcitrant adhesive capsulitis
b) Acute MI
c) Cervical radiculopathy