When to consult a physician
- All traumatic joint injuries
- Severe pain
- Pain in a joint or bone greater than 2 weeks
- Neck injuries: paralysis, tingling, numbness
- Any eye injury which results in blurred vision, loss of vision, moderate to severe eye discomfort or pain

Common types of pain killers
- Acetaminophen
- Anti-inflammatories: oral & topical NSAIDs
- Narcotics: codeine, morphine
- Combinations of the above
- Steroids: prednisone
- OTCs: not recommended

Evidence
- NO difference between APAP & NSAIDs Codeine less effective, more SEs
- Topical NSAIDs: NTT = 2
  - Similar to oral NSAIDs
  - Minimal AEs
- OTC products act as counter-irritants
  - Not as effective as topical NSAIDs

MCE: move safely when you can as much as you can, compress & elevate

→ RICE: rest & ice may delay healing

→ Use short cooling applications (<10 mins) and/or undertake progressive warm-up prior to returning to play

Water wars
- Drink when you're thirsty
- Can kill yourself from drinking too much water

Concussion assessment: Maddock's questions (> 10 yo)
1. At what venue are we today?
2. Which half is it now?
3. Who scored last in this match?
4. What did you play last week?
5. Did your team win the last game?

- ABSENT other sx & all questions correct
  - False negative 0-10% (rules out concussion)
  - False positive 30-70%

Muscle injuries

Sore muscles: usually starts 8-24h after exercise
- Can develop even if in good shape
- No txt for soreness

Pulled muscle: acute tear of muscle fibers, sudden localized & persistent pain

Muscle contusion (Charley Horse): blood vessels broken & muscle crushed
- Txt: MCE + acetaminophen
  - Avoid NSAIDs because you're bleeding
- During MCE, muscle should be stretched
  - Quadriceps: knee flexed until minimal discomfort felt & then held there
    → Done for first few hrs to maintain flexibility of knee

Muscle cramps: painful sustained contraction of all fibers in a muscle
- Causes: low levels of NaCl, K, Mg, injury, hyperventilation
- Prevention: increase K^+ intake via fruits & veggies
  - DO NOT RECOMMEND SALT TABLETS
- Txt: stretch AND squeeze muscle

Stitches: due to a cramp of the diaphragm
- Caused by decrease in blood supply to diaphragm, may also be caused by gas distending the colon
- Prevention: don't eat for 3-5h before exercise; strengthen diaphragm (sit-ups); increase bulk in diet if gas is problem
- Txt: slow down & push fingers deep into site of pain, bend forward, and exhale while pursing your lips

Preventing sports-related injuries
- No evidence that stretching prevents or reduces muscle soreness or prevents injuries; static stretching actually reduces muscular performance
- Some evidence that warming up decreases injuries
- Insoles, external joint supports & specific training programs decreases some types of injures by 1-2%

Tendonitis: an inflammation of the tendon (shoulder, elbow, knee wrist)

- Caused by tight muscles
- Txt: slow & gentle stretching
- Steroids only mask pain (decrease blood supply to tendon → increase risk of tendon rupture)
- Tendonitis myth: not inflammatory disease, therefore NSAIDs don't work
- Topical nitrate patches some evidence
- Not much evidence that tennis elbow orthotics work

Rotator cuff tear

- Some evidence for topical glyceryl titrate
  - Only drug that works for this type of injury

Bursitis: steroid & local anesthetic injections

- Trochanteric bursitis: improvement
- Subdeltoid bursa: improvement
- Olecranon bursitis: no improvement

Iliotibial band syndrome: inflammation of iliotibial band (thick band of fibrous tissue that runs down outside of leg)

- Rest may be best treatment
- Also stretching

Contusion of the testicles: can break spasms by picking a person a little off the ground & dropping them

Kinesiology taping: some sort of effect, but not clinically important enough

Skin abrasions

- Preventions: sliding pads, etc
- Txt: clean with soap & water or H_2O_2
  - No difference between tap or NS water
  - Apply abx ointment (??) & gauze
  - Can apply Spenco 2nd skin (occlusive)
    - Change after 24h (fluid build-up) & leave new dressing in place until healed (5-7 days)
    - Once applied, little or no pain

Ligament damage

Ankle sprain: anterior talofibular ligament most common

- 1st degree sprain: MCE + NSAIDs/APAP; rehab (stretching & exercising)
- Don't want to immobilize, move early on
- Ultrasound doesn't work
- Specific types of ankle supports can prevent ligament injuries
  - Prophylactic ankle braces reduces injuries slightly

Knee sprains: no medications that heal sprains

- Not as good evidence for prophylactic knee bracing as ankle bracing
- Not much evidence that bracing after ACL reconstruction improves outcomes

Soft-tissue running injuries

- Patellofermoral braces appear to be effective for preventing anterior knee pain
  - Don't recommend fully covered one because knee caps are supposed to be relatively free-floating

Patellofemoral syndrome (chondromalacia patella)

- Retropatellar or peripatellar pain resulting from physical & biochemical changes in the patellofemoral joint
- Anterior knee pain that typically worsens with activity & often worsens when descending steps or hills
- Lack of evidence for knee braces, sleeves, or straps for treating anterior knee pain
- No evidence for foot orthoses over insoles or physiotherapy

Blisters: repeated rubbing against skin → separation of skin layers & fluid accumulates between the layers

- Causes: improperly fitting shoes; abnormal foot function
- Prevention: ensure shoe fits; rub Vaseline at sites where it rubs; put adhesive tape or Spenco 2nd Skin over blister site
- Txt: blisters heal faster when drained?
  - Pierce blister at its edge and drain; don't remove roof of blister
  - Apply plain adhesive tape over blister site +/- Vaseline or Spenco 2nd skin; abx ointment (?)