What are the disadvantages?

- Often performed in remote or less than ideal locations
- Environmental hazards
What are the disadvantages?

- Personnel hazards

Spine Injuries

- Concussions and cervical spine injuries are often associated
- The cervical spine must be cleared prior to allowing any movement!

Spine Injuries

- Etiology-Cervical
  - “Head goes where the neck shouldn’t”
  - Axial Load
  - Flexion-Rotation
- Etiology-Lumbar
  - Direct trauma
  - Repeated extension
  - Loaded flexion
Spine Injuries

**On-Field Evaluation**
- Immediately immobilize any athlete with suspicion of spine injury.

- Abnormal vital signs
- DTR’s (if appropriate)
- Pain with palpation directly over spine
- Any paresthesia in limbs, dermatomal exam
- Myotomal exam
- Never remove equipment except in the case of life saving measures or equipment is loose/damaged.

**Management**
- Immediate activation of EAP
- Immobilization of head, neck, and lumbar spine
- Render life saving treatment

**Transporting the spine injured athlete**
- Push (not pull) Log Roll the prone athlete
- Six + Lift for the supine athlete
- Transfer to a rigid spine board or vacuum mattress


Spinal Injuries

- **Return to Play**
  - Full ROM without pain
  - Normal Myotome and Dermatome exam
  - Full function
  - Ability to perform activities without resistance
  - Ability to perform activities with full contact

- **Take Home Message**
  - Immobilize until spine injury is cleared.
  - Be aware that many spine injured athletes are still functional.
  - No athlete should be returned to play until all dermatomal AND myotomal symptoms have completely resolved.
  - Return to play after spine injury needs more research.

Dislocations

- **To Reduce or Not to Reduce**
  - Early Reduction
    - Improves athlete post-injury outcomes
    - Reduces athlete pain
    - Minimizes neurovascular compromise

**Dislocations**

- To Reduce or Not to Reduce
  - Before reduction
    - Check and record neurovascular signs
    - Assess fracture status
  - Contraindications
    - Crepitus
    - Any signs or risk of concomitant fracture
    - Reductions that spontaneously dislocate
    - Any dislocation the medical professional is not proficient in reducing.


- Accounts for 55% of sport related dislocations.
- >95% of these are anterior dislocations.
- Posterior and inferior luxations are rare and account for <5% of all shoulder dislocations.
- Reduction with axial traction and external rotation


- Reduction
  - Examine and record neurovascular signs.
  - Re-check neurovascular exam immediately after reduction.
  - Sling and swathe in an adducted and internally rotated position initially (External Rotation is debatable).
  - Refer all acute first time dislocators as they are often associated with further pathology (Hill-Sachs Lesion, Bankart Lesion, SLAP Lesion).
  - 62%-90% recurrence rate in young athletes who return to play without surgery.

Dislocations

Take Home Message

- Assess and record neurovascular signs pre and post reduction
- Longitudinal traction with recreation of the injury
- You only get one shot
- Do not reduce dislocations when there is a risk of fracture


Laceration Management

- We Got A Bleeder!!!
  - Clean the wound, use gloves, check for concomitant injury, or foreign bodies
  - Pack with sterile gauze and maintain pressure
  - Keep covered to protect both your athlete, teammates, and opponents.

- Super Glue is an effective wound closure
  - Advantage
    - Cost effective $0.75 vs $36 (versus dermabond) vs $9 for sutures
    - Less follow up vs sutures and staples
    - Require less time and skill
    - Equal cosmetic outcomes
    - No needle needed!


Laceration Management

We Got A Bleeder!!!

- Advantage
  - Antimicrobial due to chemical properties (polymerization) and mechanical properties (reduction of bacterial migration).

- Disadvantage
  - Risk of skin irritation
  - Less effective on stressed skin, irregular wounds, and deep lacerations
  - Should not be used internally include wounds in the mouth
  - Not sterile but is antibacterial
  - Octyl cyanoacrylate is stronger and has less toxicity to healthy cells

Take Home Message

- Commercially available superglue is an effective wound closure method for superficial lacerations that are not under tension.
- Contraindicated for wounds:
  - >2 hours old.
  - That have a high risk of infection/contaminated internal.
  - Bites and punctures.
  - Located on joints, hands, feet, or high moisture area.

Steps in Use of Cyanoacrylate
1. Prepare wound with saline and antiseptic as needed.
2. Dry wound with sterile gauze.
3. Appose wound edges.
4. Apply glue to applicator.
5. Gently brush adhesive over laceration.
6. Allow to cure 30-60 sec.
7. Avoid pushing adhesive into wound.
8. Apply three layers of adhesive and apply steri-strips as needed.