

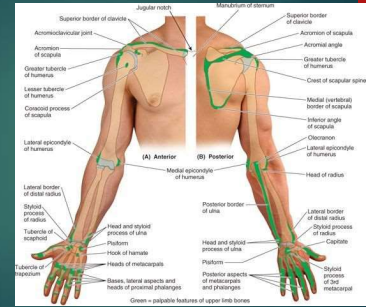
Upper Extremity Orthopedic Concerns

IMPLICATIONS FOR THERAPEUTIC HORSEMANSHIP

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Upper Extremity Palpable Landmarks



Background

- ▶ Occupational Therapist
 - ▶ Upper Extremity Specialist
 - ▶ Wound management
 - ▶ Sporting and high intensity rehab
 - ▶ Post surgical hand therapy
 - ▶ Industrial Rehabilitation
 - ▶ Ergonomics
 - ▶ Work Hardening
 - ▶ Work Conditioning
 - ▶ Employment Testing
 - ▶ Clinical Instructor
 - ▶ Horses, Humans and Health Minor program Advisor and Program Contact
- ▶ PATH Registered Level Instructor
 - ▶ History of working in Therapeutic Horsemanship and EAAT programming since 1999
- ▶ Working towards HPCS

Common Diagnoses and Injuries

- ▶ If you have questions... just ask
- ▶ Topics Covered
 - ▶ Basic anatomy of injury
 - ▶ Impact on horsemanship
 - ▶ How to address within a horsemanship session

Upper Extremity Anatomy and Mobility

- Key points
- Joints
 - Shoulder
 - Shoulder girdle
 - AC Joint
 - SC Joint
 - GH Joint
 - Scapulohoracic "Joint"
 - Elbow
 - Wrist
 - Finger joints

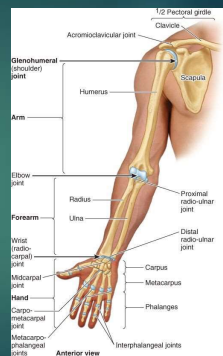


Image Credit: <https://basicmedicalkey.com/upper-limb-5/>

Rotator Cuff Injuries and Surgeries

- ▶ What is the Rotator Cuff (RTC)?
 - ▶ 4 muscles that surround GH joint
- ▶ What does the RTC do?
 - ▶ Stabilizes the humerus in the glenoid fossa
 - ▶ Provides primary or secondary movement of shoulder into primary planes of motion
- ▶ What do you need to know about the RTC?
 - ▶ Engages with all movement of shoulder
 - ▶ Engages with all functional activity of the GHJ
 - ▶ If someone is less than 6 weeks from a RTC injury or surgery you should have a medical clearance to have them horseback
 - ▶ 6 weeks is average soft tissue healing time

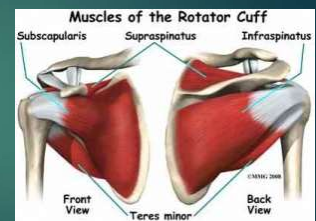
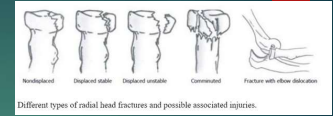


Image Credit: https://www.physio-pedia.com/Rotator_Cuff

Other Shoulder Pathologies

- ▶ Arthritis
 - ▶ AC joint or GH joint
- ▶ Impingement Syndrome
- ▶ Thoracic Outlet Syndrome
- ▶ SLAP Lesion/Tear
- ▶ Dislocation
- ▶ AC Separation
- ▶ Fractures
 - ▶ Clavicle, humerus, scapula

Elbow Injuries



- ▶ Radial Head Fractures
 - ▶ Commonly occurs from a Fall On an Out Stretched Hand (FOOSH)
 - ▶ Non-displaced fractures
 - ▶ Generally stable and heal quickly
 - ▶ In a sling in public for 2 weeks
 - ▶ Most of the time there are limited long term complications
 - ▶ Displaced or comminuted (multiple pieces) fractures
 - ▶ Generally require a radial head replacement or removal
 - ▶ Limitations into supination (palm up position) noted after injury

Rotator Cuff Injuries and Surgeries, Cont

- ▶ Comorbidities
 - ▶ Stiffness in the thoracic spine
 - ▶ Pain at the AC joint
 - ▶ Pain noted centrally in arc of movement – 70 to 110 degrees of abduction
- ▶ Precautions/Suggestions for movement
 - ▶ Any overhead movement only done if/when pain free
 - ▶ Avoid palm down overhead movement
 - ▶ Watch for scapular hike (shoulder blades lifting to aid shoulder movement) during movement indicating weakness

Elbow Injuries

- ▶ Long term implications
 - ▶ Generally lack about 15 degrees of extension regardless of method of repair/stabilization
 - ▶ Lack full supination after recovery
- ▶ How to help in a horsemanship session?
 - ▶ During grooming utilize end range stretching during functional activities
 - ▶ Yoga like warm up exercises to address full elbow extension
 - ▶ Horseback warrior poses
 - ▶ Darts or other similar throwing exercises
 - ▶ Overhead throwing – hay

Rotator Cuff Injuries and Surgeries, Cont.

- ▶ How to help in non mounted activities
 - ▶ Modify the grooming/saddling environment to stay out of painful arc
 - ▶ Warm up/ground work of horse to engage arm in non-painful movement arc
- ▶ How to help horseback
 - ▶ Trunk rotation exercises
 - ▶ Scapular retraction exercises
 - ▶ Half halts to address scapular retraction
 - ▶ Single arm raises and sweeps
 - ▶ Weight bearing on withers seated or in two point
 - ▶ "Round pen arms"

Tennis Elbow – Lateral Epicondylitis Golfers Elbow – Medial Epicondylitis

- ▶ What are they?
 - ▶ Inflammatory process due typically to overuse at the inner or outer muscle attachment point on the elbow
 - ▶ Due to overuse of the wrist and forearm muscles
- ▶ Typical treatment
 - ▶ Anti-inflammatories, NSAIDs
 - ▶ Bracing/splinting
 - ▶ Progressive resistance exercises



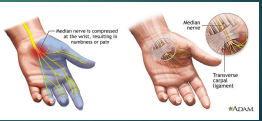
Image Credit:
<https://www.sobelphysicalsports.com/new-treatment-for-tennis-elbow/>

Medial and Lateral Epicondylitis – Cont

- ▶ General treatment includes
 - ▶ Pain Control
 - ▶ Ergonomic Management
 - ▶ Avoid palm down positions
 - ▶ Avoid palm down pinching
 - ▶ Focus on palm up/thumb up lifting
 - ▶ Avoid combined wrist and elbow flexion (especially while sleeping)
- ▶ Impacts on horsemanship
 - ▶ Modify rein use to maintain wrist in neutral or slight extension
 - ▶ Monitor tool use while grooming
- ▶ Common to see this in leaders/sidewalkers
 - ▶ Consider trading sides for sidewalkers to avoid stress of painful body part
 - ▶ Use a larger/thicker lead line for leaders to avoid a tight grip

Carpal Tunnel Syndrome

- ▶ Comes from nerve compression at the carpal level of the wrist
- ▶ Results in numbness in thumb side of hand, weakness and muscle wasting in thenar eminence (muscles at base of thumb)
- ▶ Avoid palm down pinch activities
- ▶ Avoid flexed wrist postures



Wrist and Forearm Injuries

- ▶ Distal Radius Fracture
 - ▶ Fracture of the far end of the weight bearing forearm bone at the wrist level
 - ▶ Varied medical names, most tend to come from a FOOSH type movement either forward or backwards
 - ▶ Can be casted with good results if the fracture is stable
 - ▶ Can require surgical intervention if
 - ▶ Fracture is displaced
 - ▶ Fracture is comminuted
 - ▶ Blood flow is inhibited

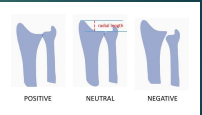



Wrist and Forearm Injuries

- ▶ How to address in a horsemanship session?
 - ▶ Be mindful of weight bearing activities
 - ▶ Consider modified reins with built up grip and/or stoppers
 - ▶ Be conscious of "puppy dog" hands
 - ▶ Include wrist and forearm mobility in warm up exercises
 - ▶ Wrist flexion and extension, forearm palm up and palm down
 - ▶ Encourage alternating hand use to avoid prolonged posture with one hand
 - ▶ Utilize tools with hand straps to reduce gripping on tools
 - ▶ Be mindful of posture during all tasks


Wrist and Forearm Injuries, Cont

- ▶ Complications post fracture or surgical intervention
 - ▶ Ulnar Positive Wrist
 - ▶ Pain with pronation/supination and deviation of wrist
 - ▶ Scapho-Lunate (SL) Ligament Injury/Tear
 - ▶ Pain with gripping
 - ▶ Weak grip
 - ▶ Loss of mobility
 - ▶ Typically loss of extension
 - ▶ Necessary for weight bearing

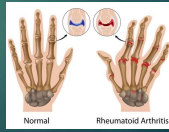
Hand Injuries and Pathologies

- ▶ Basilar (Thumb CMC) arthritis
 - ▶ Arthritic changes at the base of the thumb
- ▶ Metacarpal Phalanx Joint Arthritis (knuckles)
 - ▶ Interphalangeal Joint Arthritis (finger joints)
 - ▶ Arthritis in other joints of the fingers
- ▶ Can result from injuries or use



Rheumatoid Arthritic Changes

- ▶ Autoimmune mediated joint changes
 - ▶ Concurrent with a variety of other immune mediated changes across the body
- ▶ Varied levels of instability across the joints depending on progression of disease



Hand and Finger Pathologies

- ▶ Impacts on horsemanship
 - ▶ Be very aware of joint stability when choosing reins
 - ▶ Can do grooming but may need modified grooming tools
 - ▶ Keep tools inside a warmed tack room especially in cooler months
 - ▶ Kids grooming tools make great options as they are often smaller and have handles
 - ▶ Avoid activities that pinch thumb up next to palm, instead encourage activities that utilize thumb like it is pushing a remote control button or pinching a bead with tip

Questions?

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