

THE PERFECT BALANCE FOR EQUESTRIANS

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ABOUT THE EDITOR

Michele Altemus MPT, OCS is a licensed physical therapist and a board certified orthopedic specialist. Michele has a Master's degree in physical therapy from Emory University and a Bachelor's degree in Kinesiology. She specializes in neck and back pain and injury. Michele has a broad scope of experience treating orthopedic and neurological injuries.

Twenty five years as a rider and horse woman has given Michele great insight into the physical needs of the equestrian. Michele has suffered with a back injury for ten years and has still been able to work, ride, and show successfully.

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Editor's note -

Winter is always a good time to reevaluate the year's accomplishments and shortcomings. New Year's resolutions are always fun to think of, but rarely do people follow through. My hope that riders' will resolve to commit to a regular stretching and light strengthening program to prevent pain and injury.

I just returned from a course in Michigan and met some great osteopathic physicians and physical therapists. For anyone who does not know what an osteopathic means, it is a medical approach that considers all systems of the body when evaluating dysfunction. Rarely, will a medical internist or orthopedic consider the musculoskeletal system, nervous system, circulatory and lymphatic systems when evaluating a client. I was conversing with a fellow physical therapist who will be working with the US women's tennis tour this year about the difference between equestrian athletes and other athletes like tennis players, basketball players, baseball etc.. The primary difference is that they consider themselves athletes and take full advantage of training programs and physical therapy. They don't fool around when they have pain because they know an injury could end their career. I was explaining to my colleague that equestrians seem to wait until pain prevents them from competing before they seek help. Even then, the equestrians don't always go to a medical professional. The rider can manage to get by via the horse even if they are injured. A tennis player could not eek out a match with back pain or a restricted shoulder. The unfortunate thing that equestrians don't realize is their physical shortcomings affect the horse's balance and performance. The horse must make the compensation and may become sore or put in a poor performance. Another point that was made over and over at the course "DON'T CHASE PAIN". Where the pain is felt is rarely where there's a problem. I have tried to explain this to many of my own clients who come in and want me to rub on a certain spot. Recognize that pain travels and is referred to different areas. Injuries are not always just muscular and usually always involve some other system in the body i.e. nervous system.

Shoulder injuries are prevalent in the jumper rider. The shoulder is a mobile joint. Faulty mechanics and weak muscles lead to chronic pain and problems at the shoulder. This quarter we will be taking a look at how the shoulder works and what key exercises need to be performed to prevent injury and/or surgery.

Who Should Read This Newsletter?

- ◆ Riders
- ◆ Trainers
- ◆ Parents
- ◆ Equestrians

THE SHOULDER

By

Michele Leasure Altemus, MPT,OCS

Last month we discussed the hip. Like the hip, the shoulder is a mobile joint. The shoulder is more susceptible to injury because the joint is shallower and the shoulder is connected to the skeleton primarily by muscle. The only bone that attaches both to the spine and the shoulder is the collarbone. Riding accidents commonly cause breaks or fractures of the collarbone. Disruption of this small bone can reek havoc on the shoulder complex if not addressed correctly. The collarbone affects two joints. One joint at the shoulder and one at the spine.

The shoulder depends on many other joints to function properly. The neck, hand, wrist and elbow directly affect the shoulder and must not be overlooked. The bony structure of the shoulder consists of the shoulder blade. The socket that holds the ball of the upper arm bone is a part of the shoulder blade. The shoulder blade is basically flat and feeds into the acromion which forms the arch of the shoulder joint (the pointy end). Separation of the AC joint is a common injury in riders. The collarbone (clavicle) joins the acromion to form the AC joint. A fibrous capsule secures the ball of the upper arm to the shoulder socket and ligaments span the arm bone to the shoulder bone and from the clavicle to the acromion.

The mechanics of the shoulder are dependent on how the shoulder blade moves in relation to the thoracic spine, the acromioclavicular (AC) joint, the glenohumeral joint (the head of the upper arm bone and the socket it fits in), and the sternoclavicular (the breastbone and the collarbone). The glenohumeral (GH) joint is the "shoulder joint". The movement of the GH joint depends on the muscles that surround the shoulder, the rotator

cuff muscles, for proper function.

Most people are familiar with injuries or tears to the rotator cuff. The rotator cuff is responsible for making sure the arm bone meets the socket of the shoulder correctly.

When the muscles are not balanced the arm bone squeezes the tendons feeding into the joint and can cause impingement, bursitis, and tendonitis (see Common Signs and Symptoms).

The muscles of the rotator cuff are the supraspinatus, infraspinatus, teres minor and the subscapularis (lies inside the shoulder blade). The supraspinatus is the primary muscle that lifts the arm out to the side as to reach behind the head. The infraspinatus and teres minor help pull the arm down so it does not compress the tendons against the acromion as the arm is lifted. Muscles around the shoulder must work together to allow proper timing. Most workout programs do not strengthen the rotator cuff of the shoulder. The shoulder tends to take on a forward and rounded position. Rounded shoulders can lead to impingement and tearing of the tendons. Once the pecs get tight and the shoulder blade muscles get stretched the shoulder loses it's strength and position and the rider must look to other areas of the body to get strength. Typically the biceps and the neck muscles are overused in riders. There are many muscles that attach the shoulder to the neck.

Pain in the shoulder can be caused from many structures. Pain is often referred to the shoulder from the neck. Cervical nerve branches C5-C6 supply and refer pain to the shoulder. A tooth ache-like pain is often felt at the point of the shoulder. Organs like the heart, gallbladder and stomach can also refer pain to the shoulder. As always, it is vital that a correct diagnosis is made by a licensed medical professional to rule out other reasons for pain. Point tenderness at the shoulder does not necessarily mean

there is pain at the shoulder. Bursitis and tendonitis are common problems at the shoulder. Bursa lie between tendon and bone. The tendons are susceptible to injury because they lie in a small space.

A lot of nerves and blood vessels surrounding the shoulder. Dislocations and fractures of the shoulder and arm should be handled carefully. A major network of nerves, the brachial plexus, supplies the arm and is located in the armpit. The brachial plexus is susceptible to injury and compression and can cause pain into the arm, chest and front of the shoulder. No one should hang on crutches. Problems involving the brachial plexus can arise from the neck, thoracic outlet or the arm. The neck, chest (thorax), shoulder, arm complex is complicated that is why only a licensed professional should diagnosis pain in the area. The median nerve (compressed in carpal tunnel syndrome) runs along the bicep and can also become involved and cause pain and tightness. The point is that the human body is complex and all systems must be considered.

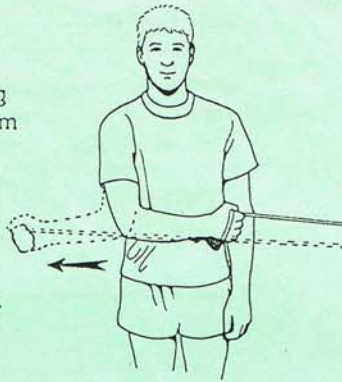
The most common problem in the rider is poor posture and weakness at the neck and shoulder. Muscle imbalances around the shoulder lead to pain and injury. Grand Prix and jumper riders are at a greater risk because of the higher demands on the body over the fences. Riders who are shorter through the trunk and have shorter arms are constantly overreaching and putting stress on the rotator cuff.

Proper mechanics of the shoulder begins with proper posture (as in everything else). The neck must be positioned over the center of the spine with the tip of the shoulder in line with the tip of the ear. The head should not protrude forward. The shoulder blades should sit equal distance from the spine about two finger widths and the shoulders should hang evenly.

SHOULDER - 43 Strengthening Activities
Active Resistive External Rotation

Using tubing, and keeping elbow in at side, rotate arm outward away from body. Be sure to keep forearm parallel to floor.

Repeat 15 times.
Do 1 sessions per day.



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SHOULDER - 45 Strengthening Activities
Active Resistive Extension

Using tubing, pull arm back. Be sure to keep elbow straight.

Repeat 15 times.
Do 1 sessions per day.

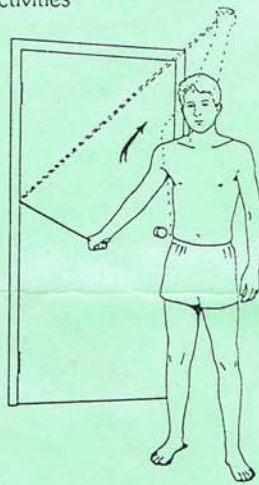


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SHOULDER - 50 Strengthening Activities
Active Resistive Diagonal

Using tubing, start with arm out from side, palm down. Pull arm up, out and across body, rotating arm as you move so thumb continues to point back.

Repeat 15 times.
Do 1 sessions per day.

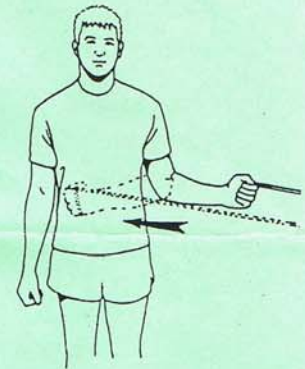


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SHOULDER - 44 Strengthening Activities
Active Resistive Internal Rotation

Using tubing, and keeping elbow in at side, rotate arm inward across body. Be sure to keep forearm parallel to floor.

Repeat 15 times.
Do 1 sessions per day.

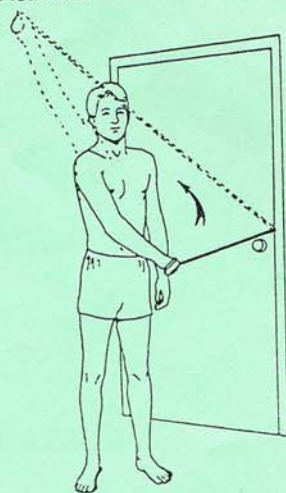


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SHOULDER - 49 Strengthening Activities
Active Resistive Diagonal

Using tubing, start with palm facing behind you. Pull arm out, up and across body rotating arm as you move so palm continues to face behind you.

Repeat 15 times.
Do 1 sessions per day.

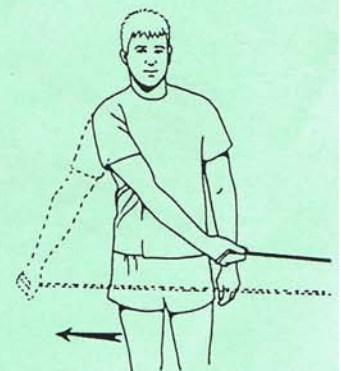


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SHOULDER - 42 Strengthening Activities
Active Resistive Abduction

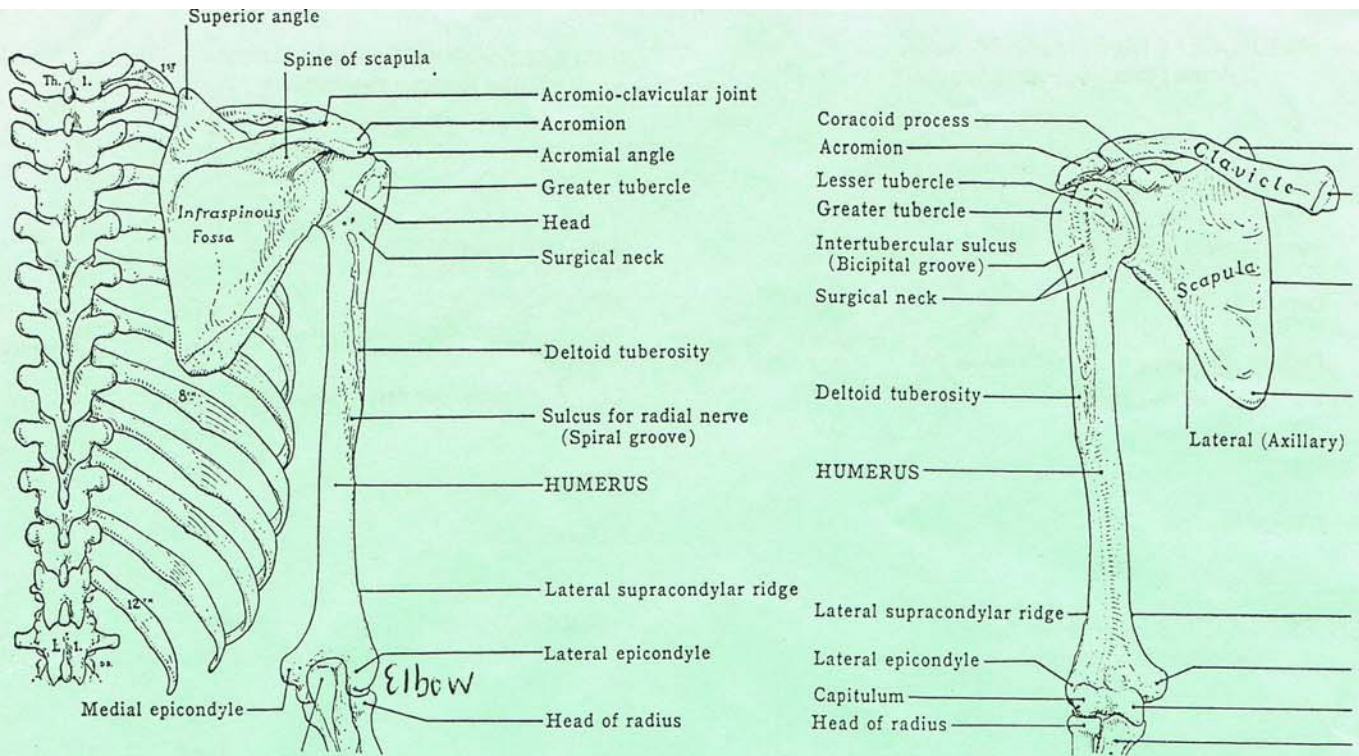
Using tubing, start with arm across body and pull away from side. Move through pain free range of motion.

Repeat 15 times.
Do 1 sessions per day.

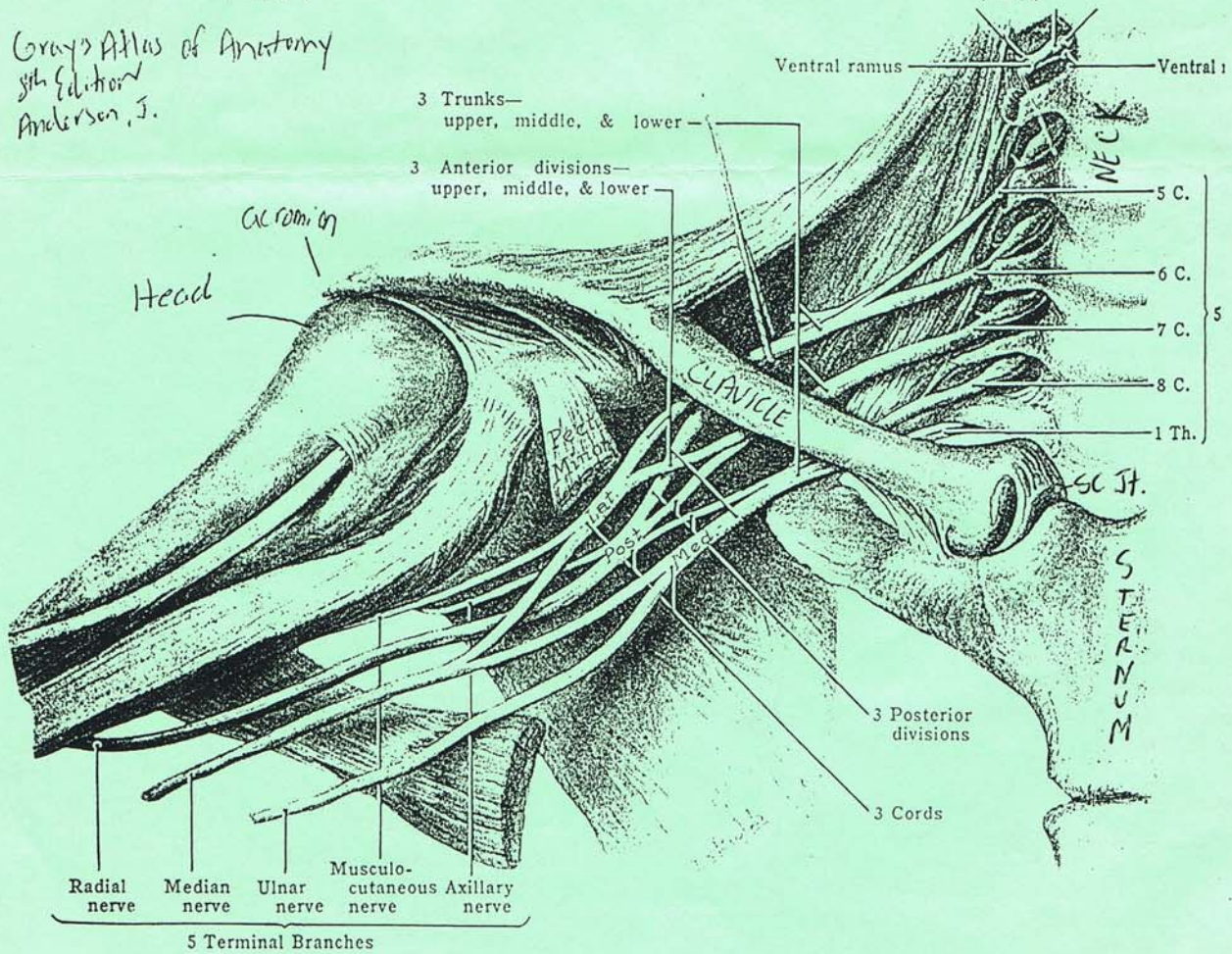


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Gray's Atlas of Anatomy
5th Edition
Anderson, J.



6-24 BRACHIAL PLEXUS, LIGAMENTS OF THE CLAVICLE