

**SHOULDER INSTABILITY COMPLEX:**

The “rotator cuff” injury in those dogs that go—go—go!

**Synopsis-- Anatomy and the Disease**

Over the past two decades, veterinary medicine has further characterized a common but nebulous forelimb lameness seen in active dogs, most commonly (but not exclusively) large breed, working breeds. There is not a universal “title” to this condition, but I have settled on the somewhat cumbersome name of Shoulder Instability Complex. It is characterized by acute and/or chronic repetitive-stress injury to one or more support structures of the shoulder (biceps/infraspinatus/supraspinatus/teres major/teres minor tendons, glenohumeral ligaments, joint capsule, labrum of glenoid).

Clinical signs include a weight bearing, “head-bob lameness” that is worse after rest and warms out a bit; usually chronic at presentation (because of its low-grade and owner’s willingness to wait on evaluation); episodes of “hot” shoulder pain; improved but incomplete response to NSAIDs.

On exam, the maneuvers that may elicit pain are: standing, forced shoulder flexion; recumbent, forced shoulder extension; biceps stress (extended elbow then shoulder flex); focal palpation of biceps tendon. On exam, it is NOT found to include: pain response to focal proximal humeral palpation (r/o osteosarcoma); pain response to medial elbow palpation or recumbent forced elbow extension (r/o elbow DJD).

An additional exam manipulation that can be revealing is shoulder abduction and medial shoulder stress. This is an odd exam maneuver not typically performed (but should be, so you can experience the range of “normal” that exists!) It is best interpreted in comparison to the opposite limb, though bilateral laxity certainly can muddy the waters. The technique is probably best described through demonstration, but briefly—in lateral recumbency with leg in a neutral standing angle, both hands are placed around the upper arm/shoulder with thumbs in the axilla and all fingers on top/lateral shoulder (two hands working together like they do when holding a burger...for a little imagery here!) In large dogs, it may help to put the foot on your shoulder for support. Lift the leg away from body and “fold” the shoulder up and toward the dog’s back (think of the wings of a bird, lifting out and up). Move very slowly, “asking” the dog to tell you when it hurts and also feeling when anatomy is maximally stretched.

A final exam maneuver to challenge cranial and caudal support structures is a “cranial drawer” movement. Similar in concept to the stifle maneuver, the humeral head is pushed forward and back relative to the glenoid. Both this and the abduction maneuver are grey in their interpretation and appreciating “normal” is essential.

**Treatment Overview:**

Therapy is variable, depending on pain level, activity level, owner motivation, patient compliance, resource availability.

Surgical intervention has not been demonstrated to be highly successful in comparison to physical therapy, to date.

For the hotly painful dogs, an initial steroid injection may be useful and necessary to take therapy to the next step of physical therapy. A shoulder arthrocentesis requires 60 seconds of anesthesia to eliminate any movement during the procedure. Repeated steroid injections are discouraged due to catabolic effect steroids have on joint health; without lifestyle modifications including PT, flare ups or persistent lameness will continue.

Protecting an unstable and painful shoulder is difficult without external support. Merely resting a patient is insufficient to rest a shoulder. A shoulder brace that markedly limits shoulder movement can be a useful tool

when initially quieting a painful and unstable joint; it is also useful for the future flare-ups. Because it is quite restrictive, many/most patients will not accept a shoulder brace without careful training. A consult with a physical therapist for guidance in the use of a shoulder brace is highly recommended.

Building shoulder adductors is a primary goal in a physical therapy plan. A plan is best achieved with an initial consult with a professional veterinary physical therapist. This may involve (minimally) a brief education of owners for home care or (maximally) daily/weekly PT clinic visits for a fully-fleshed shoulder therapy protocol.

Optimizing a pet for exercise/work with stretching and warm up is another long-term goal of physical therapy. Client education with a professional physical therapist is ideal for this goal.

**Expectations** for outcome are:

- Most cases due to chronic repetitive stresses (either daily stress on a weak anatomy, or heavy stress on a normal anatomy); rarely a “one and done” treatment expectation.
- Flare ups are expected; goal is to design a management protocol that allows owners to adjust to these with home options and an understanding of what signs need veterinary exam
- Joint injections with steroids will quiet down a painful, inflamed joint for a period of time; frequent re-injection is discouraged due to catabolic effect steroids have on joint health.

**Complications** that may arise with this procedure are:

- With steroid injections, septic arthritis is a strong concern (very low risk; severe consequence)

What a surgeon needs prior to steroid injection treatment:

- Confident exam findings and shoulder radiographs or surgical consult.
- Affected leg “marked” by owner for confirmation (wax “costume makeup” works well)
- Skin near the surgery site CLEAR of infection (papules, pustules, crusts, collarettes, etc.) If urgent treatment, owner must be alerted to *increased risk* of septic arthritis.

**General considerations and complications** for all surgery/anesthesia procedures are:

- *Difficult and/or painful anesthetic recovery (variable; may require additional medications or re-hospitalization)*
- *Adverse anesthetic event (rare, major; may result in serious impairment or death)*

Proper owner expectations are important to a successful experience and patient outcomes. Please discuss this information with your clients while assisting them with decision-making for **Shoulder Instability Complex**.

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