



# SHOULDER LAMENESS IN DOGS



Veterinary **Specialist** Group

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Several of the most common causes of front leg lameness in the dog are problems involving the shoulder joint. These problems can be difficult to diagnose and complete recovery can take several months.

## SHOULDER JOINT FUNCTION

The shoulder joint of the dog is formed by two bones (the humerus and scapula bones {Figure 1}) that must fit together correctly for the joint to function normally. The top of the humerus has a flat ball that fits into the socket of the shallow scapula. The muscles surrounding the joint help to maintain a tight joint. The ball should glide smoothly around the socket without excessive looseness. The biceps muscle attaches to the front edge of the scapula bone and has a long tendon that passes through a groove in the front of the shoulder joint before blending into the muscle itself (Figure 2).

## CAUSES OF SHOULDER LAMENESS

There are three main forms of shoulder lameness that cause pain and arthritis:

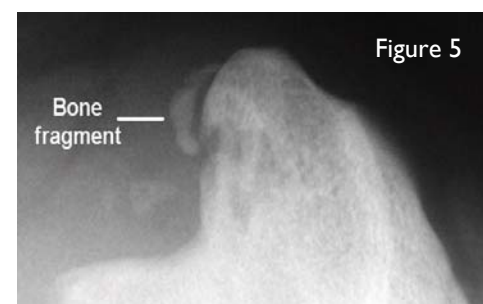
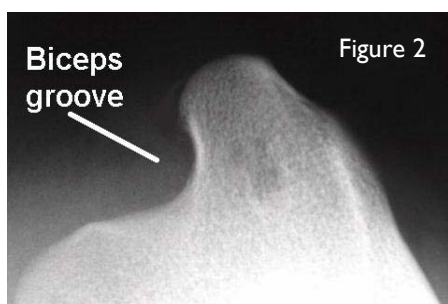
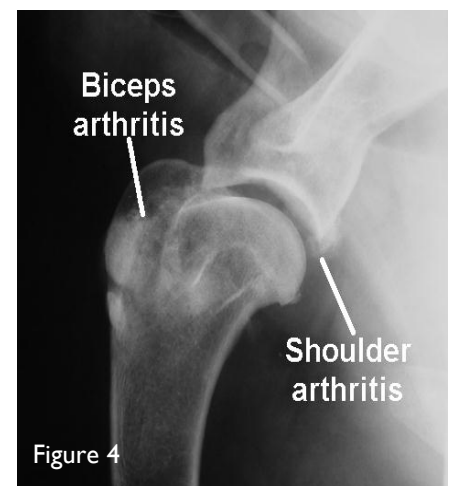
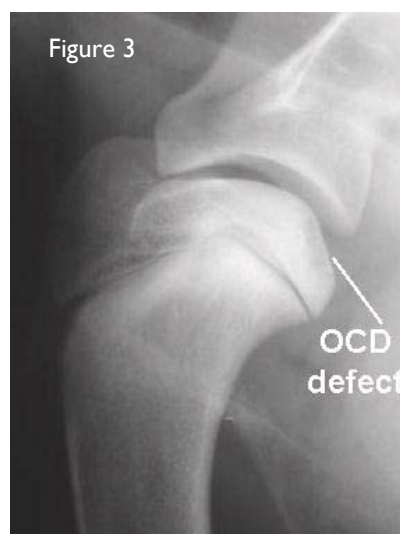
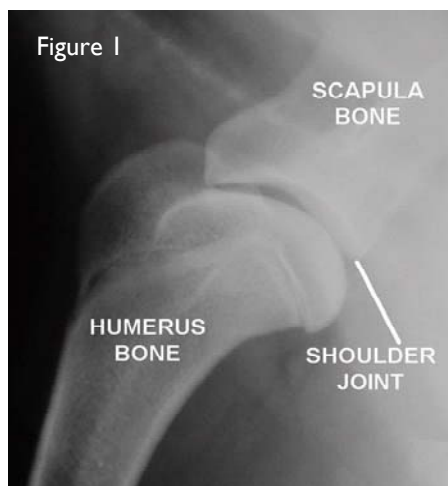
1. Osteochondritis of the humerus (OCD). A loose flap of cartilage develops on the top of the humerus bone (Figure 3).

2. Biceps tendonitis (BT). The biceps tendon is prone to repetitive strain-type injury especially where it passes through the groove in the humerus bone (Figure 4 & 5). This tendonitis is much like Achilles tendon problems in people.

3. Medial shoulder instability (MSI). The ligaments and tendons on the inside of the shoulder joint can be injured causing the joint to be unstable.

## SYMPTOMS

Typically, affected dogs show front leg lameness that can start as young as 5 months of age. The lameness may be intermittent and tends to improve with rest and get worse with exercise. Some affected dogs will often “warm-up” and don’t show lameness while running. Dogs may also have some pain in their toes and neck due to the alteration in the way they walk. The lameness typically doesn’t get better with anti-inflammatory medication (pain relief).



## DIAGNOSIS

A thorough orthopaedic and neurologic examination is performed. The dog is evaluated when walking and by manipulation of all four limbs and the spine. Pain and joint looseness can frequently be felt in the affected joint. To confirm the diagnosis, sedation or anaesthesia are necessary. X-rays are taken of the shoulder to show signs of joint looseness and arthritis. Ultrasound is performed on the biceps tendon to look for tendon defects (Figures 6 & 7). Joint fluid is removed and sent to the laboratory for analysis. The joint is manipulated to determine whether the ligaments are stable (Figures 9 & 10).

## MEDICAL TREATMENT

Many dogs with confirmed BT or MSI will improve without surgery. The object of medical treatment is to control the symptoms and to allow the shoulder tendons, muscles, and ligaments to heal properly. The dog should not be allowed to get overweight and exercise should be controlled. A detailed physical therapy plan is outlined on the next page. Cartilage-protecting agents (chondroitin, glucosamine, green-lipped mussel, shark cartilage) can help lubricate the joint and keep

cartilage healthy. Generally, lifelong supplementation is necessary. Anti-inflammatory medication (aspirin-like drugs or cortisone) can be helpful in reducing pain but should only be necessary occasionally. Medical treatment does not stop arthritis from continuing to develop.

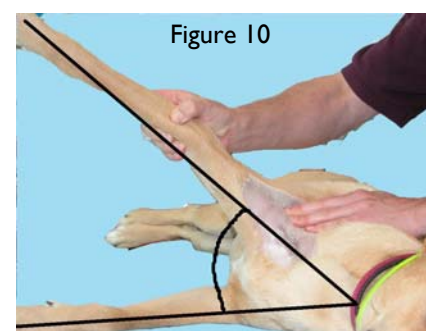
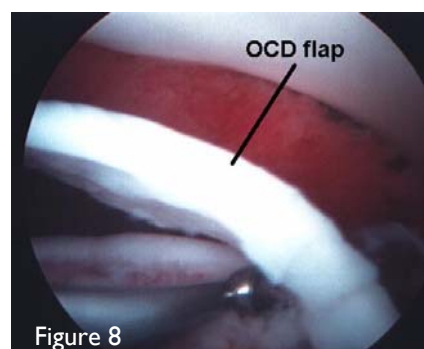
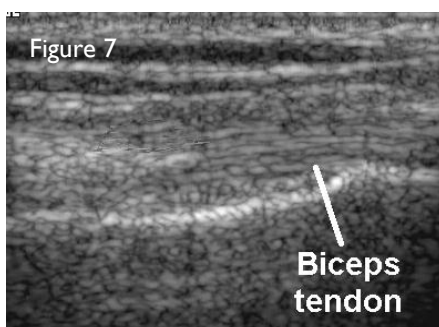
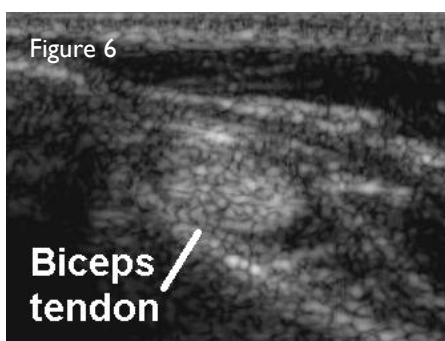
## SURGERY

Dogs with OCD of the shoulder benefit from surgical removal of the loose cartilage flap. This is generally performed by passing a small telescope (arthroscope) into the joint. The flap can then be removed using small forceps (Figure 8).

Surgical treatment can benefit dogs with BT or MSI that do not adequately respond to medical treatment. The type of surgery differs between dogs depending on age, degree of arthritis, and shoulder looseness.

## RESULTS

Dogs with OCD that have had the flap removed generally show excellent results with minimal progression of arthritis, few complications and normal function. Most dogs with BT or MSI require intensive physical therapy but can return to full activity 3-6 months after surgery.



# POSTOPERATIVE CARE

## EXERCISE CONTROL

To allow the joint to heal following the surgery, complete restriction of exercise is absolutely necessary for the first 4-6 weeks. Your dog can be walked on a lead for toileting.

## SUTURE AND BANDAGE REMOVAL

The skin stitches need to be removed 10-14 days following surgery. This can be done by your regular veterinarian. Please call our clinic if there is any swelling, discharge or redness around the stitches.

A bandage is sometimes used for 3-4 weeks as a sling to keep your dog from using the leg. This bandage should be assessed at our hospital or by your regular veterinarian weekly to ensure that the foot and skin appear comfortable.

## MEDICATION

Most dogs are sent home with medication for additional pain relief. Sometimes, antibiotics are also dispensed. Give the medications as prescribed. Further pain relief can be prescribed if necessary.

## LONG-TERM TREATMENT

Some dogs will need long-term medication to control the arthritis already present in the shoulder prior to the surgery. Cartilage-protecting agents (chondroitin, glucosamine, green-lipped mussel, shark cartilage) can help lubricate the joint and keep cartilage healthy. Generally, lifelong supplementation is necessary. Anti-inflammatory medication (aspirin-like drugs or cortisone) can be helpful in reducing pain but should only be necessary occasionally.

# PHYSICAL THERAPY

## Phase 1:

Goal - To have your dog bearing weight with each step while walking at a normal pace (20 minutes 2-3 times daily)

Therapy - Warm-up for 2-4 minutes with heat therapy, massage, and flexion/extension exercises. Slow leash walking on a flat surface. The walking should be slow enough that the dog bears weight with each step. Do not allow the dog to skip with the leg held up. Increase the walking time and pace daily, if the dog starts to skip then drop the pace back again. After walking, use a cold pack to prevent rebound swelling. Between sessions the dog should be confined to a small area and not allowed free exercise.

## Phase 2:

Goal - At the end of this phase your dog should be able to bear weight on the limb with each step while walking at a brisk pace or trotting for 10 minutes (20 minutes 2-3 times daily).

Therapy - Warm-up with heat therapy, massage, and flexion/extension exercises. Walking at a brisk pace on a flat surface for 2-3 minutes then move onto a surface that encourages lifting of the legs e.g. tall grass, sand, or shallow water. Swimming

can be performed at this phase instead of the walking although the dog may need support in the water initially. Static strength and balance exercises help to rebuild muscle. Wheelbarrowing helps the front legs and "dancing" helps the back legs. Getting the dog to sit then stand several times helps to push weight from the back legs to the front legs. Using a physio (Swiss) ball can help stimulate balance. After exercise, passive stretching and massage helps to stop muscles stiffening.

## Phase 3:

Goal - At the end of this phase your dog should be able to have controlled exercise for 20 minutes and free activity for 10 minutes without lameness (30 minutes 2-3 times daily).

Therapy - Warm-up with heat therapy, massage and passive flexion/extension exercises. Provide the same sort of exercise as in Phase 2 but increase the pace and time spent with each exercise. Each exercise session should include activities to increase the range of motion of the joints, the strength of muscles, and balance. Finish each session with a warm-down stretch and massage of the muscles.

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