

LIMPING THROUGH A LAMENESS EXAM

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What is an Orthopedic exam?

Examination of:

- Joints
- Bones
- Soft Tissues – muscles, tendons, ligaments

CREPitus

- Crepitus
- Range of Motion
- Effusion
- Pain - on direct palpation, ROM, hyperextension
- Instability - drawer, thrust, collateral ligament of the tarsus/elbow/knee

Standing Exam

Symmetry

Walking Exam

- 'Down on sound'

Forelimb Exam

- Start at toes! (or at least the same place every time)

Carpus → Elbow → Shoulder

Elbow and shoulder difficult to differentiate so generally recommend doing elbow first as you will have to extend elbow to check for shoulder pain

Forelimb lameness – when in doubt, it's the elbow until proven otherwise!

Best test for forelimb/elbow lameness is **elbow hyperextension**

Elbow Dysplasia

- Fragmented medial coronoid process – Labs, Rottweilers
- Ununited Anconeal Process – German Shepherds, Bassets, Dachshunds
- Distal Humeral Osteochondrosis/OCD - Labs

Physical exam findings:

- Paddling or stiff forelimb gait
- May abduct or adduct elbows when standing
- Joint effusion
- Decreased range of motion (ROM)
- Loss of flexion
- May NOT be painful on just flexion

Bicipital Tenosynovitis

- Uncommon; prevalence overestimated
- Signalment: Large breed, active dogs
- Physical examination: Pain over direct palpation of biceps tendon

Shoulder OCD

- Large/Giant Breeds

- Males > Females (Weigh more and grow more rapidly?)
- 6-10 months of age
- History: chronic forelimb lameness
- Exam: pain on joint capsule palpation

Angular Limb Deformity

- Premature growth plate closure; distal ulna is most common

Hindlimb Exam

- Start at toes! (or at least the same place every time)

Tarsus → Stifle → Hips

As with forelimb, knee and hip are difficult to differentiate so generally recommend doing knee first as you will have to extend knee to check for hip pain

Tarsal Disease

- OCD – usually young dogs but can manifest at a later age
- Collateral ligament instability
- Tarsal/Metatarsal/Phalangeal trauma

Cranial Cruciate Ligament Disease:

- **Chronic, progressive degeneration** of the cranial cruciate ligament (most common)
- Acute cruciate tears/avulsions (usually traumatic, young dogs, uncommon)

History

- Occasional to constant hindlimb lameness
- Worse with activity or at end of day
- 'Sits funny' – leg out to side
- Acute non-weightbearing lameness

Complete tear

Meniscal tear

Exam – palpate both stifles

- Non- to Weight-bearing lameness
- Medial buttress
- Stifle effusion
- Cranial Drawer
- Cranial Tibial Thrust
- Positive 'sit test'
- Meniscal Click/Pop (Only present in about 20% of cases)
- Pain on ROM of stifle – especially extension
- Pelvic limb muscle atrophy

Canine Hip Dysplasia (CHD)

- CHD = Disproportionate growth between bones and supporting soft tissue structures
→ Muscles, tendons, ligaments can't keep up with bones
- Resulting in:
 - Hip joint laxity
 - Instability
 - Subluxation
- Leading to cartilage wear, joint capsule swelling and inflammation, pain, and lameness

Clinical Signs of CHD

Younger Dogs → Pain from laxity of the hip joints and secondary synovitis

- First notice signs at 6-12 months
- "Bunny hopping" gait when running and playing

Witsberger

Lameness Exam

- Don't want to jump in or out of truck
- Weight shifted to front, rear limb atrophy

Older Dogs → Pain from bone on bone contact and cartilage degradation

- Decreased activity level especially in the morning and after activity
- Trouble getting up, using stairs, jumping
- Rear limb atrophy and lameness

Physical exam findings of CHD

- Pelvic limb muscle atrophy
- Weight-bearing lameness (unusual to be non-weightbearing; think knee)
- Pain on extension and abduction of hips
- Decreased ROM; crepitus
- Palpable subluxation = **Ortolani sign** (usually only in young dogs)
- Ortolani → Tests for laxity and subluxation
- Positive Ortolani does NOT equal hip dysplasia but persistence of Ortolani (i.e. laxity) will likely lead to signs of hip dysplasia

(To perform Ortolani sign - direct force up femoral shaft to subluxate head; abduct femur to reduce it into acetabulum - 'popping' should be felt)