

Legg-Calvé-Perthes Disease

(Degeneration of the Hip Joint)

Basics

OVERVIEW

- Spontaneous degeneration of the femoral head and neck, leading to collapse of the hip joint (known as the “coxofemoral joint”) and osteoarthritis (form of joint inflammation [arthritis] characterized by chronic deterioration or degeneration of the joint cartilage and underlying bone (known as “subchondral”); precise cause unknown; microscopic cell analysis suggests blood vessel supply deficiency
- The hip joint is composed of the “ball” (known as the “femoral head”) and the “socket” (known as the “acetabulum”); the “ball” sits on the “neck,” which is attached to the shaft of the femur, the long bone of the thigh

GENETICS

- Manchester terriers—inheriting pattern involving many factors, with a high degree of heritability
- Miniature poodles and West Highland white terriers—autosomal recessive
- Hereditary susceptibility likely in other breeds

SIGNALMENT/DESCRIPTION OF PET

Species

- Dogs

Breed Predispositions

- Common among miniature-, toy-, and small-breed dogs
- Toy breeds and terriers—most susceptible
- Manchester terriers, miniature pinschers, toy poodles, Lakeland terriers, West Highland white terriers, and cairn terriers—higher than expected incidence of disease as compared to other dog breeds

Mean Age and Range

- Most affected pets are 5–8 months of age
- Range—3–13 months of age

SIGNS/OBSERVED CHANGES IN THE PET

- Usually only one rear leg is involved; only 12% to 16% of cases are affected in both rear legs



- Lameness—usually gradual onset over 2–3 months; weight-bearing; occasionally leg is carried (non-weight-bearing)
- Pain on manipulation of the hip—most common
- Grating (known as “crepitation”) of the joint—inconsistent
- Decrease in size (known as “atrophy”) of the thigh muscles—nearly always noted

CAUSES

- Compression of the blood vessels serving the “ball” (femoral head) of the hip joint, with subsequent lack of blood flow, has been suggested as a cause, leading to the degeneration of the femoral head and neck and collapse of the hip joint

RISK FACTOR

- Miniature-, toy-, and small-breed dogs—increased risk
- Trauma to the hip region

Treatment

HEALTH CARE

- Rest and pain relievers (analgesics)—reportedly successful in alleviating lameness in a minority of affected pets
- Ehmer sling—successful in one pet; maintained for 10 weeks; increased risk of fusion of the hip joint (known as “ankylosis”)—not widely used
- Subtle signs of onset often prevents early recognition and possibility of successful conservative treatment
- Surgical removal of the femoral head and neck (known as “femoral head and neck excision”) with early and vigorous exercise after surgery—treatment of choice

Post-surgery

- Physical therapy—extremely important for rehabilitating the affected limb
- Pain relievers (known as “analgesics”), anti-inflammatory drugs, and cold packing—for 3–5 days following surgery; important
- Range-of-motion exercises—extension and flexion; initiated immediately
- Small lead weights—attached as ankle bracelets above the hock joint; encourage early use of the treated limb

ACTIVITY

- Conservative therapy—restricted activity recommended
- Post-surgery—early activity encouraged to improve leg use

DIET

- Avoid obesity

SURGERY

- Surgical removal of the femoral head and neck (femoral head and neck excision)

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- Nonsteroidal anti-inflammatory drugs (NSAIDs)—preoperative or post-operatively; minimize joint pain; reduce inflammation of the membrane lining of the joint (known as “synovitis”); NSAIDs include such drugs as carprofen, meloxicam, deracoxib, firocoxib, buffered or enteric-coated aspirin—drugs should be administered only under the direction of your pet's veterinarian
- Medications intended to slow the progression of arthritic changes and protect joint cartilage (known as “chondroprotective drugs,” such as polysulfated glycosaminoglycans, glucosamine, and chondroitin sulfate)—little help in advanced disease; no evidence to suggest that these drugs prevent or reverse the disease process

Follow-Up Care

PATIENT MONITORING

- Conservative therapy—re-evaluate (physical examination, x-rays [radiographs]) to determine if surgery is needed
- Post-surgical progress checks—2-week intervals; necessary to ensure compliance with exercise recommendations

PREVENTIONS AND AVOIDANCE

- Discourage breeding of affected dogs
- Do not repeat breedings that resulted in affected offspring

POSSIBLE COMPLICATIONS

- Limiting post-operative exercise may result in less than optimal limb function

EXPECTED COURSE AND PROGNOSIS

- Conservative therapy—reported to alleviate lameness after 2–3 months in about 25% of affected pets
- Surgical removal of the femoral head and neck (femoral head and neck excision)—good to excellent prognosis for full recovery (84–100% success rate); recovery may take 3–6 months post-operatively; total hip replacement (micro)—excellent prognosis for full recovery

Key Points

- Owners of Manchester terriers need to be aware of the genetic basis of the disease; discourage breeding affected dogs
- Surgical removal of the femoral head and neck (femoral head and neck excision) with early and vigorous exercise after surgery—treatment of choice
- Recovery after surgical removal of the femoral head and neck (femoral head and neck excision) may take 3–6 months and requires post operative physiotherapy and careful return to function