

# Legg-Calvé-Perthes Disease

(Degeneration of the “Ball” Portion 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)
- 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—inheritance pattern involving many factors, with a high degree of heritability
- Hereditary susceptibility likely

### SIGNALMENT/DESCRIPTION OF PET

#### Species

- Dogs

#### Breed Predilections

- 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—consistent
- 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”)
- 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, etodolac, 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)

## **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