

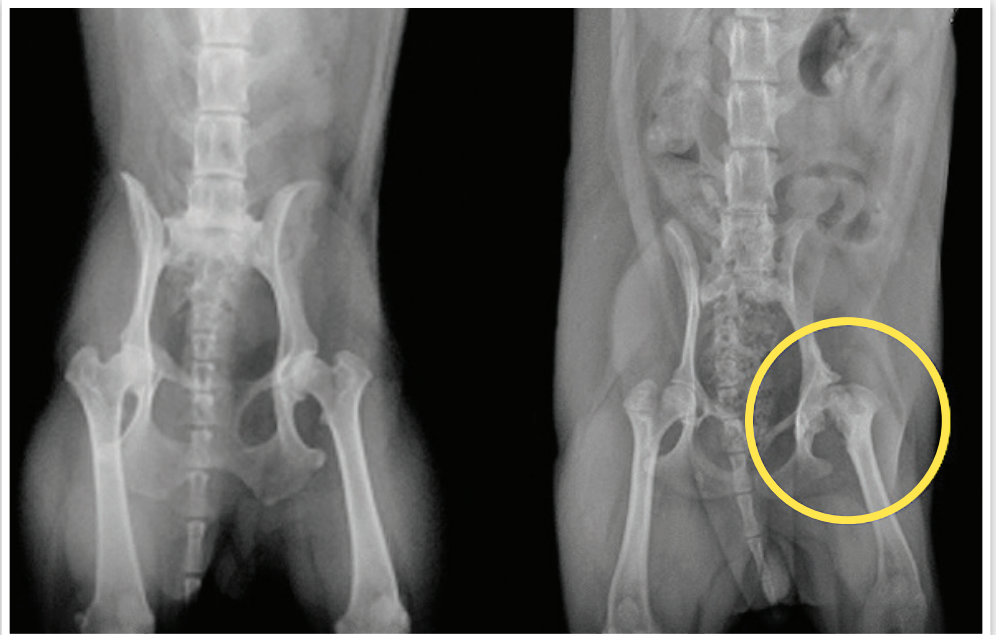


# Understanding Legg Calve Perthes Disease

## THE DISINTEGRATION OF HIP JOINTS IN DOGS

**Legg Calve Perthes disease is an orthopedic disorder that can occur in dogs and humans. This congenital disease causes degeneration of the hip joint in young dogs, primarily small breeds. It is a debilitating condition that leads to loss of function of one, or both rear legs. It is also called avascular or aseptic necrosis of the femoral head. Animals affected by Legg Calve Perthes disease will ultimately need surgical treatment to keep the use of the affected limb.**

In Legg Calve Perthes disease, an interruption of the blood supply to the head and neck of the femur causes the bone there to die. Eventually, the blood supply returns to normal, and the bone remodels itself. However, while it is in the diseased state and the animal bears weight on it, the head of the femur becomes flattened. Therefore, when the bone remodels to that new shape, the joint becomes deformed. Severe arthritis then develops quickly. The hip is extremely painful for the dog during the initial low blood supply phase and chronically sore after the remodelling phase. <sup>1</sup>



Above: X-Ray showing normal Hip Joint (left) and Joint affected by Legg Calve Perthes Disease (circled).

### Presentation & Signs of Legg-Calve-Perthes Disease in Dogs

- Irritability is often the first sign that there is a problem, but it can be quite vague and difficult to determine a cause.
- Licking and chewing at the hip area may be seen early in the disease process, and this allows you to narrow the problem down to the hip and report it to your veterinarian.
- Pain from Legg Calve Perthes disease as it progresses may cause your dog to cry out, especially when stretching a rear leg or rising from a lying down position.
- Lameness will eventually occur as the dog has difficulty bearing weight on the affected leg. He will limp considerably or hold the leg up entirely.
- As time goes on, your dog will experience loss of muscle mass over the affected hip as the muscles become smaller from disuse.
- Ultimately, the affected leg will appear shorter than the other one. <sup>1</sup>
- Grating or popping sounds and sensations when joint is manipulated (called Crepitus)

### Causes of Legg Calve Perthes Disease in Dogs

Legg Calve Perthes disease in dogs is caused by an interruption in the blood supply to the head and neck of the femur. The exact mechanism for this disturbance is not understood.<sup>1</sup> It is commonly seen in miniature, toy, and small-breed dogs, and has a genetic basis in Manchester Terriers.

#### **The reasoning behind why some breeds develop this condition is around rapid growth and maturity.**

These breeds are small, rapidly get to 3/4 adult weight, which is where sexual maturity starts to kick in. It is thought that the growth plate across the femoral neck starts to close prematurely, thus disrupting the circulation to the femoral head. <sup>1</sup>

The condition is rarely seen under 5 months but usually by 8 months it can be fairly obvious. Rarely is this condition bilateral, usually only affecting one hip. <sup>2</sup>

### Breeds, Gender and Age most commonly affected by Legg-Calve-Perthes Disease

There is no gender predilection for Legg Calve Perthes disease in dogs. Most dogs with this disease are diagnosed between five and eight months of age. <sup>1</sup>

All terrier breeds and most toy breeds can be affected by Legg Calve Perthes disease. The following breeds are all more prone to this condition than other dogs (Orthopedic Foundation for Animals):

- Affenpinscher
- Australian Terrier
- Bichon Frise
- Border Terrier
- Boston Terrier
- Cairn Terrier
- Chihuahua
- Cocker Spaniel
- Dachshund
- Fox Terrier
- Jack Russell Terrier
- Lakeland Terrier
- Manchester Terrier
- Miniature Schnauzer
- Miniature Pinscher
- Pomeranian
- Pekingese
- Poodle
- Pug
- Schipperke
- Scottish Terrier
- Shetland Sheepdog
- Australian Silky Terrier
- Welsh Terrier
- West Highland White Terrier
- Yorkshire Terrier <sup>1</sup>.

## Diagnosis of Legg-Calve-Perthes Disease in Dogs

Legg Calve Perthes disease is diagnosed through a veterinarian's examination and hip x-rays. The x-rays can also help determine how advanced the disease process is.<sup>1</sup>

## Treatment of Legg-Calve-Perthes Disease in Dogs

• **Newer treatments** that can possibly be used, if caught early enough, could be the use of bisphosphonate medication, a group of drugs that are used with people that have osteoporosis as it can improve the blood supply to affected areas. <sup>2</sup>

• **Surgery** is required in virtually all cases of Legg Calve Perthes disease. Once the bone remodels in the wrong shape, the dog will forever experience arthritis and pain. The surgical procedure that is used for Legg-Calve-Perthes disease is a femoral head and neck ostectomy or osteotomy (FHO). This means that the head and neck of

the femur is surgically removed. <sup>1</sup>

Many people are very concerned about what this surgery means for their dog's future. How can a dog walk without a proper ball and socket hip joint? Surprisingly, this procedure produces excellent results in most dogs. The muscle groups involved in the hip joint do not attach to the head or neck of the femur, so they aren't disturbed by its removal. Also, these muscle groups are very large and strong, so they are able to stabilise the area themselves. Lastly, because this is mostly a problem in toy breed dogs, the hip does not bear a large amount of weight.<sup>1</sup>

• **Medications** may help control the pain associated with Legg Calve Perthes disease before and just after surgery. This does not resolve the condition, but it does help the dog to be more comfortable.<sup>1</sup>

• **Non-steroidal anti-inflammatory medications** (NSAIDs) such as Rimadyl and Deramaxx decrease inflammation in the hip joint, helping with pain.<sup>1</sup>

• **Pain medications** such as tramadol are helpful for pain before and after surgery, and they work especially well in conjunction with NSAIDs.<sup>1</sup>

*\*Do not give your pet any medications for pain without checking with your veterinarian first. Human medications are often not metabolized the same way in dogs as they are in people and can have devastating effects.*

## Prevention of Legg-Calve-Perthes Disease in Dogs

The genetics of this condition are uncertain at this time. The best advice given would be not to breed with Dogs that have suffered from Legg Calve Perthes disease and ideally, not repeat that exact same mating. <sup>2</sup>

References: 1. Doghealth.com  
2. Dr Karen Hedberg BVSc

### Works Cited

1. Brinker, P. F. (1990). *Handbook of Small Animal Orthopedics and Fracture Treatment, Second Edition*. Philadelphia: W.B. Saunders Company.

2. Orthopedic Foundation for Animals. (n.d.). *Legg Calve Perthes Overview*. Retrieved from Orthopedic Foundation for Animals.

*Disclaimer: This information is not intended to replace professional consultation, diagnosis, or treatment by a licensed veterinarian. If you require any veterinary related advice, contact your veterinarian promptly.*