

## What is Legg-Calve-Perthes Disease?

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Legg-Calve-Perthes Disease, also known as LCP or Ischemic Femoral Head Necrosis, is hip joint disorder that occurs in both humans and dogs. It is sometimes called “hip dysplasia of little dogs,” but this is a misnomer, as the two disorders have nothing in common in how they occur.

The hip is a simple ball and socket joint. In normal hips, the femoral head (ball) fits snugly in the acetabulum (socket), without visible space between them (Figure 1). LCP is caused by interruption of the blood supply to the femoral head, causing avascular necrosis, or death of bone cells (Figure 2). Infection is not involved.

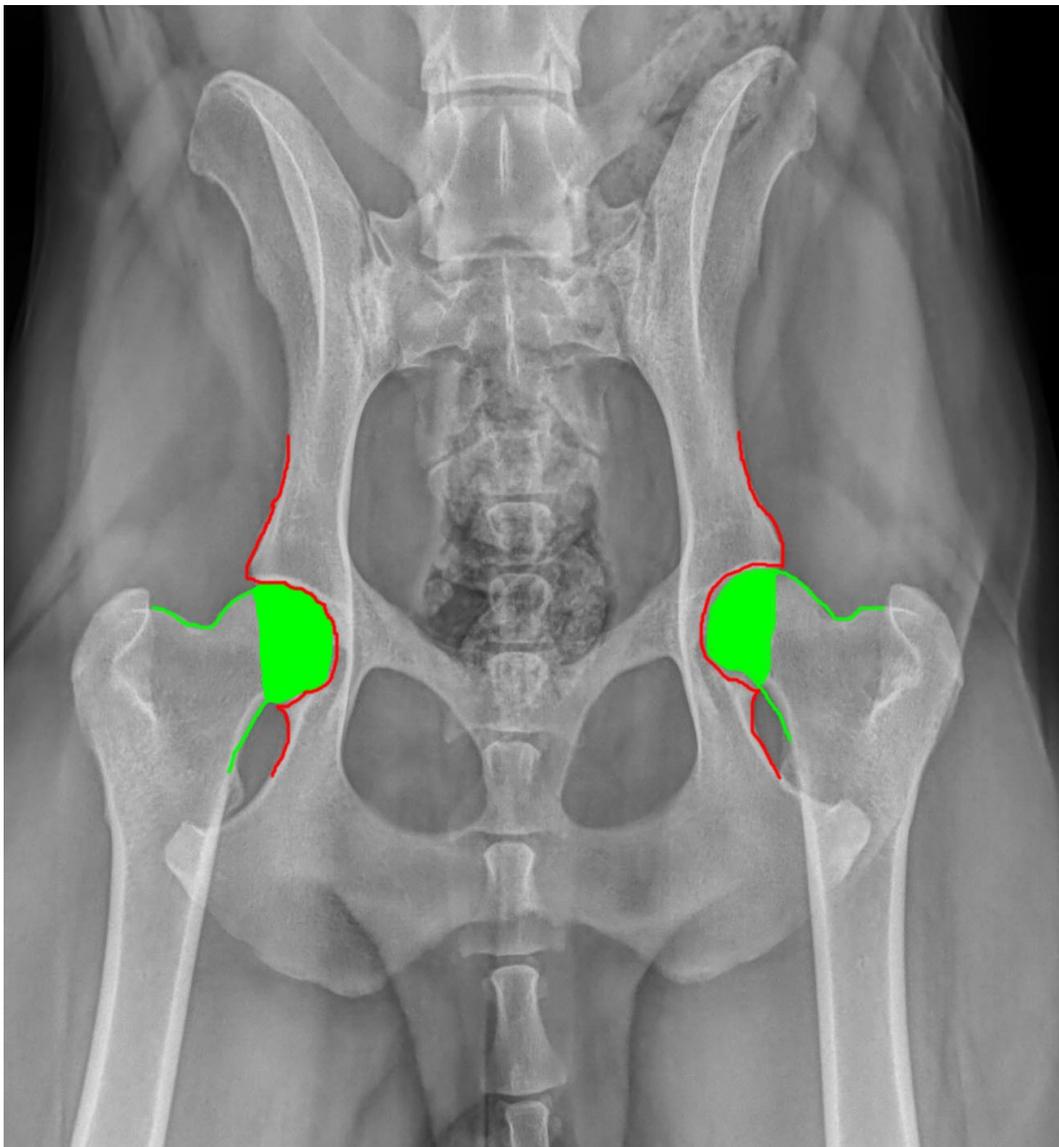


Figure 1. Normal dog hips. The acetabulum is outlined in red, while the femoral heads are green.

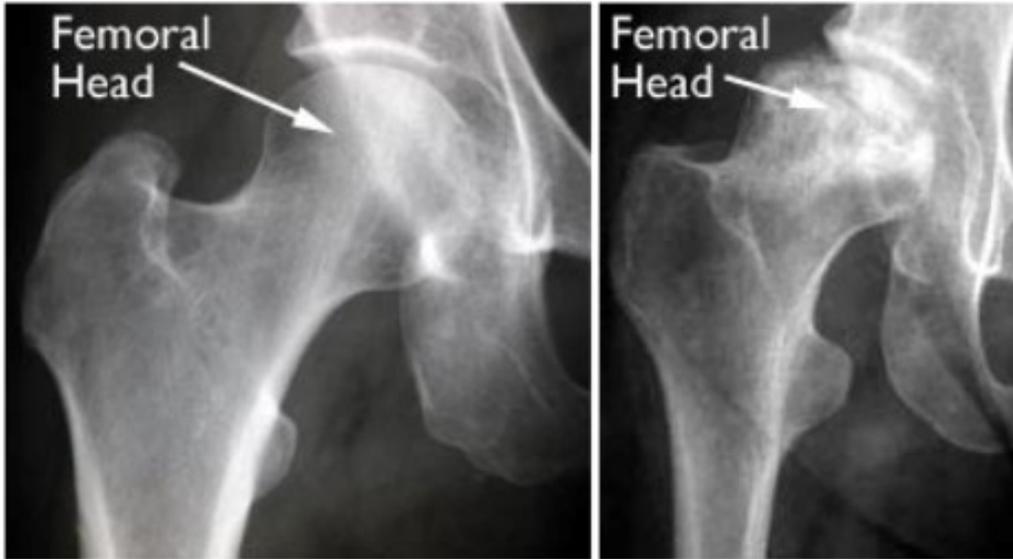


Figure 2. Normal and Abnormal dog hip.

In the left photo, the femoral head is normal.

In the right photo, note the moth-eaten appearance of the bone.

This is the previously-mentioned necrosis that occurs with LCP.

Symptoms of Legg-Calve-Perthes typically appear in Miniature and Toy breeds between four months and one year of age, with a peak incidence at about seven months. Affected dogs display stiffness, lameness, and pain on extension in the affected leg. The condition is usually present in one leg only. These symptoms occur as bone cells die due to interrupted blood supply, then resume their blood supply and remodel the femoral head, creating an irregular fit in the acetabulum. Eventually, the femoral head collapses, causing shortening of the affected leg, significant pain, and obvious lameness.

Treatment can be conservative or surgical. Conservative treatment consists of four to six months of strict crate rest, with leash walks only to potty. Conservative treatment is only successful if there is no remodeling or collapse of the femoral head, and the confinement protocol is strictly adhered to.

If conservative treatment fails or the owner is unable to comply with strict rest or there is femoral head remodeling or collapse, then surgical treatment is indicated. Surgery involves removal of the diseased femoral head, creating a "false joint," which relieves the pain. The small size of the patient enables the dog to walk with a normal or nearly normal (shortened stride) gait.

If left untreated, dogs with LCP will have significant muscle atrophy, osteoarthritis, and become severely crippled and painful. Anti-inflammatory pain medications such as Rimadyl, Metacam, or Deramaxx are indicated to help relieve pain and improve function.

LCP is not caused by trauma, and is believed to be genetic, although the exact mode of inheritance is not known. The Manchester Terrier is considered an “at risk” breed by the Orthopedic Foundation for Animals (OFA). Additionally, the OFA recommends not breeding dogs affected with LCP.

**References:**

Nunamaker, David M. Legg-Calve-Perthes Disease.  
[http://cal.vet.upenn.edu/projects/saortho/chapter\\_82/82mast.htm](http://cal.vet.upenn.edu/projects/saortho/chapter_82/82mast.htm)

Orthopedic Foundation for Animals. Legg-Calve-Perthes Overview.  
[http://www.ofa.org/lcp\\_overview.html](http://www.ofa.org/lcp_overview.html)