

Legg Calve Perthes Disease (LCP)

Legg Calve Perthes (leg caff PUR thees) Disease, also known as Perthes or LCP, is a condition affecting one or both hips typically in children ages 3 to 10 years old. It causes the bone in the hip to die. LCP disease is not contagious. There is no cure; however, most children recover from LCP with time and age. It is more common in boys than in girls, though more bone damage occurs in females. Caucasians develop this disease more frequently than African Americans.

Causes

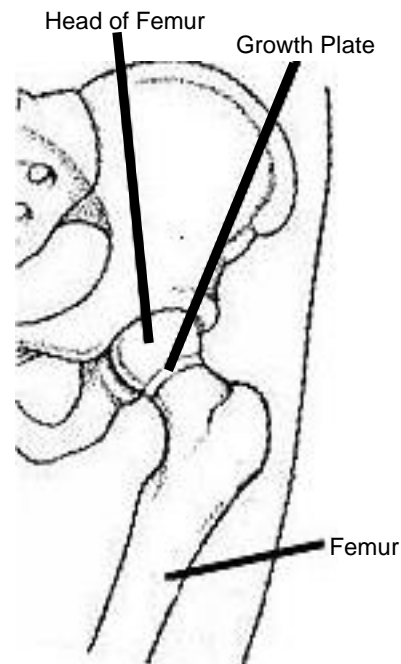
The cause is not known. One theory is that LCP may be due to repeated trauma and mechanical overload to the head (top) of the femur (Picture 1). It may run in families as well.

Signs and symptoms

Pain and limping are the most common signs of the disease. This is often relieved with rest and decreased activities. More severe or later signs of LCP may even include decreased range of motion to the affected hip or unequal leg lengths.

Diagnosis

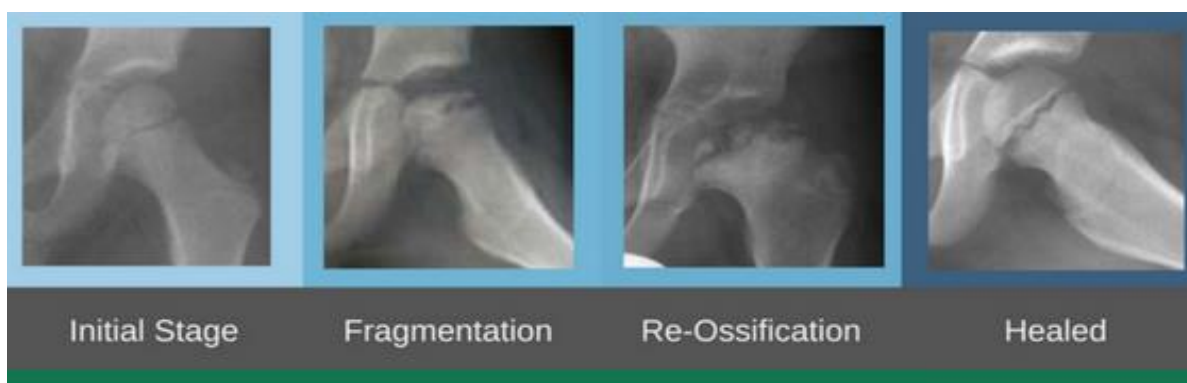
This disease is first diagnosed with an x-ray. The x-ray will show the condition of the femoral head and the stage of collapse the bone is in. Magnetic resonance imaging (MRI) and bone scans may be used to diagnose LCP and show your child's provider how much of the femoral head is involved.



Picture 1 Hip joint

Legg Calve Perthes disease goes through several stages over a course of several years (Picture 2). The stages are described below:

- **Initial Stage** – This is often the most difficult to see on x-ray and the hip may only show subtle changes.
- **Fragmentation Stage** – The femoral head continues to die and small bony pieces (breaks) occur. The femoral head is not smooth or round at this stage. This is usually when symptoms are present and most noticeable. This stage can last from 6 months to 2 years.
- **Re-ossification Stage** – New bone begins to form and replaces the dead bone. This may occur for up to 18 months.
- **Remodeling (Healed) Stage** – At this stage, the femoral head returns to a more normal shape. The femoral head continues to develop until the child is skeletally mature (has finished growing).



Picture 2 The 4 stages of LCP Disease

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Clinical exam

Your child's health care provider will conduct a physical exam along with x-rays. The physical exam consists of the provider assessing your child's hip range of motion. Typically, a child with LCP has a hard time moving the leg away from the body and twisting the leg toward the inside of the body. The provider will look to see if your child's leg lengths are equal. Your child will walk so their gait can be assessed for any type of limp or abnormality.

Treatment

LCP is often treated with observation, particularly in the younger child. Often, the child will be placed on crutches or a walker to help prevent weight being placed

on the affected hip. Anti-inflammatory medicines, like ibuprofen (Advil®) and naproxen (Aleve®), rest, changes in activity (such as avoiding high-impact activities like running and jumping), and physical therapy are also standard treatment options.

If non-surgical treatment has not been successful, or the femoral head has not grown back as it should, surgery may be needed. Your child's age and severity of the disease determines the specific surgical treatment used.

- **Petrie casting** is a less-invasive procedure. First, a test called an arthrogram is done. This test uses dye injected into the hip joint. It shows how much of the femoral head is dead and how much is still covered by the acetabulum (hip socket). The Petrie cast consists of two long leg casts with a bar that holds the legs apart. The arthrogram is done during the placement of these casts, after your child is asleep. These casts are usually in place for 4 to 6 weeks.
- An **osteotomy**, (cutting the bone and repositioning it more correctly) is done when the bone has redeveloped incorrectly. Plates and screws are used to hold the correct position of the bone until it has healed (Picture 3). Cast, crutches or a walker and an abduction pillow may be used after surgery to help keep the hip in the proper position and promote healing.



Picture 3 Plates and screws hold the bones in place after an osteotomy.

Follow-up

You and your child can expect to have regular follow-up appointments with your child's orthopedic doctor until your child is skeletally mature (has finished growing).

If you have any questions, be sure to ask your child's doctor, nurse, or pharmacist, or call the Orthopedic Clinic at 614-722-5175.