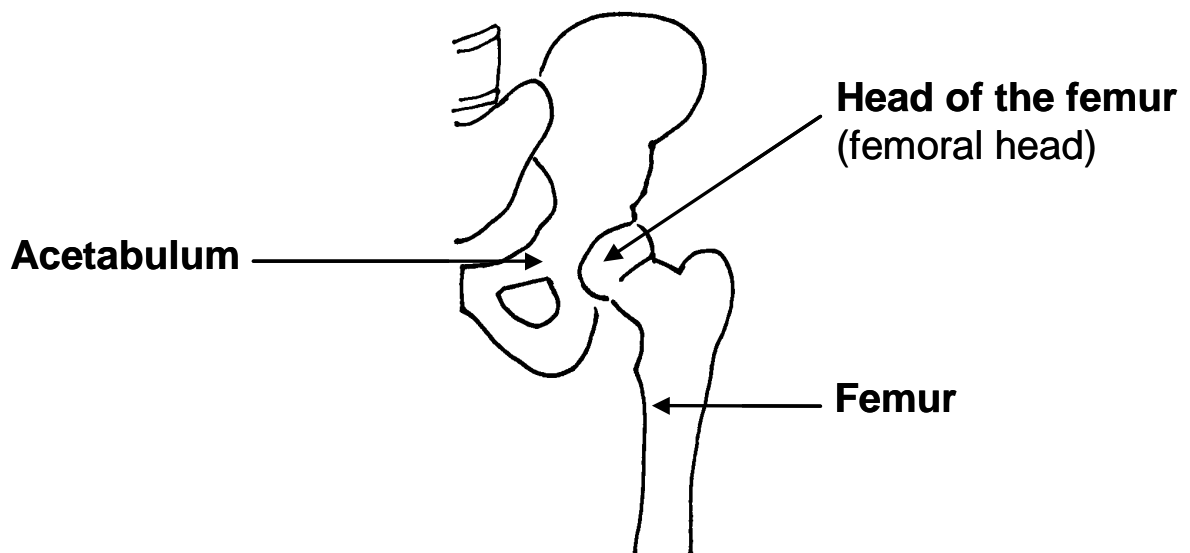


Perthes Disease

What is Perthes disease?

Perthes disease is a disease of the hip joint in children. The hip joint consists of 2 main parts. The ball-shaped top (head) of the thigh bone (femur) and the cup-shaped hip socket, called the acetabulum.

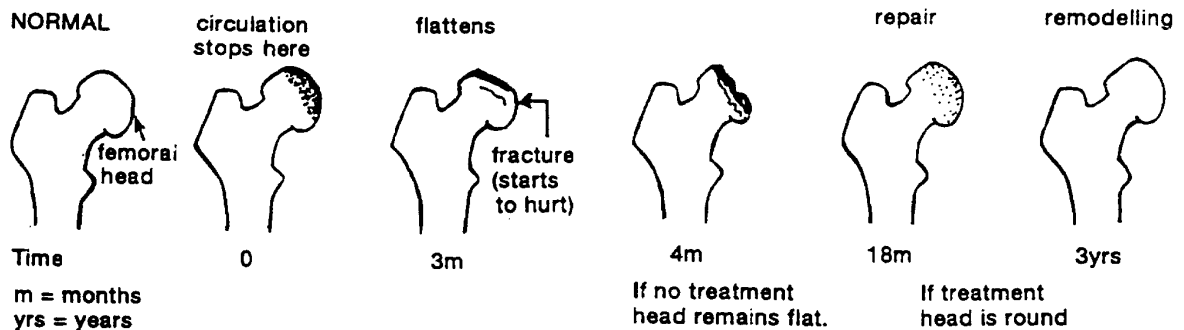


The stages of Perthes Disease

In Perthes disease, the head of the femur loses its blood supply and part of the bone dies. The bone becomes weak and a small break (fracture) develops. This causes the bone to change shape so that it no longer fits into the hip joint socket properly.

After several months the blood supply returns. Without treatment, the head of the femur flattens causing pain in the hip, a limp and arthritis in later years.

Several years



What causes Perthes disease?

The cause of Perthes disease is not known. We do not know what stops the blood flow to the head of the femur.

We do know that Perthes disease occurs in children between 4 and 10 years of age. It occurs 4 times more often in boys than girls and is associated with a low birth weight, especially boys less than 5.5 pounds. About 1 in 5 children with Perthes disease have another family member with the disease.

What are the symptoms?

There are no symptoms in the early stages of Perthes disease. The first symptoms are a limp, occasional knee pain and stiffness. Some of the child's movements are reduced. "Doing the splits" is the first movement in which tightening up is noticed. The muscles of the affected leg may get smaller as well.

Perthes disease usually affects one hip. About 1 in 5 children with Perthes disease have the disease in both hips.

How is Perthes disease detected?

Many diseases have similar signs and symptoms to those of Perthes disease. An x-ray is used to make the diagnosis. During the early stages an x-ray may not be helpful as the signs of the disease may not have appeared. Bone scans and magnetic resonance images (MRI) can be used to detect the amount of blood supply in the head of the femur.

What treatment is available?

The goal of treatment is to maintain a full range of motion of the hip and to keep the head of the femur well contained in the hip joint.

There is no one agreed upon method of treatment. There are 4 main types of treatment. The treatment for your child will depend on the stage of the disease, the extent of the problem and your child's needs. The doctor will discuss your child's problem and the treatment plan. Make sure you ask the doctor any questions that you have.

1. Watching and treating symptoms

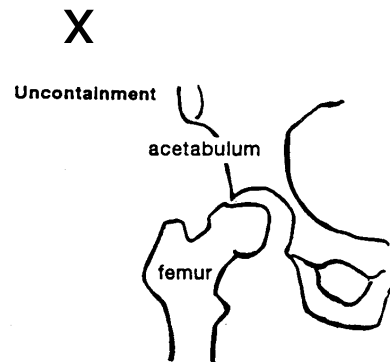
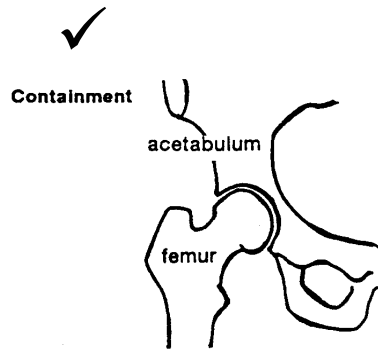
This treatment consists of rest and exercise when the hip hurts. It includes stretching exercises to maintain the joint's range of motion and periods of bed rest with or without traction. After the first symptoms are seen, x-rays are done every 3 to 4 months and whenever there are other concerns.

2. Early treatment for containment

This is treatment to "contain" the head of the femur in the early stages of the disease. This treatment is recommended for children in whom:

- more than half of the femoral head is affected
 - the head of the femur is not contained in the hip socket (uncontainment)
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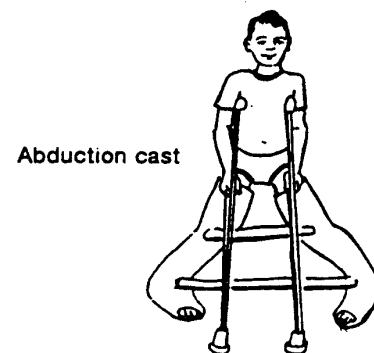
Containment means keeping the head of the femur in its normal position in the hip joint socket. It may help to think of the hip joint as an ice cream scoop with a ball of ice cream inside. When the ice cream (the head of the femur) fills the scoop (socket or acetabulum) it is round and undented. If the scoop only covers half of the ice cream, the ice cream outside the scoop can become dented and seep out. This is similar to what happens when the head of the femur is no longer inside the socket. It can become dented and not rounded.



Containment can be achieved with casts or surgery.

Casts

A cast is used to position the affected leg away from the body. This is called abduction. This position places the head of the femur back into the acetabulum and keeps it there.



While in the cast, your child may need to use crutches, to limit weight bearing on the hip joint. The physiotherapist will teach your child how to use the crutches.

You will be given instructions about the cast, including how to keep it clean. The doctor will decide when the cast can be removed and when your child can resume normal activities.

Surgery

If abduction casts are not able to contain the head of the femur in the hip joint, surgery is needed.

Your child will be admitted to hospital. During surgery, the bones are moved into the desired position and held together with pins. The pins will stay in place permanently. This takes about 2 to 4 hours. After surgery, your child will be put into an abduction cast to keep the head of the femur contained. Once your child is comfortable taking pain medication by mouth and you are comfortable helping him or her move around, your child can go home. The hospital stay is usually 2 to 3 days. After 3 months and a short period of rehabilitation, your child will be able to resume normal activities. The entire process takes about 3 to 4 months.

3. Making the head of the femur round again

When the head of the femur is very deformed and cannot be successfully treated with the methods already described, other treatment methods must be used. A combination of surgery to the head of the femur and acetabulum may be needed. This allows the head of the femur to be re-directed into a newly formed acetabulum.

4. Late surgery for arthritis as an adult

Surgery to realign or replace the joint may be needed to manage arthritis in an adult. The method chosen depends on the age of the patient.

How can I help my child during treatment?

- Become involved in your child's treatment. Your child's health care team will teach you how to care for your child to help in his or her recovery.
- If you have questions or concerns, talk with your child's caregivers. There are many health care professionals who can help you.
- Follow directions about the cast carefully. Keep the cast clean. Remove it only as directed by the doctor.
- Try to treat your child as normally as possible.
- Encourage your child to resume his or her usual activities as soon as the doctor recommends.
- Watch your child for any further symptoms. Make sure your child has follow-up visits with the doctor and x-rays as planned.

What is the outcome of the disease?

In general, the younger the child at the start of the disease, the better the results of treatment. Research has shown that most children who get Perthes disease at less than 8 years of age have an excellent outcome (prognosis). These children need check-ups with the doctor and x-rays every 4 months. If a problem with movement or containment is found, a 3 to 6 month non-surgical treatment may be necessary.

Prognosis also depends upon how much of the femoral head is affected by the disease. Children with less than half of the femoral head involved have better treatment results. As loss of containment may still occur, these children are also followed-up with examinations every 4 months.

Regardless of the method of treatment, if a good range of motion for the hip is maintained during treatment the outcome should be satisfactory.

Notes:

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