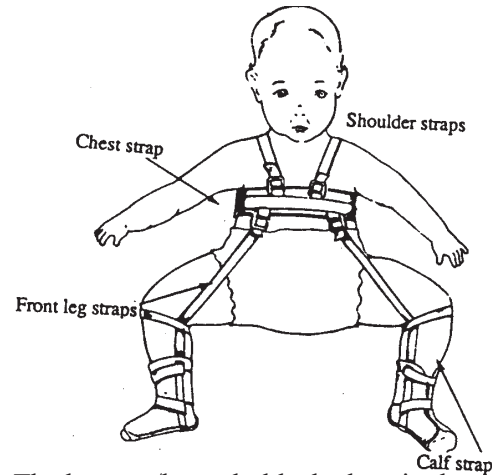


Types of Treatment

Pavlik Harness (or a type of brace)
- the baby wears one of these if DDH is diagnosed early in life.



The harness/brace holds the legs in the correct position and baby can move his/her legs while wearing it. This treatment works for 90% of children with DDH. A baby, 1-2 weeks old, will wear the harness until the hip is stable and the socket has formed well. This will take longer to achieve the older the baby is at diagnosis. There is more information about the harness in the Pavlik Harness pamphlet PE# 218.

Hip Reductions - If the joint is too unstable the doctor sets the ball into the socket while the child has a general anesthetic. This is called a hip reduction. There are two kinds of reduction: **open** or **closed**. (A small number of children have hip traction before a reduction. The traction helps those children who have very tight, short, hip ligaments and muscles. There is more about traction in pamphlet PE#016.)

A closed reduction - In the operating room the surgeon moves the head of the femur into the correct position in the socket, without cutting the skin. He puts a hip/body cast onto the baby to hold the hip in position. The baby may go home the same day or stay in hospital overnight.



The surgeon may not be able to move the bones into position if the tendons and ligaments are tight or poorly developed.

In this case, the doctor makes a small cut (5 mm) in the groin area to lengthen tendons holding the femur outside the socket. The doctor can now move the head of the femur into the hip socket. A hip spica or body cast is then applied in the operating room.

Open reduction - sometimes the hip is too unstable to hold in a cast and it is necessary to do an operation where the joint is opened and cleared of obstruction. Tight tissues are lengthened and the head is seated under direct vision. This operation lasts about 1 hour.

The baby usually stays in hospital overnight. The child wears the cast for 6-8 weeks. Ask a nurse to show you how to care for your baby and the cast.

Your doctor will see and check your child many times while s/he is still growing. Your doctor will not need to check the child as often as the child gets older. At each visit the child has an X-ray. Your doctor looks at the hip joints in the X-ray and checks that the joints are growing properly.

The treatment for DDH takes a long time. It can be difficult for the whole family and you may have many questions and worries. We want to help you as much as we can. Please ask us at any time if you are worried about your child.

**Call the Orthopedic Clinic Nurse
at 604-875-2609 with your
questions or concerns.**

*Developed by the health care
professionals of the Orthopedics
Department with assistance from the
Department of Learning & Development*

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Developmental Dysplasia of the Hip (DDH)

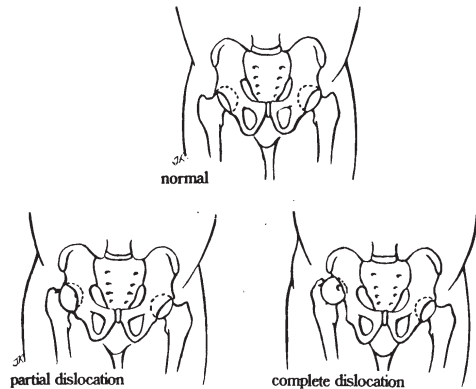


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What is Developmental Dysplasia of the Hip [DDH]?

Normal development implies proper formation until growth is complete. Dysplasia means that as the body is taking shape, a part has not formed well. Developmental dysplasia of the hip means the baby is either born without a well-formed hip socket or as the child develops, the hip does not form well. The hip socket is the cup-shaped part of the hip bone (acetabulum). The ball shaped top of the leg bone (the head of the femur) fits into it. These two parts make the hip joint. The hip works well if the head of the femur fits nicely into the acetabulum.



There are two problems to address:

1. Stability or how firmly the head of the femur is seated in the socket (acetabulum).
2. The second problem to address is the depth of the socket and its development (or lack there of).

A baby may have a serious DDH or a mild DDH. It depends on how shallow the “cup” is, and how round the “ball” is that fits into it. The shallower the cup, the more serious the problem. A shallow cup cannot hold the ball of the femur in the joint. It tends to slip out.

The joint may be “wobbly” [unstable]. In mild dysplasia, the “cup” or socket is only slightly flat and a little shallow. When the socket is very flat and very shallow, the head of the femur slips right out of the acetabulum. It “dislocates”. In most children with DDH, the head of the femur slips partly out of the acetabulum. This is a “subluxated” hip. Sometimes the socket looks normal but the head of the femur can easily be pushed out of the socket. This is called a “dislocatable hip”. The pictures attempt to show the different degrees of DDH.

If the joint is not secure as the bones grow, it can lead to arthritis and other joint problems later in life.

About 9 out of every 1000 babies are born with a mild dysplasia. 2-3 out of every 1000 babies have complete dislocations at birth. Girls are seven times more likely to have DDH than boys. 25% of children with DDH have the problem in both hips.

What causes DDH?

No-one knows for sure. These are some possible reasons:

- The position of the baby’s legs in the uterus may affect DDH. Breech babies are more likely to have DDH than other babies. Premature babies hardly ever have DDH. They may have more space in the uterus.
- Family history (hereditary) plays a part in DDH. There is a greater chance for DDH to happen if other family members have had it.

In the later stages of pregnancy a tissue relaxing hormone is produced. Its role is to loosen the ligaments of the mother’s pelvis. It may also loosen the joints of the baby growing in the uterus. In the first several weeks after birth the tissues will tighten. Because of this fact, if the baby has DDH, it is important that the femoral head be well seated in the socket early in life so that the tissues do not stabilize with the head out of the socket.

What are the signs of DDH?

Most newborns are checked for signs of DDH. Some signs are:

- instability of the hip shown by testing each hip by gently pushing down and back on the thigh
- the thigh [leg] bone is shorter in one leg than the other. The knees are at different levels

A newborn baby’s bones do not show up well in an X-ray. When the baby is 4-6 months old the doctor may suggest the baby has a hip X-ray. Ultrasounds can also help show a DDH in the first 2 – 3 months of age. Your doctor may see the DDH at this stage.

Even with careful examination, the DDH may not be found, or may not be severe enough to detect, in the first few months. If the joint is not stable, the femur slips further out of the socket. The DDH will then show up when the child starts to walk.

What is the treatment?

The goals of treatment are:

- to shift the “ball” of the femur back into the hip socket “cup” [a reduction]
- to keep the ball of the femur in the “cup” while the baby grows and the hip joint develops more normally

The baby is positioned with the hips flexed (bent up) to 90 degrees and then abducted (spread apart) about 45-50 degrees. As the bones grow, the pressure of the “ball” deepens the “cup” in the hip bone. This, together with the muscles and ligaments around the bones, makes a stronger hip joint that moves easily. The treatment works best when you start it as soon as you know the baby has DDH. There are different ways to do the treatment. The type of treatment depends on the age of the child and the kind of dislocation/dysplasia.