

developmental dysplasia of the hip (DDH)

Developmental dysplasia of the hip (DDH) involves abnormal development of the hip joint. The hip joint is a ball and socket joint. The ball is the uppermost portion of the thighbone (femoral head). The ball fits into the socket (acetabulum): the cup-like structure of the pelvis. Ligaments surround the hip joint to keep it in the right place.

what are the signs and symptoms of DDH?

Symptoms are different based on severity.

- Mild cases: Ligaments around the hip joint are loose. This allows the ball to move around more than it should within the socket. This is called subluxation.
- Moderate cases: The femoral head can be moved out of the socket when pressure or force is applied. In this case, the hip would be able to be dislocated.
- Severe cases: The head of the femur (ball) is completely out of the acetabulum (socket). This is a dislocated hip joint.

In all cases of DDH, the acetabulum is shallow or not as deep as it should be.



Image from International Hip Dysplasia Institute: <https://hipdysplasia.org/developmental-dysplasia-of-the-hip/infant-diagnosis/x-ray-screening/>

when does DDH develop?

Developmental dysplasia of the hip often starts before the baby is born and is present at the time of birth. Other times, it develops as the child grows and develops during the first year of life.

how common is DDH?

DDH is seen in 1-2 out of 1,000 babies. It is more common in females than in males. This may be due to the circulating hormones of the mother during pregnancy.

what causes DDH?

There could be a few causes:

- A small or tight uterus (womb) because there is less room for the fetus to move. This is seen in first-born babies and babies born to a mother with low levels of amniotic fluid.
- Babies in the womb in a breech position are found to have greater incidences of DDH. These are babies that are buttock side down instead of head down.
- Children born with other conditions, such as club feet and torticollis, also have a higher risk for DDH.
- A genetic component seems to be involved as it tends to run in families.
- Babies that are swaddled tightly with their legs together and hips and knees straight have a higher risk for developing DDH after birth. Babies need to have plenty of room to move even when swaddled.

(continued on reverse)



how is DDH diagnosed?

All infants are checked for DDH. Physical exams of the baby are done at birth and at well-child visits. The doctor looks for differences in leg lengths, decreased hip motion and a symmetry in skin folds on the thighs and buttocks. The doctor performs specific tests on the hip joints to see if they are loose or instable.

Doctors may also do imaging tests to diagnose.

- Younger than six months old: An ultrasound is used to see the joint. This is because their hip joint is mostly cartilage, not bone.
- Older than six months: An X-ray is used to see the bones of the hip joint.

how is DDH treated?

Treatment depends on the child's age and the severity of the condition. It focuses on keeping the ball in the right spot in the socket so that the hip joint can develop normally.

Infants up to six months of age are placed in a soft brace called a Pavlik Harness. This harness allows the baby to move his or her legs while keeping the hip joint properly aligned. If the harness is not enough to keep the joint in the right place, a brace made of a harder material may be needed. In some cases, a hard cast may be used. If these methods are not successful or if the child is diagnosed at a later age, surgery may be required to realign the hip joint. Children will continue to be monitored as they grow to watch for continued proper development of the hip.



Image from The Royal Children's Hospital Melbourne:
https://www.rch.org.au/kidsinfo/fact_sheets/Pavlik_Harness_for_DDH/

what would happen if left untreated?

An early diagnosis of DDH yields good long-term outcomes for the children. When found early and treated, children will develop a normal hip joint. However, if DDH is diagnosed later in life or if left untreated, it can lead to pain, a difference in leg lengths and arthritis in early adulthood.

