CONDITION

Developmental dysplasia of the hip

Developmental dysplasia of the hip is abnormal hip development that can leave the joint unstable or poorly aligned.

WHAT IT IS
Abnormal development or alignment of the hip joint

BODY SYSTEM
Bones and joints

MAIN SYMPTOMS
Limited hip movement, unequal legs, limp, hip pain

WHAT CAUSES IT
Inherited, hormonal, and womb-position factors

HOW IT IS DIAGNOSED
Hip examination plus ultrasound or X-ray

MAIN TREATMENT
Harness, casting, or surgery to align the hip

CAN IT BE CURED?
Sometimes - early treatment can restore alignment

IS IT AN EMERGENCY?
No - but prompt assessment protects hip development

LONG-TERM OUTLOOK
Usually good when found and treated early

Overview

Developmental dysplasia of the hip, or DDH, means that a hip joint has not developed normally. It may affect one or both hips.

The hip is a ball-and-socket joint. The rounded top of the thigh bone sits inside a cup-shaped socket in the pelvis. In DDH, the socket may be too shallow, the joint may be loose, or the ball may sit partly or completely outside the socket.

DDH ranges from a mildly shallow but stable hip to a fully dislocated joint. Some hips become more stable as a baby grows, while others need treatment to guide healthy development.

The condition is also called congenital hip dysplasia. "Developmental" is more accurate because the hip may be abnormal at birth or become unstable during early development.

Babies with DDH often have no obvious discomfort. Routine newborn and infant hip examinations help identify the condition early, when treatment may be simpler and more effective.

Symptoms

Many babies with DDH appear comfortable and have no visible symptoms. A health professional may first notice hip instability during a routine examination.

Possible signs in babies include:

Uneven skin folds are also common in babies without DDH and cannot confirm the condition. Do not try to test or force a baby's hips at home.

A clicking sound does not always mean DDH because tendons and other soft tissues can make harmless clicks. A definite "clunk," felt when the joint moves in or out of place, is more concerning and needs professional assessment.

Signs after a child starts walking may include a limp, walking on the toes of one foot, a waddling walk, or an apparent difference in leg length.

Teenagers and adults with a shallow socket may have groin or outer-hip pain, especially during running or prolonged walking. Other symptoms include stiffness, clicking, catching, or a feeling of instability.

- One leg moving less freely
- Difficulty spreading the thighs during dressing or diaper changes
- One leg appearing shorter
- Uneven skin folds around the thighs or buttocks

Causes and risk factors

DDH usually has no single cause. Inherited traits, hormone effects, hip shape, and the baby's position before and after birth may contribute.

The chance of DDH is higher when:

Either hip or both hips can be affected. Having a risk factor does not mean a baby has DDH, and many diagnosed babies have no known risk factors.

After birth, tightly wrapping a baby with the hips and knees straight may stress the developing joints. Hip-healthy swaddling allows the legs to bend and move freely.

- The baby was in a breech position, with the bottom or feet downward
- A parent or sibling had DDH
- The baby is female
- Space in the womb was restricted
- The baby has certain foot-position problems or torticollis

Diagnosis

Screening begins with a physical examination. A trained health professional gently moves each hip to assess stability and whether the thighs open equally. These movements should not be painful or forceful.

Imaging may be arranged when the examination is abnormal, important risk factors are present, or symptoms appear later. Physical examination alone does not identify every case.

Ultrasound shows the hip without radiation and is particularly useful in young babies, whose hips still contain substantial cartilage. Very early findings may reflect normal immaturity, so timing and specialist interpretation are important.

X-rays become more useful as the bones harden. They can show whether the ball is centred in the socket and whether the socket is developing normally.

An abnormal screening result does not always mean treatment is needed, and a normal early examination cannot exclude every later problem. Follow-up examinations and imaging show how the hip develops over time.

Treatment and management

Treatment aims to hold the ball securely in the socket so that the joint can develop in a healthier shape. The approach depends on the child's age, joint stability, imaging results, and response to previous treatment.

A mildly immature but stable hip may be monitored with repeat examinations and imaging. More unstable hips usually need active treatment.

In young babies, the usual first treatment is a soft brace called a Pavlik harness. It holds the hips bent and gently spread while allowing some movement. A specialist must fit and adjust it. Do not change the straps without advice, because incorrect positioning may make treatment less effective or place pressure on nerves and tissues.

Regular appointments are needed to check the fit, skin, leg movement, and hip development. The treatment team will explain how to dress, feed, clean, and position the baby safely.

If a harness does not hold the hip in place, or DDH is diagnosed later, the joint may be repositioned under anaesthesia. In a closed reduction, the hip is moved without opening the joint, then held in a firm hip spica cast.

Some children need open surgery to remove tissue blocking the joint and place the ball in the socket. Surgery may also reshape the pelvis or thigh bone when the socket remains shallow or alignment needs correction. These procedures are called osteotomies.

Older children, teenagers, and adults need individual assessment. Physiotherapy can improve strength, movement, and activity control, but it cannot deepen a structurally shallow socket. Persistent symptoms may be treated with joint-preserving surgery. Severe arthritis may eventually require hip replacement.

Complications

A poorly aligned hip can affect walking and place uneven pressure on the joint. Over time, this may damage the cartilage and the labrum, a rim of tissue around the socket.

Possible long-term complications include:

Treatment also has risks. The hip may remain unstable or become displaced again, and braces or casts can irritate the skin. Rarely, treatment affects a nerve or reduces blood flow to the growing top of the thigh bone. This blood-flow complication, called avascular necrosis, can change the hip's shape.

Regular follow-up is important because the joint may appear stable before the socket has fully developed.

- A lasting difference in leg length
- Limping or reduced hip movement
- Groin or hip pain
- Early osteoarthritis
- A persistently shallow socket, called residual dysplasia

Prevention

Most cases of DDH cannot be prevented because some contributing factors, such as family

history and womb position, cannot be changed.

Hip-healthy handling may reduce avoidable pressure. When swaddling, leave room for the hips and knees to bend and the legs to move apart. Do not wrap the legs tightly together in a straight position.

Baby carriers should support the thighs and allow the hips to bend naturally. Hip-healthy positioning does not guarantee prevention and cannot replace screening or treatment.

Attending recommended infant examinations and imaging can help identify DDH before it causes visible walking problems.

Living with it and what to expect

Many babies treated early develop stable hips and take part in ordinary childhood activities. A harness or cast can temporarily make feeding, sleep, bathing, clothing, travel, and diaper changes more difficult. Follow the treatment team's practical instructions to avoid disturbing the hip position or damaging the device.

Follow-up may continue after treatment ends. X-rays can check that the socket is becoming deeper and remains aligned as the child grows. Some children need monitoring for several years because residual dysplasia may become clearer over time.

Children whose hips develop normally usually do not need lasting activity restrictions. Advice for those with ongoing dysplasia, pain, stiffness, or previous surgery will depend on the structure and symptoms of the hip.

DDH is sometimes first recognised in adolescence or adulthood. A shallow socket may increase the risk of labral damage and osteoarthritis. Management may include activity changes, pain relief, physiotherapy, monitoring, or surgery.

The outlook depends on age at diagnosis, severity, response to treatment, and later socket development.

When to get medical help

Arrange a prompt, non-emergency appointment if a baby moves one leg less, has difficulty opening one hip during routine care, or appears to have unequal leg lengths. A new limp, waddling walk, or persistent hip or groin pain also needs assessment.

Follow up promptly if your baby was breech or has a close family history of DDH and recommended screening has not been completed.

If a child is wearing a harness or cast, contact the treatment team the same day about skin sores, a harness that slips or no longer fits, a wet or cracked cast, worsening pain, fever, or a bad smell from inside the cast.

Seek emergency care if the toes below a harness or cast become blue, very pale, cold, or markedly swollen, or if the child cannot move them. Severe or rapidly worsening pain also needs urgent assessment. These signs may indicate pressure on circulation or nerves.

DDH itself is not usually an emergency, but early assessment matters because treatment is often simpler in younger babies.

Common questions

Is developmental dysplasia of the hip the same as congenital hip dysplasia?

The names are often used for the same condition. "Developmental" is preferred because instability may be present at birth or become apparent as the joint develops.

Does a clicking hip mean my baby has DDH?

Not necessarily. Many clicks come from tendons or other soft tissues. A click cannot confirm or exclude DDH, so concerns should be assessed professionally.

Will my baby walk normally after treatment?

Many children treated successfully in infancy walk normally and have no pain. The outcome depends on severity, age at diagnosis, response to treatment, and later socket development.

Does a Pavlik harness hurt?

A correctly fitted harness should hold the hips in a helpful position without causing pain. Report persistent distress, swelling, skin injury, or reduced leg movement promptly. Do not adjust the straps yourself.

Can DDH return after treatment?

A hip may remain stable while the socket stays shallower than expected. This is called residual dysplasia. Follow-up imaging helps identify it as the child grows.

Can adults have developmental hip dysplasia?

Yes. Mild or unrecognised DDH may first cause groin pain, clicking, stiffness, or activity-related discomfort in adolescence or adulthood. Assessment usually includes an examination and X-rays.

Sources

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