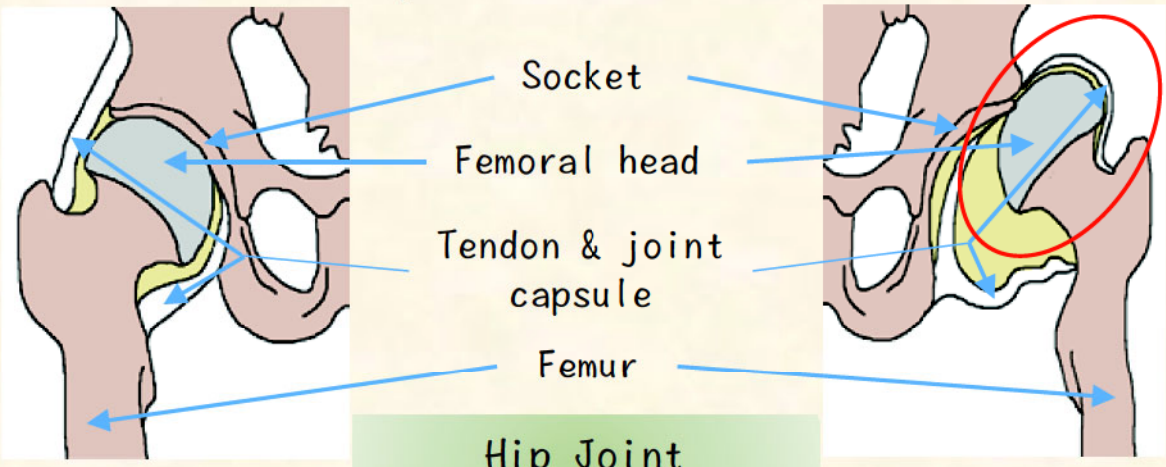
Developmental Dysplasia of Hip (DDH)

What is Developmental Dysplasia of Hip (DDH)?

The hip joint is created as a ball (femoral head) and socket joint. To develop normally, the 'ball' must be inside the cup-shaped socket of the pelvis. 'Developmental Dysplasia of Hip' (DDH) is a condition in which the baby is born with an unstable hip joint or the hip joint does not develop normally as the child grows due to congenital factors or poor posture, thus affects its development and results in abnormal development of hip socket. In DDH, the hip socket may be shallow and so the 'ball' may slip in and out of the socket. As such, the 'ball' may move partially or completely outside the hip socket, leading to partial dislocation or complete dislocation of hip joint.



Normal

Hip Joint Structural Diagram

Dislocated

Who are more likely to have DDH?

Research shows that DDH occurs in about 1 per 1000 newborns in Hong Kong. While the causes of DDH are not clear at present, some congenital factors are shown to have increased the chance of having DDH in some babies:

- Born in breech position (i.e. feet first)
- Siblings have history of DDH
- Baby girl (about 80% of the patients are female)
- Decreased amount of fluid in mother's womb during pregnancy
- Being preterm
- Having severe foot deformities at birth
- Having severe twisted neck (torticollis) at birth

Online version

However, about 60% of the babies with DDH do not have any of the above factors. Carers should therefore watch out for signs suggesting DDH in their babies for seeking early medical attention.

What are the impacts of DDH on the babies?

For majority of the babies with DDH detected early, the hip joint development can resume normal after treatment. Failure to diagnose and treat the condition promptly coupled with continued deterioration of the condition, however, will result in shortening of the affected limbs, mobility difficulties, spinal curvature, strain on knees and ankles, and premature degeneration of the hip joints.

How to know if baby's hip joints are normal?

In Hong Kong, doctors routinely screen all newborns before discharge to ensure that they are in good health. The doctors of Maternal and Child Health Centres (MCHC) of the Department of Health also examine newborns' hips to detect abnormality in the hip joint so that proper referrals to the specialist for further assessment can be made.

How it is done:

The doctor will first undress the baby and remove the diaper to expose his lower abdomen and legs, and let him lie quietly and comfortably on the couch. The doctor will observe the mobility of his legs; difference in leg's length; if the thighs can be opened up equally to both sides; any obvious uneven skin folds of the thighs; and any twist in the soles or twisted neck (torticollis). A specific examination to move the femoral head out and in the socket will also be performed for babies before 2 months of age.

Nurses will examine hip joints of the babies again at 2 or 4 months old again during routine interviews.

Similar to other screening tests, the above examinations may not be able to detect all babies with hip joint dislocation or instability.
Carers should keep an eye on their baby's condition so that hip abnormalities can be identified early.

If the examination results are normal, what else should parents and carers be aware of?

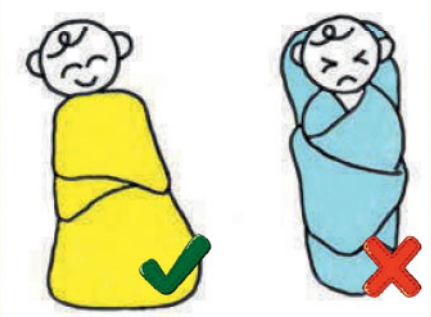
DDH may present after birth. It is possible that it develops gradually as the child grows up. Therefore, parents and carers should pay more attention to the condition of the baby in their daily life. Seek medical advice promptly if the baby:

- Has unequal length of legs
- Has uneven skin folds on both sides of buttock or thighs
- Cannot open up his legs fully or opens up his legs unequally while changing nappy
- Drags a leg when crawling
- Stands in an abnormal posture, e.g. lifting up the heel and balancing body on one side
- Walks with an abnormal gait, e.g. limping or walking on toe

Can DDH be prevented?

Although most causes of DDH remain unclear, research shows that an increased pressure on the hip joints, as a result of straightening the legs by force and tight swaddling, will affect normal joint development. Parents and carers should keep the hip joints of the baby in a good posture. If it is necessary to swaddle or hold the baby in a fixed position, make sure that there is enough space for the baby to bend and stretch his legs freely.

When swaddling a baby:



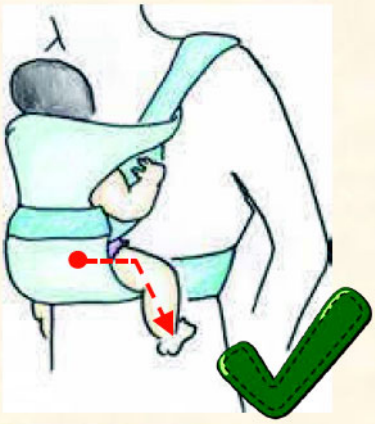
When using baby slings:

Do not straighten or press his legs together by force.

Make sure that there is enough space for his hips and knees to maintain a natural bending position and to move freely.

If baby slings are used:

Choose those that support the baby's thigh (from buttock to thighs) well in order to prevent his legs from hanging down thus exerting pressure on the hip joints.



If a baby car seat is used:

Choose the type with sufficient room for the baby to stretch out his hip joints and legs.

How to manage babies with suspected hip dysplasia?

After a preliminary checkup, doctors will refer babies with suspected DDH to the specialists for further examinations, such as ultrasound scan or x-ray examination, in order to confirm the diagnosis and provide appropriate treatment.

Treatment for DDH depends on the age of the baby at the time of diagnosis and severity of the joint abnormality. The goal of treatment is to put the femoral head back into the socket of the hip so that the hip can develop normally. The earlier the diagnosis is confirmed, the more effective will be the treatment. If DDH is diagnosed shortly after birth, doctor can put the hip joints back into its normal position easily by hand. They can be treated successfully with a brace - 'Pavlik Harness'. It keeps the hips and knees in the correct position (a frog-leg position) - the legs bent and turn outwards. The child may need to wear the splint for several months until the hip joints stablise and the hip sockets develop normally. If the splint does not work, or the joint abnormality is rather severe, or DDH is diagnosed at age 6 months to 2 years, the child may then need an operation.

If you have any queries regarding your baby's hip joints or lower limbs development, please seek advice from the healthcare professionals promptly.

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