A GUIDE TO
DEVELOPMENTAL DYSPLASIA OF THE HIP (DDH)

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Why is my child limping or refusing to walk?

The causes of limping or refusal to walk in a child are numerous. Some possible reasons for limping in this age group include trauma, infection in the joint or bone, reactive synovitis, ***developmental dysplasia of the hip or a dislocation of the*** hip, leg length discrepancy, neurologic disorder, or tumor. Your doctor will consider how long your child has been limping, his or her age and whether there is any focal pain or stiffness to direct the investigation.

How is a hip problem detected in a newborn? What is a hip click?

Your Pediatrician will exam your baby's hip soon after the child is born and at each well-baby visit. A tendon snapping over the brim of the pelvis or over a bump at the knee will often be felt as a click near the hip joint. Your doctor will try to distinguish this type of click from a dislocation of the hip joint. A dislocation of the hip can lead to dysplasia of the hip.

What is Development Dysplasia of the Hip (DDH)?

Development dysplasia of the hip (DDH) encompasses a wide range of disorders, including newborn hip instability, subluxation, dislocation, and acetabular dysplasia. The basic of these disorders is that the ball and socket hip joint does not remain tightly together. The ball (femoral head) is able to slip out of the socket (acetabulum). This movement is called instability or if the femoral head rests completely out of the acetabulum, it is called a dislocation. The hip joint cannot develop normally unless the femoral head sits securely in the acetabulum. When the two parts of the joint rest apart for any length of time, the femoral head becomes deformed and the acetabulum remains shallow. ultimately, the deformed hip joint may lead to arthritis in early adulthood.

What other information may be needed?

Some other questions your doctor may ask:

Was your child a breech delivery? Female? First born?
Has anyone else in the family had dislocated hip as a child?
Does your child have an abnormality of the foot or knee since birth?
Has your child been limping ever since he/she started walking?
Does the limp appear painful or change with activity?

The overall risk of DDH in the general population is 1:1000. The chance of finding a dislocated hip in the newborn is increased for a breech presentation, a female, and a first-born infant. It does not mean that every first-born female delivered breech will have a dislocated hip, but these factors are associated with increased chance of hip dislocation. A history of a dislocated hip in the family is also associated with increased chance of dislocation.

The dislocated hip may develop due to a packaging problem in the mother's uterus. Other congenital anomalies of the foot, knee, or neck have also been linked to dislocation of the hip. Your doctor will check for a hooked foot, a knee subluxation, or toticollis (wry neck) in your child as well. A toddler with a dysplastis or dislocated hip may have had a painless limp since they started walking. With these insights, your doctor can better evaluate your child and arrange for more detailed investigation if necessary.

How does my doctor make the diagnosis of a dislocated hip?

The first step is to obtain detailed information about your child and your family. The second step is to carefully examine your child. The doctor will test the motion of the hips and compare each hip to the other. A gentle push or pull will often lead to pistoning of the ball in and out of the socket. Your doctor will be able to feel this movement when the legs are spread apart. Inspection for asymmetry of the skin folds and length of the thighs is also important.

What special tests are required?

Ultrasound is a sensitive tool used to detect the dislocated hip and to assess the response to treatment in a child younger then 3 – 4 months of age. After that age, x-rays are generally used to evaluate the hip position and development.

What treatment is needed?

Treatment depends on the age at detection:

0 – 6 mos: Most newborns can be treated with a Pavlik harness. The soft harness holds the hip in the optimum position and it is not removed until the hip becomes stable. Then the harness is slowly weaned over several weeks

6 – 12 mos: Children under walking age are treated with a closed reduction of the hip under anesthesia. The child is put to sleep so that the hip can be put back together very gently. The hip is held in a rigid body cast for 3 months.

12 – 18 mos: Children above walking age often require surgery to open the joint and snug up the lining of the joint. The repair of the joint is protected in a rigid body cast for 6-12 weeks.

>18 mos: A toddler will generally require the joint to be opened and a cut made in the bone of the thigh or pelvis (osteotomy) to help guide development of the joint. The osteotomy corrects the shallow acetabulum and rotation of the thighbone.

Your doctor will direct you to an Orthopedic surgeon who specializes in children to discuss which option is best for your child.

Parent Instruction for a Pavlik Harness

With proper use of the Pavlik Harness, there is approximately a 95% success rate for correcting the position of the hips. The plan is to use the harness 24 hours/day for 6 weeks, then to wear from the harness (ie. 2hrs off, 3x/dat, then increase slowly). If the position of the hips is not corrected within 3 weeks (determined by ultrasound and doctor's exam) then the harness will be discontinued, and your orthopedist will try other treatments.

Handling:
Initially, most parents are a bit overwhelmed and have many questions. They are afraid to carry or hold their baby close. Most fear pushing the hips out of the sockets. It is important to help parents understand and become comfortable with holding, interacting with, and bonding with their baby without harming them. It is okay to sit baby up in supported sitting and let the hips bend forward as long as the harness is on, and baby's legs do not get pushed together toward midline.

Cost:
The cost of the harness is approximately $150 and is not usually covered by insurance for outpatients. If ordered during the hospital visit, it will be covered as part of the inpatient bill.

Nursing:
It is important to help remind nursing, and anyone else who is handling or helping to care for your baby, of the following. "Double diapers" are not necessary. This is still seen sometimes, but is not needed if the harness is on. The harness is meant to keep the hips apart, so baby should be swaddled loosely or not at all. A blanket just tucked loosely around them is best.

Carrying:
The most important this about carrying, regardless of position, is that baby's legs are apart. Any position where baby's legs are wrapped around you is fine. Including legs straddling your body to the front or side, and straddling your leg or arm. This front carry position also works with cloth carriers that either face the parent or face away from the parent, as long as the harness is on and the legs are apart.

Breast feeding:
The best position for allowing the baby to breastfeed is facing the breast, with legs apart, against the mother's torso. it also works for thr baby to be facing the breast, lying off the mother's side, and keeping the legs apart using a pillow to support under baby.

Skin care:
Keep the Velcro flat against the skin. Make sure that the sharp edges of the top strap are centered on the soft strap so they do not contact the skin. Even with properly applied straps, they can rub and irritate the skin. Check the skin daily, at a schedule time, (perhaps bath time) for skin irritation. High-risks areas include the neck, underneath the arms, and behind the knees. It may be necessary for the baby to wear clothing underneath the harness to prevent irritation. If you choose not to use clothing due to warm weather, be sure to monitor the skin closely.

Clothing:
It is very difficult to get standard baby t-shirts and 'one-sies' on a baby in the harness. The best shirts are the ones that button down the front. If onesies are desired, the one that button down the front and across the diaper area as well would be best. Parents are often disappointed at not being able to use

many of their baby gifts. Many clothes fit over the harness, but will appear bulky. Socks are more difficult to find, but they are available at Baby Gap and Old Navy.

Bathing:

The most important thing to remember during bathing is which straps can be loosened and which are to remain fastened at all times. The straps that may be loosened without risk of hip dislocation are 1, 5, and 6. All other straps are to remain fastened securely, only to be adjusted by your doctor (unless he/she instructs you otherwise).

Release the chest strap (1) to wash the chest, belly and back. Refasten the chest strap securely so that you can fit just one finger underneath the strap. To wash the diaper area no straps need to be released. Wash the legs one at a time. Hold one leg securely in place, with the legs apart. Try not to let the baby kick out of your hand. Loosen the circular straps around the legs (5 and ^), and open slightly so that the leg can be washed and dried without removing the leg from within the side straps (3 and 4). Repeat on the other leg.

Cleaning Harness:

The harness can be spot cleaned. If the harness becomes wet and you wish to dry it, you can use cool blow dryer. When the doctor has cleared the baby to be removed from the harness for bathing, the harness can be machine-washed in cold and line dried. However, before removing the harness, the doctor must give this permission, and the harness must be marked at shoulder straps (2) using a light colored piece of thread or a permanent marker that is visible against the harness material.

Straps 1,5, and 6 can be loosened
Straps 2,3, and 4 cannot be loosened, except by your doctor

Hoffinger, Pedi Hip
Dr. Robert Durkin
Mosby's Pediatric Patient Teaching Guides
KMCWC Rehab Dept.