

# Treatment for developmental dysplasia of the hip (DDH)

Children's Hospital

Produced: April 2019

Information for Patients

Review: April 2022

Leaflet number: 380 Version: 2

## What is developmental dysplasia of the hip (DDH)?

DDH is a condition where the hip joint does not develop properly. It is usually present at birth, and used to be known as 'Congenital Dislocated Hip'. Some children do develop it as they grow, and some children are affected more severely than others.

The hip joint is a ball and socket joint which attaches the thigh bone to the pelvis. In DDH the socket has not developed properly and is too shallow. This allows the ball to become loose and may slip out of the joint (dislocate) making it unstable. One or both hips may be affected in DDH.

It is more likely to affect the left hip, and 1 or 2 in every 1,000 babies have DDH that needs treatment.

If the diagnosis is made early the outcome of treatment is very good.

## What causes DDH?

The cause of DDH is unclear however there are some risk factors:

- **Family history:** if there is a parent, brother or sister with DDH then it is five times more likely for a child to have it.
- **Gender:** about 8 in 10 cases of DDH are female. This may be due to the presence of Relaxin, a hormone produced during pregnancy that relaxes ligaments and is likely to affect female babies more than males.
- **Pregnancy conditions:** if there is only a small amount of fluid in the womb (uterus) this is called oligohydramnios. There is a risk of developing DDH because the baby is unable to move normally in the uterus.

Health information and support is available at [www.nhs.uk](http://www.nhs.uk)  
or call 111 for non-emergency medical advice

Visit [www.leicestershospitals.nhs.uk](http://www.leicestershospitals.nhs.uk) for maps and information about visiting Leicester's Hospitals  
To give feedback about this information sheet, contact [InformationForPatients@uhl-tr.nhs.uk](mailto:InformationForPatients@uhl-tr.nhs.uk)

- **Breech position:** if an unborn baby is in the breech position (bottom down in the womb), this can put the legs in a position which increases the risk of DDH.
- **First born baby:** about 6 in 10 cases of DDH happen in first born children. This may be because the womb is tighter and the baby has less room to move.
- **Other medical conditions:** if the baby has cerebral palsy, spinal cord problems or other nerve and muscle disorders, this increases the risk of developing DDH. DDH is also more common in premature babies or babies born weighing more than 5kg.
- **Culture:** DDH appears to be greater in certain cultures. Some cultures swaddle their babies increasing the risk, whereas others who carry them on their backs with the legs turned outwards (abducted hip position) have reduced risk.

## Diagnosing DDH

Newborn babies are checked as part of the Newborn Physical Examination. A doctor will move (manipulate) the hips gently to feel for any instability. The baby's legs are bent up and out like a book, whilst doing this the doctor is feeling for a click in the hip. If there is a click, it could mean the baby has a hip problem. Other symptoms are the thigh bone may look shorter on the affected side or unequal skin folds between the legs at the top of the thigh. This examination is repeated at 6-8 weeks old.

In older children who have started to walk, they may have a limp, and/or walk on their toes.

An ultrasound scan of the hips is carried out to confirm diagnosis.

A scan will happen if:

- There is family history of hip problems
- Babies born in breech position
- Twins/multiple birth
- Babies born before 37 weeks
- Babies born with Talipes (Club foot/feet)

## Treatment

Untreated DDH may lead to problems later in life such as limping, hip pain and stiff painful joints (osteoarthritis).

### Pavlik Harness

The dislocated hip of a newborn baby will often go back into the socket easily because the hormone Relaxin is still in the baby. They are then held in place by a Pavlik Harness—this is a soft fabric harness that is used to hold the hips in the correct position allowing them to develop normally. It needs to be worn full-time for several weeks initially.

Your child will continue to have ultrasound scans to check that the hip is in the correct position. This harness keeps the legs bent and turned outwards but allows certain movements. It does not allow the baby to straighten their legs or turn them inwards.

The harness is adjusted as the child grows and as the hip stabilises. The amount of time in the harness will be reduced as the condition improves. Instructions on how to care for your baby in the harness will be given to you when the harness is fitted.

### **Surgery to manage DDH (Closed Reduction)**

This is usually done when your child is six months old or when treatment with the harness hasn't worked. It involves positioning the hips in the correct position whilst the baby is under a general anaesthetic, (they are asleep), and applying a plaster cast (hip spica) to hold the corrected position.

The plaster cast is around the hips and down the legs, usually to the ankle on the affected side and above the knee on the other side. This procedure does not involve an operation, (cutting the skin). The general anaesthetic is needed so that the baby is fully relaxed and the doctor can get the correct position of the hips and apply the cast without distressing the baby. The cast is worn for 12 weeks, but might need to be changed after six weeks.

### **Surgery to manage DDH (Open reduction)**

If treatment with the harness and plaster cast don't work or if the child is much older when DDH is found, then an operation will be needed. The operation involves a cut (incision) in the groin, loosening the tendons around the hip joint and releasing anything that is stopping the hip joint from moving freely.

Once the bones and joint are in a good position, the joint is strengthened and the incision is closed. A plaster cast (hip spica) is then used to hold the joint in place.

After six weeks, under general anaesthetic the hip is checked to ensure the hip is stable and healing well and another cast is applied for another six weeks. Sometimes bone surgery (osteotomy) is needed.

### **Other types of surgery**

If DDH is still a problem and your child is 12-18 months old, more complicated surgery is needed. This may involve Femoral and/or Pelvic Osteotomy.

An osteotomy is a surgical procedure which means cutting the bone; it is used to correct the position of the bone and/or joint. Screws and plates are then used to hold the bone secure whilst it heals. Femoral osteotomy means cutting the thigh bone (femur) and pelvic osteotomy means cutting the pelvis.

### **Femoral Osteotomy**

Femoral osteotomy involves cutting the femur at the top end and repositioning the head of the femur (ball) into the acetabulum (socket), plates and screws are then used to secure the bone and allow the bone to heal. This surgery is done to correct dislocated hips and to correct the angle of the joint in order to achieve correct alignment of the leg, i.e. knee and foot pointing forwards, this is called a de-rotational femoral osteotomy.

Babies, toddlers and small children under four or five years of age are put into hip spicas after surgery; older/bigger children may be put into broomstick plasters. These are cylindrical casts on each leg with a stick attached between the legs to keep them apart (abducted). If casts are not used, the legs should be kept in an abducted position using pillows, cushions or a wedge shaped foam to maintain the correct position.

## **Pelvic Osteotomy**

Sometimes the head of the femur is unable to sit in the socket securely because the socket has not developed properly and is too shallow. A pelvic osteotomy is then needed to create a deeper and better shaped socket. There are several different types of pelvic osteotomies:

- Pemberton osteotomy
- Chiari osteotomy
- Salter osteotomy
- Dega osteotomy
- Ganz Periacetabular osteotomy

All of the procedures create a better shaped cup/socket and are sometimes done together with a femoral osteotomy.

## **Care before your surgery**

You and your child will attend a pre-assessment clinic on a different day before the surgery. At this appointment you will have a consultation with the surgeon who will explain the operation and aftercare. Your child will have their height and weight measured, and they will have a blood test. You may also see an anaesthetist and pain specialist nurse.

Instructions will be given to you about when your child will need to stop eating before surgery (fasting). This is also an opportunity for you and your child to ask questions about the operation and admission to hospital. You will also be asked to sign a consent form. You will also be seen or contacted by the Occupational Therapist (OT) to talk about any issues related to moving around at home after the operation.

## **Care after your surgery**

After the operation your child will return to the ward and be closely monitored by your nurse. We will check on pain levels and pain relief given. Pain relief will be discussed with you at the pre-assessment clinic before the operation. Usually an epidural is used for 48 hours alongside other medicines to keep your child comfortable. Your child will also have IV fluids (fluid into the vein through a thin plastic tube or cannula) until they are eating and drinking normally.

Before you go home, an Occupational Therapist (OT) will help you to move and lift your child safely, and check your car seat and buggy.

Your child will be discharged from hospital 3-4 days after the operation.

## Hip Spica Care

If your child has a hip spica, they will need to be looked after in the bed supported by pillows to lift the heels off the bed. The nurses will check that circulation and sensation to the toes/foot is ok.

The spica will be checked for dents or cracks. The skin at the edges of the spica will be checked to ensure it is not becoming sore from rubbing or tightness. The cast can be trimmed back if it is too tight and causing problems and padding will be applied to the edges. You will be shown how to change your baby's nappy.

### When you go home you will need to check the spica for cracks, dents and wet areas.

Before applying the spica, the skin will be checked and some areas will be protected with extra padding to prevent sores under the cast. You will need to regularly check for sore areas and check if any padding need replacing. Even with careful checking and added padding, sores under the cast do still happen. If you think there is a sore developing please contact the hospital immediately on the numbers you have been given.

Signs of a sore are:

- Pain over a particular area
- Bleeding or a wet area on the cast
- Horrible (offensive) smell from the cast

To help prevent sores, keep the cast dry. We know that this can be difficult. If the cast does become wet or very dirty, it may need to be changed.

## Paediatric Orthopaedic Consultants Contact Details

• Mr Furlong	Julie Keeley (Secretary) 8am-4pm	0116 258 5756
• Mr Abraham	Jo Shaw (Specialist Nurse)	07950888466
• Mr Qureshi	Ward 19 (24 hours)	0116 258 5244
• Miss Peek		

اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔  
على هذه المعلومات بلغة أخرى، الرجاء الاتصال على رقم الهاتف الذي يظهر في الأسفل

જો તમને અન્ય ભાષામાં આ માહિતી જોઈતી હોય, તો નીચે આપેલ નંબર પર કૃપા કરી ટેલિફોન કરો

ਜੇ ਤੁਸੀਂ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਭਾਸ਼ਾ ਵਿੱਚ ਚਾਹੁੰਦੇ ਹੋ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਹੇਠਾਂ ਦਿੱਤੇ ਗਏ ਨੰਬਰ 'ਤੇ ਟੈਲੀਫੋਨ ਕਰੋ।

Aby uzyskać informacje w innym języku, proszę zadzwonić pod podany niżej numer telefonu

If you would like this information in another language or format such as EasyRead or Braille, please telephone 0116 250 2959 or email [equality@uhl-tr.nhs.uk](mailto:equality@uhl-tr.nhs.uk)