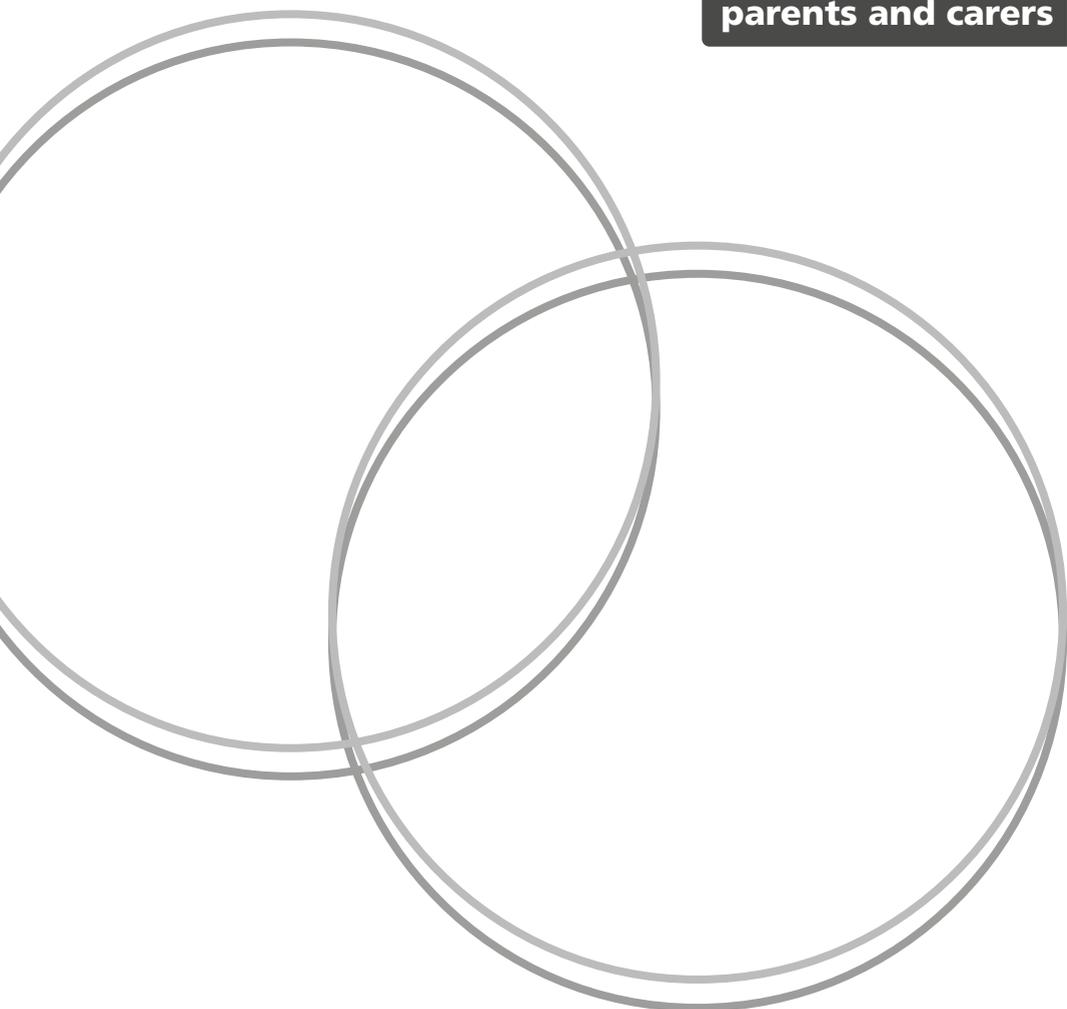




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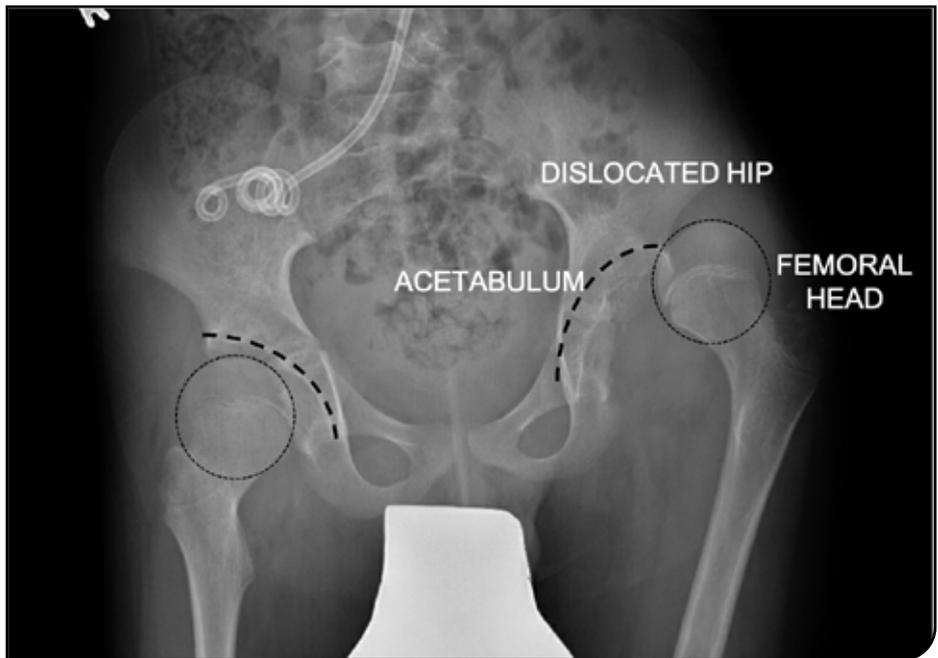
# Hip displacement in children with cerebral palsy

**Information for  
parents and carers**



## What is meant by 'hip displacement'?

The hip joint is a ball and socket joint that joins the thigh bone to the pelvis and is held together by strong muscles and ligaments. The term 'hip displacement' refers to when the top of the thigh bone, called the femoral head gradually over time moves out of the cup of the socket, called the acetabulum. This can eventually result in a complete dislocation of the hip joint, where the ball is no longer in the socket, as shown below..



## **Why can hip displacement occur in children with Cerebral palsy?**

Putting weight through the legs whilst standing and walking helps the growth and development of the hip joint. This is important to keep the ball well-positioned in the socket. Children with cerebral palsy (CP), particularly those that don't walk, are at risk of dislocation of one or both hips as they grow. This is because they may not be putting weight through their legs normally to grow and develop the hip. It can also be due to increased and imbalanced muscle pull around the hip joint.

## **What is the effect of hip displacement?**

As the ball gradually moves out of joint, the socket becomes shallow and changes shape. If left untreated the ball can also lose its normal round shape. This may result in stiffness, pain and early arthritis.

## **What are the signs of hip displacement?**

An early sign may be that your child is not as able to move their leg outwards at the hip joint. This movement is called abduction. The muscles around one or both of their hips may become tighter, which will reduce the movement of their hip joint. With this restriction of movement your child's legs may either point to one side in the same direction as each other, or cross over one another. The leg which is becoming tighter may also look shorter than the other side.

## **Is hip displacement painful?**

We do not know exactly what percentage of children suffer pain as a result of hip displacement. This is because a number of children with this problem are not able to tell their families or healthcare professionals about their experience. We do know that about half of adults with CP who have hips that have progressed to full dislocation will go on to experience pain. We know that treating hip displacement improves the child's quality of life and helps parents and carers to look after the child.

## **Can hip displacement be prevented or treated?**

The first step in preventing hip displacement is to identify children who are at risk and watch them closely. As the early stages of hip displacement may not cause pain or limit movement we take X-rays to check that the hips are not displacing. If your child does not walk, the checking X-rays will be taken annually from age two years to eight years and then every other year until they are sixteen years old. If your child can walk, they will get X-rays at ages two, six and sixteen years. If at any point there is concern about hip pain or stiffness we will get more X-rays.

We use physiotherapy to prevent hip displacement in all children who could be at risk. This helps with the movement of the hip joint and helps avoid stiffness. The use of positioning aids, such as a wedge placed between the legs when sitting, or a wheelchair pommel (raised seat section between the legs) help with the resting position of the hips to reduce the risk, or speed of hip displacement.

If the muscles around the hip are still getting tighter, we may offer your child injections into these muscles. Injections can help the muscles to relax so that the hip movement can be improved with stretching exercises.

Despite the best efforts of parents, carers and therapists, some children still experience some hip displacement. When 40%, or just under half of the ball is displaced out of the socket, there is a high chance that this will lead to a full dislocation.

## **When might an operation be needed?**

If hip displacement is causing your child pain, which could last a long time if left untreated, we will usually recommend an operation.

If your child isn't experiencing any pain, but seems to be heading towards a full dislocation there are some important things to think about.

- Your child may lack movement in their hip which can cause difficulties when they are sitting or lying, or when they are washing and dressing.
- A dislocated hip can sometimes lead to scoliosis (curvature of the spine). This can then lead to pain and breathing difficulties as well as difficulties sitting up and sitting comfortably in a wheelchair.
- There is a 50% risk of your child developing pain later in life if the dislocation is not treated.

It is best to perform an operation before a full dislocation of the hip occurs. This is both technically easier for the surgeon and provides better outcomes in terms of hip pain relief (if they have any) and quality of life.

A final important thing to think about is your child's general fitness and health. This is important, because we know that children with a number of medical problems have a higher risk of suffering complications during or after an operation. There are times when the risks from having an operation could be greater than the benefits.

Whatever the circumstances, we will help you decide whether or not an operation is the best thing for your child.

## **The pre-operative assessment clinic**

If an operation is decided upon, you and your child will be invited to a pre-operative assessment clinic (POAC) before the operation date. This appointment is to make sure that you and your child fully understand what to expect on the day of the operation and during your hospital stay. It is also to make sure your child will be in the best state of health and fitness before their operation.

For further details about POAC search online for 'OUH pre-operative assessment leaflet' and click on the paediatric surgery leaflet.

## **What does having an operation involve?**

Any operation we carry out will be under general anaesthetic and so your child will be asleep the whole time. There are some risks associated with the general anaesthetic and the anaesthetist will go through these with you before the procedure.

The exact operation will vary depending on your child's age.

## **The operation if your child is under the age of 5 years old**

We will recommend an operation to lengthen the tight muscles in their groin, the area between the belly and the top of the legs. This allows the ball to be in a better position in the socket and can slow down or stop the process of hip displacement.

At the end of the operation the surgeon will inject some local anaesthetic in the wound which will numb the nerves that sense pain in the area to reduce the pain when your child wakes up. They will also be given pain relief either by mouth or through a feeding tube. Most children will no longer need pain relief after about two weeks.

Your child is likely to be in hospital for 1 or 2 days.

After the operation your child will need to wear a brace from their waist to just above their knees. The brace is put on in theatre and kept on for 6 weeks. Most children cope very well with this. You will be shown how to care for your child in the brace when you are in hospital.

The plastic brace fits around the waist, with two plastic sections that fit around the thighs. The thigh sections are held together with two metal hinges that will be locked into position. Each plastic piece has a soft liner for comfort.

Around 6 weeks after the operation your child will need to come back into hospital so we can remove their brace as the treatment will be finished. At this point the team can take X-rays.

Your child does not need another general anaesthetic for this. Your child will then have regular physiotherapy appointments to make sure they get the exercises and stretches to help with movement and make the most of the operation.



## The operation if your child is 5 years or over

In older children the operation will have two parts. Firstly, we may recommend an operation to lengthen the tight muscles in their groin, the area between the belly and the top of the legs. This however is unlikely to be enough to get the ball in a better position in the socket. Because of this, we also recommend thigh and hip socket bone reshaping procedures.

In the bone reshaping procedure, we cut the top of the thigh bone and fix it in a new position. We use a metal plate and screws to better place the ball in the socket. We also improve the shape of the socket by cutting the pelvis above the socket itself. This means that it covers the ball better and makes it more stable.



Even if only one hip is affected, it is likely that the opposite hip will also need the thigh bone part of the operation. This is to prevent future problems on the opposite side and to keep the legs even.

As well as the general anaesthetic, where possible your child will have an epidural for pain relief. This is a small tube which is inserted once the child is asleep, near the nerves in the spine. It delivers painkilling medication which will make the lower half of your child's body go numb. The epidural will stay in place for 2 to 3 days after the operation to keep your child comfortable.

When the epidural is removed we will give your child pain relief either by mouth or through their feeding tube. Our Children's Inpatient Management of Pain Service (ChIMPS) help us to manage pain carefully. You can find more information by searching online for 'OUH pain chimps'.

Any pain that was present before the operation should improve within the first few months after the operation. A small number of children experience pain in the hip for a longer period of time. It is normal for the top of the thigh to stick out more than before the operation.

Your child is likely to be in hospital for 4 to 7 days.

## **After leaving hospital**

After the operation your child will often need to wear a brace from their waist to just above their knees. This brace is put on in theatre and kept for a period of 6 weeks.

The plastic brace fits around the waist, with two plastic sections that fit around the thighs. The thigh sections are held together with two metal hinges that will be locked into position. Each plastic piece has a soft liner for comfort. A picture of this brace can be found on page 9.

Most children cope very well with this. You will be shown how to care for your child in the brace when you are in hospital.

Around 6 weeks after the operation your child will need to come back into hospital so that we can remove their brace. At this point, we will take an X-ray to check that the bones are healing well.

If the bones are healing well, your child will start regular physiotherapy from specialist children's physiotherapists in the hospital and in the community. If we have any concerns about bone healing, we might delay physiotherapy until the X-rays show more healing.

Complete recovery from this operation can take up to a year.

## What are the risks of operating?

Most children go through these operations and recovery time without any problems or complications. However, there are a number of risks with any operation that you should think about when making your decision. Complications are more likely to occur in children with a number of health problems. They are also more likely after bigger operations that require bone reshaping surgery and a longer anaesthetic time.

- Operations are carried out close to large blood vessels and nerves. There is a small risk of these suffering some damage during the operation. This occurs in about 1 in 100 cases. Where possible surgeons would repair the damage during the same operation, however damage to nerves could cause long-lasting leg weakness.
- When a bone is cut it may heal slowly, or it may not heal at all. If the bone isn't healing your child may need another operation to help it heal. The risk of this is about 1 in every 100 cases.
- There is a risk of infection after any operation. This is approximately 1 in every 400 cases for the groin operation and 1 in every 100 cases for the bone reshaping operation. If an infection occurs, further operations may be required.
- Around the time of the operation the thigh bone may become weaker because it is held in the brace and is not being used. As a result, breaks in the bones after the operation can occur in approximately 1 in 200 children. These usually heal well without the need for another operation and do not cause any long term problems.
- The hip brace can cause pressure sores. The risk of this is approximately 1 in 50 cases. Our team of healthcare professionals carefully check the brace while your child is in hospital to make sure it fits well and to reduce the risk of pressure damage. Your community physiotherapist will also check again when you are at home. If a pressure sore was to occur this would be managed with regular monitoring and dressing by nursing staff in the community and in hospital.

- Breathing problems, including chest infections can occur in approximately 1 in 10 patients after the longer bone reshaping operation. Fortunately most breathing problems are temporary, but in the worst cases could lead to a chest infection which can be dangerous and even life-threatening.
- Problems with feeding or constipation are also common complications after the longer bone reshaping operation. These are usually temporary and occur in approximately 1 in 10 patients.
- There is also a risk of the treated hip displacing again before your child has finished growing. Children finish growing at about 14 years old for girls and 16 years old for boys. The risk of re-displacement depends on a variety of factors. Your surgeon will discuss these with you in the POAC.

Our clinical nurse specialist is also your point of contact should any problems arise. You will be given their contact details at the POAC appointment.

## What if you decide against an operation?

We understand that making the decision for your child to have an operation is difficult, and we will support you throughout this process. If you choose not to have an operation, we will continue to monitor your child's progress and symptoms in our clinic. We will work with your general practitioner and allied health professionals involved in your child's care to reduce any negative symptoms and give them a good quality of life.

If you change your mind and decide later that you want an operation, surgery to put the ball back into the socket may still be possible. This is possible as long as there is no permanent 'wear and tear' damage to the hip joint. However, the longer the hip is dislocated, the more likely it is there will be permanent 'wear and tear' damage. If this happens, then a 'salvage' operation would be required.

A 'salvage' operation is one where all or part of the damaged hip joint is removed. The results from 'salvage' operations are hard to predict. They do not improve pain or quality of life as reliably as an operation performed in good time. This is why we always prefer to operate sooner when there is a better chance of the operation getting the best results. Your surgeon can give you more details about 'salvage' operations in the clinic.

Contact: Appointments: **01865 737872**



## Further Information

If you need an interpreter or would like this information leaflet in another format, such as Easy Read, large print, Braille, audio, electronically or another language, please speak to the department where you are being seen. You will find their contact details on your appointment letter.

Author: Paediatric Orthopaedic Team  
February 2021  
Review: February 2024  
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