Hypospadias is a common birth anomaly and occurs in about 1 in 300 male births. It comprises a hooded foreskin, abnormal position of the hole at the end of the penis and sometimes a bend in the penis. This means that when they have an erection, it doesn't point up but curves downwards. About 10% of boys have a family history and it is more common in first-born boys. The aim of surgery is to create a penis which looks and functions just like any other boy. The opening will be at the end of the penis allowing the child to stand up to pass urine without spraying. It will be straight when erect for sexual intercourse when he is older.

Who treats hypospadias and when?

Boys with hypospadias are treated by Plastic Surgeons and Paediatric Urologists. Mr MacKenzie is a plastic surgeon. Most of us like to operate on boys when they are around 1 year old. At this age, the anaesthetic is as safe as it would be for a healthy adult. The surgery doesn't affect them very much at all and they grow up without any memory of the surgery. Certainly, I like to operate before they are potty-trained, which is usually between 2 and 3 years old. Sometimes, other medical problems or specific features of the hypospadias means that it needs to be delayed. I tend to avoid surgery between 2 and 3 years as they are less cooperative and once potty trained, they will need to have a bag on the end of the catheter which is hard to manage when children are small.

What operations are available?

Many operations have been described for hypospadias over the years but most surgeons (including Plymouth) use a limited number of techniques, which have been shown to have consistent results. In boys whose opening is near the tip of the penis, and where there is little or no curvature of the penis, a single stage technique will be used. In those whose opening is nearer the base of the penis and where there is a significant curvature, a two-stage technique is used with the operations separated by 6 months. If the curve approaches 90 degrees and the opening is right at the base of the penis or in the scrotum, 3 operations may be required.

All operations are done in Plymouth, where we have a dedicated children's theatre suite, with paediatric anaesthetists, and theatre staff who work with children almost exclusively. They all have many years of experience of looking after children who are having operations and will do everything they can to make your son's experience as good as possible.

Anaesthetic

On the day of surgery, you will meet the consultant paediatric anaesthetist who will be looking after your son. They will explain how the anaesthetic will be given, and will also explain the caudal anaesthetic. Once he is asleep, local anaesthetic will be injected into space low in his spine and below the bottom of the spinal cord. This space contains nerves that go to his penis, scrotum and legs and will make sure that these areas are numb for a few hours after the surgery.

Single stage operation

During this operation, an artificial erection test is performed to detect any curve of the penis, and if this is present it is corrected. The groove that lies beyond the opening is turned into a tube around a small tube (catheter). The skin of the shaft and head (glans) of the penis is then stitched over this. All the stitches are buried and dissolvable. There will be a film dressing over the penis and a strip of fabric tape holding the catheter onto his tummy. This is to prevent the catheter pulling down and tearing the stitches out. This tape is very important and should stay until the catheter is removed.

Two-stage operation

The preparation for the two-stage operation is identical to the single stage operation in that he will have a general anaesthetic and a caudal anaesthetic given while he is asleep. At the first operation, the artificial erection test is performed and the penis is straightened which leaves a wound on the underneath surface. A skin graft, harvested from the inside of the foreskin, is placed over this wound. This is stitched in with small absorbable suture and a gauze roll is tied over the skin graft with nylon stitches. After the first operation the penis will look straighter but more open on the underside.

The second operation is set up in exactly the same way as the other operations. It involves turning the skin graft into a tube around a catheter in exactly the same way as in the single stage operation. There will be several layers of dissolvable sutures, film dressing and fabric tape to hold the catheter.

If your son is unfortunate enough to have a more severe form of hypospadias, he may need a third operation. If his curve is 90 degrees or more and he has an opening at the base of the penis, the first operation is just to correct the curve. He will have buried dissolvable stitches and a catheter. His penis will be straighter after this but the opening will not have moved. The next operation will be the first operation of the 2 operation series after 3-6 months.

What will be done with the foreskin?

After the shaft and glans of the penis are stitched up, the foreskin can either be repaired or the penis can be circumcised. Both are usually possible after a single stage repair. After a two-stage repair, there is often not enough foreskin left to do a foreskin repair and create an adequate foreskin. If a circumcision is done, the wound almost always heals well. If a foreskin repair is done, there is a 10% chance that the repair will open up partly and small chance (1%) that the foreskin will become tight. Each of these events may require a further operation.

How long will the hospital stay be?

Many hypospadias operations are now done as day cases. If you live a long way from Derriford then you may need to stay overnight. If your son is having a skin graft, then he may well need to stay for several days in order to get the best skin graft success possible. If he stays in, one parent is able to stay with him on the ward.

What will happen after the operation?

You will see your son in recovery once he is awake. He will stay there until the nurses are happy that he is comfortable and that there are no problems with the site of the operation. He will have a second nappy added. The inner one is for poo and the outer one is for the catheter and collects urine. He will be allowed home after a few hours or will go up to the ward.

The penis will be very bruised and swollen. Initially it will be covered with the film dressing, but this may fall off over the following days. It does not need replacing. The fabric tape (if used) must stay for the whole time that the catheter is in. He will be prescribed a course of antibiotics while the catheter is in.

After the operation, he will tend to be hungry and sleepy. He will probably sleep more than usual. The next morning however, he will usually be feeling much better and will play fairly normally. He should be given regular paracetamol and ibuprofen to control pain. This will be necessary for most of the first week although can be reduced towards the end of the week if he is not in much pain.

Sometimes the catheter causes pain. There is a pea-sized, water-filled balloon in his bladder holding the catheter in place. Catheter-related pain causes them to suddenly experience pain while otherwise distracted and draw their knees up. The specific treatment for this is oxybutynin, which we can prescribe for you to give him as required.

After a week, please bring him back to Derriford hospital to have the catheter removed. This takes a couple of hours as we prefer that he passes urine while he is with us after the catheter is out.

Post-operative problems

If he has any problems in the first week after the surgery, please contact Derriford hospital. The doctors in your GP practice, the doctors (even consultants) at your local hospital, and even senior doctors in Derriford know very little about surgery for hypospadias. They will not be able to advise you if you are concerned. You must talk to a plastic surgery registrar and they will often contact Mr MacKenzie directly to discuss your concerns. The way to contact them is by calling the childrens' theatres or Childrens' Assessment Unit at Derriford. They will call the plastic surgery registrar on call.

What are the complications?

All operations are associated with complications. There are some that are general and can happen after any operation such as infection, bleeding requiring an intervention or problems with wound healing. These are very rarely a problem.

There are some that are specific to this operation including problems with the catheter, fistula or stenosis. The catheter can fall out, get blocked or cause pain as described above. If it falls out or gets blocked, please contact the us. If it falls out, usually there is nothing to do as it is very difficult to get it back in again. If it blocks you will notice that your son is in more pain and the inner nappy is wet and the outer one is not. If this happens, the urine is bypassing the catheter and putting additional pressure on the stitch line. Therefore, it needs flushing to get it flowing again. Please call Derriford and bring him in to emergency department.

Fistula is when a hole appears in the suture line and urine comes out of a second hole rather than just the one at the end. In single stage operations, the risk of that is about 5%.

Stenosis is narrowing of the opening and tends to occur later. Mr MacKenzie will keep in contact with you for a number of years after the surgery in person in clinic or by telephone. Stenosis is one of the key reasons for this. The risk is also about 5%.