British Society of Interventional Radiology
Paediatrics

British Society of Interventional Radiology
The Royal College of Radiologists
63 Lincoln's Inn Fields
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Venous sclerotherapy

This information sheet explains about venous sclerotherapy, what it involves and what to expect when your child comes to the Interventional Radiology department for treatment.

Please note that this leaflet is not meant to replace discussion between you and your child's doctor. You should raise any questions you may have with the doctor who has referred your child for, or is performing, the procedure.

What is venous sclerotherapy?

Venous sclerotherapy is a procedure used to treat a type of vascular malformation called a venous malformation. Venous malformations are made up of extra veins that have no use and cause problems. Instead of flowing back to the heart as with normal veins, the blood collects inside the venous malformation, making the veins stretch. Venous malformations are congenital, that is, they were present when your child was born. A medicine is injected into the veins, which irritates them encouraging them to scar and shrink.

Venous malformations can grow quite large, which can cause problems with sport or other day to day activities. They can also look unsightly if they are big or cause discolouration of the skin. If the malformation is very close to, or inside a joint, there is a chance it can bleed into the joint, increasing the chance of developing joint problems later in life. The veins in a venous malformation are prone to developing blood clots, which, although are generally not dangerous, can be painful. Sclerotherapy is a way of trying to reduce the size of the veins, so that they are less bulky, less painful, less troublesome to joints and less unsightly.

Why does my child need venous sclerotherapy?

Venous sclerotherapy can be performed to reduce troublesome pain, swelling or other issues that your child's venous malformation is causing them. It is not necessary to treat venous malformations if they are not causing any distress or bother.

How does my child prepare for venous sclerotherapy?

The procedure will have already have been discussed with you and your child before the day of the procedure. You may need to come to the hospital before the procedure so that your child can have a pre-admission assessment to check that they are well enough. This appointment may involve taking blood samples, doing scans or other tests.

On the day of the procedure, you will meet the radiologist. They will explain the procedure in more detail, discuss any questions you may have and ask you and/or your child to sign a consent form giving permission for your child to have the sclerotherapy.

An anaesthetist will visit to talk to you about your child's anaesthetic.

Many of the scans we perform involve the use of X-rays. Legally, we are obliged to ask any girls over the age of 12 whether there is any chance they might be pregnant. This is to protect babies in the womb from receiving unnecessary radiation.

How is venous sclerotherapy performed?

Venous sclerotherapy is almost always carried out while your child is under a general anaesthetic. Once your child is under general anaesthetic, the radiologist will look at the venous malformation through the skin using an ultrasound scan. Using the ultrasound scan as a guide, they will insert one or more small needles through the skin into the abnormal veins. They usually then inject a small amount of dye through the needles and take an x-ray. This gives a clear 'map' of the malformation so that treatment is only given to the abnormal veins and not the normal blood vessels or other structures. They then inject a very small amount of medicine through the needle, which irritates and inflames the malformation causing swelling. Finally, the radiologist removes the needle. No stitches or dressings are needed – you will only be able to see a few pinpricks in the skin. Often a tight dressing called a compression bandage is then applied to help the medicine work.

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Who performs the procedure and where?

Venous sclerotherapy is usually performed by radiologists. These are doctors who are experts in image guided procedures. The procedure can be performed in a specialist interventional radiology room or sometimes in another imaging room or operating theatre with x-ray equipment.

What are the potential risks or complications of venous sclerotherapy?

Your child will usually be having sclerotherapy under general anaesthetic. Every anaesthetic carries a risk but this is extremely small.

As the medicine injected causes irritation, there is a very small chance that the drug may also irritate other structures nearby. This can include the skin over the venous malformation, if the drug goes too close to the skin surface. This is more of a risk where the skin is very blue or in delicate areas, such as eyelids or lips. The skin may then develop blisters or an ulcer. If this happens after you leave hospital, you should contact your doctor. Usually any skin blistering is minor and heals in a few days without leaving a scar. But occasionally the blisters are bigger and need special dressings to make them heal. Large blisters or ulcers may leave a scar. This may require further treatment in the future.

The medicine may also irritate any nerves near the treated area, which most commonly causes a small area of numbness, tingling or 'pins and needles'. Nerve damage is very rare. If it happens, it is usually temporary. Usually the area recovers fully but occasionally it can be permanently affected. It can also affect the muscles in the area, causing spasms or weakness, although this usually improves in a few days or weeks.

Treating the abnormal veins in this way can sometimes cause clots to form inside the malformation. Usually they are trapped there and do not harm but very occasionally, they can travel through the veins and cause symptoms elsewhere in the body.

There may be other risks specific to the drug your doctor chooses to use for the sclerotherapy procedure. They will discuss these with you in detail before the procedure.

Sclerotherapy works for most children but not all of them. Experience helps us understand which malformations are more likely to respond and which may not. If the doctors feel that the sclerotherapy treatment has not been very successful, they might suggest surgery or other treatments.

What happens afterwards?

Your child will return to the ward after they have recovered from the anaesthetic. Some children feel sick and vomit after a general anaesthetic. Your child may have a headache or sore throat or feel dizzy, but these side effects are usually short- lived and not severe. Your child can start eating and drinking as normal once they feel like it.

The venous malformation often looks worse straight after the procedure and the bruising and swelling last for a few days. Children should be prepared for this in advance so they are not upset when they see it looking worse. The treated area will feel uncomfortable afterwards but children's pain relief medicine is usually enough to deal with any pain. You will be able to go home once the doctors are happy that your child is recovering well.

The medicine injected into the venous malformation may make the area swell over the first week or two. The area may also be red, bruised and feel tender. These effects are normal and show that the medicine is having an effect. Any swelling should start to go down within a week but the effects of the treatment, such as a decrease in pain or size, may not be obvious for a couple of months. Your doctor will talk to you about how quickly your child can start using the affected arm or leg again, and when they can go back to play, school or sports.

The medicine injected into the venous malformation may turn your child's urine a brownish colour. If this happens, it is usually noticeable the first time they pee after the procedure but usually only lasts a day. It is helpful for your child to drink plenty of fluid in the first 24 hours after the procedure. If the urine stays brown for more than 3 days, contact your doctor.

Venous sclerotherapy is often not a one-off procedure and you will be given a plan for further procedures as required.

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