



Bleomycin sclerotherapy

This information sheet explains about bleomycin sclerotherapy, why it might be suggested and what to expect when your child comes to Great Ormond Street Hospital (GOSH) for treatment. Bleomycin is one of several different medicines that can be used for sclerotherapy. Information about sclerotherapy in general is available in other factsheets.

What is bleomycin sclerotherapy and why is it needed?

Bleomycin sclerotherapy is a procedure used to treat some particular types of vascular malformations. It is usually suggested as a treatment for specific kinds of lymphatic malformations (microcystic lymphatic malformations), or when standard sclerotherapy has failed. A lymphatic malformation is a collection of small cysts. These malformations are congenital, that is, they were present when your child was born. The cysts are filled with a clear fluid similar to the fluid in a blister. Sclerotherapy involves injecting a medicine into the cysts, which irritates them, encouraging them to scar and shrink.

The cysts of the lymphatic malformation have no useful purpose and can cause problems. The walls of the cysts are quite thin and contain little blood vessels. Occasionally the blood vessels break and cause a clot to form inside the cyst. This can lead to sudden swelling and bruising of the area. This can be painful and the appearance of the bruising can be upsetting. The cysts can also become

infected. Microcystic malformations contain millions of very small cysts and usually cause problems because they are bulky, unsightly, or get infected. Sclerotherapy is a way of trying to reduce the size of the cysts so that they are smaller and less troublesome.

Sclerotherapy is carried out in the Department of Radiology by a doctor (radiologist) who specialises in using imaging to carry out procedures. This information sheet only explains about bleomycin sclerotherapy. For information about other sclerotherapy procedures, see our information sheets available from our department, the Pals Office or our website.

What is bleomycin?

Several medicines are used for sclerotherapy. Bleomycin is just one of those options. It seems that bleomycin may be better at shrinking microcystic malformations than the other medicines available. It also seems to cause less swelling in the first week or two after treatment so it may be useful for treating malformations in areas where swelling may be dangerous, such as near the eye or airway.



Bleomycin is a medicine that has been used for many years to treat other conditions. In a very few cases, when it has been used in much higher doses and has been injected straight into the bloodstream, patients have developed some scarring of their lungs several months later. Sometimes this is permanent.

Doctors think this is extremely unlikely to happen in children where bleomycin is being used for sclerotherapy, as the doses are much, much lower and the medicine is not given in the same way. However, we will check your child's lungs before the procedure, usually using a chest x-ray and a simple breathing test. We will repeat these checks at regular intervals after treatment to make sure that your child's lungs have not been affected.

What happens before the sclerotherapy?

You will already have received information about how to prepare your child for the procedure in your admission letter.

You will need to come to GOSH before the sclerotherapy so that your child can have a pre-admission assessment to check that they are well enough for the procedure and to confirm that their lungs are healthy. This may involve taking blood samples, photographs and other tests to measure lung function. This appointment may be booked for several weeks before sclerotherapy or for the day before the procedure.

You will also meet the radiologist, who will explain the procedure in more detail, discuss any questions you may have and ask you to sign a consent form

giving permission for your child to have the sclerotherapy. If your child has any medical problems, please tell the doctors. An anaesthetist will visit to talk to you about your child's anaesthetic.

What does the sclerotherapy involve?

Lymphatic sclerotherapy is almost always carried out while your child is under a general anaesthetic. It is very important that your child's stomach is as empty as possible on the day of the procedure, as this reduces the risk of vomiting during and after the anaesthetic. If someone vomits during an anaesthetic, there is a chance that the stomach contents could get into the lungs, damaging them. Your child's nurse will explain exactly what time your child can last eat or drink before the procedure, but as a general rule, the following applies.

Food and milk:

Breast-fed babies – give them their last feed four hours before the procedure is scheduled

Bottle-fed babies and children – give them their last milk feed, food or milk drink six hours before the procedure is scheduled

Clear fluids:

All babies and children can have a drink of water or weak squash, but no fizzy drinks, until two hours before the procedure is scheduled but no food or milk for six hours before.

Please follow these instructions carefully, otherwise your child's procedure may be delayed or even cancelled.



Once your child is under general anaesthetic, the radiologist will check the lymphatic malformation using an ultrasound scan. Using the ultrasound scan as a guide, they will insert a small needle through the skin into the abnormal cysts. If possible, the radiologist will use the needle to drain off some of the fluid inside the cysts. They will then inject a very small amount of medicine through the needle, which irritates and inflames the malformation causing swelling but this goes down over the next few weeks. 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.

Are there any risks?

Your child will be having sclerotherapy under general anaesthetic. Every anaesthetic carries a risk but this is extremely small. Sclerotherapy causes irritation and swelling, so the area treated will look a little worse than usual after the procedure. This is usually a good sign as it shows the medicine is working. The area may feel bruised and sore for a few days, but your child will have pain relief.

As the medicine injected irritates the cysts, they are generally more prone to complications in the first week or two after the procedure. There is a slightly higher risk of the malformation developing an infection after the procedure. Your child will need a short course of oral antibiotics if this happens. We will give you a letter to take home, explaining to your family doctor (GP) what to prescribe for your child if they get an infection. There is a slightly higher

risk than usual of the cysts developing blood clots inside them. This causes sudden swelling and bruising, which may be uncomfortable. If this happens, the bruising will slowly settle. It will not affect how well the treatment works.

We want to be sure that the bleomycin has not had any effect on your child's lungs, so will check them regularly.

Sclerotherapy works for most children but not all of them. Experience helps us understand which malformations are more likely to respond. If the doctors feel that the sclerotherapy treatment has not been very successful, they might suggest surgery, perhaps in combination with further sclerotherapy.

Are there any alternatives to sclerotherapy?

Sclerotherapy seems to be the best treatment option of lymphatic malformations as it carries lower risks than open surgery. It does not cause any scarring and the malformation does not appear to grow back after treatment. However, as every child with a lymphatic malformation is different, sclerotherapy may not be the best option. Sometimes a combination of sclerotherapy and surgery might be suggested. Your doctor will explain the options for treatment suitable for your child.



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 lymphatic malformation will almost certainly look worse after the procedure as the bruising and swelling last for a few days. The treated area will feel uncomfortable afterwards but children's pain relief medicine is usually enough to deal with any pain.

You will get an appointment to come back to the hospital so the doctors can check on your child's progress and decide whether the treatment has worked. You will also receive appointments to see the chest doctors six months after the procedure, six months after that and then every year for the next two years. This is just a precaution – we have not seen any children who have developed complications after bleomycin sclerotherapy but we want to know that we have checked your child's lungs thoroughly.

Going home

You will be able to go home once the doctors are happy that your child is recovering well. The swelling should start to go down after a week or two. They should be able to go back to school after a week but should avoid games and PE for at least four weeks.

The doctors will tell you if your child needs further sclerotherapy procedures and if so, when. Your child might need to have a routine outpatient appointment a few weeks afterward before this decision is made. We will send you a letter with the planned date of the outpatient appointment or next treatment session.

Your child might need several sclerotherapy procedures to reduce the malformation. As sclerotherapy causes swelling and discomfort, it is safer to carry out several smaller treatments limiting the effects each time. Sclerotherapy will not 'cure' the malformation but it should shrink it significantly. Occasionally children need to have further sclerotherapy as they get older and some may need surgery to tidy up any loose skin.

You should call the hospital if:

- **Your child is in a lot of pain and pain relief does not seem to help**
- **The treated area is unusually hot, red and painful and your child is generally unwell with a high temperature or not eating or drinking as usual**



If you have any questions, please telephone the ward from which your child was discharged or one of the numbers below

Interventional Radiology department: 020 7829 7943

**Out of hours, call 020 7405 9200 and
ask for the On-call Doctor for Dermatology**

Notes

Compiled by the Interventional Radiology team
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