

# Sclerotherapy

## What is sclerotherapy?

Sclerotherapy is called a "surgery" by some people but does not involve cutting! It is an intervention in which the vascular interventional radiologist (VIR doctor) places a catheter into an abnormal part of the body—in our case a vascular malformation—and injects a material called a sclerosant that irritates the walls of the vascular malformation and causes it to collapse. Depending on how big the vascular malformation is, sclerotherapy can cause all or just part of it to shrink.

## How is sclerotherapy done?

Sclerotherapy is performed when a patient is asleep or sedated. For that reason, you (your child) will need to not eat or drink for about 8 hours before the procedure. You (your child) will have an intravenous needle placed so that the anesthesia team can give medicines (anesthesia) to make you sleep through the procedure. Using an xray machine called a fluoroscope so that he can see the abnormal blood vessels, the radiologist will insert the catheter into an area of the vascular malformation he wants to shrink. He will then inject the sclerosant. Sclerosants mostly stay in the area injected but small amounts may leak into the blood stream. Usually the catheter is removed before you (your child) wakes up and is sent home. Sometimes the radiologist will keep the catheter overnight and keep you (your child) in the hospital so that he can inject more sclerosant the next day (you may not need to be sedated again if the catheter is already placed).



There are several types of sclerosants including Bleomycin, Doxycycline, Sodium tetradecyl sulfate (STS). The radiologist will decide which is best for you (your child).

## Is sclerotherapy a cure?

There are no cures for vascular malformations at this time and sclero is one of several treatments which may be used alone, together, or one at a time. These include drugs such as sirolimus, compression garments, blood thinners, and traditional surgery. Your vascular anomalies team will discuss options with you, and with progress in the field these options may change over time.

Sclerotherapy often is very helpful in shrinking a vascular malformation and in improving pain in the long run. Sometimes one "sclero" session is needed, but especially when the vascular malformation is large, more than one session is needed over 6-12 months. Sometimes sclero works great, but in some patients it is not helpful.

#### What are the side effects of sclerotherapy?

The side effects of sclero include those of any anesthesia which the anesthesia doctors will discuss with you. Sometimes the sclero itself has no side effects. Some patients experience pain at the injection site or along the treated blood vessels. This can begin immediately or after a few days and can last briefly or for up to several weeks. Sometimes the pain is due to inflammation from the treatment. Blood clots along the treated blood vessels also can occur, and while after sclero this is something that we want to happen (after all the reason for the sclerotherapy is to block off the vascular malformation), too much clotting can cause pain. Other less likely side effects include bleeding at the treatment site or infection.

Some sclerosants have more long-term side effects. Bleomycin can cause lung damage in a small number of patients and will be something the radiologist will talk to you about if that is the medicine he is using for sclero.

#### How are the side effects of sclerotherapy prevented or treated?

There is no standard of care for preventing or treating the side effects of sclero and every center does things a bit differently. Even within centers, recommendations from doctor to doctor may vary. Your vascular anomalies team may ask you to hold medicines including sirolimus or blood thinners for a few days to a week before the procedure and will tell you when to start them back. For patients not on blood thinners, some teams use blood thinners for a few days to 2 weeks after sclero to prevent excessive clotting in the treated blood vessels. Some teams use corticosteroids (usually prednisone or prednisolone) by mouth for up to a week after sclero to minimize inflammation. Ask your doctor about using ibuprofen (motrin), ice on the area, and compression garments.

The long-term side effects of sclero usually are preventable by sticking to guidelines for how much can be injected at one time or over your (your child's) course of treatment. After bleomycin, some centers recommend periodic lung tests (pulmonary function tests) if a patient is receiving multiple bleomycin sessions or if a patient has underlying lung problems.

At our center, the radiologist and hematologist will usually see patients 4-6 weeks after a procedure to be sure you (your child) is doing well and to determine next steps.

#### Guidelines for patients getting sclerotherapy

1. Ask your radiologist whether/when he wants you to hold any medicines such as sirolimus or blood thinners
2. Be sure you understand when you (your child) needs to stop eating the night before the procedure. That is called being NPO. Sometimes anesthesia will allow you (your child) to take

clear liquids such as water or ginger ale up to 2 hours before. Ask what medications you can take the morning of the procedure.

3. Know where you have to be and when the day of sclerotherapy and be prepared for delays!
4. Before you go home, ask about any pain medicines—be sure we have the correct pharmacy so that you can pick these up before or when you go home—sometimes we can arrange this well in advance of sclerotherapy so that you have one less thing to think about!
5. Leave the bandages in place for 48 hrs after the procedure. After that time you can remove the bandages and get the area wet including taking a bath or shower.
6. If you (your child) had sutures placed at the time of sclerotherapy, they can be removed in 2 wks here by VIR or locally by your primary care provider (PCP).
7. Be sure you know how to contact your radiology team and the hematologist who will help with pain management—on days, evenings and weekends!