Early onset scoliosis

Scoliosis is when the spine curves or twists to the side. This can result in a C or S shaped curved. Early onset scoliosis is when a curve in the spine appears between birth and age 10.

Cause

There are several different causes for early onset scoliosis. The common theme is the young age of the patient. It can be idiopathic, which means that there is no known cause. Some children are born with it because of problems with development of the bones of the spine. Some children have it as part of other conditions that can affect the spine as well as other organs. Many children with early onset scoliosis are healthy and normal, and just have a small curvature of the spine.

Diagnosis

When a very young child develops scoliosis the parents will often be the first to notice. Scoliosis in a child who is 3 years old or younger is also known as infantile scoliosis.

Early signs of scoliosis in babies may be a bulge on one side of the baby's back or chest or the baby may keep lying curved to one side. In some babies nappies won't lie straight at the waistline. For older children there are a few common signs of scoliosis. One shoulder blade might stick out more than the other. A child might tend to lean a little to one side or have an uneven waist or hips.

If you think your child might have scoliosis you should make an appointment with their doctor straight away. It is very important to find out quickly whether a child has a curve that will progress (get bigger). The condition will not go away as the child gets older, and the earlier they are treated the better. If a very young child is treated early then even curves that are getting bigger can be helped to grow straight again.

There is a quick test you can do to check for scoliosis in older children. It is called the forward bend test (see image on left). The test is very easy to do and can be done by a doctor or parent/guardian. The child's back will need to be uncovered so that their shoulders and spine can be clearly seen. Ask the child to bend forward from the waist and to keep their legs and arms straight. You will need to look at the child from behind. If the child has scoliosis you should be able to see a clear bulge where the ribs are.

If the doctor finds that the child has a curve they

Continued overleaf
will then make an appointment for the child to see a scoliosis specialist.

Treatment

Your doctor will make the child an appointment (called a consultation) with a scoliosis specialist. At the first appointment the specialist will examine the child. There will also be an X-ray. The specialist will use the X-ray to measure the size of the curve. You will be told what the Cobb angle of the curve is. The Cobb angle is measured in degrees, and will tell you how big the curve is.

There are four main types of treatment for early onset scoliosis. A scoliosis specialist will advise what type of treatment will be best for the child. This advice will depend on the type and size of the curve and whether it is likely to keep growing. It is important to treat these curves early because if the curves are allowed to get too big it may lead to breathing problems later on in life. In severe cases the heart can be affected as well.

Monitoring

First the specialist will usually monitor a child to see if the curve is getting bigger. Some children will have a curve that does not get bigger. Other children will have a curve that keeps growing.

The specialist will probably want to see your child every few months. Normally there will be new X-rays each time. The specialist will compare the different X-rays to see how the curve is growing.

Some children will not need treatment because the curve straightens itself naturally. In this case, the child will be monitored by a scoliosis specialist until the curve is straight.

Casting

Many children will need their spine to be guided into its normal position as they grow, which can be done by putting them in a cast. The cast starts from the underarms and covers the top half of the body.

The cast is made of light materials. It cannot be removed but is changed regularly as the child grows and the shape of the back starts to change. Casts need to be made and fitted in a special way. They have a hole in the chest area, which allow the lungs to expand so that the child can breathe properly.

In children under 2 years old, the cast will be changed every 2-3 months with the aim of making the spine straight.

Many parents find it easier for their child to wear a cast instead of having the problem of getting them to wear a brace each day.

Bracing

If the curve is getting bigger, and the child is still growing, the specialist may want to put the child in a brace.

A brace when applied properly helps to reduce the size of the curve. The aim of bracing is to stop the curve getting bigger. Wearing a brace can mean that the child can keep growing for longer before a more permanent treatment, such as surgery.

Braces should usually be worn for 23 hours a day. As the child grows, new braces will need to be made.

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Surgery

Sometimes casts and braces don’t stop a curve getting bigger. If this is the case a child may need an operation. The most common type of operation at this age is to attach growing rods to the child’s spine.

Growing rods help to guide the spine as it grows so that the curve does not get too much bigger. The rods are usually attached to the spine above and below the curve. They can reduce it by up to half the size when first fitted. The child then returns to hospital every 4-6 months for the rods to be made longer to keep up with the growth of the spine.

The rods might be lengthened by making a small cut (called an incision) in the back. There is also a type of rod that can be lengthened without this surgery. These rods are called magnetic rods. They are lengthened by a magnet, which is quick and mostly painless but on rare occasions can be just a little uncomfortable. The child is awake as it is done. An operation is still needed to fit magnetic rods in the same way as regular growing rods. However, once this fitting is done no further surgery is needed to lengthen the rods.

Most children will have to wear a brace to protect the rods. When the child is older and the spine has grown, the doctor will remove the rods. At this stage, usually the patient will have a final spinal operation called a spinal fusion.

For more information on spinal fusion surgery go to www.sauk.org.uk/ /scoliosis-treatment/ais-surgery

Prognosis (the outcome)

Babies

For a baby, if the curve is treated early, the spine might grow straight naturally. This is because up to the age of 1 babies have very flexible bones.

It is very important that a baby with a curvature of the spine is seen regularly by a scoliosis specialist. If the curve is not treated it could get worse while the child is growing and lead to serious problems in later life.

Children

If a child has a curve of 30 degrees or more it is likely to get bigger without treatment. Bracing is often used to stop these bigger curves growing too fast. However, some children between the ages of 4 and 10, who have a curve of over 30 degrees, will eventually need surgery.