

MAGEC® Growing Rods

Scoliosis

Scoliosis is an abnormal curve to the spine that can get worse as your child grows. The curve is measured by x-ray. A curve of more than 50 degrees can lead to heart and lung problems. Once a curve reaches 50 degrees, surgery to place growing rods would help your child. This depends on your age and curvature measurement.

Growing Rods

MAGEC® growing rods keep the curve stable as your child grows. The rods can be lengthened from outside the body by using a small magnetic device. This procedure is done during clinic visits. There are also fewer x-rays needed as the process is checked by ultrasound. Once your child is done growing, the next step is spinal fusion surgery. Your child's surgeon will talk about this with you.

Preop Clinic Visit

During the visit your child will have:

- A physical exam
- Lab work
- Maybe an x-ray

Care Team

You will meet with:

- Your surgeon in clinic to learn about the procedure and process of MAGEC® growing rods.
- An Advanced Practice Provider (APP), Physical Therapist (PT) and Child Life during the preop visit.

When you schedule your visit, please let us know if you would like a tour of the hospital.

Consent Form and Other Paperwork

A consent form will need to be signed. Please let us know if you are the guardian or the parent. Please bring FMLA paperwork if needed. Let us know if your child needs letters or notes for school.

Day of Surgery

- You and your child will check in at the 3rd floor of American Family Children's Hospital (AFCH).
- You are brought to a private room.
- A pediatric anesthesiologist and your surgeon will answer questions before starting the procedure.
- You may go back to the OR with your child until they fall asleep.
- The procedure may take 4-6 hours.

Monitoring

Spinal cord monitoring is used to make sure your child is safe. It follows nerve function during the surgery to reduce the risk of spinal cord injury or paralysis. Monitoring is closely followed by a neurologist. If there is a change noticed, the surgery is adjusted right away to prevent injury.

Rod Placement

The MAGEC® rods are made up of 2 titanium spinal rods. They are placed using pedicle screws, hooks, and connectors. The rods have a small magnet. The magnet allows the rod to lengthen without needing surgery.

Risks

Due to the length and type of surgery there is a risk for blood loss. Before surgery, your child's blood type is tested in case a blood transfusion is needed.

Scar Size

There will be one incision along the middle of your child's back. The length depends on the type of curve.

Hospital Stay

Your child will be in the hospital 3-5 days.

IV Pain Medicine

An IV is placed in your child's hand or arm during surgery. IV pain medicine is given through a pump. The pump has a button for extra doses. This medicine is managed by a pediatric anesthesiologist. Once your child can eat, pain medicine is given by mouth.

Physical Therapy (PT)

Physical therapists work with your child to help with moving or transfer needs. Before PT, your nurse should give your child pain medicine.

At Home**Pain Medicine**

Your doctor and nurse will review how to give your child the oral pain medicine used in the hospital. They will also tell you how to slowly stop it. While your child is taking this medicine, also give medicine to prevent constipation. If you need a refill, please call the pediatric orthopedic clinic.

Dressing Changes

You will receive supplies and learn how to change the dressing when your child is ready to go home.

Bathing

Your child may take sponge baths. **No** showering for 3 weeks post-op. **No** soaking in a bathtub until after the 6-week post-op visit with the surgeon.

Activity Restrictions

Your child should not bend, twist, or pick up anything for 3 months. This will help the anchored parts of the hardware to heal. Please ask your surgeon if you have any questions about activities including PT.

Missing School

Your child may get tired but should start feeling better about 4 weeks after surgery. At first it may be best to return to school part-time. Time missed from school may be 3-6 weeks.

Follow Up Visits**How Rods are Lengthened**

The magnetic portion of the MAGEC[®] rods is found by ultrasound and a magnet. An electric motor driver is held over the magnets. The motor driver triggers the magnet in the rods causing it to rotate and lengthen.

How Often Rods Need to be Lengthened

The first time is 6 months after surgery, then every 3 months. Your child will need x-rays twice a year. The magnetic part of the rod is seen by ultrasound and measured before and after the rods are lengthened.

Needing New MAGEC[®] Rods

It depends on your child's age and how much growing is left. If needed, your child would have surgery to take out the rods and put in larger ones.

Spine Growth

The MAGEC[®] growing rods support your child's scoliosis to keep it from getting worse. The rods are lengthened which allow your child's spine to keep growing.

When Your Child is Done Growing

Your surgeon will let you know when your child is ready for a spinal fusion. The MAGEC[®] growing rods and hardware will be taken out and replaced with spinal fusion hardware. A spinal fusion is the final surgery to treat progressive scoliosis. This corrects your child's scoliosis curve. Spinal fusion hardware is permanent unless there is a reason to take it out.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 4/2025 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#7794