

Division of Orthopaedic Surgery Halo Gravity Traction

Halo gravity traction is used to gradually straighten the spine prior to a spinal surgery for patients with severe scoliosis, kyphosis, and other spinal deformities. Severe curves can cause problems with the lungs by limiting the amount that the lungs can expand. Using halo gravity traction improves lung expansion and reduces the risk of damaging the nerves or soft tissues that surround and support the spine during surgery. It improves the safety and amount of correction of the next surgery, reduces pain medication usage, and decreases the days in the hospital after surgery. Halo gravity traction can look a little scary at first, but patients typically get used to it quickly.



What to Expect with Halo Gravity Traction

The halo (metal ring) is put on while the patient is asleep under general anesthesia. The halo is attached to the skull with 6-12 pins. The number of pins depends on the patient's age. The halo is attached to a pulley system with weights and ropes. The pulley system is attached to the patient's bed, walker, and wheelchair. Weights are added slowly over time, approximately 2-3 lbs. per day depending on the child's size. The weight gently pulls the spine straighter. Although the halo cannot be removed, children are able to come out of traction for quick activities such as repositioning, showers, changing clothes and using the toilet. Patients remain in the hospital the entire time they are in traction, usually 3 to 8 weeks. Once the spine has reached its best possible position, the child will undergo a spinal surgery to stabilize the newly corrected spine with a more permanent solution.

Does Halo-Gravity Traction cause pain?

It is normal to experience a headache or pain around the pin sites for the first few days after the surgery or shortly after weight is added. By stretching the spine, most patients say they feel more comfortable than they did before the procedure, have an easier time breathing, an increased appetite and can stand and sit more upright. The care team will frequently assess the patient's pain and give medications or other forms of pain relief, such as repositioning or a soft neck brace.

What to Expect in the Hospital

Your child will have a multidisciplinary care team working together to provide excellent care. The orthopaedic team will regularly check progress with x-rays, physical exams and adjust the weights. Regular checks of the child's strength and movement will be done to monitor for problems that can develop as the nerves are stretched. Nurses will make sure the pins remain clean and will monitor how your child is doing. Physical therapists will help your child get up and moving, build strength and

Division of Orthopaedic Surgery

flexibility. Occupational therapists will help your child adapt to basic activities such as bathing, eating, and moving around with equipment. Child Life Specialists will provide emotional support and help your child cope with being in the hospital through therapeutic play. An orthotist, someone who makes orthopedic braces, will measure and create a custom back brace to help give an extra push on the curve while in traction.

Activities with a Halo-Gravity Traction

Children can do a lot of the same things they were doing prior to the halo-gravity traction including walking and playing. Patients are encouraged to be out of bed as much as possible. Most patients find it easy to move around in a traction wheelchair or walker. It can take some time to adjust to sleeping in the halo, using a rolled-up towel or small pillow may make it easier to sleep. It is important to keep your child's hair clean and fingernails clean and trimmed to decrease the chance of infection. Staying in the hospital for weeks can be challenging for anyone. The Child Life Department will work with you to find activities to help keep your child busy.



Traction Wheelchair



Traction Walker

Division of Orthopaedic Surgery

How can I help my child during their hospitalization?

Caregivers can help by bringing a favorite pillow or stuffed animal and bringing activities that your child enjoys such as favorite games, crafts, music, or movies. It can also be fun to decorate their hospital room. You can also work with our in-hospital school team to help your child keep up with their schoolwork, so they feel ready to go back to school. Phone calls, video chatting and visits with friends and family can also help your child feel connected.

Risks Associated with a Halo-Gravity Traction

There are risks with any surgery. Risks of halo gravity traction include skin infection around the pins, pain, nerve injury, and scars. Skin infections are treated with antibiotics. Pain will be assessed regularly as previously discussed. Cranial or peripheral nerve injuries can result the spinal cord and nerves stretching during traction and weight. The care team will monitor closely for changes in movement, strength, and sensation. Nerve injury can usually be corrected with a decrease in or removal of the weights. After the halo is removed, there will be a scab at the pin sites. Scars will develop but usually fade and become less noticeable overtime. Applying 50+ SPF when outdoors can help reduce risk of scarring.

What happens after a Halo-Gravity Traction?

When the spine has been straightened as much as possible, the patient will return to the operating room for removal of the halo and completion of the spinal correction surgery to further stabilize and correct the curve. Once discharged after surgery, the patient will have regular follow ups to monitor their spine deformity over time.

Contact Numbers:

If you have a question or concern about your child, please call us:

- Weekdays (8-4:30pm): 510-428-3238 and ask to speak to your surgeon's nurse
- After 4:30pm or Weekend/Holiday: 510-428-3000 (main hospital number) and ask to speak to the orthopedic resident on-call