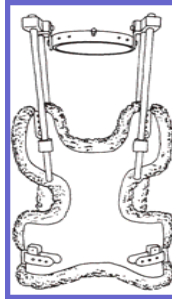




INTRODUCTION



Patient Care Guide for the Halo System

You've already been through a lot to get to this point and we'd like to offer you some advice and guidance so as to make the rest of your recovery as smooth and comfortable as possible. You have had surgery or suffered an injury to your cervical spine (the bones in your neck) and the way to proper healing of this injury is to immobilize and place traction on that part of your spine. Think of your vertebrae due to either a dislocation or fracture of the bones, the risk of damage to your spinal column is great. This is why you have been fitted with a PMT Halo brace.

The brace consists of three major parts: the vest, the superstructure (or rigid frame), and the ring. The vest is a plastic jacket that positions and holds the halo ring in place while distributing the weight of your head to your chest. The vest is lined with a soft wool or acrylic liner that is comfortable and lets your skin breathe. The superstructure is the network of four rods and two head blocks that connect your halo ring to your vest and allow proper positioning and traction of the neck. The ring goes around the head and is held in place by four pins that attach to the outer layer of your skull.

The rest of this brochure will describe some helpful hints as well as some do's and don't's for your recovery with the halo brace. Your family and friends should become familiar with this information to aid in this process.

The following information should be used only as a guideline. If you have further questions or need clarification, please check with your doctor.

Remember to always ask questions.

HELPFUL HINTS FOR LIVING WITH A HALO BRACE

CLOTHING

The halo vest is usually worn next to the skin so your clothing will have to go over the vest. There should be no problem with pants, shorts, or skirts, but shirts should be worn a few sizes larger than what you would normally wear. The most important feature is a neck opening wide enough to pass over the orthosis. Button-up or large elastic collared shirts such as sweat shirts work the best. Some slight modifications, or alterations may have to be made to the garment for a better fit, and it would be wise to practice a little before cutting your best clothes. In the summer, you may want to slide modified cotton t-shirts under your vest since the wool liner may be a little too warm. Always wear low-heeled shoes with good traction to avoid falling or slipping. Before leaving the hospital, you can ask your nurse, therapist or orthotist to show you ways of making it easier to dress.

SLEEPING

You may find yourself a little more tired than usual due to the stress you've been under and the traumatic injuries you have sustained. This is normal and should not be cause for alarm. You will find that you can sleep on your back, sides, or stomach—whatever position you find most comfortable. Placing rolled up towels, or pillow under your head may give you a more natural feel and aid in sleeping.

When rising from a lying-down position, you will have to be cautious since bending at the waist, like a sit-up, puts a lot of stress on your headpins. Instead, it will be easier to roll to one side and use your arms to press your torso up. If someone is assisting you, do not let them pull on the upright bars, as this will put stress on your headpins, as well.

DIET AND EATING

Since your lifestyle has temporarily changed, you may find that your weight will fluctuate slightly. This is normal. If you notice your vest becoming too tight or too loose, you should have it adjusted by your doctor or orthotist. Swallowing will be difficult at first and care should be taken to ensure that your food is cut into small pieces and chewed thoroughly to avoid choking.

TRAVELING

Extra weight has been added to the top half of your body and you will notice that your balance is different. This "top heavy" feeling will make it easier to fall over and may take some practice to get used to. It is a good idea to practice bending over and walking around with a spotter. Handrails will become very useful, as will learning to bend at the knees. Bumping into things may be a problem until you get used to the size of the halo and it's bars. It will also be harder to look down than it used to be.

It is not recommended for a halo wearer to drive a motorized vehicle since their field of vision is narrowed. In fact in some states, you may receive a ticket for driving with a halo on. Riding in a car doesn't pose any particular problems except when entering and exiting the vehicle. To enter, sit sideways on the seat and slide back with your body bent forward, then swing your legs around. If possible, use a recliner seat and move it to the rear. To exit, just reverse the same procedure. Seat belts should always be worn, since any sudden jerks or stops could cause a problem with your pins. Other forms of public transportation should pose no major problems other than getting into tight crowds. You should ask your Doctor for specific instructions pertaining to travel.

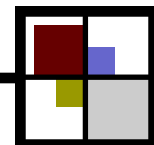
READING

Using an incline desk or music stand to hold your reading or writing materials will help to alleviate tired arms.

EMERNGY PROCEDURE: Halos come with a red sticker describing emergency access procedures.

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Halo check-ups are very important and should be done every 3-4 weeks.

PIN CARE

To help avoid infection, the areas around your pins should be cleansed at least twice a day. The areas should be cleansed with soap and water or a cotton swab soaked in peroxide. It is very important to use a new clean cotton swab for each pin site, as this decreases contamination from one pin site to another. Any crust or scabbing should be removed to allow drainage of the pin sites. If you notice that the pin sites are painful to touch, inflamed, bleeding or oozing a runny discharge, notify your physician immediately. These may be signs of infection. The skin around the pin should be pushed away from the pin to avoid adherence and to cut down on the amount of scarring. Daily use of antibiotic or iodine containing ointments is not recommended except on the advice of a physician.

If you notice that a pin, nut or bolt is loose, or hear clicking sounds, your halo may need to be adjusted. Avoid excessive movement until the halo can be checked out properly

VEST CARE

It is extremely important that the vest fits you well. It should be snug but not restrictive to breathing or normal body movements. Over time, you may develop sensitive spots under or around the vest. These areas can be corrected by having your physician or orthotist trim the vest or add extra padding in certain locations. If the vest becomes too tight, too loose, or you have trouble sitting or moving, have your physician or orthotist look at it and possibly fit you into a new vest. **Do not make any modifications to the vest on your own.**

The vest liner should be kept dry at all times. If it happens to get wet, dry it with a hair dryer on the cool setting. Do not remove the liner. If the liner gets dirty or develops an odor, call your orthotist to have a new liner put in. Soiled liners may be dry cleaned or hand washed with a mild soap and air dried.

If you notice any loose screws on the vest, contact your physician for instructions. Your physician will probably have you contact your orthotist to tighten any loose screws. These type of adjustments should be made only by your physician or orthotist.

SKIN CARE

Examine the skin under the vest daily, a flashlight can be used for this. You should also wash under the vest on a daily basis by passing a water-damped towel, in a drying motion, beneath the front and back portions of the vest. No soaps, lotions or oil-based powders should be used beneath the vest. Be careful not to allow the liner to absorb excessive amounts of moisture. Every two or three days, the skin should be cleaned in a similar fashion with an alcohol-moistened towel if tolerated by your skin type. Use a blow dryer on the cool setting after your bathing procedure to dry off any excessive moisture. Have someone check for reddened areas, especially pressure sores. Sniff for unusual odors, which could indicate infection.

BATHING

You should never attempt showering since there is no reliable way to keep your vest liner dry. You can either use sponge baths for the rest of your body or use a bathtub with about 2-3 inches of water (make sure it isn't close to your vest liner). Use plastic or towels to help keep your vest from getting wet.

HAIR WASHING

Keeping the hair clean helps keep the pins clean. This is why it should be done at least once a week and as frequently as daily. The best way to wash your hair is to lie on a flat surface (such as a bed or a couch) with your head extended out over the edge. The vest should be covered with towels or plastic and a catch basin should be placed under your head. Also, if your head is slightly lower than you body, water will run off your head instead of down your vest. Your hair should then be washed as normal with care being taken not to bump or hit the pins, as this may cause discomfort. Once your hair has been washed, the pin sites should be cleaned as instructed in the pin care section. No hair coloring, permanents or treatments should be attempted while wearing a halo since this may lead to infected pin sites and discomfort around the pins.

SCRATCHING AND ITCHING BENEATH THE VEST

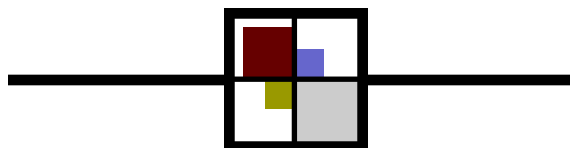
If you experience itching sensations under your vest, use a blunt object to scratch, taking care not to break the underlying skin.



Congratulations! Your physician has advised you that your halo is ready for removal. Once the halo has been removed by your physician or orthotist, your neck may feel very weak since it has not supported your head in some time. Because of this, you will be fitted for a neck collar to allow the neck some time to strengthen. This normally takes a couple of weeks.

The actual removal of the halo is a simple procedure that should take a total of about 10 minutes in the doctor's office. It takes about a minute to remove all four pins and only slight discomfort is experienced at this time. The adhesion of the skin to the pin is massaged away before removal and the pin sites are massaged after removal to lessen the degree of scarring. Besides massaging the pin sites, no unusual care must be taken except that which would be done for a small cut.

Since your neck is weak, be careful when returning to normal activities and refer to your doctor as far as resuming contact sports and other physical activities.



If your pins jar loose, please go to an emergency room for assistance. In case of cardiac distress, CPR instructions are printed below. Be sure your family and friends are knowledgeable of these instructions.

1. The patient should be lying flat on the back portions of the vest on a hard surface (i.e. floor, table, ground).
2. Loosen and release the side waist buckles.
3. The front portion of the vest is manufactured with a crease in the shell. Fold the vest back at this point, exposing the sternum.
4. Using the back portion of the vest as a "crash board" perform CPR as necessary. CPR should only be administered by those that are certified to do so.

IMPORTANT TELEPHONE NUMBERS:

Orthotist Phone
Sean Stellar (626) 584-0805

Orthopedic Surgeon Phone

Neurosurgeon Phone

EMERGENCY DIAL: 911