

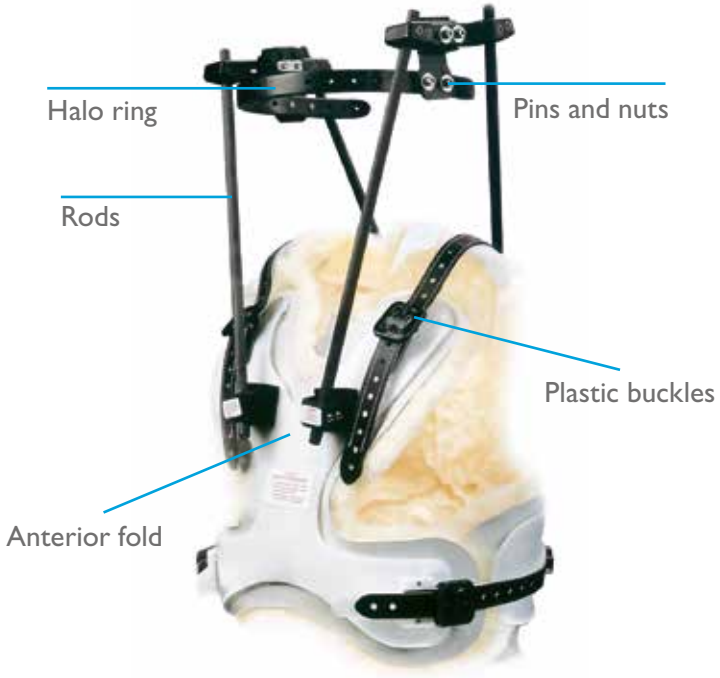


# Halo Vest

P a t i e n t   I n f o r m a t i o n

INTRODUCTION	3
WHAT IS A HALO VEST?	4
TREATMENT PROGRESS	5
Your stay in hospital	
Neurosurgery or orthopaedics consultation	
Following removal of the Halo vest	
PERSONAL CARE	7
PAIN IN THE NECK AND SHOULDERS	12
SENSORY PROBLEMS	12
EATING AND DRINKING	13
LOOKING AFTER THE PINS	14
SLEEPING	16
ACTIVITIES	18
PSYCHOSOCIAL IMPACT	20
GENERAL FOCAL POINTS	20
WHEN SHOULD YOU CONTACT	
THE DOCTOR IN CHARGE OF YOUR TREATMENT?	21
FURTHER INFORMATION	23

You will have been fitted with a Halo vest. This brochure provides tips and information on the best way to manage wearing a Halo vest and look after yourself in general. This information is merely intended as a guide, as the impact of wearing a Halo vest differs from person to person. Please do not hesitate to contact your doctor should you have any further queries.



## WHAT IS A HALO VEST?

A Halo vest is used to fix the neck vertebra externally to stop them moving. A Halo vest needs to be worn for approximately three months following a fracture of the cervical spine.

A Halo vest is a complex, rather daunting structure used to immobilise the neck. It is fixed with four pins inserted through the skin at the front and back of the head, into the outer layer of the skull. The four pins are then attached to a graphite ring. Graphite rods are connected to the ring and then attached to a plastic, sheepskin lined vest. The vest ensures that the structure is supported by the entire chest. The sheepskin liner makes it more stable and more comfortable to wear. Please tell your doctor if you are allergic to wool so that we can provide a synthetic alternative.



The advantage of this treatment is that you don't have to stay in bed and there is a lower risk of complications. Improved mobility options also ensure that your stay in hospital will be shorter.

## TREATMENT PROGRESS

### YOUR STAY IN HOSPITAL

Once your Halo vest has been fitted, an X-ray will be made of your cervical spine to ensure that your neck is correctly positioned. The pins will be tightened on the day after the vest has been fitted and just before you leave hospital. You will not be allowed to use the overhead trapeze (triangular transfer device over your hospital bed) whilst you are in hospital or at home. The rods on the Halo vest must not be pulled either, as this applies too much upward force on the pins.

You may suffer headaches during the first few days after the Halo vest has been fitted. Yawning or eating chewing gum may also be painful, but this will disappear in due course. You may have problems lying down during the first few days. Tips on how to manage this are included later in this brochure.

Once the doctor has given his approval, you can leave the hospital. However, make sure you have practised walking up and down stairs in hospital. It is advisable not to do this on your own, but with support from your physiotherapist.

Any questions relating to the hire of a hospital bed or bedside table, or home visits by a nurse, can be raised with the social worker on the ward.

## NEUROSURGERY OR ORTHOPAEDICS CONSULTATION

Once you are back home, you will need to have regular consultations with the neurosurgeon or orthopaedic surgeon to get the pins tightened. This may be slightly painful. Under no circumstances must you attempt to do this at home. In most cases an X-ray or CT-scan will be made of the cervical spine before your consultation.

Remember to bring the screw driver (you were provided with when the Halo vest was fitted) and box with additional material to the consultation. Always consult your doctor without delay if you feel that the Halo vest is becoming painful or loosening, or the area around one of the pins is infected (loss of pus).

## FOLLOWING REMOVAL OF THE HALO VEST

It takes approximately 30 minutes to remove the Halo vest.

Once it has been removed, you will normally still have to wear a rigid neck collar for six weeks and a soft one for another six weeks.

Bearing in mind that you will have to get used to the impact of gravity again, you may suffer from dizziness and/or nausea once the Halo vest has been removed. Initially you will also have to be careful lifting things. You can discuss with your doctor whether physiotherapy is required. The wounds from the pins can be exposed to air. You should, however, avoid polluted environments (e.g. sandy, dusty environments) unless the wounds are covered. It may take several weeks or months to get back to normal.

If, after the Halo vest has been removed, you are having problems with a scar (s) where the pins were inserted, it is advisable to consult your doctor to initiate appropriate treatment as soon as possible.

# PERSONAL CARE

The following tips may be important in terms of personal care.

## WASHING

- X You can ask for assistance from a home nurse to wash yourself.
- X You can wash at a sink, but remember that the sheepskin fleece underneath your vest must not get wet, otherwise it could cause itching.
- X Former Halo wearers do not advise taking a bath because it can affect your balance. If you still want to take a bath, it is advisable to keep the water level in the bath to a minimum. High-sided baths will be difficult to get into and out of. Be careful!
- X Showering is ok, providing you only spray the lower part of the body.

## WASHING UNDERNEATH THE VEST

It is not advisable to wash (using water and soap) underneath the vest. Do not apply lotions, oils, talcum powder or creams underneath the sheepskin fleece, as this may cause the wool to furl. You can freshen up by wiping an alcohol soaked or damp cloth underneath the vest. This may prevent or treat itching, odour, sores and pimples. You could also ask someone else to wipe underneath the vest with a small, but dry, soft washcloth. If you suffer from itching you can wind a thin cloth around a wooden spoon to enable you to rub underneath the vest. The buckles must not be loosened.

Also try not to remove the sheepskin fleece. It must not get wet. If it does get wet, it is advisable to dry it (without removing it) using a hair drier on a cold setting to prevent burns.

Try to inspect the skin underneath the vest daily for wounds or possible injuries.





## WASHING YOUR HAIR

You can wash your hair using a disinfecting shampoo (e.g. Isobetadine®), but you will need assistance. It is advisable to see to the pins before and after washing your hair.

- ✓ Lie down on a bed without headboard or a table. Slide back to position your head over the edge of the bed.
- ✓ Place towels underneath your neck and the Halo vest (remember not to put any pressure on the neck), to prevent the fleece from getting wet. If necessary cover them with plastic bags.
- ✓ Place a bowl on the floor underneath your head.
- ✓ Dampen and wash your hair.
- ✓ Rinse and dry it well to prevent the fleece from getting wet.
- ✓ Leave your hair to air dry.



If the vest does get wet, you can if necessary dry it using a hair drier on a cold setting.

Do not use hairspray, gel, conditioners, dye, hair strengtheners or other hair dyes.

Former Halo vest wearers have told us that you can also wash your hair as follows:

- ✗ Sitting in a chair and bending forward with a bowl underneath your head.
- ✗ Bending over the bath to wash your hair.

## SHAVING

Shaving a beard is normally not a problem. If you do encounter problems, you could use a compact razor or razor blade.

## CLEANING YOUR TEETH

If you find it difficult cleaning your teeth, you could use a straw to suck up and spit out water more easily. Remember that you can bend forward from the waist, but be careful not to lose your balance. Using an electric toothbrush may also help.

## CLOTHING AND FOOTWEAR

It is advisable to wear loose-fitting, baggy clothing (approximately two to four sizes larger than usual or you can measure the circumference of the vest just below the armpits and add 5 cm), to ensure that there is adequate circulation under the vest. Cotton or other natural fibres are preferable because they breathe.

The Halo vest is fitted with two vertical rods at the front and two at the back, which should be taken into account when choosing clothing. This involves three stages: indicate the exact position of the four rods, cut your clothing accordingly and finish with press studs, a zip or velcro.

Former Halo vest wearers have told us that a cape is ideal for wearing outside.



Women should wear a strapless bra, which can be pushed underneath the Halo vest from the side and done up at the back over the top of the vest. They can also wear spaghetti strap tops underneath the vest, which should be put on from the bottom up.

Men can wear a vest adapted with press studs or velcro.

Always try to wear flat, comfortable shoes. Heels are best avoided as they could affect your balance. You could put your feet up to put your shoes on.

## PAIN IN THE NECK AND SHOULDERS

You may develop pain in your neck and shoulders when wearing a Halo vest. One tip is that you should 'drop your shoulders as if they were suspended from the pins of the Halo vest'. Massage of the shoulders and arms, but not the neck, may offer some relief. It is advisable to consult a physiotherapist for this. The neck is said to be most painful in the morning and at night.

You can also talk about the pain to your doctor to set up a pain medication schedule.

## SENSORY PROBLEMS

A Halo vest may affect your vision, as you cannot see what happens to the side or beneath your field of vision. A bedside table, similar to the one used in hospital, can be hired from the health insurance fund and may offer some relief because you can position everything within your field of vision. You could also use a music stand to read.

Some Halo wearers also flagged up problems with double vision, haziness, eye muscle fatigue and distorted vision. Others mentioned dizziness and hearing problems. You may be more sensitive to noise because vibration may cause the rods to make a noise.

## EATING AND DRINKING

You may develop problems chewing and swallowing due to the position of your head. You may sometimes find it difficult to find your mouth due to the position of the rods. Hence the following tips.

- ✓ Make sure you are sitting properly upright when you are eating. This will make it easier to swallow.
- ✓ Putting your plate slightly higher and a bit further away will make it easier to see.
- ✓ If necessary you could use longer cutlery and longer straws.
- ✓ Cut meat into small pieces and take small bites.
- ✓ Try to promote your bowel movements by drinking enough water (at least 1.5 litres of water per day) and eating enough fibre rich foods, vegetables and fruit. You should also move/ exercise as much as possible. You could use laxatives if necessary.
- ✓ If you put on or lose a lot of weight you should tell your doctor, as weight changes could affect the stability of your vest.

## LOOKING AFTER THE PINS

Pins should be looked after properly to prevent infection. It is advisable to put a towel in front of your eyes when the pins at the front are being treated.

You should ask for assistance from a home nurse to look after the pins at home.

- ✗ Inspect the pins thoroughly for signs of infection (redness, sensitivity, fluid oozing out, pain, swelling, heat).
- ✗ The pins must be treated with a 0.5% chlorhexidine solution or Hydral 70 (disinfecting alcohol). Use cotton compresses and tweezers.
- ✗ Leave a compress with 0.5% chlorhexidine solution or Hydral 70 in place around the pins. If the skin around the pins dries out it may feel parched, tight and uncomfortable.
- ✗ If crusts develop the pins can be wrapped for 20 minutes with a compress soaked in 0.9% NaCl (physiological solution). Remove the crusts using sterile tweezers and a compress soaked in 0.9% NaCl (physiological solution), using careful rolling movements.
- ✗ The pins must be looked after on a daily basis. If there are signs of infection, the pins will need to be treated up to three times a day.

- X Always consult your doctor if there are signs of infection. They will take a wound swab (wiping a cotton wool bud over the wound near the pins) to collect bacteria to initiate the correct antibiotics and arrange to move the pin if necessary.



## SLEEPING

The first few nights you will have to get used to sleeping with a Halo vest. Former wearers have told us that the first few nights are the worst, but that things improve as time goes by. Getting into bed is easiest if you sit as close as possible to the top of the bed, turn onto your side and then roll onto your back, whilst simultaneously rolling your legs into bed.

Sit as close as possible to the top of the bed.

Turn onto your side.

Place your legs on the bed and roll onto your back.





Getting out of bed is easiest if you roll onto your side first, then lower your legs out of the bed and subsequently push up using your hand or elbow.

Roll onto your side.

Lower your legs out of the bed.

Push up using your hand or elbow.



You can, if necessary, hire an electrical hospital bed from your health insurance fund. This will make it easier to find the right position. A hospital bed is equipped with side rails, which can make you feel more secure. These rails can also be used to make it easier to turn sideways.

Most patients wearing a Halo vest prefer to lie on their back. To do so place a pillow under the head and neck to relieve the pressure on the pins and prevent you feeling as though your head is floating. Remember to make sure that any pressure on the neck is minimal.



You can also sleep on your side or stomach. If you want to sleep on your stomach, it is advisable to place a pillow or blanket underneath the chest and at the front of the Halo ring to prevent your nose from touching the mattress. Sleeping on your stomach is generally not recommended.

If you frequently wake up, you could briefly walk around to relax your muscles. A pressure sensitive pillow may help as it adapts to the pressure exerted by your head and neck.

If you still have problems sleeping, you could try sleeping in a sitting position.

Also try to take an afternoon nap, because wearing a Halo vest takes a lot of energy and you may well wake more often during the night.

## ACTIVITIES

Initially you may encounter balance problems, but this will improve during the first week of wearing a Halo vest. You must not drive a car or ride a bicycle.

Activities requiring considerable physical effort and/or lifting should be avoided. Running and/or jumping is also prohibited.

When getting into a car you should bend forward first, then place your bottom on the seat and subsequently lift your legs into the car. If the rods turn out to be too high to get in and out of a car, you can ask the doctor to move them down a bit.

Bend forward.

Sit down.

Lift your legs into the car.

Close the door and put on your seatbelt.

Do this in reverse order when getting out of the car. Take care not to damage the bodywork on the car.

Don't let a Halo vest be a problem in terms of intimacy. It may be an idea to place a pillow between you and your partner, to prevent them from injuring themselves on the rods or vest.



## PSYCHOSOCIAL IMPACT

Wearing a Halo vest may affect how you feel about yourself and your body. Sometimes people can react rather fiercely, without thinking. You may well not be able to go to school or work whilst you are wearing a Halo vest.

But try to venture out as much as possible and continue with any activities that you can do.

Wearing the Halo vest should not result in social isolation.

## GENERAL FOCAL POINTS

- ✗ Try to avoid low temperatures as this can result in headaches or numbness around the pins. You could, if necessary, pack the pins with items of clothing.
- ✗ You may feel pressure under the vest when breathing or after eating. Under no circumstances should you undo the vest yourself.
- ✗ You could use a raised toilet seat to make sitting down and getting up when visiting the toilet easier. This can also be hired from the health insurance fund.

Wearing a Halo vest does not increase the risk of respiratory or cardiac arrest. However, the unit can be a hindrance in terms of reanimation in the event of a respiratory or cardiac arrest.

Hence the following recommendations from the manufacturer:

- Place the individual on their back.
- Undo the buckles at the side of the vest.
- The top of the vest is equipped with a fold. Fold the vest up to the fold, to expose the sternum (chest).
- Reanimate (30 x heart massage, 2 x respiration).

Consult the nursing staff or doctor for further information.

## WHEN SHOULD YOU CONTACT THE DOCTOR IN CHARGE OF YOUR TREATMENT?

- If one of the pins can rotate freely without resistance or if the end of the pin becomes visible on the skin. This may indicate that one of the pins has loosened. You may well hear a clicking sound near the ring of the Halo vest. Under no circumstances must you tighten the pins yourself.
- Redness of the skin near one of the pins, or swelling, heat or loss of fluid, may point to an infection. Laughing may become painful if there is an infection around the pins. The doctor will take a swab around the pin to decide on the correct antibiotics, and may move the pin if necessary. If the pain or loss of fluid persist, irrespective of whether appropriate antibiotics are taken, it is advisable to contact your doctor again.

- If you have a fall whilst wearing a Halo vest, this may result in displacement of one of the pins. The following symptoms may occur: headaches, feeling out of sorts, visual problems, increasing pain, clear fluid leaking from the site of one of the pins. If you notice these symptoms also when the Halo vest is being fitted, you should report them.
- If the insertion site of a pin is painful. This may point to the pin loosening or being incorrectly positioned. If laughing or eating is particularly painful, you should report it.
- If the skin around the insertion point of a pin is bleeding. This may be the result of taking anticoagulants.
- If the scars at the site of the pins cause problems after the Halo vest has been removed.
- If you develop nerve pain in your face or head.
- If the vest puts too much pressure on the skin or injures the skin. The doctor can check and adapt the vest if necessary.
- If you have problems eating or swallowing.
- If you suffer from loss of sensation, weakness or extreme pain in one of your limbs.
- If you are worried.

## FURTHER INFORMATION

In the event of further questions please contact:

- **Hospitalisation neurosurgery** (E 452) Tel. 016 34 45 20
- **Hospitalisation orthopaedics A** (E 211) Tel. 016 33 81 10
- **Hospitalisation orthopaedics B** (E 212) Tel. 016 33 81 20

- **Neurosurgery Secretariat**

Tel. 016 34 42 90

E-mail: [neurochirurgie@uzleuven.be](mailto:neurochirurgie@uzleuven.be)

- **Orthopaedics Secretariat**

Tel. 016 33 88 27

E-mail: [orthopedie@uzleuven.be](mailto:orthopedie@uzleuven.be)

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