



FERNO Combi Head Immobiliser (CHI)

FERNO/MAN/0721/211-R3/UK
Stock Code 2003-0136



*Read this Manual
and Retain for
Future Reference*

Ferno UK Customer Services

Customer Service and product support are important aspects of each Ferno product. Please have the product serial number available when calling, and include it in all written communications.

Manufactured by Ferno (UK) Ltd, Ferno House, Stubs Beck Lane, Cleckheaton, West Yorkshire, BD19 4TZ

For technical support questions:

Telephone - Main Reception	+44 (0) 1274 851999
Telephone - Sales Department	+44 (0) 1274 854510
Telephone - Service Department	+44 (0) 1274 854511
Email - Sales	sales@ferno.co.uk
Email - Service	services@ferno.co.uk
Web	www.ferno.co.uk

ALL OTHER LOCATIONS

For assistance or information, please contact your Ferno distributor. If you do not have a Ferno distributor, please contact your nearest Ferno Customer Services office.

USA HEADQUARTERS

Ferno-Washington, Inc., 70 Weil Way
Wilmington, Ohio 45177-9371, U.S.A.

Telephone	Country Code +1.937.382.1451
Fax	Country Code +1.937.382.6569
Internet	www.ferno.com

Disclaimer

This manual contains general instructions for the use, operation and care of this product. The instructions are not all-inclusive. Safe and proper use of this product is solely at the discretion of the user. Safety information is included as a service to the user. All other safety measures taken by the user should be within and under consideration of applicable regulations. It is recommended that training on the proper use of this product be provided before using this product in an actual situation.

Retain this manual for future reference. Include it with the product in the event of transfer to new users. Additional free copies are available upon request from Ferno UK Customer Support department.

Proprietary Notice

The information disclosed in this manual is the property of Ferno UK Ltd, who reserve all patent rights, proprietary design rights, manufacturing rights, reproduction use rights, and sales use rights thereto, and to any article disclosed therein except to the extent those rights are expressly granted to others or where not applicable to vendor proprietary parts.

Limited Warranty Statement

The products sold by Ferno are covered by a limited warranty, which is printed on all Ferno invoices. The complete terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are also available upon request by calling Ferno UK on +44 (0) 1274 851999.



FERNO S.r.l.
via B. Zallone, n. 26, 40066
Pieve di Cento, Bologna, Italy
+39.051.6860028



Ferno (UK) Ltd.
Ferno House, Stubs Beck Lane
Cleckheaton, West Yorkshire, BD19 4TZ
+44 (0) 1274 851999





USER MANUAL

To request additional free users' manuals, contact Ferno UK Customer Support Department, your Ferno distributor, or visit www.ferno.co.uk.


TABLE OF CONTENTS

Section	Page	Illustrations
Contact information _____	2	Figure 1 - CHI Components _____ 5
1 - Safety Information _____	4	Figure 2 - Positioning the Baseplate _____ 6
1.0 Warning _____	4	Figure 3 - Feeding the auxiliary strap through slots _____ 6
1.1 Important _____	4	Figure 4 - Securely fitted Baseplate _____ 6
1.2 Blood Borne Disease Notice _____	4	Figure 5 - Baseplate located on Scoop® EXL _____ 7
2 - Operator Skills and Training _____	4	Figure 6 - Applying the headblocks _____ 7
2.0 Skills _____	4	Figure 7 - Orientation of headblocks _____ 7
2.1 Training _____	4	Figure 8 - Fitting H-straps to head and chin straps _____ 7
3 - About the CHI _____	5	Figure 9 - Placing straps _____ 8
3.0 Description _____	5	Figure 10 - Securing forehead strap _____ 8
3.1 General Specifications _____	5	Figure 11 - Anchoring chin strap _____ 8
3.2 Components _____	5	Figure 12 - Make sure head is fully secure _____ 8
4 - Operating the CHI _____	6	Figure 13 - Holding the patient's head _____ 9
4.0 Before Placing the CHI in Service _____	6	Figure 14 - Inserting baseplate under the head _____ 9
4.1 General Guidelines for Use _____	6	Figure 17 - Aligning the Scoop® _____ 9
4.2 Attaching the Baseplate to a Longboard _____	6	Figure 18 - Locking the foot-end of the Scoop® _____ 10
4.3 Attaching the Baseplate to a Scoop® Stretcher _____	7	Figure 19 - Positioning the headblocks _____ 10
4.4 Securing the Patient in the CHI _____	8	Figure 20 - Preparation of head-strap _____ 10
4.5 Storing the CHI _____	8	Figure 21 - Laying the head-straps in position _____ 10
5 - Guidelines for using with Scoop® EXL _____	9	Figure 22 - Anchoring the lower chin _____ 10
5.0 Introduce baseplate whilst patient is on the floor _____	9	Figure 23 - Fixing the head-strap _____ 11
5.1 Locking of the Scoop® _____	9/10	Figure 24 - Ensuring the straps are tight _____ 11
5.2 Attaching the CHI head and chin straps _____	10/11	Figure 25 - Attach the head-straps _____ 11
5.3 Alternative method for attaching straps _____	11	Figure 26 - Insert the headblocks _____ 11
6 - Guidelines for using with Longboard _____	12	Figure 27 - Position the head-straps _____ 11
6.0 Attaching the CHI baseplate straps _____	12	Figure 28 - Secure the head -traps _____ 11
6.1 Attaching the CHI baseplate top strap _____	13	Figure 29 - Baseplate facing up _____ 12
6.2 Attaching the CHI baseplate lower strap _____	14	Figure 30 - Baseplate facing down _____ 12
7 - Maintenance _____	15	Figure 31 - Thread the strap through both buckles _____ 12
7.0 Maintenance Schedule _____	15	Figure 32 - Feed the strap back through second buckle _____ 12
7.1 Disinfecting and cleaning the CHI _____	15	Figure 33 - Securing the strap through both buckles _____ 12
7.2 Inspecting the CHI _____	15	Figure 34 - Baseplate ready to attach to board _____ 12
8. Limited Warranty Summary _____	16	Figure 35 - Positioning the straps _____ 13
9 - Ferno Technical Support _____	16	Figure 36 - Threading the strap _____ 13
10 - Training & Maintenance Record _____	17	Figure 37 - Securing the strap _____ 13
		Figure 38 - Feed the strap back through the buckle _____ 13
		Figure 39 - Pull the strap tight _____ 13
		Figure 40 - Secure the strap to the VELCRO® _____ 13
		Figure 41 - Positioning the straps _____ 14
		Figure 42 - Inserting the strap into the buckle _____ 14
		Figure 43 - Securing the strap _____ 14
		Figure 44 - Feed the strap back through the board _____ 14
		Figure 45 - Securing the left strap _____ 14
		Figure 46 - Securing the right strap _____ 14
		Figure 47 - Baseplate secured to the longboard _____ 15
		Figure 48 - CHI secured to the longboard _____ 15

1 - SAFETY INFORMATION

1.0 Warning

Warning notices indicate a potentially hazardous situation which, if not avoided, could result in injury or death.

 WARNING
<p>Untrained operators can cause injury or be injured. Permit only trained personnel to operate the CHI.</p> <p>Improper operation can cause injury. Operate the CHI only as described in this manual.</p> <p>An unattended patient can be injured. Stay with the patient at all times.</p> <p>Improper maintenance can cause injury.</p>

1.1 Important

Important notices emphasise important usage or maintenance information.

Important

1.2 Blood borne Disease Notice

To reduce the risk of exposure to blood borne diseases such as HIV-1 and hepatitis when using the CHI, follow the disinfecting and cleaning instructions in this manual.

2 - OPERATOR SKILLS AND TRAINING

2.0 Skills

Operators using the CHI need:

- A working knowledge of emergency patient-handling procedures.
- The ability to assist the patient.
- A complete understanding of the procedures described in this manual.
- Qualified to carry out spinal immobilisation

2.1 Training

Trainees need to:

- Have followed a training plan approved by an EMS training officer (or equivalent).
- Read and understand the instructions in this manual.
- Practice using the CHI before using it in regular service.
- Be tested to verify their understanding of the CHI's use and care.
- Keep training records. A sample training sheet is provided on page 17.

 WARNING
<p>Untrained operators can cause injury or be injured. Permit only trained personnel to apply the CHI</p>

3 - ABOUT THE CHI

3.0 Head Immobiliser Description

The Ferno Combi Head Immobiliser (called the 'CHI' in this manual) is an emergency patient-handling device designed to aid in immobilising the patient's head and neck. It is for professional use only, by a minimum of two trained operators.

The CHI is made from integral foam polyurethane and is waterproof and buoyant. It is designed not to interfere with medical scanners and may be left in place during X-ray, CT and MRI scans.

The CHI is specifically designed for use with a Ferno Scoop® EXL but can also be used on a Scoop® S-265/266 and any breakaway stretcher or full-length longboard / spineboard that has either cervical device slots or a centre hole at the head end.

The CHI features include:

- 1 x Baseplate with fixing straps
- 2 x Headblocks
- 2 x Forehead/Chin straps
- 2 x Easy-to use hook-and-loop fastening H-straps

3.1 General Specifications

Length	24.5 cm (9.7 in)
Width	30 cm (11.8 in)
Height	17 cm (6.6 in)
Weight	2.32 kg (5 lb)

General specifications are rounded to the nearest whole number. Metric conversions are calculated before rounding the imperial measurements. For more information, contact Ferno Service Department.

Ferno reserves the right to change the specification without notice.

⚠ WARNING

Improper use of the CHI can cause injury. Use the head immobiliser only for the purposes described in this manual.

3.2 Components

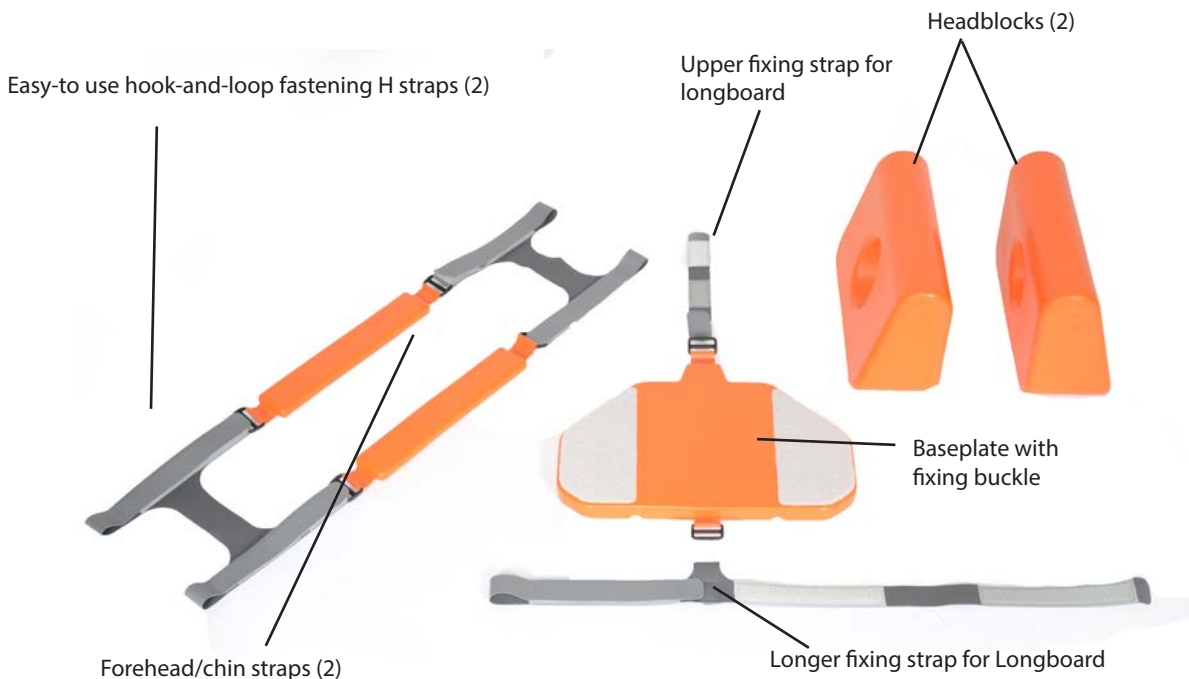


Figure 1 - CHI Components

4 - OVERVIEW - USING THE CHI

4.0 Before Placing the CHI Head Immobiliser in service

- Personnel who will work with the CHI need to read this manual.
- Inspect the CHI, following instructions in *Inspecting the CHI*, page 15.

4.1 General Guidelines for Use

- Qualified personnel should assess the patient's condition and determine the proper procedures and equipment to use.
- Follow standard local emergency patient-handling procedures when using the CHI.
- Using the CHI requires a minimum of two trained operators working together.
- Stay with the patient at all times.
- Medical advice is beyond the parameters of this manual. It is the users' responsibility to ensure safe practices for the patient and themselves.

4.2 Attaching the Baseplate to a Longboard

Note: When using a longboard, you must use a full-length Longboard with the CHI. The Longboard must have both a centre hole and slots along the side of the board to accommodate the fixing straps.

CHI is suitable for use with Ferno Millennia board and all versions of Najo board and bariatric Sportsboard

1. Separate the components of the CHI.
2. Position the Baseplate just below the centre hole with the VELCRO® facing upwards on the fixing strap at the head end of the Longboard, feeding the strap through the buckle and back round to attach on itself (Figure 2). See also section 6 for more details.
3. Further attach the Baseplate to the Longboard using the auxiliary strap (Figure 3). Feed the auxiliary strap through the slots in the side of the stretcher and back round, attaching the strap with the VELCRO®. See section 6 for more details. Note that the Baseplate may be stored in vehicle attached to the Longboard, to reduce time spent deploying the CHI.
4. Verify that the Baseplate is firmly in place such that it does not slip on the Longboard, by tightening the VELCRO® straps at each point.
5. Transfer the patient onto the Longboard using approved local manual handling and patient transfer procedures.

Important

The Baseplate must be tight on the Longboard for the CHI to function effectively. If the Baseplate moves or slips, further tighten all retention straps until the Baseplate remains firmly in place.

WARNING

Improper use can cause injury.
Use the CHI only for the purpose described in this manual.

WARNING

An unattended patient can be injured. Stay with the patient at all times.



Figure 2 - Positioning the Baseplate



Figure 3 - Feeding the auxiliary strap through slots

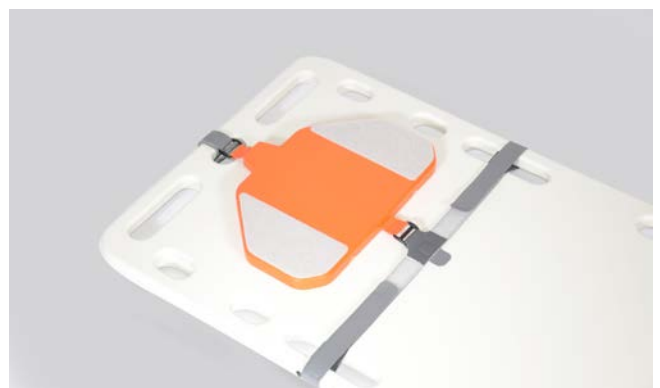


Figure 4 - Securely fitted Baseplate

4 - OVERVIEW - USING THE CHI

4.3 Deploying the Baseplate when using a Scoop® Stretcher

1. Read and follow all instructions in the Scoop® Stretcher Users' Manual.
2. Always transfer the patient onto the Scoop® stretcher using approved local manual handling and patient transfer procedures.
3. When using CHI with Scoop, the baseplate does not need to be attached to the Scoop prior to deployment.
4. The CHI baseplate can be introduced under the patient's head either prior to introducing the Scoop® under the patient laid on the floor or at the same time as introducing the Scoop® by holding the baseplate within one half of the Scoop® as the Scoop® is introduced. Either method requires a minimum of two operators: one operator to support the patient's head and neck in neutral alignment at all times, the other operator applying the Baseplate and Scoop® separately, or at the same time. See section 5 for more details



Figure 5 - Base Plate located on Scoop® EXL



Figure 6 - Applying the Headblock

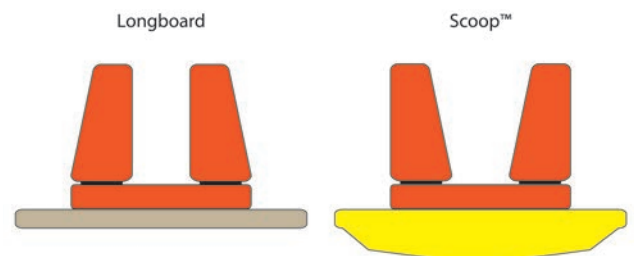


Figure 7 - Orientation of Headblocks



Figure 8 - Fitting H-straps to head and chin straps

4 - OVERVIEW - USING THE CHI

4.4 Securing the Patient in the CHI

1. Position the patient on the Longboard or Scoop® stretcher with the patients head centred on the baseplate. The patient's head should be held at all time.
2. Secure the patient on the Longboard or Scoop® stretcher with the restraints provided with the equipment.
3. If the patient is on a Longboard, place the vertical sides of the Headblocks against each side of the patient's head. The end of each pad should touch the patient's shoulders.
4. If the patient is on a Scoop® stretcher, place the angled side of the Headblocks against the patient's head (See figure 7 on page 7). The end of each pad should touch the patient's shoulders.

When possible, align the holes in the Headblocks with the patient's ears. This helps the patient hear the operator and allows the operator to check the patient's ears.

1. Follow local protocols to determine the use and placement of a strap in the chin area (with or without use of a neck brace).
2. Begin by anchoring the chin strap through the smaller cervical device slots on the Longboard/Scoop®. Loop each end of the straps through the cervical device slots on the Longboard/Scoop®. Adjust as needed.
3. Centre a forehead/chin strap on the patient's forehead, with the fastening strips facing up. Loop each end of the straps through the cervical device slots on the Longboard/Scoop®. Adjust as needed.
4. See section 5 for more details on attaching the straps

4.5 Storing the CHI

Clean and disinfect the CHI before storing (See *Maintaining the CHI* on page 15).

The CHI Baseplate may be stored attached to a Longboard if desired.

Store the remaining CHI parts together in a clean, secure location, or attached to a Longboard/Scoop®.



Figure 9 - Placing straps



Figure 10 - Securing forehead strap



Figure 11 - Anchoring chin strap



Figure 12 - Make sure head is fully secure

5 - SUGGESTED PROCEDURES FOR USING CHI IN CONJUNCTION WITH SCOOP® EXL

5.0 Introduce baseplate whilst patient is on the floor

1. With patient on the floor, Operator 1 supports patient's head for C-spine neutral alignment (see fig 13)
2. Whilst Operator 1 maintains this position, Operator 2 introduces the baseplate under the patient's head from the side, ensuring the patient's head is central on the baseplate. (See fig 14)
3. With Operator 1 continuing to maintain neutral alignment, Operator 2 places the two sections of the Scoop® either side of the patient. (see fig 15)



Figure 13 - Holding the patient's head



Figure 14 - Inserting baseplate under the head



Figure 15 - Manoeuvring the Scoop® in position

5.1 Locking of the Scoop®

1. Operator 2 brings both sides of the Scoop® together, bringing the Scoop® torso panels under the baseplate at each side, locking the Scoop® in place, as Operator 1 continues to hold patient's head. (see fig 16 & 17)
2. Operator 2 locks the Scoop® at the foot-end (see fig 18 on next page)



Figure 16 - Locking the head-end



Figure 17 - Aligning the Scoop®

N.B. on certain surfaces it may be easier to lock the Scoop® at foot-end first and then close the head-end

5 - SUGGESTED PROCEDURES FOR USING CHI IN CONJUNCTION WITH SCOOP® EXL (CONT...)

- Once the Scoop® is locked, place a head-block at each side of the patient, ensuring the angled side of each block is facing the patient's head (fig 19)



Figure 18 - Locking the foot-end of the Scoop®



Figure 19 - Positioning the head-blocks

N.B It is not necessary to attach the baseplate to the Scoop® at the top buckle, as this is intended purely for use on with a longboard board such as the Millennia board, where the CHI base can be strapped to the board and stored in the vehicle with the baseplate attached permanently.

5.2 Attaching CHI head & chin straps

- Ensure that the straps are prepared with the correct orientation & fixing of the straps (fig 20)
- Lay the straps over the CHI (see fig 21)
- First anchor the lower (chin) strap to the Scoop® on both sides (see fig 22)
- Then fix the forehead strap to the Scoop® (see fig 23 next page)
- Re-adjust the straps all around so that a tight package is achieved (see fig 24 next page)



Figure 20 - Preparation of head strap orientation



Figure 21 - Laying the head straps in position



Figure 22 - Anchoring the lower chin

5 - SUGGESTED PROCEDURES FOR USING CHI IN CONJUNCTION WITH SCOOP® EXL (CONT...)



Figure 23 - Fixing the head straps



Figure 24 - Ensuring the straps are tight

5.3 Alternative method for attaching straps to Scoop®



Figure 25 - Pre-attach the head strap to the Scoop®



Figure 26 - Locate the head blocks



Figure 27 - Position the head strap over patient head



Figure 28 - Secure the head straps the other side

6 - SUGGESTED PROCEDURES FOR USING CHI IN CONJUNCTION WITH LONGBOARD

6.0 Attaching CHI baseplate on Longboard

The CHI baseplate can be permanently attached to a longboard and stored in the vehicle, such that it is immediately ready to use when required.

1. Attach the top-fixing strap as per photos below.

Note that the baseplate is turned upside down in the sequence of photos. The photos have been taken in this way to more easily show exactly how the top strap is attached to the buckle.



Figure 29 - Baseplate facing up



Figure 30 - Baseplate facing down



Figure 31 - Thread the strap through rear buckle hole



Figure 32 - Feed the strap back through front buckle hole



Figure 33 - Secure the strap through both buckles through the VELCRO®



Figure 34 - Baseplate ready to attach to longboard

6 - SUGGESTED PROCEDURES FOR USING CHI IN CONJUNCTION WITH LONGBOARD (CONT.)

6.1 Attaching CHI baseplate top strap to the Longboard

Attach the baseplate top-strap to the longboard as per below photos

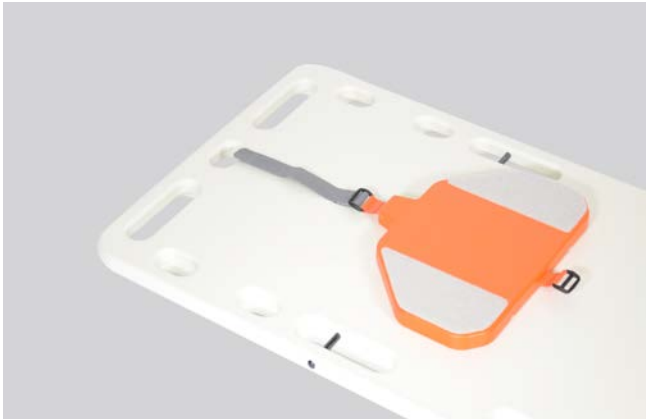


Figure 35 - Position the top strap



Figure 36 - Thread the strap through board hole



Figure 37 - Bring the strap back over the board



Figure 38 - Feed the strap back through the top buckle hole



Figure 39 - Pull the strap tight



Figure 40 - Secure the strap back over onto the VELCRO®

6 - SUGGESTED PROCEDURES FOR USING CHI IN CONJUNCTION WITH LONGBOARD (CONT.)

6.2 Attaching CHI baseplate lower fixing strap to the longboard

Attach the lower fixing strap to the board as follows:



Figure 41 - Position the straps



Figure 42 - Insert the strap into the front buckle hole and back under to fix to the VELCRO® underneath



Figure 43 - Securing the strap



Figure 44 - Feed the lateral strap through the board hole



Figure 45 - Securing the left strap



Figure 46 - Securing the right strap

6 - SUGGESTED PROCEDURES FOR USING CHI IN CONJUNCTION WITH LONGBOARD (CONT.)



Figure 47- Baseplate secured to the longboard



Figure 48 - CHI secured to the longboard

7 - MAINTENANCE

7.0 Maintenance Schedule

The CHI requires regular maintenance. Set up and follow a maintenance schedule. A sample maintenance record sheet is provided on page 17. The table on the right represents minimum intervals for maintenance.

When using maintenance products, follow the manufacturers directions and read the manufacturers' material safety data sheets.

7.1 Disinfecting and Cleaning the CHI

To disinfect: Wipe all surfaces with disinfectant. Follow disinfectant manufacturer's directions. Ferno recommends inspecting the CHI for obvious damage as you disinfect it.

To clean: Hand wash all parts of the CHI with warm water and mild detergent. Rinse with warm, clear water. Dry the CHI with a towel or allow it to air-dry.

7.2 Inspecting the CHI

Have your service's equipment maintenance personnel inspect the CHI. Follow the checklist on the right and work the CHI through all its functions as described in this manual.

If the inspection shows damage, excessive wear, or missing parts, remove the CHI from service and replace it.

⚠ WARNING

**Improper maintenance can cause injury.
Maintain the CHI only as described in this manual.**

Minimum Maintenance Intervals	Each Use	As Needed	Each Month
Disinfecting	•		
Cleaning		•	
Inspecting		•	•

Important

Disinfectants and cleaners containing bleach, phenolics, or iodides can damage the mount. Use caution when disinfecting and cleaning with products containing these chemicals.

INSPECTION CHECKLIST

- Are all components present?
- Are all components in good condition, free of punctures, tears and fraying?
- Does the Baseplate remain firmly in place (does not slip) when secured to the Longboard or Scoop® stretcher?
- Are the VELCRO® hook and loop fastening strips effective?
- Are all parts free of excessive wear?

8 - LIMITED WARRANTY SUMMARY

Ferno products are warranted to be free from defects in material and workmanship for a period of one year, except:

- Soft goods (webbing, vinyl, fabric, foam, etc.) are warranted for 90 days.

Ferno repairs are warranted for 90 days from the date of repair.

This limited warranty applies only when the product is used as described in the instructions provided. The warranty period begins when the product is shipped from Ferno or when you receive it if you have proof of delivery. Shipping charges are not covered by this limited warranty. Ferno is not liable for shipping damages or damages sustained through using the product.

Non-Ferno products sold by Ferno retain the product manufacturer's original warranties. Ferno offers no warranties of any kind additional to those of the product manufacturer, nor does Ferno assume any liability for products manufactured by others.

Limited Warranty Obligation

If a product is proven defective, Ferno will repair or replace it, or, at our option, refund the item's purchase price. In no event is Ferno liable for more than the selling price of the product. The purchaser accepts these terms in lieu of all damages.

This is a summary of the limited warranty. The actual terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are available upon request by calling Ferno UK on +44 (0) 1274 851999.

9 - FERNO TECHNICAL SUPPORT

Customer service and product support are important aspects of each Ferno product. For assistance, please contact Ferno Service Department:

FERNO (UK) LTD

Telephone Main Reception	+44 (0)1274 851999
Service Department	+44 (0)1274 854511
Service Email	services@ferno.co.uk
Web	www.ferno.co.uk

