



Vertical Rescue Stretcher

VRES STRETCH



FERNO[®]

Users' Instructions

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CUSTOMER SERVICE

Customer relations and product support are important aspects of each Ferno product. For assistance with the stretcher please contact your local distributor, Ferno Customer Service as listed below:

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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 Customer Service.

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1 - SAFETY INFORMATION

1.1 Warning

Warning safety alerts indicate a potentially hazardous situation that, if not avoided, could result in injury or death.

The following warnings appear in this manual.

WARNING

Untrained operators can cause injury or be injured. Permit only trained personnel to operate the stretcher.

Improper use of the stretcher can cause injury. Use the bridle only for the purpose described in this manual.

Improper operation can cause injury. Operate the stretcher only as described in this manual

An unrestrained or improperly restrained patient can be injured. Always secure the patient in the stretcher with the stretcher's integrated restraint system plus any other restraint system appropriate to the rescue situation.

Modifying the stretcher can cause injury and damage. Use the stretcher only as manufactured and sold by Ferno.

Improper maintenance can cause injury or damage. Maintain the stretcher only as described in this manual.

Improper parts and service can cause injury. Use only Ferno approved parts and service on the stretcher.

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

Attaching improper or inappropriate items to the stretcher can cause injury. Use only Ferno-approved items on the stretcher.

1.2 Notice

Notices emphasise important but not hazard-related information. Failure to follow Notices could result in product or property damage.

NOTICE

Rescue procedures using ropes, harnesses, bridles and other Personal Protective Equipment (PPE) require special skills and are potentially hazardous activities. No rescue personnel should attempt such rescue procedures unless he or she has received professional instruction and training.

Ensure all straps are fastened and tensioned. DO NOT over-tension. Allow for at least one 'flat' hand space between the strap and the patient's body.

1.3 Bloodborne Disease Notice

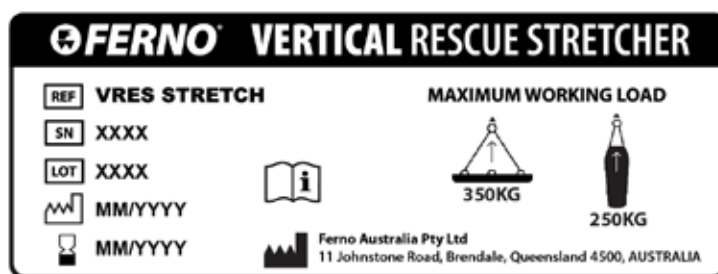
To reduce the risk of exposure to bloodborne diseases such as HIV-1 and hepatitis when using the stretcher, follow the disinfecting and cleaning instructions in this manual.

1.4 Safety Labels

Labels place important information from the Users' Manual on the stretcher. Read and follow label instructions. Replace worn or damaged labels immediately.

The product information label is fixed to the middle carry handle and contains important information regarding the unit and date of manufacture.

A sample of the identification tag is illustrated below.












1.5 Stretcher Lifespan

The stretcher has a 10 year life span and must be removed from service after this time if no damage has been sustained prior to the 10 year period.

2 - OPERATOR SKILLS AND TRAINING

1.6 Glossary

Symbols appearing in identification labels

	Product Code
	Serial Number
	Batch Number
	Date of Manufacture
	Date of Expiry / Retirement
	Read User Instruction Manual Before Using
	Manufacturer
 350KG	Maximum weight rating when lifting the stretcher in a horizontal orientation (Horizontal Lift)
 250KG	Maximum weight rating when lifting the stretcher in a vertical orientation (Vertical Lift)

WARNING EXPERT USE ONLY

You must be trained in the use of this stretcher. Refer to the instructions provided before use. Check stretcher for wear and tear before every use and retire if you find any visible signs of damage

2.1 Skills

Operators using the stretcher 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.
- Follow local protocols and guidelines as set down by your organisation

2.2 Training

Trainees need to:

- Follow a training program designed or approved by their training officer.
- Read this manual. For additional free users' manuals, contact Ferno Customer Service.
- Practice with the stretcher before using it in regular service.
- Be evaluated and tested on their understanding of the stretcher.
- Record their training information. **A sample form is provided on page 14.**

WARNING

**Untrained operators can cause injury or be injured.
Permit only trained personnel to operate the stretcher.**

3 - ABOUT THE STRETCHER

3 - ABOUT THE STRETCHER

3.1 Description

The Vertical Rescue Stretcher (referred to as the stretcher throughout this manual) is designed for high angle, confined space, horizontal and vertical rescue.

HORIZONTAL LIFTING LOAD LIMIT



VERTICAL LIFTING LOAD LIMIT



USERS' MANUAL



For additional free Users' Manuals, please call Customer Service or contact your local distributor.

3.2 General Specifications

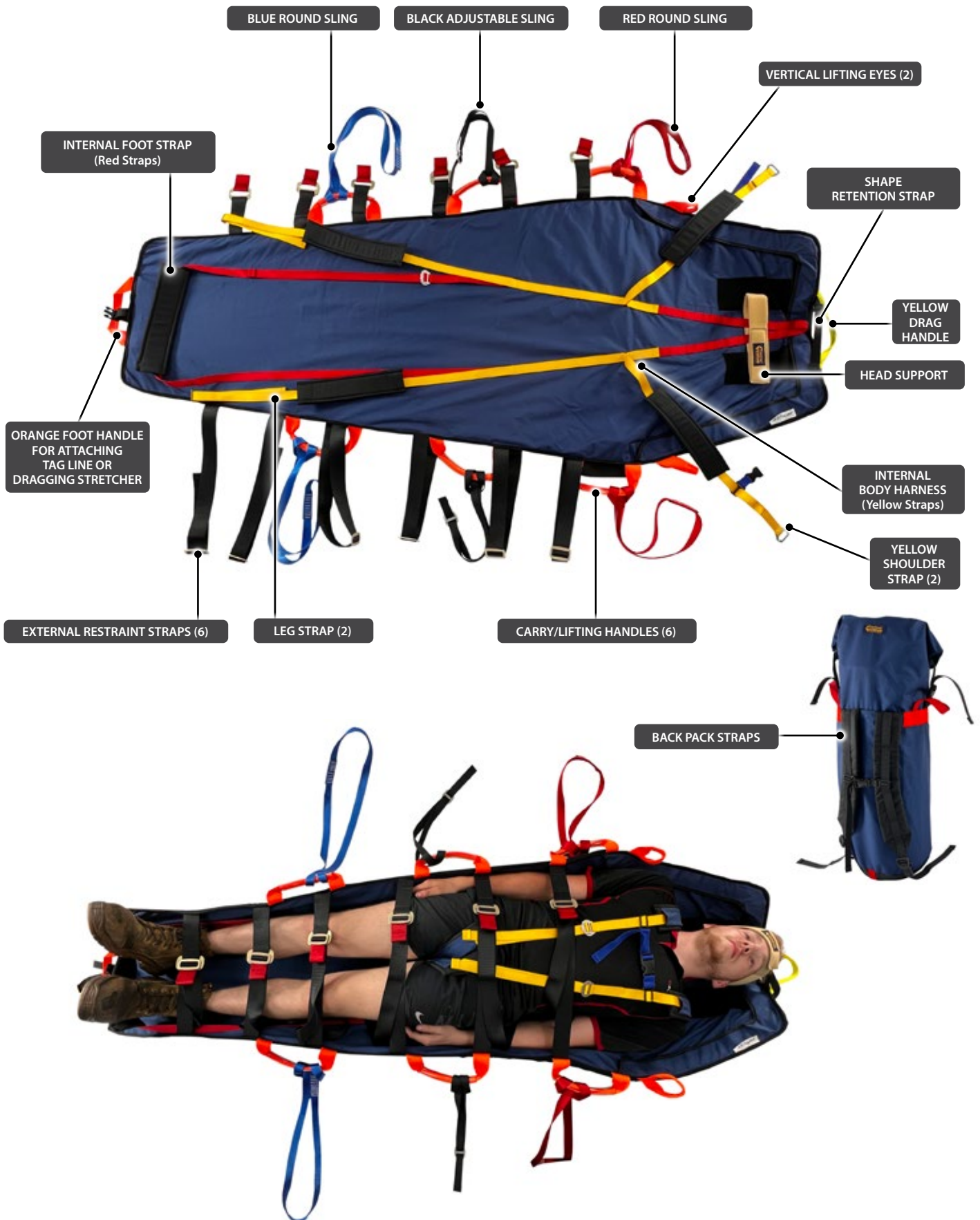
VERTICAL RESCUE STRETCHER (VRS)	
Product Code	VRES STRETCH
Inclusions	1 x Vertical Rescue Stretcher with 6 integrated restraints with metal buckles
	2 x Blue Round Slings
	2 x Black Adjustable Slings
	2 x Red Round Slings
	1 x Storage Bag with backpack straps
Optional Accessories	<ul style="list-style-type: none"> • Colour-coded 6-Point VRS Lifting Bridle (BRB-VRS) • Karabiners • Rigging Plate
Length	201 cm / 79 inches
Width - Widest Point	82 cm / 32 inches
Width - Foot End	45 cm / 18 inches
Weight - Stretcher only	6 kg / 13.23 lb
Weight - Stretcher and Bag	6.5 kg / 14.33 lb
RATED LOAD LIMIT	Horizontal: 350 kg / 770 lb
	Vertical: 250 kg / 550 lb
ROUND LIFTING SLINGS	WLL 400 at 8:1 Safety Factor
CARRY/LIFTING HANDLES/POINTS	30kN → 3059 kgf

Ferno and manufacturers of components reserve the right to change specifications without notice.

General specifications are rounded to the nearest whole number. Metric conversions are calculated before rounding the English measurements. For more information, contact Ferno Customer Service or your local distributor.

3 - ABOUT THE STRETCHER

3.3 Stretcher Components



4 - STRETCHER FEATURES

4.1 Before Placing into Service

1. Remove stretcher from bag and record serial numbers and other relevant information.
2. Thoroughly inspect stretcher and ensure it is damage free
3. Before and after each use, inspect the stretcher buckles, materials and webbing components. If there are any signs of damage, DO NOT use stretcher and remove it from service immediately.

4.2 VRS Restraints

The Vertical Rescue Stretcher is fitted with an integrated patient harness system comprising:

1. An internal harness to secure the patient to the stretcher's interior, and
2. Six adjustable restraint straps that secures the patient and the stretcher's shape once it is wrapped around the patient.

These restraints supplement equipment you will typically use to tie in a patient in a high-angle scenario. The VRS restraints have been manufactured to an appropriate strength for both horizontal and vertical applications.

The VRS restraints are intended for securing the patient into the stretcher and should not be used for lifting or any other purpose.

FASTENING & TIGHTENING RESTRAINTS

VRS restraints use an upgraded slotted buckle system which are easier to secure in the field (Figure 1).

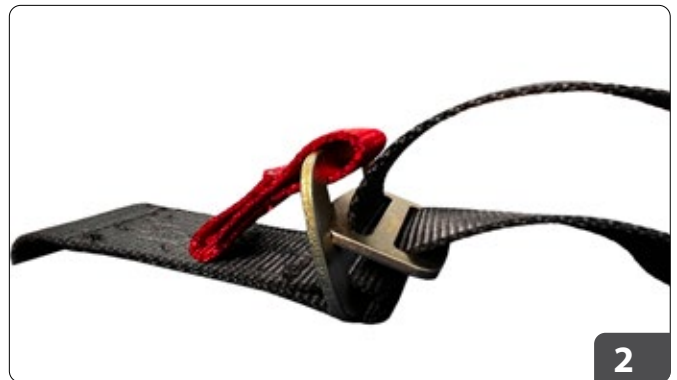
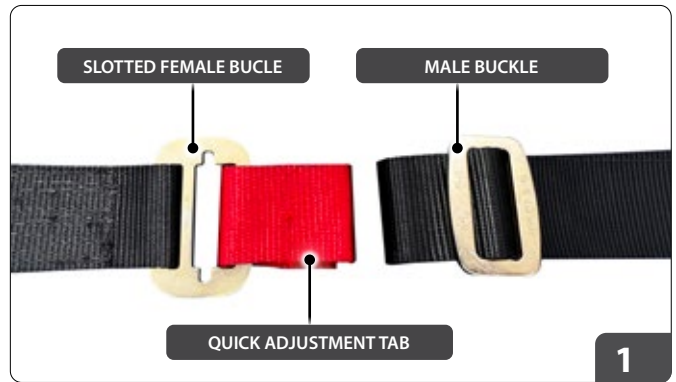
To fasten two straps together:

1. Thread the male buckle through the underside of the slotted female buckle (Figure 2).
2. When the buckles are threaded together, pull slightly on the free tail end of the webbing to ensure the two buckle halves are firmly seated together (Figure 3).

Tighten the restraint by pulling on the free end of the webbing. Ensure the strap is tensioned so the thickness of a flat hand can pass between the restraint and the patient so their breathing is not restricted.

Loosen the restraint by pulling the red adjustment tab toward the buckle and continue pulling until the restraint is as loose as desired.

To unfasten the buckles, first loosen the restraints as described above. Then tilt the male buckle to remove it from the slotted female buckle.



5 - PREPARING THE STRETCHER FOR USE

5.1 Guidelines for Use

- Using the stretcher requires a minimum of two trained operators. In most situations, operators will want or need additional help. For information about placement and direction of helpers, see Carrying the Stretcher in this manual.
- Follow standard emergency patient-handling procedures when using the stretcher.
- Stay with the patient at all times. Always use the patient restraints provided, as well as a supplementary restraining system as per your training and team protocols, and the situation.
- Personnel using the stretcher in high-angle environments are responsible for learning the proper techniques involved, and for selecting the equipment and procedures best suited to the rescue situation.

5.2 Preparing for application

Once the stretcher is removed from the bag and laid flat:

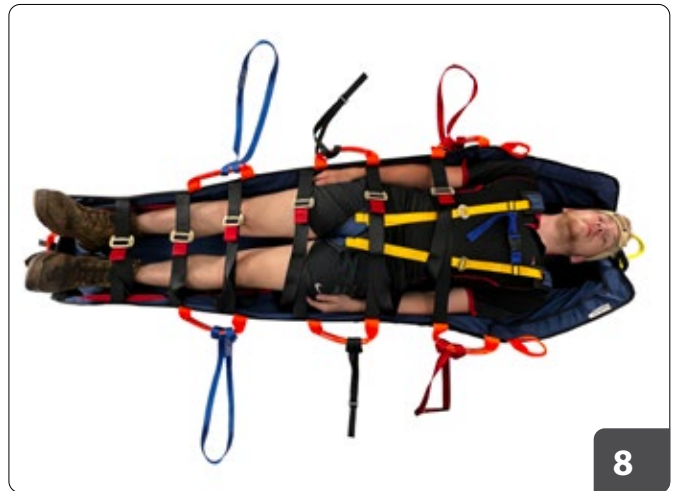
1. Form the stretcher into a curve to cradle the head by tensioning the black shape retention strap (Figure 5).
2. Lay out Blue, Red and Black lifting straps to the outer parameters of the stretcher (Fig 6).
3. Release all the Black restraint straps and lay them flat, towards the outside of the stretcher (Fig 6).
4. Release Blue chest strap buckle and yellow leg and shoulder straps and place to the outside of stretcher (Fig 6).
5. Loosen red foot strap and extend. Loosen Velcro head strap and lay out flat (Fig 6).



6 - USING THE STRETCHER

6.1 Placing & Securing the Patient

- Place the patient into the stretcher:**
 - Make sure the patient's shoulders are approximately level with the vertical lifting eye (Figure 7).
- Secure the patient's head:**
 - Wrap the head strap over the patient's forehead and secure (Figure 7).
- Secure the patient into the stretcher's internal body harness:**
 - Place the yellow shoulder straps over the patient's shoulders and adjust the blue chest strap into the desired position by sliding the black plastic tabs up or down the yellow shoulder strap. Connect the blue chest strap buckle (Figure 7).
 - Feed the yellow leg strap under each leg through the groin area and connect to yellow shoulder strap. Adjust and tighten yellow leg straps (Figure 7).
 - Feed the red leg strap under the arch of the foot or boot and tighten the strap by pulling gently on the tail end of the strap (Figure 7).
- Wrap the stretcher around the patient:**
 - After the patient is secured inside the internal harness (Step 3), select both halves of the waist-level external restraint straps and connect them together. Gently tighten the straps. This will cause the stretcher sides to move towards each other to cocoon the patient.
 - Continue connecting all the black straps until all 6 external restraints are adjusted and securely fastened.
 - The patient is ready for extraction** (Figure 8)



NOTICE

Ensure all straps are fastened and correctly tensioned. DO NOT over tension. Allow for at least one flat hand space between the strap and the patient's body.

6.2 Methods of Extraction

All orange webbing within the stretcher are lifting points. There are four possible methods of extraction:

1. Carry Handle Method
2. Integrated Lifting Bridle Method
3. Fabricated Lifting Bridle (BRB-VRS) Method
4. Sliding the Stretcher Method

Carry Handle method

- The stretcher is fitted with six carry handles. There should be a minimum of four people carrying the stretcher.
- Each operator to grasp carry handle in palm of hand and close hand securely for a good safe grip. In a coordinated action, lift stretcher and carry to required place of evacuation (Figure 9).

NOTICE

- Refer to local protocols and guidelines regarding manual handling and lifting of persons or objects.
- Carrying the stretcher requires a minimum of four operators, one on each handle. If additional people are required to assist, use an even number of personnel and position them to keep the stretcher as even as possible. Operators should maintain control of the stretcher and provide direction to helpers or assistants.

Integrated Lifting Bridle method

The stretcher is supplied with a set of 6 slings for horizontal and vertical rescue lift operations.

Horizontal Lifting Application (Figure 10)

The slings are attached to the carry handles (Figure 10):

- 2 x Red round slings — attach to head-end handles
- 2 x Black adjustable slings — attach to middle handles
- 2 x Blue round slings — attach to foot-end handles

To use this method of lifting, additional hardware is required (not supplied):

- 3 x Large 'D' Triple-action Karabiners (minimum rating 24kN)
- 1 x Rigging Plate (optional).

Vertical Lifting Application (Figure 11)

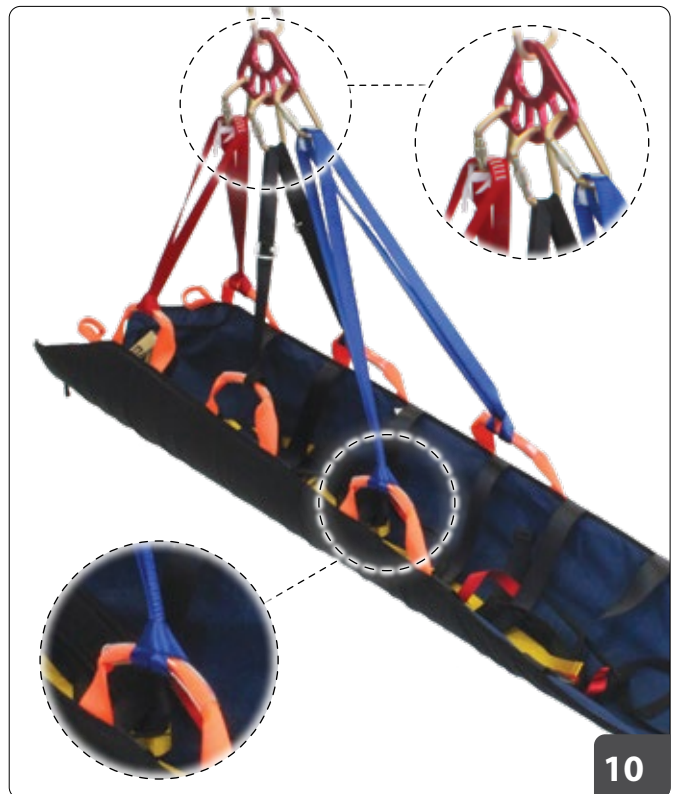
- The blue round slings are attached to the Vertical Lifting Eyes located at the stretcher's head end (Figure 11)
- Tie a tagline (not supplied) through the orange handle located at the stretcher's foot end to guide the stretcher during the lift operation.

To use this method of lifting, additional hardware is required (not supplied):

- 2 x Large 'D' Triple-action Karabiners (minimum rating 24kN)
- 1 x Rigging Plate (optional).



9



10



11

6 - USING THE STRETCHER

Fabricated Lifting Bridle (BRB-VRS)

This 6-point lifting bridle is designed specifically for use with the Vertical Rescue Stretcher (Figure 12). It features six adjustable, colour-coded sling arms which are clearly identified to ensure fast and correct placement.

The bridle is available as an optional accessory.



Refer to the User's Manual for detailed instructions on the bridle's use.



Sliding the Stretcher

Use the yellow Drag Handle located at the head end of the stretcher and the orange Foot Handle for this operation (Figure 13).

- Only slide the stretcher on its material cover over smooth surfaces. Avoid rock, stumps, branches, asphalt, exposed concrete or other hazards that could penetrate or damage the outer material of the stretcher.
- This method should only be used over very short distances as the friction generated will damage or weaken the outer material of the stretcher.

Note: A protective skid is available as an optional accessory. It is designed to fit over the VRS exterior to protect the stretcher from any damage over rough surfaces. It also provides additional patient protection.



6.3 High-Angle Rescue Procedures

High angle and rope-access rescue can involve any combination of ropes, winches, pulleys, litter bridles, belay devices and many other specialised items and devices. Proper and safe use of these tools requires professional instruction and training.

- When using high-angle or rope-access equipment with the stretcher, ensure the equipment has an adequate load-rating, and that it is at least as great as that of the stretcher
- During a high-angle rescue, the stretcher may be oriented vertically or horizontally
- Secure the patient in the stretcher so that he/she does not slip in any direction, or accidentally come out of the stretcher

WARNING

- An unattended patient can be injured. Stay with the patient at all times.
- An unrestrained or improperly restrained patient can suffer injuries. Always secure the patient in the stretcher with a restraint system suitable to the rescue operation.

NOTICE

Personnel using the stretcher in high-angle rescue situations are responsible for knowing the techniques involved and for selecting the equipment and procedures best suited to each rescue situation.

7 - STORAGE, INSPECTIONS & MAINTENANCE

7.1 Storing the Stretcher

1. Lay the stretcher on the ground and roll it out so the entire stretcher and its restraints are exposed. Ensure the restraints are buckled but not tensioned.
2. Tightly roll the stretcher starting from the head-end and progressing towards the foot-end (Figure 14).
3. Once the stretcher is rolled up, secure the roll with the integrated retaining strap. Fasten the buckle and tighten the retaining strap as required.
4. Insert the rolled stretcher into its carry bag, and seal it by folding the bag's opening several times and securing the closure buckles.



7.2 Maintenance Schedule

The stretcher requires regular maintenance. Set up and follow a maintenance schedule. A sample form is provided in this manual. The schedule below represents minimum maintenance and you should modify your own program based on your needs.

As well as inspecting the stretcher before and after each use, the stretcher must be inspected by a competent person every 6 months and must be recorded in the equipment inspection manual for this device.

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

PROCEDURE	FREQUENCY
Disinfecting	Each Use
Cleaning	As Needed
Inspecting	Before and After each Use
Scheduled Inspection	Six monthly

WARNING

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

7.3 Disinfecting and Cleaning the Stretcher

1. Carefully remove the PVC liner from the stretcher. To access this PVC inner, loosen the Velcro material at the head end of the stretcher.
2. Hand wash the stretcher in warm water with a mild soap such as Ferno Rope & Harness Wash. Once stains are removed, rinse in clear water. **Do not use excessive force** or abrasive items in the cleaning process. **Do not use cleaners containing bleach, Phenolics or iodines.**
3. Once the stretcher is clean, hang to air dry in a warm, well ventilated area away from direct sunlight or heat source. **Do not tumble dry.**
4. Once completely dry, inspect the entire stretcher and ensure all components are operational and in good condition.
5. Re-insert the PVC lining into the stretcher, roll it up and pack the stretcher into its bag. For storage instructions, refer to *Storing the Stretcher*.

NOTICE

Disinfectants and cleaners containing bleach, phenolics or iodines can cause damage. Disinfect and clean only with products that do not contain these chemicals.

7.4 Inspecting the Stretcher

After each use, check the stretcher for the following:

- Are all components present?
- Is all webbing in good condition with no cuts or frayed edges?
- Is webbing stitching in good condition with no frayed or broken threads?
- Are the adjustment buckles operational and do they insert and release smoothly?
- Is the material of the stretcher intact and not torn or excessively worn?
- Are the lifting attachment points (orange webbing) in a good condition and free from any wear, tear or fraying?

If inspection shows damage or excessive wear, remove the stretcher from service and retire it. Do not attempt to repair or replace any materials or components.

TRAINING RECORD

TRAINING RECORD		
Date	Name	Training Method

