



**FERNO**  
When it's critical.™

## *Users' Manual*



*Baby Board*



*Pediatric Sleeve*

# **Medkids™**

**Model 676 Baby Board &  
Model 677 Pediatric Sleeve**

*August, 2002 GLO*

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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.

**Proprietary Notice**

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# 1 - SAFETY INFORMATION

## 1.1 Warning

The following warnings appear in this manual.

### WARNING

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

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

**Improper application of the product can cause injury. Apply the product only as described in this manual.**

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

**An unrestrained patient can fall off the product and be injured. Use restraints to secure the patient on the product.**

**Moving a patient's neck when there is a spinal or cervical injury can cause paralysis. Use alternate methods to intubate a patient if a spinal or cervical injury is suspected.**

**Improperly positioning a patient when a spinal injury is indicated can cause paralysis. Follow your local protocols for patient positioning and airway management.**

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

**Attaching improper items to the product can cause injury. Use only Ferno-approved items on the product.**

## 1.2 Important

Boxes like the one below emphasize important information.

### Important

Position a patient prone (face down) **only** in certain medical circumstances, under medical direction, and only if local medical protocols support this positioning of the patient.

## 1.3 Note

Boxes like the one below serve as reminders for procedural information.

### Note

If you often use the same backboard, leave the pediatric sleeve's side tabs fastened and slide it on or off the backboard. Check the fit each time you attach the pediatric sleeve to the backboard and adjust the side tabs as needed.

## 1.4 Bloodborne Disease Notice

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

## 2 - OPERATOR SKILLS AND TRAINING

### 2.1 Skills

Operators using the products need:

- a working knowledge of emergency patient-handling procedures, particularly as applicable to children and infants.
- the ability to assist the patient.
- a complete understanding of the procedures described in this manual.

### 2.2 Training

Trainees need to:

- follow a training program designed by their training officer.
- read this manual. For additional free users' manuals, contact Ferno Customer Relations (page 30).
- practice with the products before using them in regular service.
- be tested on their understanding of the products.
- record their training information. A form is provided on page 31.

### WARNING

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

### 3 - ABOUT THE MEDKIDS

#### 3.1 Medkids Description

The Ferno® Medkids™ Model 676 Baby Board and Medkids™ Model 677 Pediatric Sleeve (referred to as baby board and pediatric sleeve in this manual) are patient-handling devices designed for professional use by trained operators.

The baby board serves infants 2-15 pounds. It is used to restrain, position, or immobilize an infant during transportation in an incubator or on an ambulance cot.

The pediatric sleeve serves children 12-60 pounds. It attaches to any backboard and is used to immobilize the patient during transportation to, and on, an ambulance cot.

Product features are listed below. Some features are common to both products, while others are unique to either the baby board or the pediatric sleeve.

##### COMMON FEATURES

- Pneumatic inflation device (bladder). Aids in achieving spinal neutrality and aids in airway management.
- Three-point harness restraining system.
- Three lateral body straps.
- Two head straps.
- X-ray/radio translucent
- Simple care and maintenance
- Easily-replaceable parts

##### BABY BOARD FEATURES

- Four head blocks (2 small, 2 medium)
- Can be carried by one person
- Can be placed in an incubator or secured to an ambulance cot.
- Bladder can be inflated for use as an air cushion.

##### PEDIATRIC SLEEVE FEATURES

- Two head blocks (large)
- Four arm restraints
- Two leg restraints
- Adjusts to fit any backboard
- Rolls up for easy, compact storage

#### WARNING

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

#### 3.2 General Specifications

##### BABY BOARD

Length .....	23 in (58 cm)
Width .....	11 in (28 cm)
Thickness .....	1.25 in (3 cm)
*Weight .....	5 lb, 10 oz (2.5 kg)
Storage Dimensions .....	23 in x 11 in x 5 in
.....	58 cm x 28 cm x 13 cm
Patients Served .....	2-15 lb (0.91-6.4 kg)

##### PEDIATRIC SLEEVE

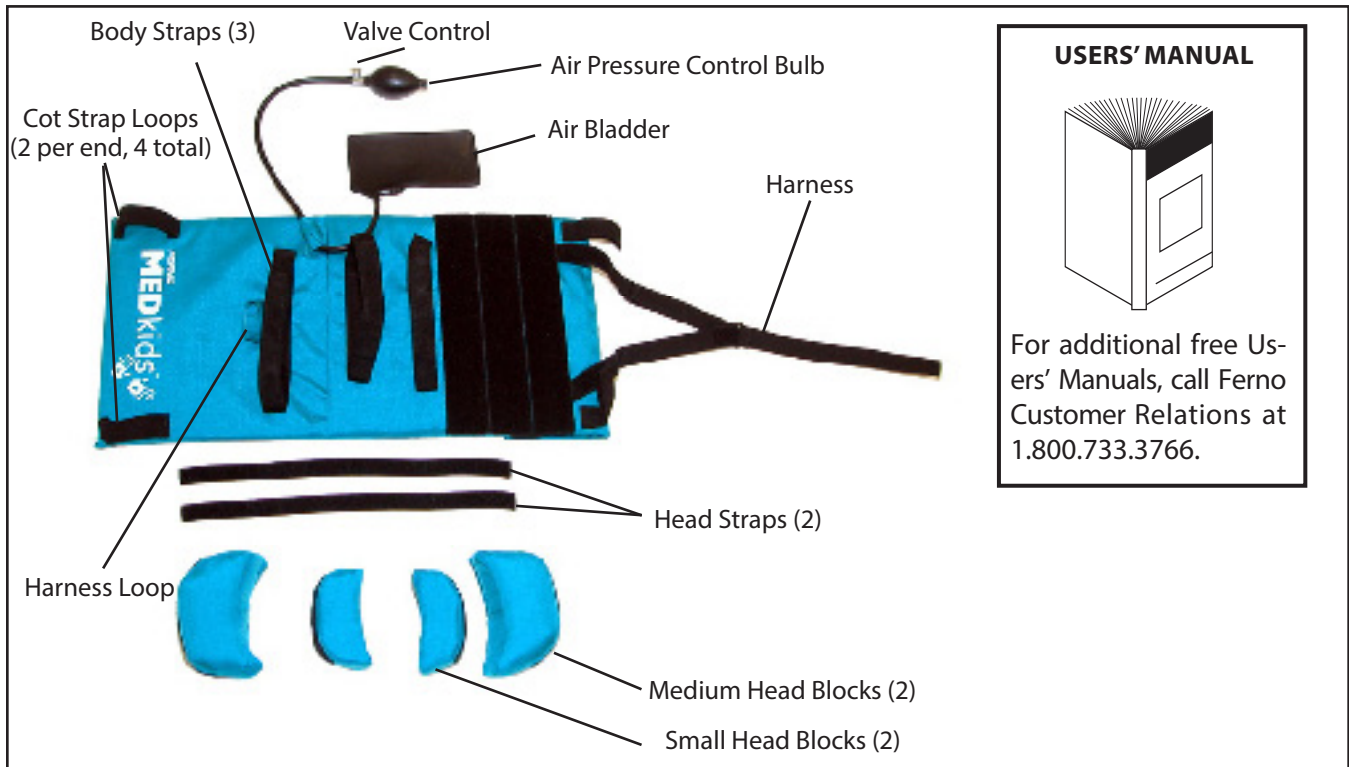
Length .....	39.75 in (101 cm)
Width .....	19.50 in (50 cm)
Thickness .....	< 1 in (< 2.5 cm)
*Weight .....	3 lb (1.5 kg)
Storage Dimensions .....	19.50 in x 8 in x 8.50 in
.....	50 cm x 20 cm x 22 cm
Patients Served Min .....	12 lb (5.4 kg)/2 mos
Patients Served Max .....	60 lb (27 kg)/8 years

\* Weight includes restraints and head blocks

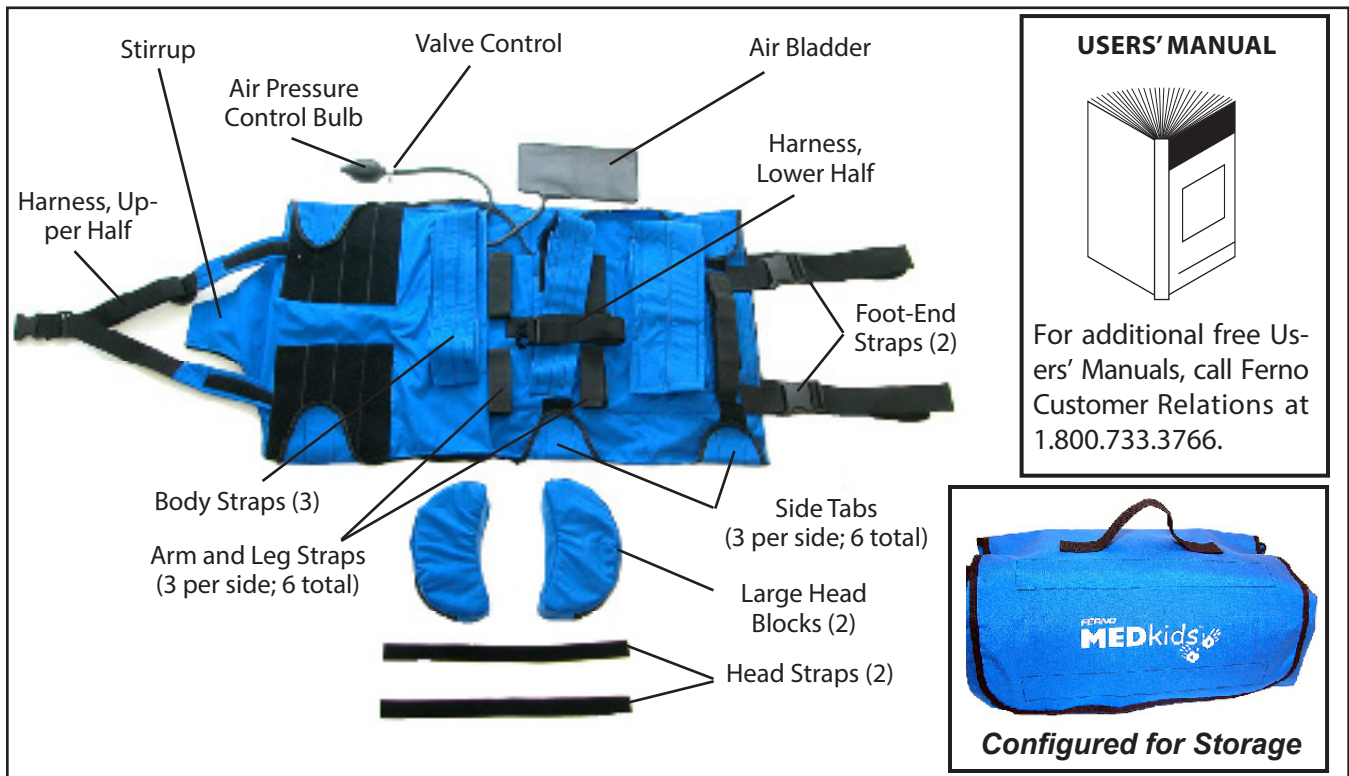
Ferno reserves the right to change specifications without notice. For more information, contact Ferno Customer Relations (page 30) or your Ferno distributor.



### 3.3 Components - Baby Board



### 3.4 Components - Pediatric Sleeve





## 4 - STORAGE AND SETUP

### 4.1 Storing and Setting Up the Baby Board

#### STORING THE BABY BOARD

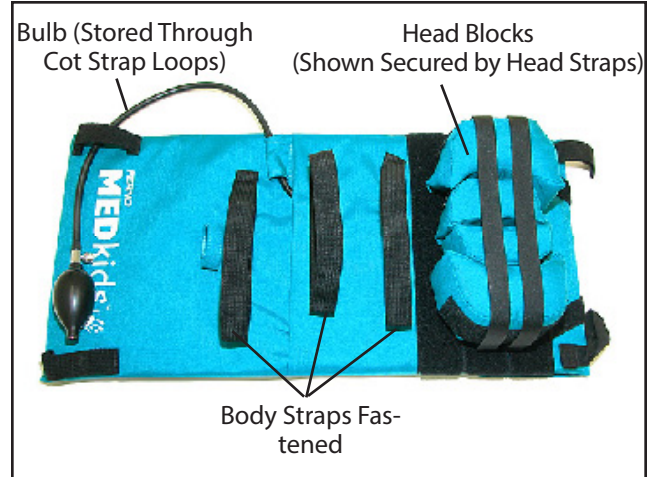
If stored as described below, all parts of the baby board will be easily accessible when needed. The baby board stores flat. To prepare the baby board for storage:

1. Place the bladder inside its pocket on the top side of the baby board.
2. Fasten the body straps (Figure 1).
3. Place the small pair of head blocks between the large pair of head blocks in the center of the head area (Figure 1).
4. Store the head straps across the head blocks, as shown in Figure 1, or attach the head straps to the hook-and-loop material on the bottom side of the board as shown in Figure 2.
5. Attach the harness strap in its storage position on the bottom side of the baby board (Figure 2).
6. Thread the bulb through one or both of the cot restraint loops at the foot end of the baby board (Figure 1).

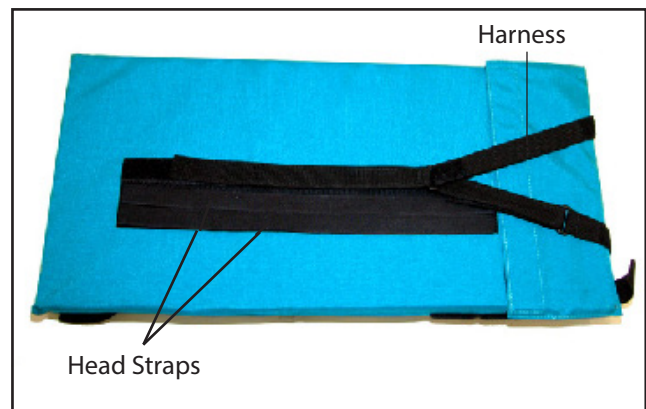
#### SETTING UP THE BABY BOARD

To prepare the baby board for use:

1. Unfasten the body straps.
2. Remove the air pressure control bulb from the cot restraint loops.
3. Remove the harness and head straps from their storage positions.
4. Remove the head blocks and select the pair you will use with the patient.



**Figure 1 - Baby Board Storage Position**



**Figure 2 - Head Strap and Harness Storage Configuration (Bottom of Board)**

## 4.2 Setting Up the Pediatric Sleeve

To unpack, size, and attach the pediatric sleeve to a backboard:

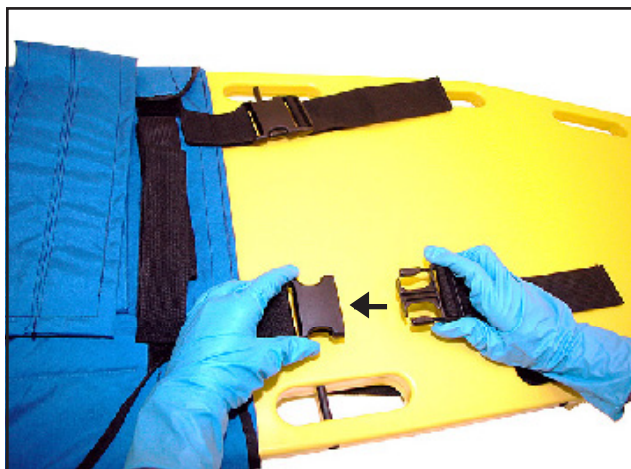
1. Unfasten the storage flap and unroll the pediatric sleeve.
2. Unfasten the hook-and-loop tabs on one side of the pediatric sleeve.
3. Position the pediatric sleeve at the head end of the backboard. Slide the backboard into the open side of the pediatric sleeve, with the pediatric sleeve's patient surface facing up on the backboard's patient surface.
4. Arrange the pediatric sleeve so the stirrup is snug against the head end of the backboard, and position the pediatric sleeve evenly side-to-side on the backboard (Figure 3).
5. Wrap the side tabs snugly around the backboard and fasten by pressing the hook-and-loop fastening strips together (Figure 4). If further adjustment is needed, unfasten the side tabs on the opposite side of the pediatric sleeve. Keep the pediatric sleeve centered on the backboard as you fasten all six tabs.
6. Thread the foot-end straps through handholds on the backboard and fasten the buckles as shown in Figure 5 (also see Pediatric Sleeve Buckles, page 16). Tighten the foot-end straps.
7. Fold the pediatric sleeve storage flap over and secure it on the hook-and-loop strip on the back of the product.



**Figure 3 - Arranging the Pediatric Sleeve Evenly on the Backboard**



**Figure 4 - Fastening the Side Tabs**



**Figure 5 - Fastening the Buckles**

### 4.3 Storing the Pediatric Sleeve

#### PREPARING FOR STORAGE

1. Deflate the bladder. See Bladder, page 12.
2. Unfasten the side tabs on one side of the pediatric sleeve and remove the backboard from the pediatric sleeve.
3. Fasten the side tabs.
4. Store the head blocks and head restraints on the head area of the pediatric sleeve.
5. Fasten the three body straps. Lay the harness and the two foot-end straps along the center of the pediatric sleeve (Figure 6).
6. Lay the air pressure control bulb along the edge of the bladder pocket (Figure 6).

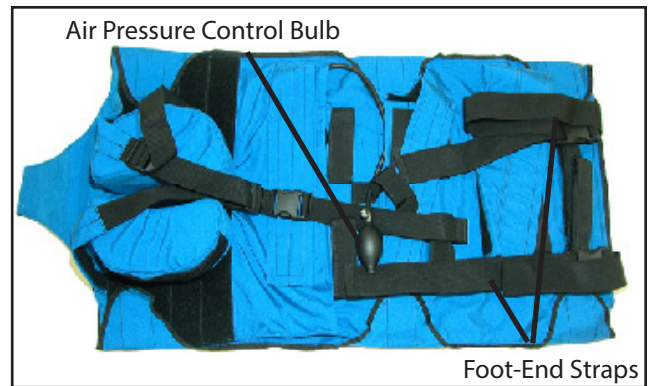
#### Note

If you often use the same backboard, leave the pediatric sleeve's side tabs fastened and slide it on or off the backboard. Check the fit each time you attach the pediatric sleeve to the backboard and adjust the side tabs as needed.

#### FOLDING THE PEDIATRIC SLEEVE

The pediatric sleeve folds for storage in its attached storage flap. Fold as follows:

1. Beginning at the foot end, roll and fold the pediatric sleeve in thirds (Figures 7-8).
2. Wrap the storage flap around the unit and press the hook-and-loop fastening strips together (Figure 9).



**Figure 6 - Ready to Fold**



**Figure 7 - First Fold**



**Figure 8 - Second Fold**



**Figure 9 - Storage Flap Attached**



## 5 - FEATURES: BABY BOARD & PEDIATRIC SLEEVE

### 5.1 Body Straps

Three hook-and-loop body straps are permanently attached to the baby board and pediatric sleeve. The straps are positioned and sized to allow a variety of strapping configurations that accommodate patient size and medical condition.

The body straps are constructed with hook-and-loop fasteners. To fasten the straps, press the surfaces together (Figure 10). To unfasten, pull the straps away from each other.



**Figure 10 - Fastening Hook-And-Loop Straps**

### 5.2 Bladder

The baby board and pediatric sleeve each contain one pneumatic inflation device (bladder). The bladder can be inflated as needed to provide correct positioning for the patient (Figures 11-12).

When the patient is properly positioned on the product, and when restraints and head blocks are used together with the properly-inflated bladder, the system can provide correct cervical neutrality without the need for towels or foam padding. See the Spinal Immobilization sections, page 18 and page 24.

Further inflation allows the user to position the patient's neck for intubation (Figure 13) or to assist with airway management. See Intubation, page 21.

To inflate the bladder:

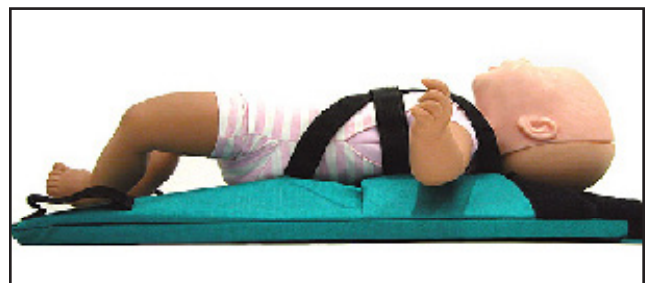
1. Turn the metal valve control clockwise to close the valve and allow air to be added to the bladder.
2. Repeatedly squeeze the air pressure control bulb to inflate the bladder.

To deflate the bladder:

1. Turn the metal valve control counterclockwise to open the valve and allow air to be released.



**Figure 11 - Bladder Uninflated**



**Figure 12 - Bladder Inflated**



**Figure 13 - Neck Positioned for Airway Management or Intubation**

### 5.3 Head Blocks

Four head blocks (2 medium and 2 small) are included with the baby board. Two head blocks (large) are included with the pediatric sleeve. Additional head blocks are available from Ferno Customer Relations, page 30.

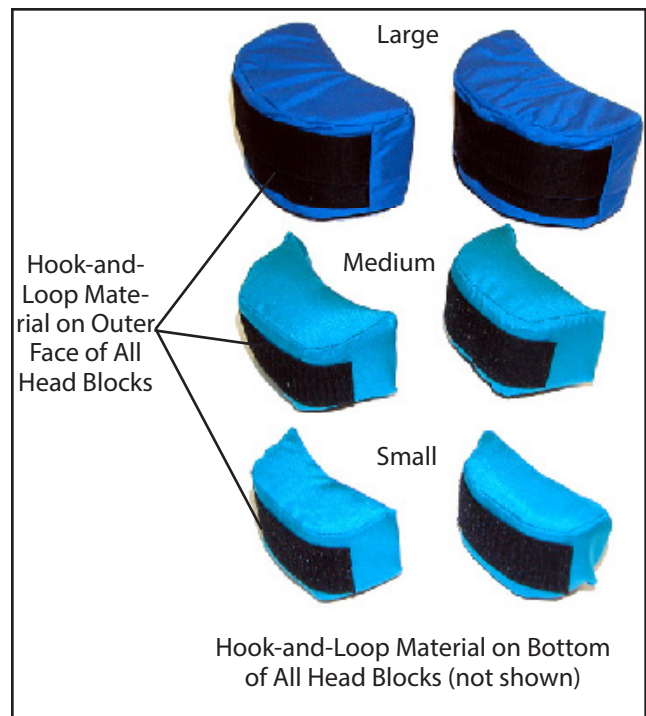
Head blocks are crescent shaped to fit the contours of a patient's head and/or body. Hook-and-loop material on the bottom surface allows head blocks to be fastened to the baby board or pediatric sleeve (Figures 14-15).

Also, hook-and-loop material on the outside face of the head block (the side facing away from the patient), Figure 14, allows the head straps and harness to be secured across the head blocks.

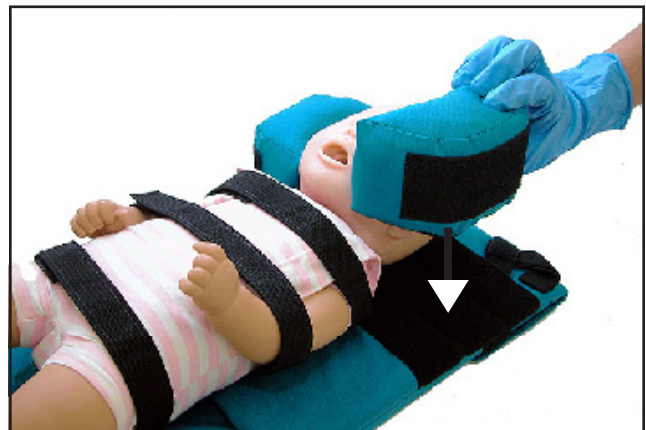
Select the appropriate size head blocks for use, based on the patient's size. Attach the head blocks by pressing the head block hook-and-loop material against the head section of the baby board (Figure 15) or pediatric sleeve.

To access or monitor the patient's ears, compress the head block. Simply press down on the head block to compress it (Figure 16).

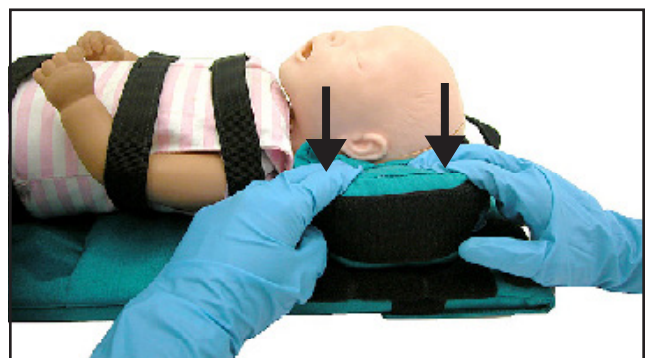
On the baby board, head blocks can also be used in various configurations to support a patient in the side-lying position (See Side-Lying Positions, page 20).



**Figure 14 - Head Block Sizes and Features**



**Figure 15 - Attaching a Head Block**



**Figure 16 - Checking a Patient's Ears**

## 5.4 Baby Board Harness

The harness helps keep the patient centered on the baby board. Use the harness with the head blocks.

1. Position the patient on the baby board.
2. Position and attach the head blocks, head straps, and the body straps.
3. Lay the harness over the patient. Arrange the harness straps across the head blocks. This will allow the tension of the harness to provide additional stability to the immobilization when the harness is secured (Figure 17).
4. If needed, adjust the harness size as follows:
  - If the harness is too small: unfasten the hook-and-loop fastener at the patient's right shoulder (Figures 17-18). Pull some of the strap backward through the adjustment loop. Then, press the hook-and-loop material together.
  - If the harness is too large: unfasten the hook-and-loop fastener at the patient's right shoulder (Figures 17-18), grasp the loose end of the strap, and pull the strap to bring more material through the adjustment loop.
5. Thread the crotch strap through the loop and press the hook-and-loop material together (Figure 19).

### Note

Passing the harness straps over the head blocks allows you to refine the immobilization by using the harness to:

- pull the blocks closer to the head
- provide gentle downward tension on the shoulders



**Figure 17 - Harness Adjustment Points**



**Figure 18 - Adjusting the Shoulder Strap**



**Figure 19 - Threading the Crotch Strap**



## 5.5 Pediatric Sleeve Harness

The harness helps keep the patient centered on the pediatric sleeve. Use the harness with the head blocks.

1. Position the patient on the pediatric sleeve.
2. Attach the head blocks, head straps, and the body straps.
3. Lay the harness over the patient. Arrange the harness straps across the head blocks. This will allow the tension of the harness to provide additional stability to the immobilization when the harness is secured (Figure 20).
4. If needed, adjust the harness size as follows:
  - If the harness is too small: feed some of the excess strap backward through the plastic adjuster at the patient's left shoulder (Figure 20). Secondly, grasp the slide section of the crotch strap and pull the slide away from the pediatric sleeve (Figure 22).
  - If the harness is too large, grasp the loose end of the shoulder strap (Figure 21) and feed some of the excess strap through the plastic adjuster. Secondly, pull the free end of the crotch strap to bring more material through the slide.
5. Buckle the crotch strap.

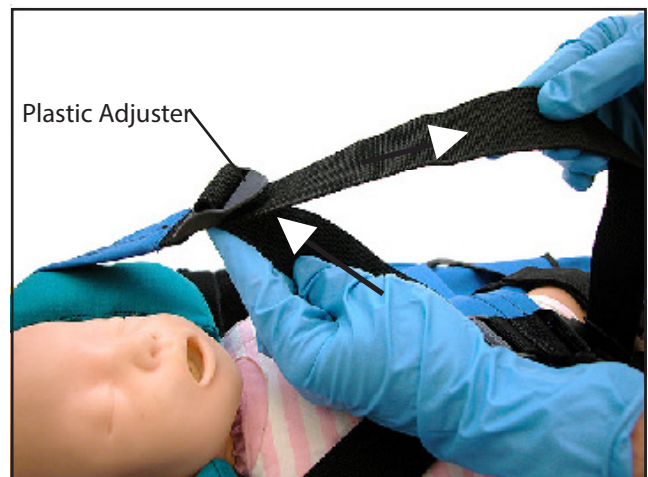
### Note

Passing the harness straps over the head blocks allows you to refine the immobilization by using the harness to:

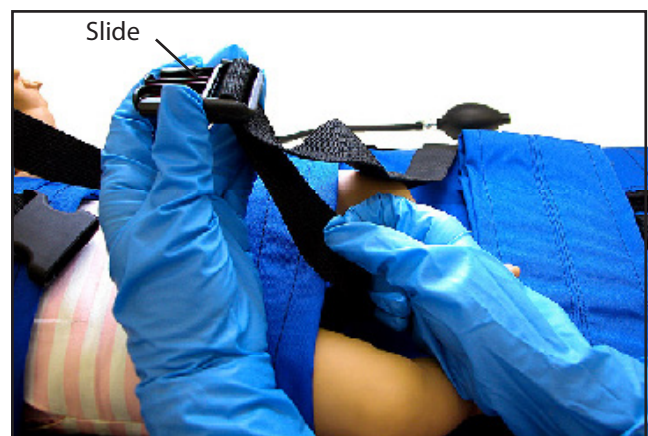
- pull the blocks closer to the head
- provide gentle downward tension on the shoulders



**Figure 20 - Harness Adjustment Points**



**Figure 21 - Tightening the Shoulder Strap**



**Figure 22 - Lengthening the Crotch Strap**



## 5.6 Pediatric Sleeve Buckles

The plastic buckles used on the pediatric sleeve are snap-lock and quick-release.

### FASTENING/UNFASTENING BUCKLES

To fasten a buckle, push the slide into the receiver until it locks into place (Figure 23). A distinctive “click” signals that the slide is properly seated in the receiver.

To release a buckle, press the slide tabs to release the slide (Figure 24), then pull the slide out of the receiver.

### ADJUSTING RESTRAINT LENGTH

To lengthen the restraint, first unfasten it. Then, grasp the slide and turn it perpendicular to the webbing. Pull the slide outward, away from the restraint anchorage, until the restraint is the desired length (Figure 25).

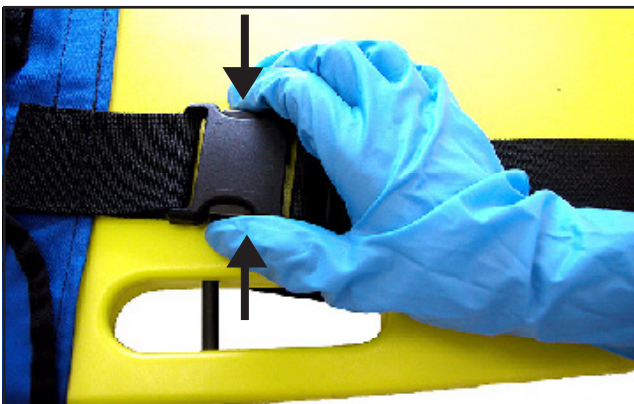
To shorten the restraint, grasp the loose end and pull the webbing through the slide assembly until the restraint is the desired length (Figure 26).



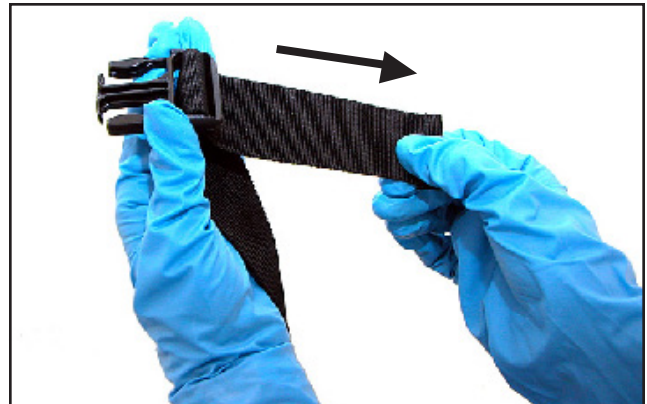
**Figure 23 - Fastening a Buckle**



**Figure 25 - Lengthening a Restraint**



**Figure 24 - Releasing a Buckle**



**Figure 26 - Shortening a Restraint**

## 6 - GUIDELINES FOR USE

### 6.1 Before Placing the Product in Service

- Personnel who will work with the product need to read this manual.
- Set up the product, following the instructions in Setup and Storage, pages 9-11.
- Confirm that the product operates properly. Follow the instructions in Inspecting, page 28.
- Treat the Cordura™ fabric with a nylon-safe fabric protector before first use and after each washing. This will improve its water-repellant properties and help prevent stains from setting.

### 6.2 General Guidelines for Use

- This manual illustrates use of the products in an ideal setting. Other, and sometimes unusual, circumstances occur in the field and the products can be adapted to many of them.

It is the responsibility of qualified medical personnel to assess the patient's condition and determine the proper equipment and procedures to use.

- Follow your medical director's guidelines and your local protocols when using the products.
- Follow standard emergency patient-handling procedures when using the products.
- Stay with the patient at all times.
- Always use as many of the body straps as possible to restrain the patient.
- After securing the patient on the product, secure the product on the ambulance cot before transport. Use the cot's restraints to secure the product on the cot. Secure the baby board to a cot as shown on page 22. Secure the pediatric sleeve to a cot as shown on page 26.
- Using the baby board requires one operator. A second operator may be needed as the patient's condition warrants.
- Using the pediatric sleeve requires a minimum of two operators.

#### WARNING

**Improper application of the product can cause injury. Apply the product only as described in this manual.**

#### WARNING

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

#### WARNING

**An unrestrained patient can fall off the product and be injured. Use restraints to secure the patient on the product.**

## 7 - BASIC USE: BABY BOARD

### Note

If the patient is too small for a cervical collar, follow your local protocols for cervical stabilization.

### 7.1 Spinal Immobilization (With or Without Harness)

Two trained medical service people are required to immobilize the patient's spine.

1. Before moving the patient onto the baby board, establish and maintain manual immobilization of the patient's spine according to your local protocols.
2. Maintain the patient's head and neck in the neutral position as you place a properly-sized cervical collar on the patient (if patient's size allows the use of a cervical collar).
3. Move the patient onto the baby board according to your local protocols.
4. Inflate the bladder as needed.
5. Place the appropriate-sized head blocks on either side of the patient's head.
6. Secure the two head straps across the head blocks and the patient's forehead and chin.
7. Secure the three body straps across the patient (Figure 27).
8. If using the harness, adjust its size as needed and secure the harness (Figure 28).

### 7.2 Spinal Immobilization (Criss-Cross Method)

As an alternate way to immobilize the patient:

1. Follow Steps 1-6 above.
2. Cross the top and bottom restraints in the shape of an X (Figure 29). As an option, attach the third body strap across the body (not shown).
3. Adjust the harness and secure it.



Figure 27 - Immobilization Without Harness

### Note

Figures 27 and 28 show alternate methods of restraint with respect to the patient's arms. Attach restraints across the patient's arms as needed or medically appropriate.



Figure 28 - Immobilization With Harness



Figure 29 - Criss-Cross Immobilization

### 7.3 Positioning and Restraining for Incubator or Cot Transport

Figures 30-32 show patient positioning and restraining. These restraint configurations can be used when the baby board is used with an incubator or on an ambulance cot.

1. Attach as many body straps as possible across the patient, using either the straight (Figure 30) or criss-cross (Figure 31) method.
2. Use the appropriate size head blocks, placing one on either side of the patient's head.
3. Use one head restraint to help hold the head blocks (and bunting, if used) in place as needed.
4. The harness is not used.

Use baby bunting, a head roll or towel between the patient and the baby board to fill space as needed when restraining a very small patient (Figure 32).



**Figure 30 - Basic Positioning**



**Figure 31 - Positioning Using Criss-Cross Method**



**Figure 32 - Pre-Term Positioning With Bunting, Head Roll**



## 7.4 Side-Lying Positioning

The baby board allows a patient to be positioned on his or her side for transport. This positioning may be preferable for patients with certain medical conditions, including: spinal defects, oral or facial defects, abdominal wall defects or respiratory problems.

Head blocks can be used to help position the patient or to take up space so the restraints can be used with a very small patient. Depending on patient size, one or two head blocks may be needed.

Consult your medical director and follow your local protocols for placing a patient in a side-lying position.

1. Position the patient on the baby board.
2. As the patient's size and condition require, place one or two head blocks behind the patient's head, spine, and/or buttocks.
3. Attach the body straps (using the straight or criss-cross configurations).

Some options for head block placement are shown below. Some options include using:

- one head block along the spine (Figure 33);
- two head blocks along the spine (Figure 34);
- different sizes of head blocks (Figure 35-36);



**Figure 33 - Side-Lying Positioning:  
Single Head Block**



**Figure 35 - Side-Lying Positioning:  
Mixed Size Head Block Use**



**Figure 34 - Side-Lying Positioning:  
Two Head Blocks**



**Figure 36 - Side-Lying Positioning:  
Two Head Blocks Along Spine**

## 7.5 Positioning the Patient Prone

A patient can be positioned prone (face down) when in respiratory distress or in other circumstances, when your medical protocols allow and your medical director determines the patient requires prone positioning.

Restrain the patient with the body straps, using all three straps if possible (Figure 37). The harness is not used in this configuration.

### Important

Position a patient prone (face down) **only** in certain medical circumstances, under medical direction, and only if local medical protocols support this positioning of the patient.



Figure 37 - Patient in Prone Position

## 7.6 Airway Management

If a patient's condition allows, the baby board bladder can be inflated to allow the patient's head and neck to be positioned past neutral alignment. This position may be useful for aligning the patient's airway for intubation (Figure 38).

If there are indications of spinal injury, do not use the bladder in this way. Consult your medical director to determine if this positioning is proper for the patient. Improperly positioning a patient when a spinal injury is indicated can cause paralysis. Follow your local protocols for alternate airway management methods when a cervical or spinal injury is indicated.



Figure 38 - Intubation

### ⚠ WARNING

Improperly positioning a patient when a spinal injury is indicated can cause paralysis. Follow your local protocols for patient positioning and airway management.

## 8 - TRANSPORTING THE BABY BOARD

### 8.1 Carrying the Baby Board

The baby board can be carried by one person. Cradle the baby board in both arms as you transport the patient (Figure 39).



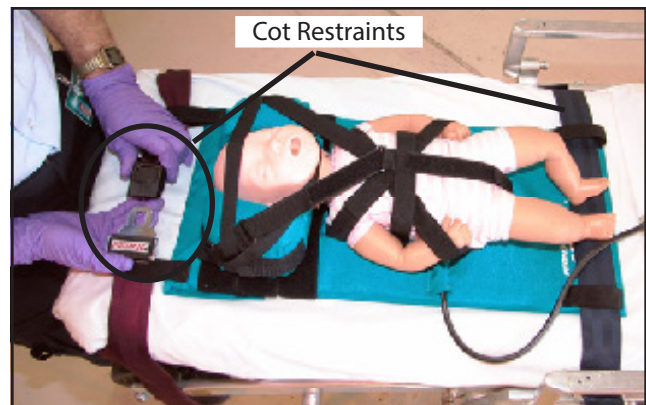
*Figure 39 - Carrying the Baby Board*

### 8.2 Transporting the Baby Board On an Ambulance Cot

The baby board is designed to attach easily to a standard ambulance cot. A pair of loops at each end of the baby board allows the use of standard cot restraints to secure the baby board to the cot.

To secure the baby board to an ambulance cot:

1. Position the baby board on the cot.
2. Thread two cot restraints through the baby board's loops (Figure 40).
3. Fasten the restraints and tighten as needed.
4. As desired, or as needed due to patient condition, raise the backrest (Figure 41).



*Figure 40 - Attaching the Baby Board to an Ambulance Cot*



*Figure 41 - Baby Board Secured to Cot*



### 8.3 Transporting the Baby Board Inside an Incubator

The baby board is sized to fit inside the carrying tray of an Air-Shields™ or Airborne™ incubator (Figure 42).

Follow the instructions in the incubator users' manual to open and close incubator doors.

Some incubator units have a door on only the side (Figure 43), while others also have a door on one end (Figure 44). The baby board is designed to fit through either door.

In some cases, you may need to remove the two rubber stoppers on the incubator door in order for the baby board to pass through the incubator door. Replace the rubber stoppers after the baby board is inside the incubator.

Restraining straps to help secure the baby board to the incubator are available separately. Contact Ferno Customer Relations to order straps (see Parts and Related Products, page 29).



**Figure 42 - Patient on Baby Board Inside an Incubator**



**Figure 43 - Placing the Baby Board (With Patient) Inside the Incubator Side Door**



**Figure 44 - Placing the Baby Board (With Patient) Inside the Incubator End Door**

## 9 - BASIC USE: PEDIATRIC SLEEVE

### 9.1 Spinal Immobilization (With Harness)

Two trained medical service people are required to immobilize the patient's spine.

1. Before moving the patient onto the pediatric sleeve and backboard, establish and maintain manual immobilization of the patient's spine according to your local protocols.
2. Maintain the patient's head and neck in the neutral position as you place a properly-sized cervical collar on the patient (if patient's size allows the use of a cervical collar).
3. Move the patient onto the pediatric sleeve/backboard according to your local protocols.
4. Inflate the bladder as needed.
5. Place the appropriate-sized head blocks on either side of the patient's head.
6. Secure the two head straps across the head blocks and the patient's forehead and chin.
7. Secure the three body straps across the patient (Figure 45).
8. Adjust the harness size as needed and secure the harness (Figure 45).

#### Note

If the patient is too small for a cervical collar, follow your local protocols for cervical stabilization.



**Figure 45 - Immobilization With Harness**

### 9.2 Spinal Immobilization (Criss-Cross Method)

As an alternate way to immobilize the patient:

1. Follow Steps 1-6 above.
2. Cross the top and bottom restraints in the shape of an X. As an option, attach the third body strap across the body (Figure 46).
3. Adjust the harness and secure it.



**Figure 46 - Criss-Cross Immobilization**

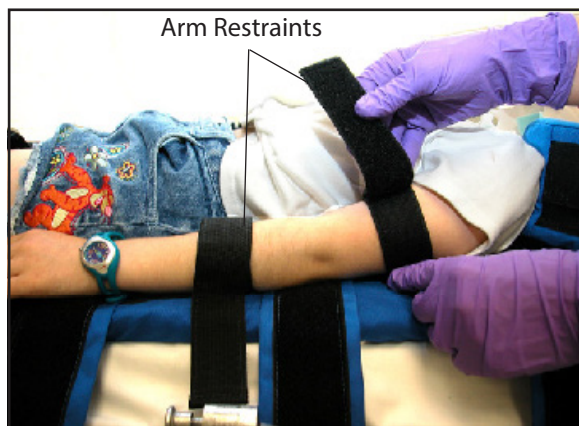
### 9.3 Arm and Leg Restraints

The pediatric sleeve contains 6 restraints for use on the patient's arms and legs, when deemed medically appropriate by your medical advisor. They may be used individually or in combination to allow separate treatment and immobilization of legs and arms, or when invasive IV lines are used. Shown are:

- 4 Arm restraints (Figure 47).
- 2 Leg restraints (Figure 48).
- For a small patient, the arm restraints may be used as leg restraints (Figure 49).



**Figure 48 - Leg Restraints**



**Figure 47 - Arm Restraints**

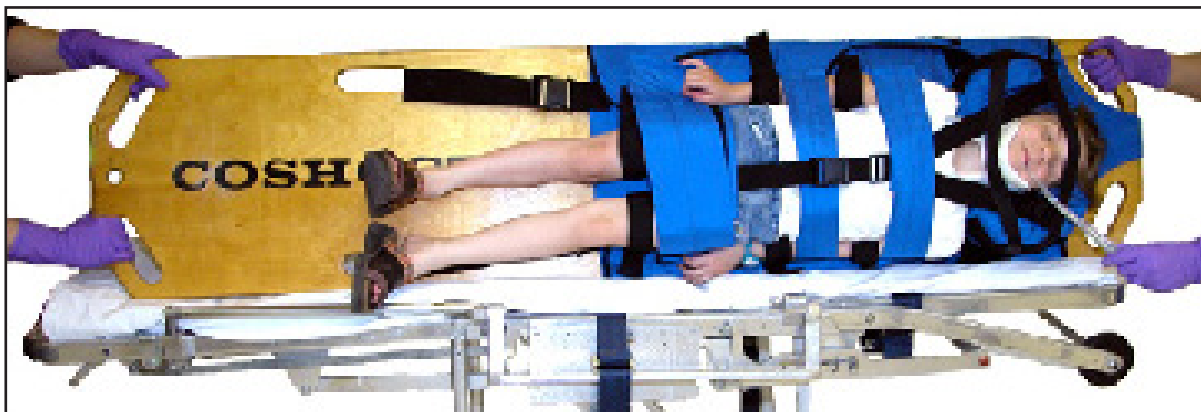


**Figure 49 - Arm Restraints  
Used On a Small Patient's Legs**

### 9.4 Oral Evacuation

When the patient is properly secured to the pediatric sleeve and the sleeve is properly secured to a backboard, the system is stable for log-rolling in order to perform oral evacuation (Figure 50).

1. Make sure all patient restraints are secure and that the sleeve is secure on the backboard.
2. With two operators, log roll the backboard.



**Figure 50 - Log Rolling the Patient for Oral Evacuation**

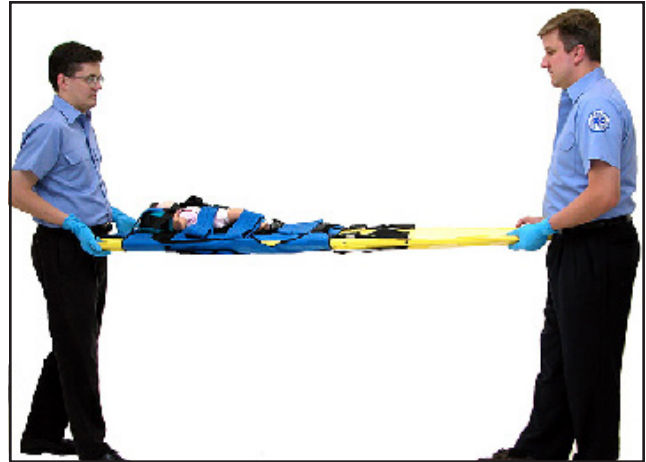


## 10 - TRANSPORTING THE PEDIATRIC SLEEVE

### 10.1 Transporting the Pediatric Sleeve/Backboard

Using the backboard with the pediatric sleeve attached does not change how the backboard is used.

Two operators are required to carry a backboard. Use good lifting techniques to carry the backboard, pediatric sleeve, and patient (Figure 51), and follow the usage instructions in the backboard users' manual.



*Figure 51 - Carrying a Patient on a Backboard*

### 10.2 Transporting the Pediatric Sleeve/Backboard on an Ambulance Cot

Once a patient is properly secured on the pediatric sleeve/backboard system:

1. The operators place the pediatric sleeve/backboard system on the cot.
2. Weave the cot restraints through the backboard handholds (Figure 52).
3. Fasten and adjust the cot restraint straps to secure the backboard to the ambulance cot.



*Figure 52 - Securing a Backboard to an Ambulance Cot*

# 11 - MAINTENANCE

## 11.1 Maintenance Schedule

The baby board and pediatric sleeve require regular maintenance. Set up and follow a maintenance schedule. A form is provided on page 31. The following chart represents minimum maintenance.

	Each Use	As Needed	Each Month
<b>Disinfecting</b> (this page)	•		
<b>Cleaning</b> (this page, page 28)		•	
<b>Inspecting</b> (page 28)		•	•

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

### WARNING

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

### Important

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

## 11.2 Disinfecting and Cleaning the Cordura® Fabric

The products and head blocks are constructed with DuPont® Cordura®.

### CORDURA® NYLON PROTECTION TREATMENT

Treat the products with a nylon-safe fabric protector before first use and after each washing. This will improve its water-repellant properties and help prevent stains from setting.

### WASHING INSTRUCTIONS

Before washing, remove the head blocks, head straps, air bladder and bulb from the cover. Remove the plastic insert from the baby board, or remove the pediatric sleeve from the backboard.

1. Wash the cover and head blocks in warm water with a mild detergent.
2. Rinse with warm water.
3. Hang the cover to dry. Allow head blocks to air dry, turning them over occasionally.
4. To disinfect, apply a solution of 2% to 5% chlorine bleach and water. Rinse thoroughly.

### Important

Failure to thoroughly rinse the bleach solution from the product can cause damage.

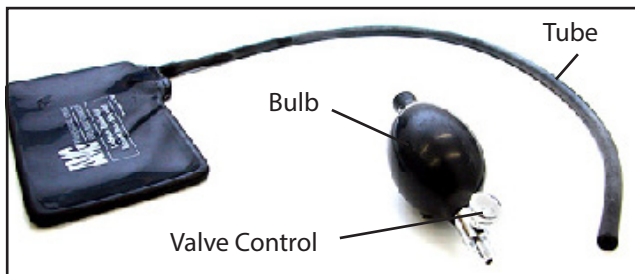
5. Allow all parts to dry completely before re-assembling the product and returning it to service.
6. Treat the Cordura® fabric with fabric protector.

### Important

Storing the baby board or pediatric sleeve wet will encourage the growth of mold. Do not store the product until it is thoroughly dry.

### 11.3 Disinfecting and Cleaning the Bladder

1. Remove the bladder, tubing, air pressure bulb and valve control from the product. To do this, pull the tube off the valve control (Figure 53).
2. To disinfect, wipe the bladder, tubing bulb and valve control with disinfectant, following the manufacturer's instructions.
3. Hand wash the parts with warm, soapy water and a soft cloth.
4. Rinse with clear water.
5. Dry with a towel.
6. When reassembling the bladder, place the bladder inside its pocket and thread the tube through the sewn loop on the product. Reattach the tube to the valve control. If the tube is difficult to attach, wet the end of the tubing.



**Figure 53 - Bladder and Tube Separated From the Bulb and Valve Control**

### 11.4 Disinfecting and Cleaning the Baby Board Insert

To clean the baby board's plastic insert:

1. Remove the insert from the product.
2. To disinfect, wipe the insert with disinfectant, following the manufacturer's instructions.
3. Wash the insert with warm, soapy water and a soft cloth.
4. Rinse with clear water.
5. Dry with a towel.

### 11.5 Inspecting the Products

- Are all components present?
- Is all stitching secure?
- Are the cot restraint loops on the baby board in good condition?
- Are the buckles and lower straps on the pediatric sleeve in good condition?
- Are the hook-and-loop closures in good condition and do they fasten securely?
- Is the harness webbing in good condition with no cuts or frayed edges?
- Are restraint buckles free of visible damage and do they operate properly?
- Inspect the air bladder, control valve and tubing for leaks or cracks.
- Inspect the baby board plastic insert for damage.

If inspection shows damage or excessive wear, remove the product from service. Replacement parts are available. See Parts and Related Products, page 29.

## 12 - PARTS AND RELATED PRODUCTS

Replacement parts for the baby board and pediatric are listed at the right.

Ferno offers a full line of emergency medical service products (ambulance cots and fasteners, IV poles, immobilizers, blankets, etc.). Related products of special interest to users of the baby board and pediatric sleeve are listed at right.

Contact Ferno Customer Relations or your Ferno distributor (page 30) to order parts for product information.

### **WARNING**

**Attaching improper items to the product can cause injury. Use only Ferno-approved items on the product.**

#### REPLACEMENT PARTS AND ACCESSORIES

<u>Part #</u>	<u>Description</u>
081-9981	Sm. head blocks (aqua)
081-9982	Med. head blocks (aqua)
081-9986	Lg. head blocks (blue)
081-9983	Baby board bladder kit (complete)
081-9984	Baby board head/chin straps (pair)
	Call for availability... Baby board incubator straps (pair)
081-9987	Pedi. sleeve bladder kit (complete)
081-9988	Pedi. sleeve head/chin straps (pair)
081-9989	Air bulb only
081-9990	Air valve only

#### RELATED PRODUCTS

<u>Model #</u>	<u>Description</u>
Millenia™	16" Backboard*
Millenia™	18" Backboard*
222	Pedi-Pal
678	Pedi-Mate
78	Pedi-Pac Pediatric Immob. System
125	KED (Kendric Extrication Device)
449	WizLoc® Cervical Collar
430	Cot Restraint, metal buckle**

\* Millennia™ backboards are available in 16" and 18" widths, and in a variety of colors including orange, white, blue, burgundy, and yellow

\*\* Cot restraints are available in several lengths and colors.



## 13 - LIMITED WARRANTY

### Limited Warranty Summary

Ferno-Washington, Inc. (Ferno), warrants the products we manufacture to be free from defects in material and workmanship for one year except as follows:

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

This limited warranty applies when you use and care for the product properly. If the product is not used and cared for properly, the warranty is void. The warranty period begins the day the product is shipped from Ferno or the day you receive it if you have proof of the delivery date. Shipping charges are not covered by the limited warranty. We are not liable for shipping damages or damages sustained through using the product.

### Limited Warranty Obligation

If a product or part is proven to be defective, Ferno will repair or replace it. At our option, we will refund the product’s purchase price. 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 1.800.733.3766 or 1.937.382.1451.

## 14 - FERNO CUSTOMER RELATIONS

Customer service and product support are important aspects of each Ferno product.

In the United States and Canada, for assistance with the Medkids please contact Ferno Customer Relations:

Telephone ..... 1.800.733.3766  
Telephone ..... 1.937.382.1451  
Fax ..... 1.937.382.1191  
Internet ..... www.ferno.com

Outside the U.S.A. and Canada, for assistance with the Medkids please contact your Ferno distributor or Ferno Customer Relations:

Telephone (Worldwide)..... 1.937.382.1451  
Fax (Outside U.S.A.) ..... 1.937.382.6569  
Internet ..... www.ferno.com

