



MEDKids®

Model 676 Baby Board

Model 677 Pediatric Sleeve



FERNO®

August 2024 | 234-3214-01



Ferno Customer Relations

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

Information www.ferno.com
Authorized Service ferno.com/service-and-support

U.S., Canada	1.877.733.0911
International	Country Code +1.937.382.1451
Fax	1.888.388.1349

INSTRUCTIONS FOR USE



Read this Manual and Retain for Future Reference. To request additional free manuals, contact Ferno.

Disclaimer

This manual contains general instructions for the use, operation and care of this product. 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 and local protocol. Training on the proper use of this product must 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 Relations.

Proprietary Notice

The information disclosed in this manual is the property of Ferno. Ferno reserves all intellectual property 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.

MD

Medical Device



Ferno-Washington, Inc.
70 Weil Way
Wilmington, OH 45177-9371, U.S.A.
1.937.382.1451

PATENTS
ferno.com/patents

EC REP

FERNO S.r.l.
Via B. Zallone n.26
40066 Pieve di Cento (BO), Italy
+39 (051) 6860028



UK REP

Ferno (UK) Ltd.
Ferno House, Stubs Beck Lane, Cleckheaton,
West Yorkshire, BD19 4TZ, UK
+44 (0) 1274 851 999



Limited Warranty Statement

Ferno products are covered by a limited warranty, printed on all Ferno invoices. Complete terms and conditions, and limitations of liability, are available from Ferno.

Adverse Event Notice

In the event of an adverse event or serious incident related to the use of this device, the end user/operator must report the incident to Ferno at 1-877-733-0911, or via email at tscoordinator@ferno.com. If the incident occurred outside the U.S., report it to Ferno's Authorized Representative for that area.


Disposal

Prior to disposal, clean and disinfect the product according to the Maintenance section of this manual. Recycle or dispose of the product following local protocols and regulations. Do not dispose of the product in municipal waste.

1 - SAFETY INFORMATION

1.1 Warning

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

 WARNING
<p>Professional use by trained operators only. Maintain control of product. Permit only trained personnel to apply the product.</p> <p>Use the product only for its intended purpose. Improper use, operation, or maintenance can cause injury. Use, operate and maintain only as instructed.</p> <p>Exceeding the load capacity can cause injury and damage. Inspect the product if the load capacity has been exceeded.</p> <p>An unattended or unrestrained patient can be injured. Always stay with the patient and use patient restraints.</p> <p>Improper parts, modifications or items not designed for the product can cause injury. Use only Ferno-approved parts and service. Attach only approved items to the product. Do not modify the product.</p>







1.2 Notice

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

NOTICE

1.3 Symbol Glossary

Ferno uses, as applicable, the following safety and regulatory symbols.

Symbol	Definition
	General warning of potential injury
	Refer to instructions for use (ANSI Z535/ISO 3864)
	Two trained operators required
	Load Capacity/Safe Working Load
	Lot Number
	Consider instructions for use (ISO 7000)

2 - OPERATOR TRAINING

2.1 Operator Training

Operators must: read and understand this manual, have the physical ability to assist the patient, be trained on proper product operation, be trained on emergency-medical service and patient-handling procedures, and practice with the product before using it with a patient. Keep training records (page 19).

 **WARNING**

Professional use by trained operators only. Maintain control of product. Permit only trained personnel to apply the product.

3 - ABOUT THE MEDKIDS

3.1 Description

The Ferno® MEDKids® Model 676 Baby Board and MEDKids® Model 677 Pediatric Sleeve are patient-handling devices designed for professional use by trained operators.

Baby board is for infants 2-15 lb. (0.9-6.8 kg). It is used to restrain, position, or immobilize an infant during transportation in an incubator or on an ambulance cot.

Pediatric sleeve is for children 12-60 lb (5.4-27.2 kg). It attaches to any backboard and is used to immobilize the patient during transportation to, and on, an ambulance cot.

COMMON FEATURES

- Pneumatic inflation device (bladder) to aid in achieving spinal neutrality and 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

- 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

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

 **WARNING**

Use the product only for its intended purpose. Improper use, operation, or maintenance can cause injury. Use, operate and maintain only as instructed.

3.2 General Specifications

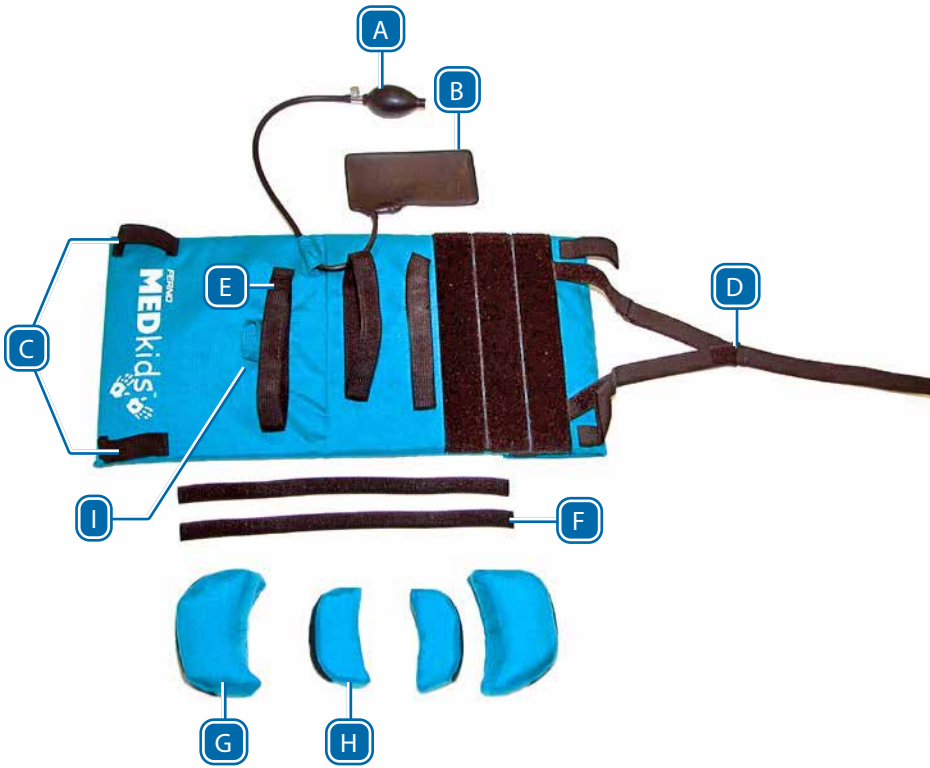
Specifications for the products are shown in the tables. General specifications are rounded. Metric conversions are calculated before rounding the Imperial measurement. Ferno reserves the right to change specifications without notice. For more information, contact Ferno Customer Relations or your Ferno distributor (page 2).

(*) Weight includes restraints and head blocks.

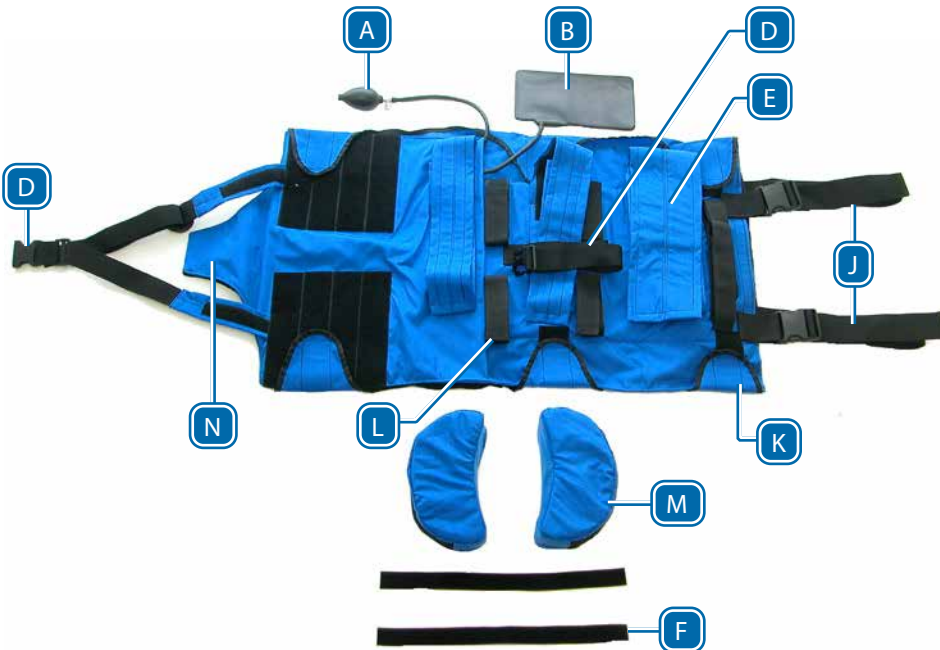
Baby Board	Imperial	Metric
Length	23 in	584 mm
Width	11 in	279 mm
Thickness	1.25 in	32 mm
Weight (*)	5 lb, 10 oz	2.55 kg
Storage Dimension	23 x 11 x 5 in	584 x 279 x 127 mm
Patients Served	2-15 lb	0.91 - 6.8 kg

Pediatric Sleeve	Imperial	Metric
Length	39.75 in	1010 mm
Width	19.5 in	495 mm
Thickness	< 1 in	<25 mm
Weight (*)	3 lb	1.4 kg
Storage Dimension	19.5 x 8 x 8.5 in	495 x 203 x 216 mm
Patients Served	12-60 lb	5.4 - 27 kg
	(approx. 2 months - 8 years)	

3.3 Components



Baby Board	Imperial
A	Air pressure control
B	Bladder
C	Cot restraint loop (4)
D	Harness
E	Body strap (3)
F	Head strap (2)
G	Medium head block (2)
H	Small head block (2)
I	Harness loop



Pedi-Sleeve	Imperial
A	Air pressure control
B	Bladder
D	Harness
E	Body strap (3)
F	Head strap (2)
J	Foot-end strap (2)
K	Side tab (6)
L	Arm, leg strap (6)
M	Large head block (2)
N	Stirrup
O	Storage flap



4 - SETUP AND STORAGE

4.1 Baby Board Setup

To prepare the baby board for use (Figure 1 and Figure 2):

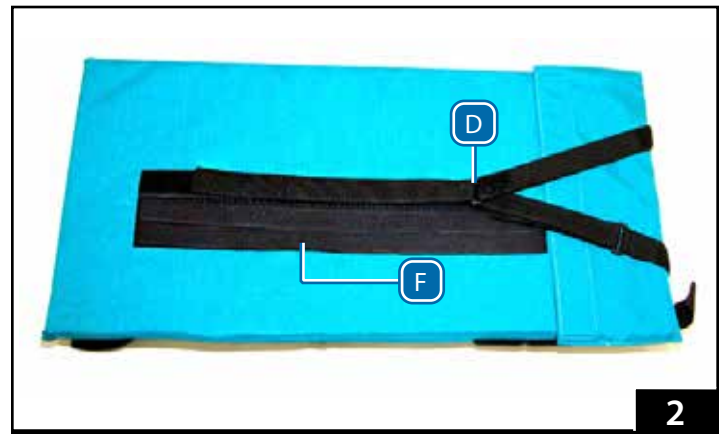
1. Unfasten body straps (E).
2. Remove air pressure control (A) from cot restraint loop (C).
3. Unfasten harness strap (D) and head straps (F).
4. Remove the head blocks (G,H) and select the pair you will use with the patient.



4.2 Baby Board Storage

The baby board stores flat (Figure 1 and Figure 2):

1. Disinfect and clean the baby board before storing it. See "Maintenance" on page 16.
2. Deflate the bladder. See "Bladder" on page 9.
3. Place bladder (B) inside its pocket on the top side of the baby board. See "Components" on page 5.
4. Fasten the body straps (E).
5. Place the small pair of head blocks (H) between the large pair of head blocks (G) in the center of the head area.
6. Store head straps (F) across the head blocks (Figure 1), or attached to the hook-and-loop material on bottom of the board (Figure 2).
7. Attach harness (D) on bottom of the board.
8. Thread air pressure control bulb (A) through one or both of the cot restraint loops at the (C) foot end of the baby board.



4.3 Pediatric Sleeve Setup

To prepare the pediatric sleeve for use:

1. Unfasten the storage flap (O) and unroll the pediatric sleeve.
2. Unfasten three side tabs (K) on one side of the pediatric sleeve (Figure 3 and Figure 4).
3. Position the pediatric sleeve at the head end of the backboard, facing up (Figure 3).
4. Slide the backboard into the open side of the pediatric sleeve and center the stirrup (N) snug against the backboard (Figure 3).
5. Wrap each side tab (K) snug around the backboard and press the hook-and-loop material together (Figure 4). If adjustment is needed, unfasten all six side tabs and re-secure. Keep the pediatric sleeve centered on the backboard as you secure all side tabs.
6. Thread the foot-end straps (J) through handholds on the backboard and fasten the buckles (Figure 5).
7. Secure storage flap (O) to the hook-and-loop strip on the back of the pediatric sleeve.

ADJUSTING FOOT-END STRAPS

To fasten a buckle, push the slide into the receiver until it locks into place (Figure 5). To release a buckle, press the slide tabs to release the slide, then pull the slide out of the receiver.

To lengthen the restraint, first unfasten it. Grasp the slide and turn it perpendicular to the webbing, then pull the slide away from the restraint anchorage, until the restraint is the desired length.

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

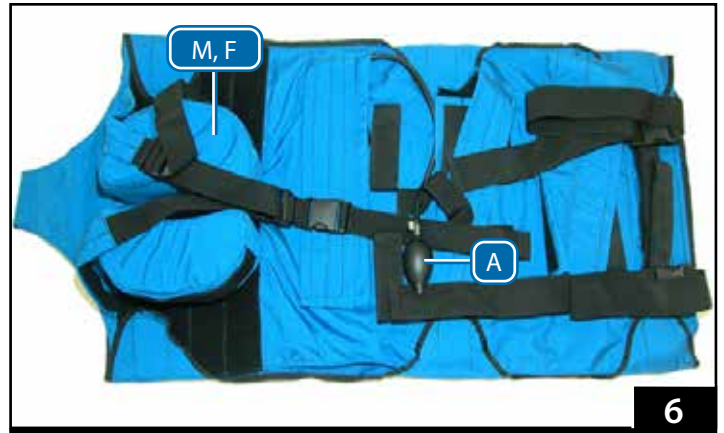


4.4 Pediatric Sleeve Storage

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.

The pediatric sleeve folds for storage. To store the pediatric sleeve:

1. Disinfect and clean the pediatric sleeve before storing it. See "Maintenance" on page 16.
2. Deflate the bladder. See "Bladder" on page 9.
3. Unfasten side tabs (K) on one side of the pediatric sleeve and remove the backboard from the pediatric sleeve.
4. Re-fasten the side tabs.
5. Store head blocks (M) and head restraints (F) on the head area of the pediatric sleeve.
6. Arrange and fasten the three body straps, harness, and foot-end straps along the center of the pediatric sleeve. Lay air pressure control bulb (A) along the edge of the bladder pocket (Figure 6).
7. Beginning at the foot end, roll and fold the pediatric sleeve in thirds (Figure 7 and Figure 8).
8. Wrap storage flap (O) around the unit and press the hook-and-loop fastening strips together (Figure 9).



6



7



8



9

5 - OPERATIONS

5.1 Body Straps

The baby board and pediatric sleeve are equipped with three hook-and-loop body straps (E). The straps allow a variety of strapping configurations to accommodate patient size and medical condition.

To fasten a body strap, press the hook-and-loop surfaces together (Figure 10). To unfasten, peel the straps away from one other.



5.2 Bladder

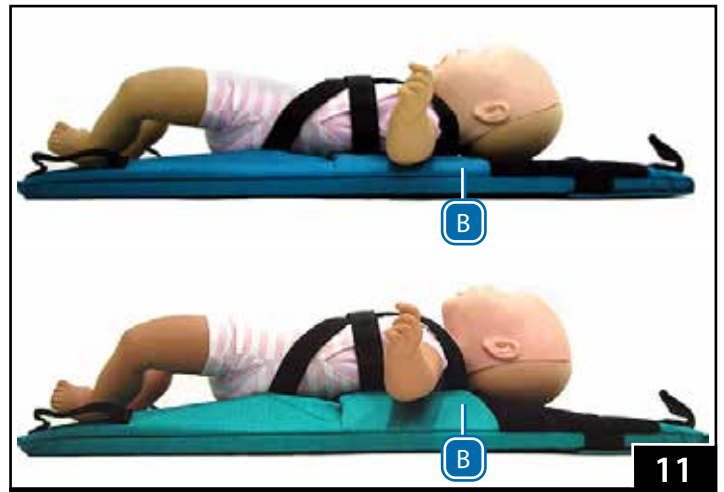
The baby board and pediatric sleeve are equipped with one pneumatic inflation device (bladder, (B)). The bladder can be inflated as needed to provide correct positioning for the patient (Figure 11).

Follow local medical protocols for patient care, and consider the patient's condition before inflating the bladder.

The bladder can be used to help provide correct cervical neutrality without the need for towels or foam padding (Figure 11), or can assist with airway management by helping to position the patient's neck for intubation (Figure 12).

To inflate the bladder, turn the metal valve (P) clockwise to allow air to be added to the bladder, then repeatedly squeeze the air pressure control bulb (A) to inflate the bladder (Figure 13).

To deflate, turn the metal valve (P) counterclockwise (anticlockwise) to allow air to be released from the bladder (Figure 13).



5.3 Head Blocks

Head blocks (G, H, M on page 5) have hook-and-loop material on the bottom to fasten to the product, and on the outside face (Q), (Figure 14) to allow head straps and the harness to be secured across them.

Select the appropriate size head blocks for use. Press the hook-and-loop material against the head section of the baby board (Figure 14) or pediatric sleeve.

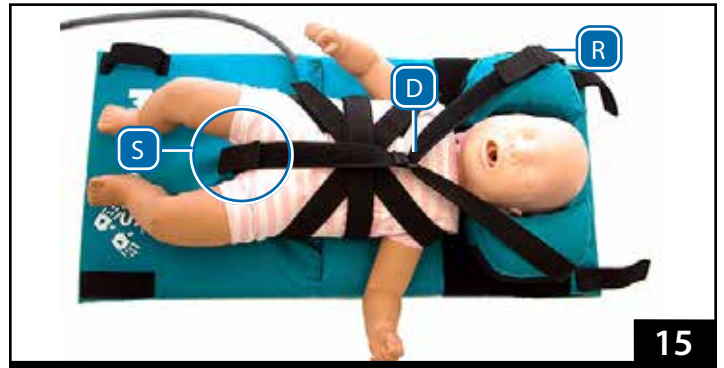
On the baby board, head blocks can also be used to support a patient in the side-lying position.



5.4 Baby Board Harness

Use the harness (D) with the head blocks to help keep the patient centered on the baby board.

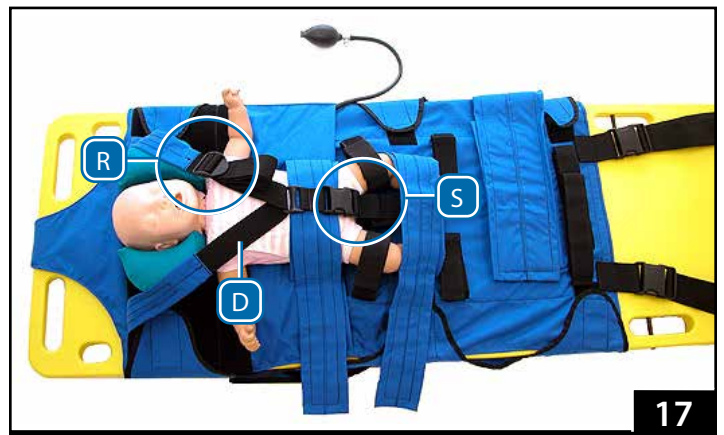
1. Position the patient on the baby board and attach the head blocks, head straps, and the body straps.
2. Lay harness (D) over the patient with the harness straps across the head blocks (Figure 15). This allows the harness to provide additional stability for immobilization by pulling the blocks closer to the head and by providing gentle downward tension on the shoulders.
3. If the harness is too small, unfasten the hook-and-loop fastener at the patient's right shoulder (R) (Figure 16). Pull the strap backward through the adjustment loop. Press the hook-and-loop material together.
4. If the harness is too large, unfasten the hook-and-loop fastener at the patient's right shoulder (R) (Figure 16), grasp and pull the strap to bring more material through the adjustment loop.
5. Thread the crotch strap (S) through the loop and press the hook-and-loop material together (Figure 15).



5.5 Pediatric Sleeve Harness

Use the harness (D) with the head blocks to help keep the patient centered on the pediatric sleeve (Figure 17).

1. Position the patient on the pediatric sleeve and attach the head blocks, head straps, and body straps.
2. Lay harness (D) over the patient with the harness straps across the head blocks (Figure 17). This allows the harness to provide additional stability for immobilization by pulling the blocks closer to the head and by providing gentle downward tension on the shoulders.
3. If the harness is too small, feed the strap backward through the plastic adjuster at the patient's left shoulder (R) (Figure 17). Then, grasp the slide section of the crotch strap (S) and pull the slide away from the pediatric sleeve.
4. If the harness is too large, pull the loose end of the shoulder strap (R) through the adjustment loop to tighten the strap. Then, pull the loose end of the crotch strap to tighten (S) (Figure 17).
5. Buckle the crotch strap.



6 - USING THE PRODUCTS

6.1 General Guidelines for Use

Medical advice is beyond the parameters of this manual. It is the operators' responsibility to ensure safe practices for the patient and themselves.

- Follow your medical director's guidelines and your local protocols when using the products.
- Train and practice on proper use of the product. See "Operator Training" on page 4. Follow standard emergency patient-handling procedures to operate the product.
- 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 as shown in this manual.
- 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.

6.2 Body Straps, Arm and Leg Restraints

The baby board contains three body straps. Follow local protocols and consider the patient's condition and apply straps as appropriate. See page 12 and page 13.

The pediatric sleeve contains six arm and leg straps (L), (Figure 18). Arrange and apply straps when deemed medically appropriate by your medical advisor.

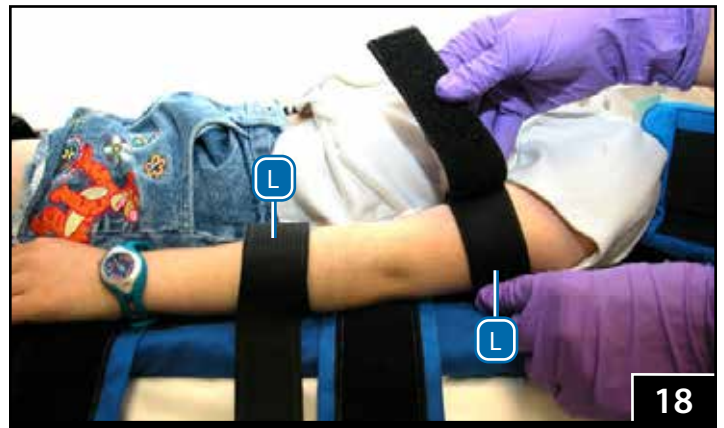
Use arm and leg straps individually or in combination to allow separate treatment and immobilization of legs and arms, or when invasive IV lines are used. For a small patient, the arm restraints may be used as leg restraints (Figure 19).

WARNING

Use the product only for its intended purpose. Improper use, operation, or maintenance can cause injury. Use, operate and maintain only as instructed.

Exceeding the load capacity can cause injury and damage. Inspect the product if the load capacity has been exceeded.

An unattended or unrestrained patient can be injured. Always stay with the patient and use patient restraints.



18



19

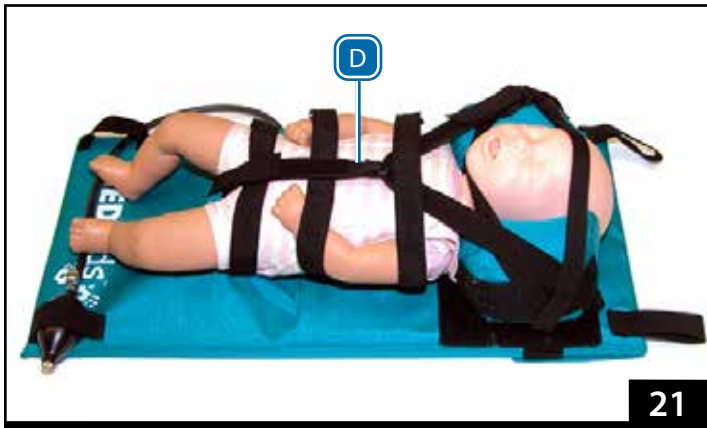
6.3 Securing the Patient

Two trained operators are required when immobilizing the patient's spine. If the patient is too small for a cervical collar, follow your local protocols for cervical stabilization. Follow local protocols for patient restraint, including when to use the harness (D), or if securing the patient's arms inside the straps.

1. Before moving the patient, establish and maintain manual immobilization of the patient, following local protocols.
2. Move the patient onto the product according to local protocols.
3. Following local protocols, inflate the bladder (page 9), position head blocks (page 10), and secure head straps as appropriate for patient care.
4. Secure the three body straps across the patient (Figure 20 or Figure 23), or cross the top and bottom restraints in an X shape (Figure 22 and Figure 24). Optionally when criss-crossing the straps, attach the third body strap across the body.
5. Adjust and secure the harness (D) if used. See page 10.



20



21



22



23



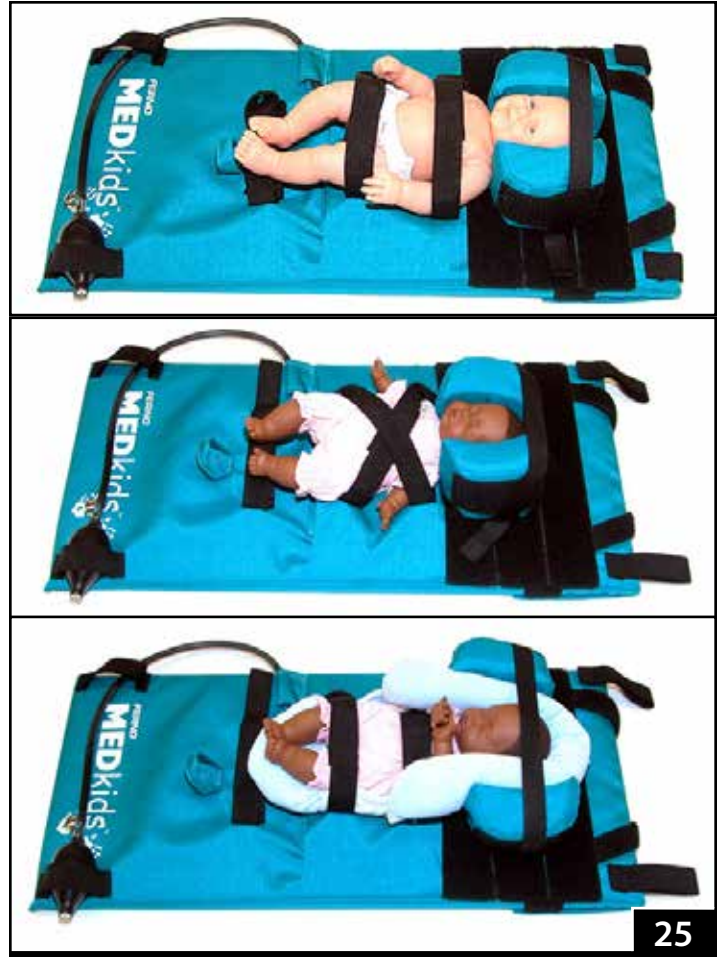
24

6.4 Baby Board Incubator/Cot Positioning

Consult your medical director and follow local protocols for patient restraint and positioning.

Figure 25 shows various restraint configurations when the baby board is used with an incubator or on an ambulance cot. Baby bunting, a head roll or towel may be used between the patient and baby board to fill space as needed when restraining a very small patient.

1. Attach as many body straps as possible across the patient, using either the straight or criss-cross strapping methods.
2. Place appropriate size head blocks each side of patient's head.
3. Use one head restraint to help hold the head blocks (or bunting) in place as needed.
4. Harness use may not always be appropriate; follow your protocols.



6.5 Baby Board Side-Lying Positioning

Consult your medical director and follow local protocols for placing a patient in a side-lying position. This position may be preferable for patients with certain medical conditions.

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, various number and size head blocks may be configured to assist the patient (Figure 26).

As the patient's size and condition require, place one or two head blocks behind the patient's head, spine, and/or buttocks, or use different sizes of head blocks. Attach the body straps using the straight or criss-cross configurations.



6.6 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 27).



6.7 Carrying the Pediatric Sleeve and Backboard

The pediatric sleeve does not change how the backboard is used.

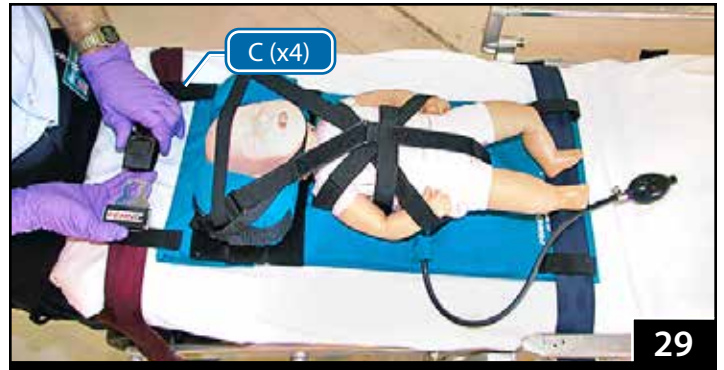
Two operators are required to carry a backboard. Follow the usage instructions in the backboard users' manual. Use good lifting techniques to carry the backboard, pediatric sleeve, and patient (Figure 28).



6.8 Transporting the Baby Board

Cot restraint loops (C) at each end of the baby board allow the use of standard cot restraints to secure the baby board on a cot.

1. Position the baby board on the cot.
2. Thread the cot restraint through a set of restraint loops (C) on the baby board (Figure 29).
3. Fasten and adjust restraints.
4. Raise the backrest if appropriate for the patient's condition.



6.9 Transporting the Baby Board Inside an Incubator

The baby board is sized to fit in the carrying tray of an Air-Shields™ or Airborne™ incubator (Figure 30).

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



6.10 Transporting the Pediatric Sleeve/ Backboard on an Ambulance Cot

With the patient properly secured on the pediatric sleeve/backboard:

1. Operators place the pediatric sleeve/backboard on the cot.
2. Weave the cot restraints through the backboard handholds (Figure 31).
3. Fasten and adjust the cot restraint straps to secure the backboard to the ambulance cot.



7 - MAINTENANCE

7.1 Maintenance Schedule

The product requires regular maintenance. Set up and follow a maintenance schedule. Refer to the table for minimum intervals for maintenance. Keep maintenance records. For a sample record sheet, see “Maintenance Record” on page 19. When using maintenance products, follow the manufacturers’ directions and read the manufacturers’ material safety data sheets.

7.2 Service Life

Many factors affect a product's service life, including frequency of use, local environment (temperature, humidity, etc.), maintenance (adherence to the inspection and maintenance schedule), and other factors. Follow the disinfecting, cleaning, and inspection procedures in this manual to ensure long life for the product.

7.3 Bloodborne Disease Notice

To reduce the risk of exposure to blood or other potentially infectious materials when using the product, follow the disinfecting and cleaning instructions in this manual.

7.4 Disinfecting/Cleaning Cordura®

The products and head blocks are constructed with DuPont® Cordura®. Treat the Cordura™ fabric with a nylon-safe fabric protector before first use and after each washing. This will improve its water-repellent properties and help prevent stains from setting.

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.
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.

WARNING

Use the product only for its intended purpose. Improper use, operation, or maintenance can cause injury. Use, operate and maintain only as instructed.

Minimum Maintenance	Each Use or Daily	As Needed	Monthly
Disinfecting (pages 19-20)	•		
Cleaning (pages 19-20)		•	
Inspecting (page 20)		•	

NOTICE

Do not use disinfectants or cleaners containing phenolics or iodines. If bleach is used, rinse with plenty of clear water to remove bleach residue.

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

7.5 Disinfecting/Cleaning the Bladder

1. Remove the bladder, tubing, air pressure bulb and valve control from the product. To do this, separate the tube from the control valve (Figure 32).
2. To disinfect, wipe the bladder, tubing bulb, and control valve 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.



7.6 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.

7.7 Inspecting

Have your service's equipment maintenance personnel inspect the product regularly. Follow the checklist at right and operate the product through all its functions as described in this manual.

If inspection shows damage or excessive wear, remove the product from service until repair is made. See "Parts and Service" on page 18.

Inspection Checklist

- Are all components present?
- Is the product free of excessive wear?
- 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.

9 - PARTS AND SERVICE

9.1 Ferno Parts and Service

For parts or professional repair, contact your Ferno distributor, Ferno Customer Relations, or visit our website for a list of Authorized Service providers.

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

Information www.ferno.com
Authorized Service ferno.com/service-and-support

U.S., Canada	1.877.733.0911
International	Country Code +1.937.382.1451
Fax	1.888.388.1349

 **WARNING**

Improper parts, modifications or items not designed for the product can cause injury. Use only Ferno-approved parts and service. Attach only approved items to the product. Do not modify the product.

9.2 Parts List

Part #	Description
081-9981	Model 676 head blocks (small)
081-9986	Model 677 head blocks (large)
081-9983	Bladder (complete)

9.3 Related Products

Model #	Description
Millennia™ 16"	Backboard*
Millennia™ 18"	Backboard*
678 Pedi-Mate	Pediatric immobilizer
78 Pedi-Pac	Pediatric immobilizer
125 KED	Kendric Extrication Device
449 WizLoc®	Cervical Collar
430 Series	Cot Restraint**

* Millennia™ backboards available in 16" and 18" widths; various colors

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

TRAINING RECORD

Date	Printed Name	Signature	Training Method			Trainer Initials
			Read Manual	Video/Online	Hands-On	

MAINTENANCE RECORD

Date	Maintenance Performed	By



70 Weil Way
Wilmington, OH 45177

Aviation

Military

Mortuary

EMS

Rescue

