

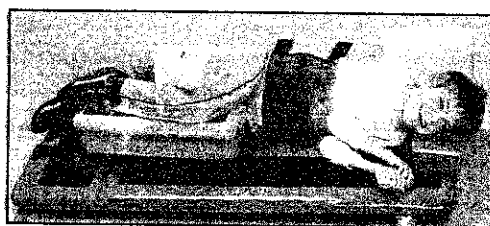
# Tumble Forms<sup>2</sup>

*With Anti-Microbial Protection*

# Grasshopper<sup>®</sup>

METHODS MANUAL

BY  
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# Tumble Forms<sup>2</sup><sup>®</sup>

*With Anti-Microbial Protection*

## Now Better Than Ever!

Tumble Forms 2 products with anti-microbial protection combine innovative design with superior craftsmanship to provide a high degree of durability, functionality, and attractiveness.

Built into the Tumble Forms 2 coating, the anti-microbial protection works from within to help prevent or inhibit odors and help prevent premature coating wear caused by harmful microorganism growth it also provides an added degree of protection, helping you maintain cleaner, safer surfaces. It won't wash or wear off. Tumble Forms 2's coating continually works to maintain permanent anti-microbial action, Helping Tumble Forms 2 products remain fresher, order-free and longer lasting for the life of the product.

Combining innovative design, with superior craftsmanship, Tumble Froms 2 products are designed especially for children and adults with special needs. They provide maximum comfort and positive patient/caregiver reinforcement. Tumble Forms 2 are designed for versatility and durability.

- modular design
- therapists can creatively position clients in an infinite number of ways
- for use in home, school, or clinical settings
- designed for patients from toddler age through early adolescence-even adulthood
- reinforces proper positioning during therapeutic activities
- unique, impermeable, non-stick, non-toxic seamless coating that is flexible and durable
- resists cracking or peeling over an extended period of time-waterproof, stain, solvent and urine-resistant
- high-density, shock-absorbing foam-retains it's shape even after long-term heavy use
- cleans easily with damp cloth and common disinfectants

## TABLE OF CONTENTS

What is the Grasshopper®?	3
Therapeutic Positioning with the Grasshopper®	3
Description of Grasshopper® Modules	4-5
Prone positioning	6
Side Lying Positioning	7
Sitting Postures	8
Vestibular Activities	9
Bibliography	10
Ordering Information	12

*Our Special Thanks to  
the Staff and Children of  
B.O.C.E.S. Of Southern Westchester  
Rye Lake Campus  
White Plains, New York 10604*

## **Grasshopper®**

The Grasshopper® is a mobile positioning system for so many adaptive positions that you can use it with your patients all day long. The Grasshopper® consists of over 15 different shapes and forms to answer your needs in positioning children up through adolescent size. Positioning a child on the Tumble Forms® padded coaster base allows for ease in changing location while maintaining adaptive support. By using the Grasshopper® modules, side lying, prone supine, long leg sitting and roll sitting are a few of the adaptive positions that can be incorporated into the child's therapeutic program throughout the day.

Incorporating the Tumble Forms® coated Grasshopper® modules into the therapeutic setting enables proper adaptive positions to be obtained without resorting to unsanitary pillows and foam. Beyond adaptive positioning, by attaching the Tumble Forms® Log to the base, the Grasshopper® becomes an active therapeutic treatment system for vestibular stimulation activities.

### **Therapeutic Positioning with the Grasshopper®**

The Grasshopper® is a multi-faceted piece of equipment which enables the neurologically impaired child to be positioned in various ways throughout the day.

Positioning serves a variety of therapeutic purposes. Proper positioning is not an end in itself, but a means to facilitate a child's learning experiences through exploration of self and environment.

In the normal developmental sequence, motor control follows a cephalo — caudal progression. Also, proximal stability of one's body is attained before distal control is developed. Positioning is used to provide needed stability where a child lacks motor control of his own body. Once stability is achieved, fine motor functioning can develop.

Positioning can assist in preventing deformities and increase or maintain range of motion by keeping the child in good body alignment. It can be helpful in lessening the influence of pathological reflexes. More normal movement patterns can be facilitated once positioning assists in normalizing tone.

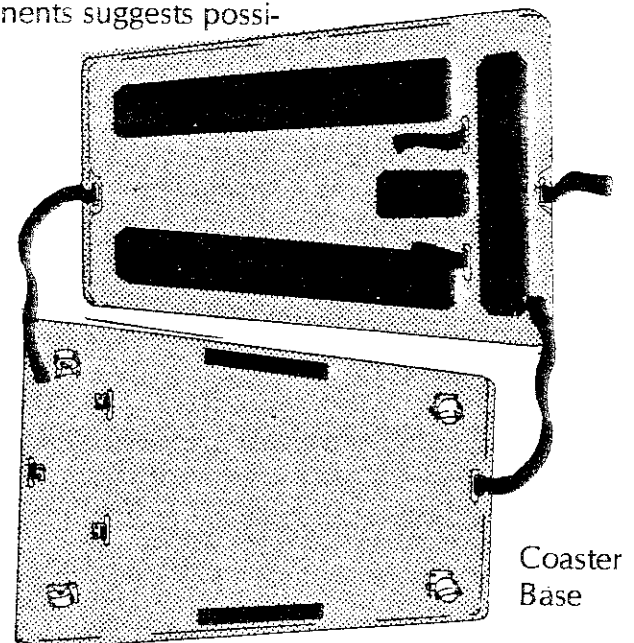
In static positioning, it is important to consider the child's total environment and sensory experiences. Activities should be tailored to compensate for his changed visual field and lack of mobility. Different positions offer different visual and perceptual views of the environment. Frequent changes of the child's position also increases his experiences of sensory motor patterns. Positioning the child on the Grasshopper® is as important as positioning the Grasshopper® in the room.

Many children who would be candidates for the Grasshopper® have abnormal reflexes which contribute to their dysfunction. Positioning can aggravate their dysfunction or improve function. Therefore, it is important that therapeutic positioning should be done in consultation with a therapist.

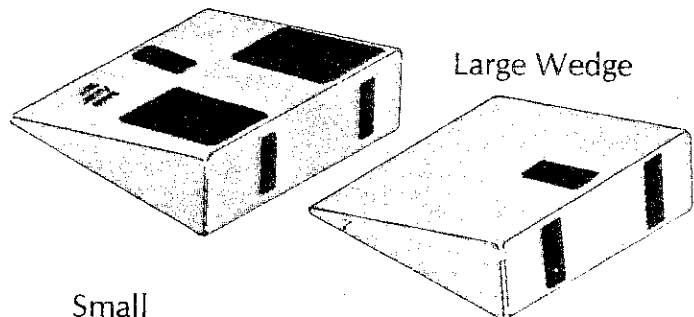
## GRASSHOPPER® MODULES

The following listing of the Grasshopper® components suggests possible uses for individual modules.

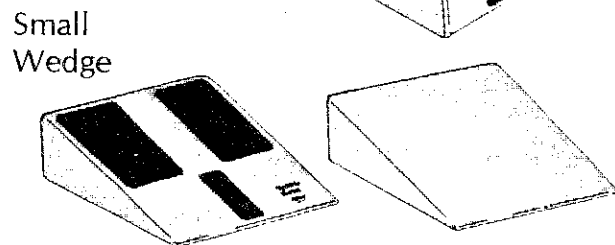
One Coaster Base — Tumble Forms® coated, foam padded mobile base has locking casters and a convenient pull strap. Velcro strips on top and underside secure modular attachments and positioning straps. The Coaster Base is used as a mobile platform on which the Grasshopper® therapeutic positions "are built". 48 in. (122 cm) long and tapers from 30 to 24 in. (76-61 cm) wide.



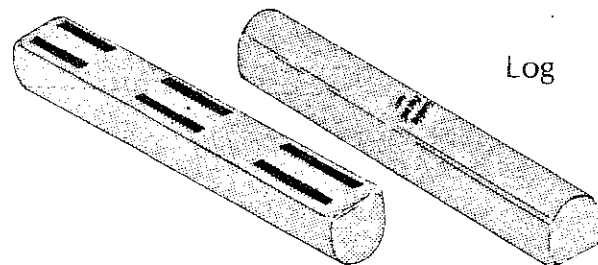
One Large Wedge — 8 in. (20 cm) high Tumble Forms® coated foam wedge is used as a support in prone or supine positioning. Also used as a back support during roll or long leg sitting postures. 8 x 24 x 28 in. high (20 x 61 x 71 cm).



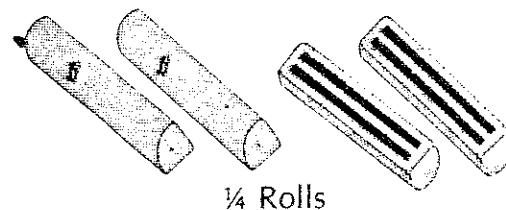
One Small Wedge — 6 in. (15 cm) high Tumble Forms® coated foam wedge is used as a support for the smaller child in prone or supine positioning. Small wedge can also be used as a work surface. 6 x 20 x 22 in. high (15 x 51 x 56 cm).



One Log — 4 ft. (122 cm) Tumble Forms® coated foam semi-circular log attaches to the top of the coaster base as a back support during side lying. During vestibular activities, the log is secured to the underside of the Coaster Base. Also can be used as a support for roll sitting. 48 in. long x 7 in. high x 8 in. wide (122 x 18 x 20 cm).

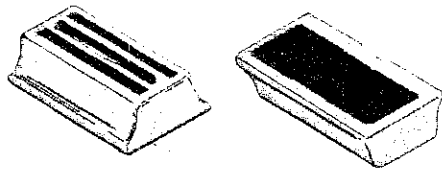


Two ¼ Roll Supports — 18 in. (46 cm) Tumble Forms® coated foam ¼ rolls are used as supports for maintaining body alignment.

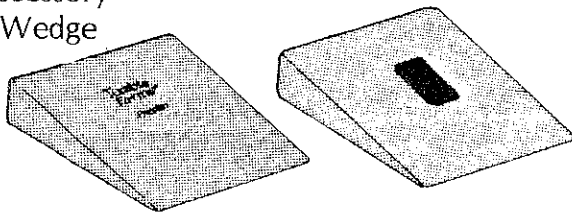


Note: All illustrations are of Top side and Underside of Module to show location of Velcro.

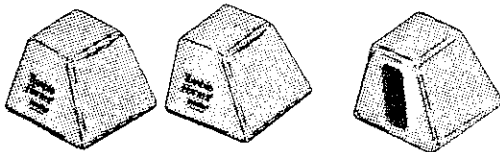
Trapezoid Module



Accessory Wedge

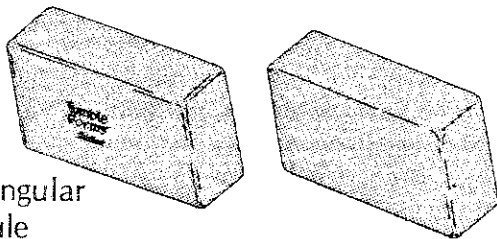


Abductor

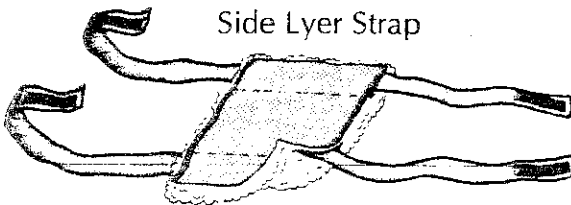


Adductors

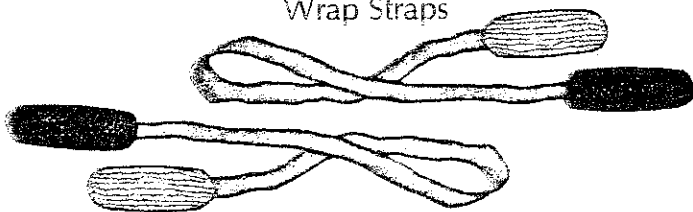
Rectangular Module



Side Lyer Strap



Wrap Straps



Hip Strap



One Trapezoid Module — Tumble Forms® coated foam trapezoid module can be used as a hip extensor block during side lying while supporting the top leg. During supine positioning, trapezoid placed under the knees will maintain flexion at the hips and knees. Trapezoid can also be used as a base for the work surface wedge or as a base for sitting postures. Trapezoid module measures 5 x 18 x 10 in. wide (13 x 46 x 25 cm).

One Accessory Wedge — Used to facilitate head & neck flexion in a variety of positions. Tumble Forms® coated foam wedge measures 11 x 10 x 2.5 in (28 x 25 x 6 cm).

One Abductor & Two Adductors — Small trapezoid shape blocks maintain alignment of lower extremities during prone or supine positioning. For a small child, these modules serve as a chest block during side lying. Tumble Forms® coated foam modules measure 5 x 6 x 8 in. wide (13 x 15 x 20 cm).

One Rectangular Module — Tumble Forms® Rectangular Module is used as a head support during side lying to maintain head in midline. Rectangular module measures 5½ x 11 x 3 in. high (14 x 28 x 8 cm).

One Side Lyer Strap — Washable brushed nylon and foam padded belt. Pad measures 10 in. (25 cm) square, strap length measures 60 in. (152 cm) long.

Two Adjustable Wrap Straps — washable brushed nylon padded straps measure 78 in. (198 cm) long.

One Hip Strap — 60 in. (152 cm) long belt is threaded through slots in Coaster Base & used for pelvic stability during sitting postures.

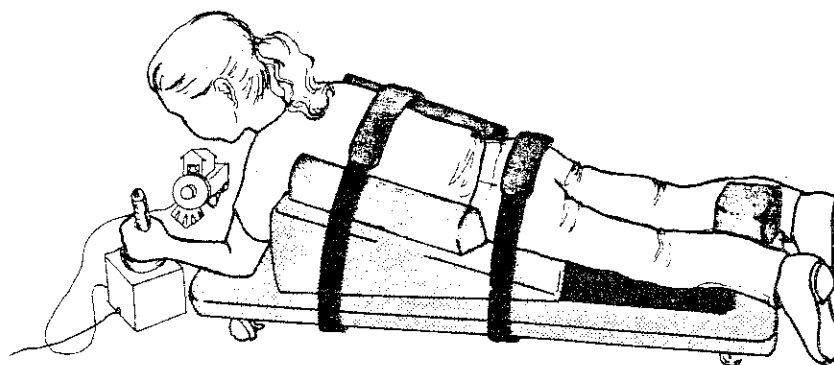
## PRONE POSITIONING

Good prone head control is more difficult to achieve and maintain than head control while supported in an upright posture. The neurologically impaired child often lacks sufficient motor control to work against gravity and is gravity bound. Placing such a child in prone might be demanding too much on poor musculature. Careful thought and consultation with a therapist must precede a decision to impose the prone position on a child. Consideration must be given in determining the child's tolerance for prone as well as determining the appropriate wedge as related to the child's size, motor ability and postural needs.

Normal prone movement control demands a balance of tone between flexors and extensors. The disabled child often does not exhibit a normal distribution of tone, and relies instead on exaggerated extension tone for prone control.

Once it is determined that the prone position is suitable for the child, it can be used to develop improved head control and shoulder girdle stability. When the child can maintain a good prone positioning either weight bearing on forearms or extended arms, he can begin to weight shift and develop fine motor control for reaching. Under the guidance of a therapist, the prone position can be used for preventing contractures and deformities in the lower extremities by facilitating hip extension, abduction and external rotation, knee extension and ankle dorsiflexion.

The child, when prone, needs his environment structured to provide visual stimulation comfortably within his visual field. If objects of interest or people are spatially too high, the child might compensate by using abnormal extensor tone, or instead might choose to visually disregard his surroundings. The prone position also gives the child the opportunity to explore his body tactually as his hands come together at midline, and to participate in activities using eye-hand coordination.



- Choice and placement of wedge will depend upon size of child and posture desired.
- Place wedge so that child's head is at narrow end of Coaster Base.
- Place wedge so that side with large velcro patches face up.

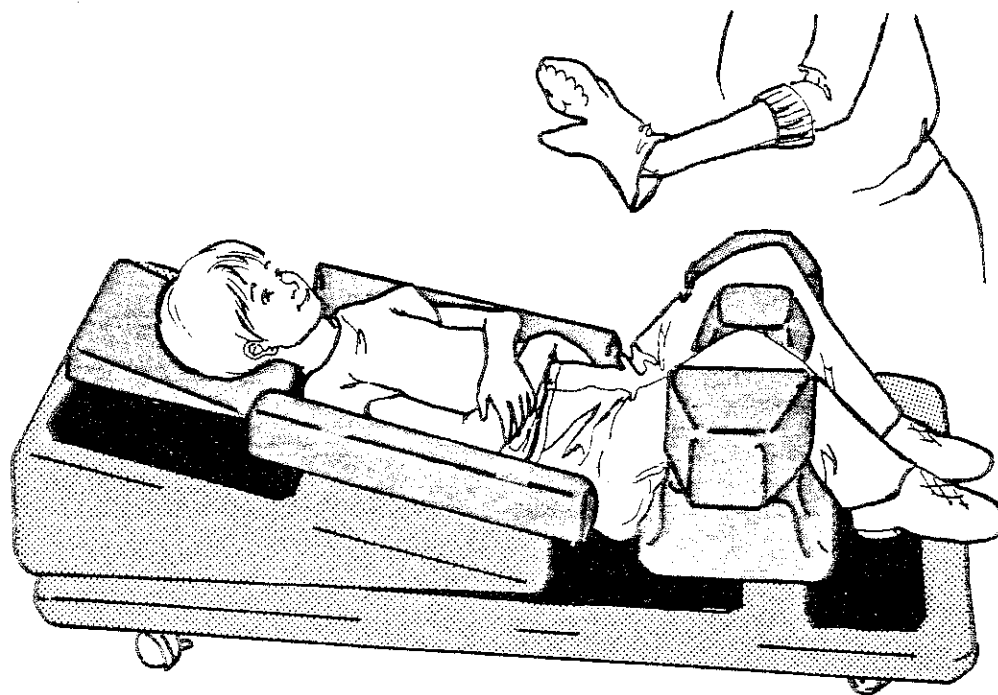
## SUPINE POSITIONING

For the child who displays predominant extensor tone when supine or has extremely low tone, consultation with a therapist is advisable before determining whether supine posture is appropriate.

Reflecting the normal developmental sequence of cephalocaudal control, flexion in supine is first achieved in neck and shoulders and later in trunk and pelvis control.

For the neurologically impaired child who lacks the ability to hold his head up against gravity or maintain his head symmetrically in midline while being supine, being placed on an incline wedge can assist the child in obtaining this control.

When positioning a child in supine, it is important to remember to have the chin "tucked-in" by placing a small support under the head to facilitate head flexion and inhibit a total extensor pattern. A support can be placed under the shoulder girdle to facilitate forward flexion of arms and encourages the child to engage his hands in midline and or reaching for objects overhead. The child's visual field should be structured to encourage a comfortable downward gaze to prevent hypertension as a result of having to look up. The knees and hips should be kept in flexion by placing a roll under the knees to facilitate a flexor pattern and prevent lordosis.



- Place wedge so that child's head is at narrow end of Coaster Base.
- If needed, the  $\frac{1}{4}$  rolls can be placed laterally to encourage forward flexion of the shoulders.
- A support should be placed under the knees to maintain flexion posture.
- Place wedge so that side with large velcro patches face up.

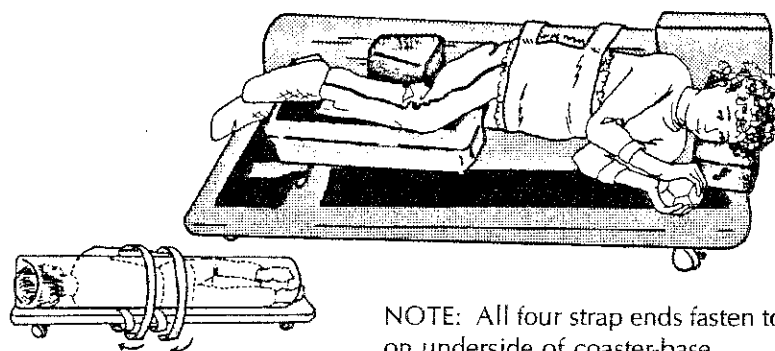
## SIDE LYING POSITIONING

Side lying is usually achieved dynamically in the normal development of rolling and coming to sit from prone or supine. It is of therapeutic value, however, as a static posture for the neurologically impaired child.

The child with abnormal tone (hypertonicity, hypotonicity, fluctuating tone) often finds it difficult to achieve a midline posture of head in flexion, shoulders forward, hands in midline and separation of one leg from another. Side lying is helpful in decreasing abnormal tone by breaking up total flexor or extensor patterns, enabling the child to maintain a midline posture and dissociation of his lower extremities in a relaxed manner.

The child who finds it difficult to function in an upright position and engage hands at midline often meets with success through side lying. Side lying enables the child to achieve a beginning midline control that is important motorically, cognitively and perceptually. It gives the child the opportunity to learn about his body tactually through mid-line exploration. It also facilitates the development of eye-hand coordination as the child visually monitors his arm and hand movements.

NOTE: When there is scoliosis, a therapist should be consulted to determine which side the child should lie on. It is important to elongate the shortened side.



NOTE: All four strap ends fasten to velcro on underside of coaster-base.

- Child should be placed in side lying so that head does not extend beyond log back support. NOTE: If child's feet extend beyond Coaster Base, feet should be supported.
- Trapezoid module or other Grasshopper<sup>®</sup> module can be used to give support to the flexed upper leg and maintain extension of the lower leg.
- Either Side Lyer strap or Adductor modules can be used as to block the chest to maintain side lying position. NOTE: Belt or blocks should be positioned above hips to allow hip flexion.
- NOTE: It is helpful to attach Side Lyer strap under log before placing child on the base.
- Secure side lyer strap under the Coaster Base and around the Log back support and child. See diagram.



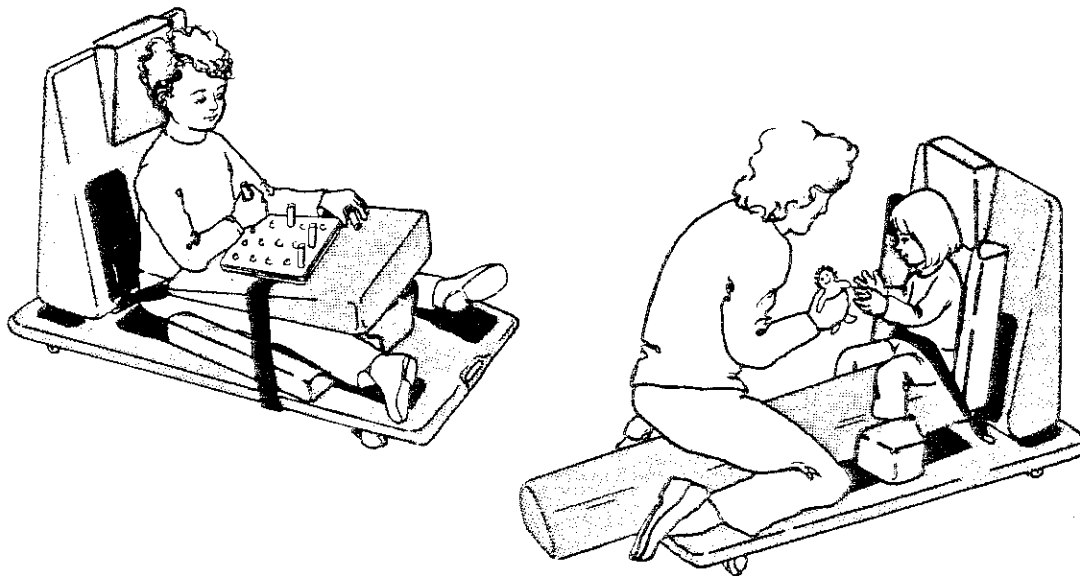
## SITTING POSTURES

Sitting is an important step in the normal developmental sequence. It requires good head and trunk control, pelvic stability and efficient equilibrium responses. A child who is learning to maintain a static sitting posture who lacks equilibrium reactions will have to use his/her hands for support. A child who has developed a working balance between flexor and extensor muscle groups and equilibrium responses in sitting can have free hand use in the upright position.

Independent sitting enables the child to engage in a wide range of activities involving varying degrees of eye-hand coordination while upright.

While some children seek to gain improved stability through "W" sitting, it may contribute to muscle tightness at the pelvis, knees and ankles. Both long-leg and roll sitting can be offered as functional therapeutic alternatives. Roll sitting is a means of inhibiting predominant extensor tone (in the lower extremities) and enables the child to sit in a more relaxed position. It also assists in maintaining or increasing range of motion in the hips, knees and ankles by assuming a posture of hip flexion, abduction and external rotation with feet weight-bearing in dorsi flexion.

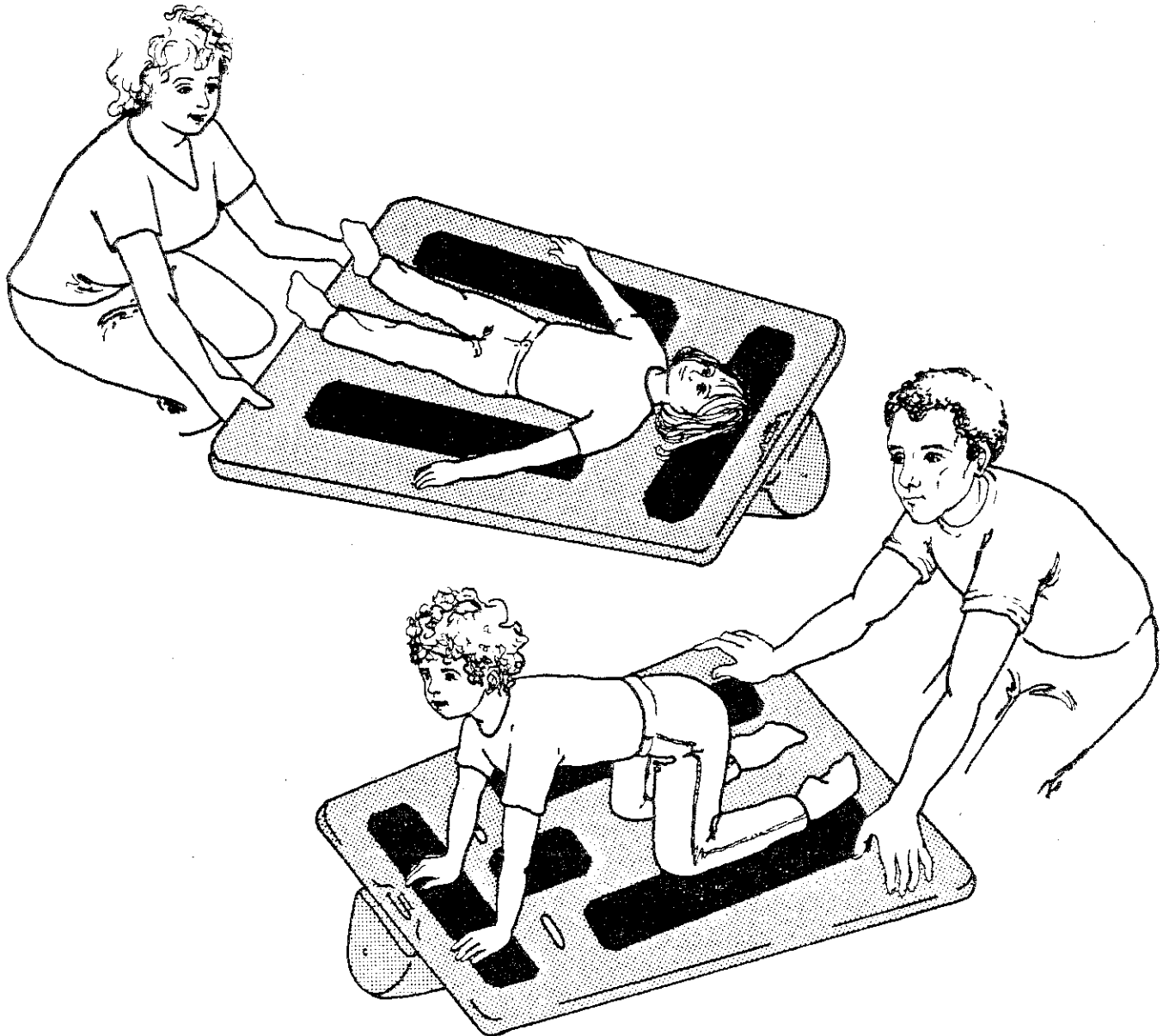
Long-leg sitting can be used to maintain or increase range-of-motion in the hamstrings. This aspect of positioning should be done in consultation with a therapist.



- Large wedge is placed at narrow end of Coaster Base and secured with straps attached to base.
- Secure Large Wedge in the vertical position using small velcro straps on Coaster Base.
- Hip strap is threaded through slots in base and used for pelvic stability.
- During Roll Sitting Position, height of roll should be level with top of child's knee.

## VESTIBULAR ACTIVITIES

The Grasshopper,<sup>®</sup> when used as a system to provide vestibular stimulation, should be used cautiously and in consultation with a therapist. It can be used in either of two ways: 1) to elicit an adaptive protective or equilibrium response from a child; 2) to effect a change in a child's muscle tone without requiring an adaptive response on the part of the child. Here, slow and rhythmical movement will act to calm a child and relax tone; rapid movements are more likely to excite a child and increase abnormal tone.



- Place flat side of Log against undersurface of Coaster Base.
- It is helpful to place the Log under the center of the Coaster Base before positioning the child.
- Close supervision is recommended during vestibular activity to ensure the safety of the child.

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# Tumble Forms<sup>2</sup>® Grasshopper<sup>®</sup>

With Anti-Microbial Protection

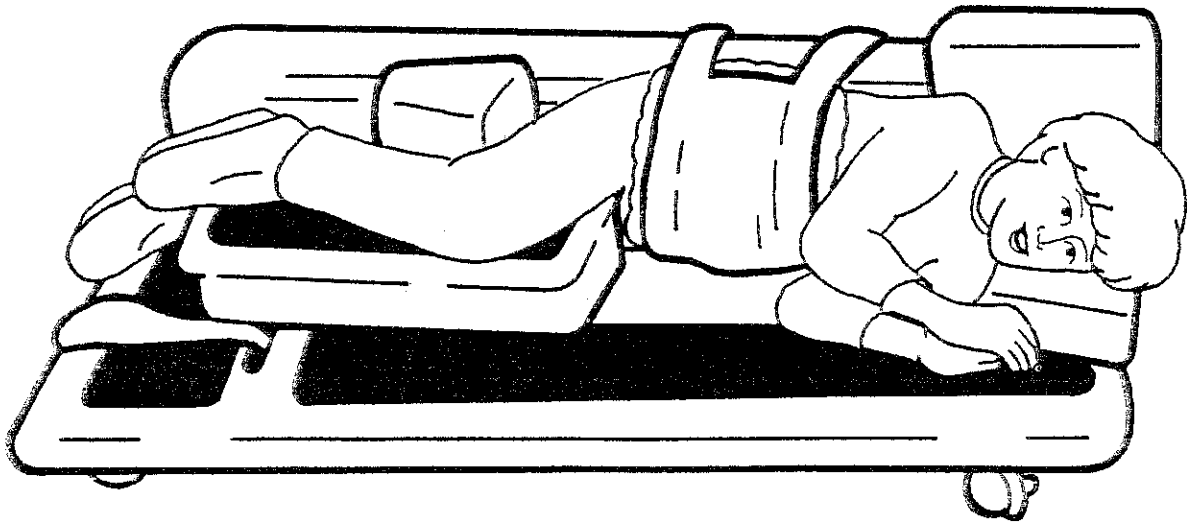
## ORDERING INFORMATION

A mobile positioning system for children up through adolescent size. Made of Tumble Forms<sup>®</sup> material, the Grasshopper<sup>®</sup> consists of a padded Coaster Base and over 15 different shapes and forms.

The Grasshopper<sup>®</sup> includes:

- 1 Padded Coaster Base with locking casters
- 1 Large Wedge, 8 in. (20 cm) high
- 1 Small Wedge, 6 in. (15 cm) high
- 1 Accessory Wedge
- 2 ¼ Roll Supports
- 1 Abductor Module
- 2 Adductor Modules
- 1 4 ft. (122 cm) Log
- 1 Trapezoid Module, 5 in. high x 18 in. long (13 x 46 cm)
- 1 Rectangular Module, 5½ x 11 in. (14 x 28 cm)
- 2 Adjustable Wrap Straps
- 1 Hip Strap
- 1 Pull Strap
- 1 Side Lyer Strap

The multi-function of this system will quickly make the Grasshopper<sup>®</sup> the most useful adaptive equipment in the school, home and therapeutic setting.



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