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Hyperextension Orthoses: Relief for the Thoracolumbar Spine

| Information for doctors and therapists |

Hyperextension Orthoses

28R14 and 28R16

Indication and Application

The Hyperextension orthoses 28R14 and 28R16 are used for conservative therapy of stable traumatic compression fractures. They are especially useful for fractures in the middle and lower thoracic spine and upper lumbar spine without neurological damage. It is also applied for therapy of compression fractures caused by osteoporosis.

Function and Effects

The operating principles of the hyperextensions orthosis are easy and effective: Using a 3-point system, pads in the thoracolumbar region and sternal and symphysis regions hold the spine upright in the sagittal plane (see figure below). The ventral body of the spinal vertebrae is relieved effectively and the patient's pain is reduced. The frame design of the 28R16 prevents banding to the side and rotation of the upper body. These movements are possible with the 28R14, however.

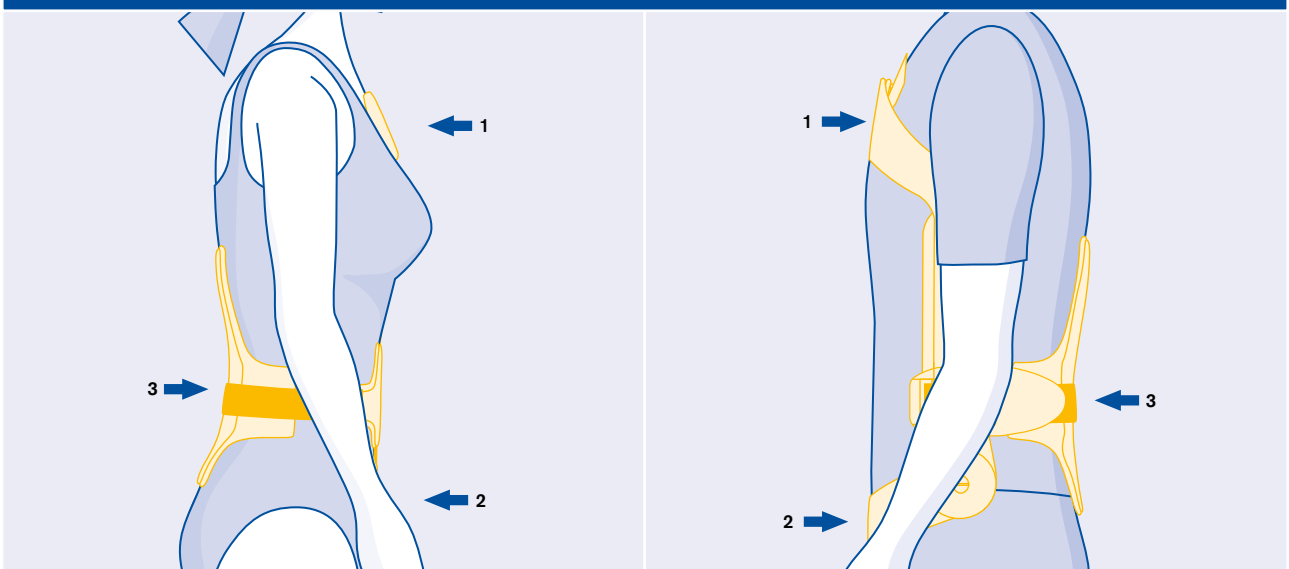


Hyperextension orthosis 28R14 by A. Bähler



Hyperextension orthosis 28R16 with frame design

Effects of the 3-point system



The orthosis provides an upright position by padding the sternum (1), pubic bone (2) and lumbar spine (3)

Construction and Adjustment of the 28R14

The hyperextension orthosis is delivered ready for direct application and adjustment. It consists of a symphysis pad and a sternal pad that are attached to ventral bars. The pads are height adjustable. As a result, the orthosis can be fixed according to the patient's individual needs. The entire ventral part is made of plastic-coated aluminum.

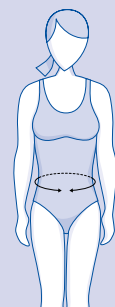
Special ergonomic ratchet closures connect the base plate with the flexible waistband, which is attached to the dorsal lumbar pad. The orthosis is adjusted by an orthopedic technician. The technician takes the patient's body measurements. Then he uses this data to choose an appropriately sized.

Once the orthotist has applied the hyperextension orthosis, the doctor checks the pressure and position of the three pads and the waistband. The doctor also checks for optimal fit and ensures that the hyperextension effect of the orthosis is also given with the patient sitting. An optimal effect can only be achieved if the orthosis is always fitted snugly on the body. Lock positioners help the patient to find the right setting for the waistband (see side view).

Advantages

- Height adjustable symphysis and sternal pad
- Ergonomic ratchet closure
- Lock positioners
- Pads have a plastic-coated aluminum core
- Light and water-resistant

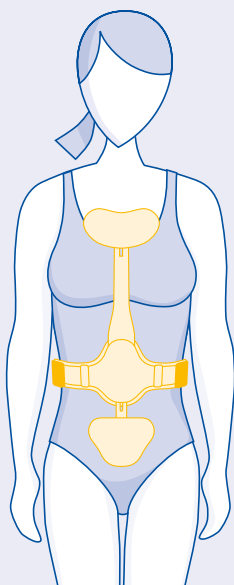
Orthosis Size



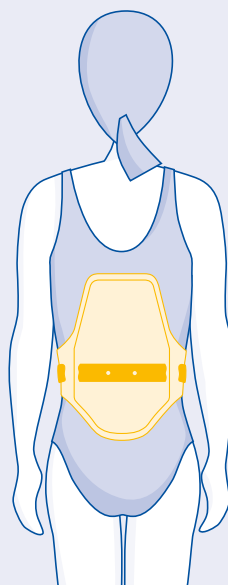
Available in four sizes. Size selection is based on waist circumferences as follows:

Art. No.	for waist circumference (in cm)
28R14=1	105 - 120
28R14=2	90 - 105
28R14=3	75 - 90
28R14=4	60 - 75

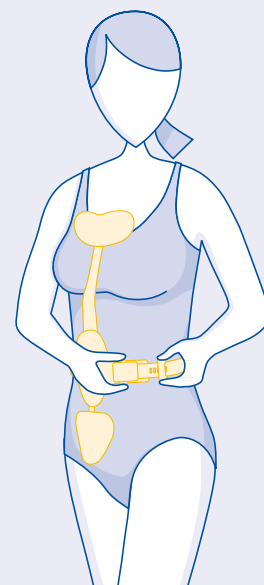
Front view



Back view



Side view





Construction and Adjustment of the 28R16

The Hyperextension Orthosis is delivered ready for direct application and adjustment. The orthosis frame consists of a sternal pad, side parts and a pelvic pad. These parts are covered with foam. A tiltable sternal pad provides an automatically positions to the required angle. In addition, the orthosis can be adjusted using the sternal upright and the side parts. The position of the pelvic band can be fixed on both sides. The whole frame of the orthosis is made of plastic-coated aluminum.

The waistband is connected to the back pad using a shifting adapter. Thanks to the easy-to-use closure, the orthosis can be easily applied and removed. The orthosis is adjusted

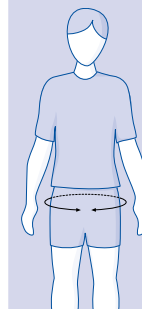
by an orthotist. He takes the patient's body measurements. Then he uses this data to choose an appropriate size orthosis component kit.

Once the orthotist has applied the hyperextension orthosis, the doctor checks the pressure and position of the pads, the pelvic band and the waistband. The doctor also checks for optimal fit and ensures that the hyperextension effect of the orthosis is also given with the patient sitting. An optimal effect can only be achieved if the orthosis is always fitted snugly to the body.

Advantages

- Individualized adjustment of circumference and height
- Flexible pelvic band that can be fixed into place
- Movable sternal pad
- Foam padding with hook and loop closure
- Closure is easy to use
- Materials are gentle on the skin
- Light and water-resistant

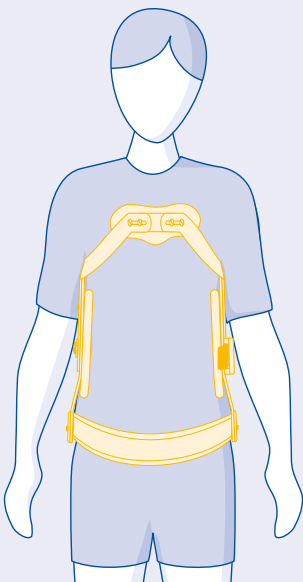
Orthosis Size



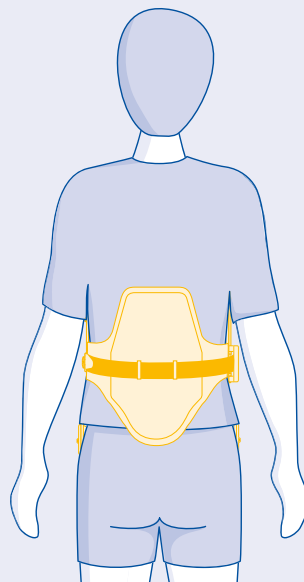
The hyperextension orthosis in frame design is available in four sizes. Size selection is based on pelvic circumferences as follows:

Art. No.	for pelvic circ. (in cm)
28R16=S	60 - 75
28R16=M	75 - 90
28R16=L	90 - 105
28R16=XL	105 - 115

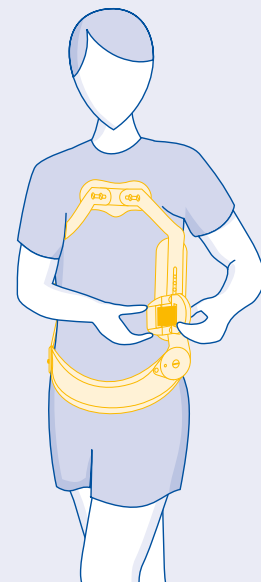
Front view



Back view

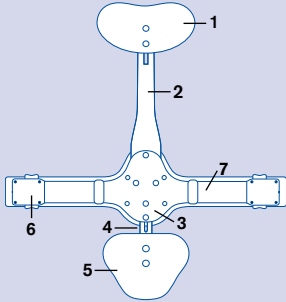


Side view



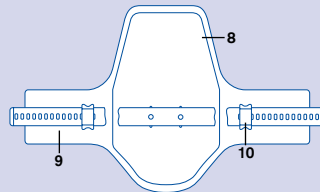


Hyperextension Orthosis 28R14



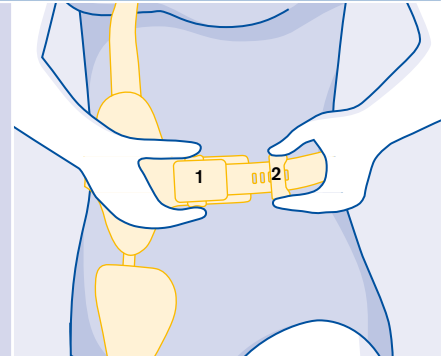
Front part of the orthosis

- 1 Sternal pad
- 2 Thoracic bar
- 3 Padded base plate with two closures
- 4 Ventral Bar
- 5 Symphysis pad
- 6 Closure
- 7 Protective clip



Back part of the orthosis

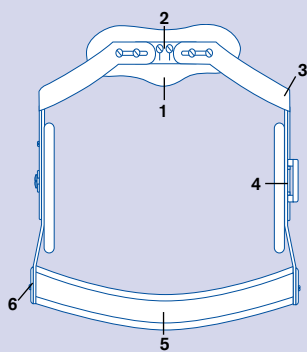
- 8 Lumbar pad
- 9 Waistband with lock openings
- 10 Lock positioner



Closure part of the orthosis

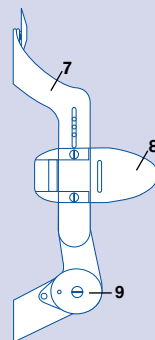
- 1 Ergonomic ratchet closure
- 2 Lock positioner on waistband

Hyperextension Orthosis 28R16



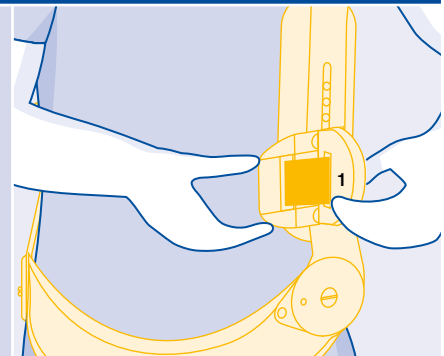
Front part of the orthosis

- 1 Tiltable sternal pad
- 2 Sternal upright
- 3 Side rails
- 4 Closure lever
- 5 Pelvic band
- 6 Rotation connector



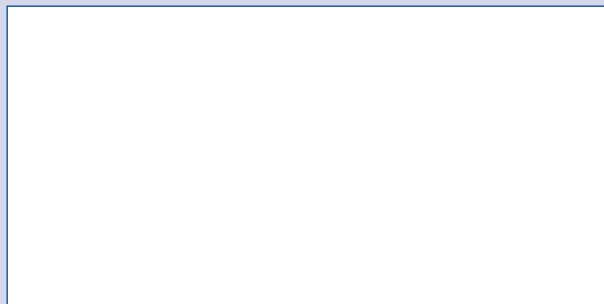
Side parts of the orthosis

- 7 Side rails
- 8 Closure lever
- 9 Rotation connector



Closure part of the orthosis

- 1 Closure lever



We would be glad to help you if you have additional questions or requests.

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