

*Dynamic
Spinal
Off-loading
Brace*

TLSO-SCOLIOSIS BRACE

**TECHNO
SPINE**[®]
TLSO-SCOLIOSIS BRACE

BECKER



The TechnoSpine TLSO-Scoliosis Brace has been specifically developed to reduce postural imbalance and pain in Scoliosis patients.

The brace is designed to overcome the long-standing effects of Adolescent Idiopathic Scoliosis by facilitating dynamic postural improvement into adulthood. It can also be used for DeNovo Scoliosis.

The ultimate aim of any postural improvement being to;

- Reduce Pain
- Improve Posture
- Improve Mobility
- Reduce Progression

Thus reducing high-cost and high-risk painkillers and surgery.

**Dynamic
Spinal
Off-loading
Brace**

**Lumbar
Sacral Posterior
Adjustment /
Tensioning
Drawstring
System**

The pace and amount of improvement in an individual patient's posture and pain, both during brace wear and carryover after brace use, very much depends upon the rigidity of the spine and amount of degenerative change, which is linked to the type of scoliosis and the patient's age.

Scoliosis in adults may be present due to Adolescent Idiopathic development in childhood or De Novo degenerative development in later life (typically age 50+). Prevalence of the two forms vary significantly with age, De Novo being the most common in adults age 60+; estimated to range from 25-30% in this age group.

Pain is by far the most significant issue for De Novo scoliosis patients, however pain may also be a significant issue for much younger patients with poor posture and pain related to Adolescent Idiopathic Scoliosis; both may benefit from using the TechnoSpine TLSO-Scoliosis Brace.

Long term research^{1,2,3,4} into adult scoliosis has somewhat surprisingly shown that the level of pain experienced by patients has no direct correlation with Cobb magnitude. Postural imbalance in the coronal and sagittal plane does, however, have a high correlation with the level of pain.

Whilst poor posture may intuitively appear to play a part in back pain, it is only in the last 10 years or so that improved scientific understanding has enabled us to design an effective modular brace that is customisable to specifically target the most relevant spinal region and plane of motion for individual patients.

References:

1. "Adult Scoliosis - A Quantitative Radiographic and Clinical Analysis", Schwab et al. Spine 2002
2. "Correlation of Radiographic Parameters and Clinical Symptoms in Adult Scoliosis" Glassman, et al. Spine 2003
3. "Natural History of Progressive Adult Scoliosis" Marty-Pourmarat et al. Spine 2007
4. "Scoliosis in the Elderly: A Follow-Up Study" Robin et al. Spine: July-August 1982

TLSO-SCOLIOSIS BRACE



A "Posture Type" chart is used to identify the correct patient specific brace configuration. TechnoSpine defines Posture Types (A-H), which cover the most common posture types associated with Scoliosis. Selecting the most appropriate Posture Type and its associated brace configuration is possible by postural evaluation alone. Further confirmation may be achieved by evaluation of radiographs if available.

TechnoSpine TLSO-Scoliosis Braces are available in 3 sizes that are adjustable to fit most patient sizes (32"-56" Hip) and are supplied in a generic non-specific kit form.

Following one of three simple postural evaluation methods, Posture Type selection can be made referencing the brace indications chart. Comprehensive step by step professional fitting instructions are provided for customising the brace.

The resulting fully customised TechnoSpine TLSO-Scoliosis Brace will specifically target the individual patients' spinal imbalance, improving posture, reducing pain and improving quality of life.



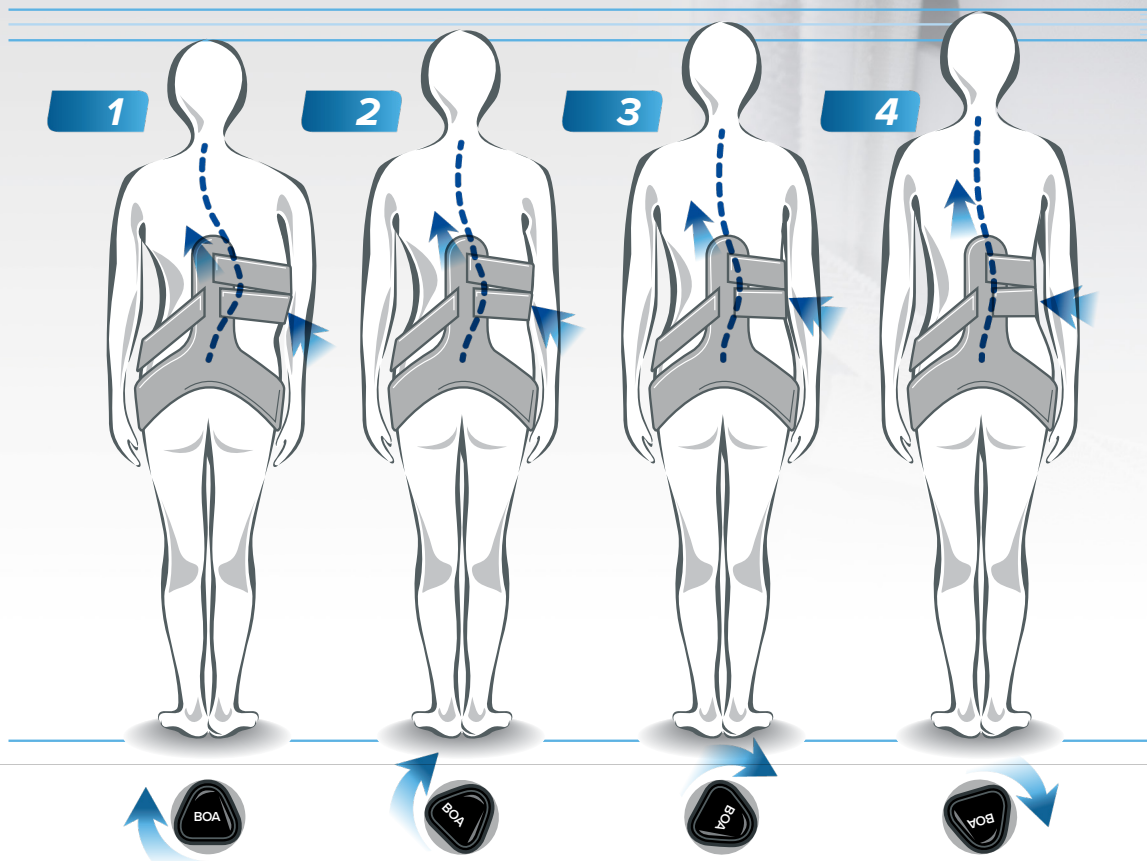
Large Lateral Pad
comfortably
improves spinal
realignment

How it works...

The sequence below shows postural improvement achievable over time, in patients treated with TechnoSpine TLSO-Scoliosis Brace.

Typically

Small changes in Posture → Large Reduction in Pain

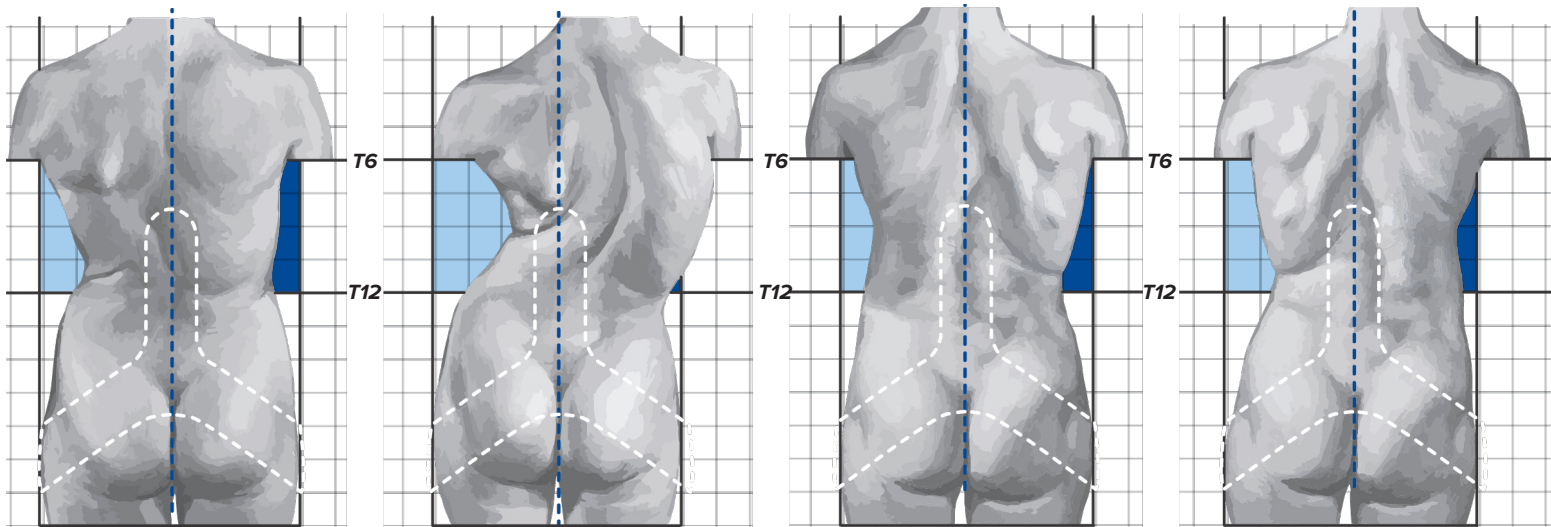


In the case of a flexible right thoracolumbar scoliosis (shown in the diagram opposite), a reduction in the right lateral shift of the thorax together with elongation of the trunk may be achieved. Some degree of postural change is possible in the majority of patients over time, resulting in lasting improvement of coronal imbalance. In turn such postural improvements will provide some degree of pain reduction in most patients.

"For the purpose of illustration the degree of postural change is far greater than would typically be seen"

TechnoSpine TLSO-Scoliosis Brace Posture Types

Indications - **right** brace configuration



POSTURE TYPE A

Thorax T6-T12 Moderate -
Significant **Right Imbalance**
Relative to hips

(Typically associated with Right major
lumbar & thoracolumbar curves with or
without minor Left thoracic curve)

POSTURE TYPE B

Thorax T6-T12 Significant
Right Imbalance
Relative to hips

(Typically associated with Right major
Thoracic curves with or without
minor Left Lumbar curve)

POSTURE TYPE C

Lower Thorax T6-T12 Slight -
Moderate **Right Imbalance**
Relative to hips

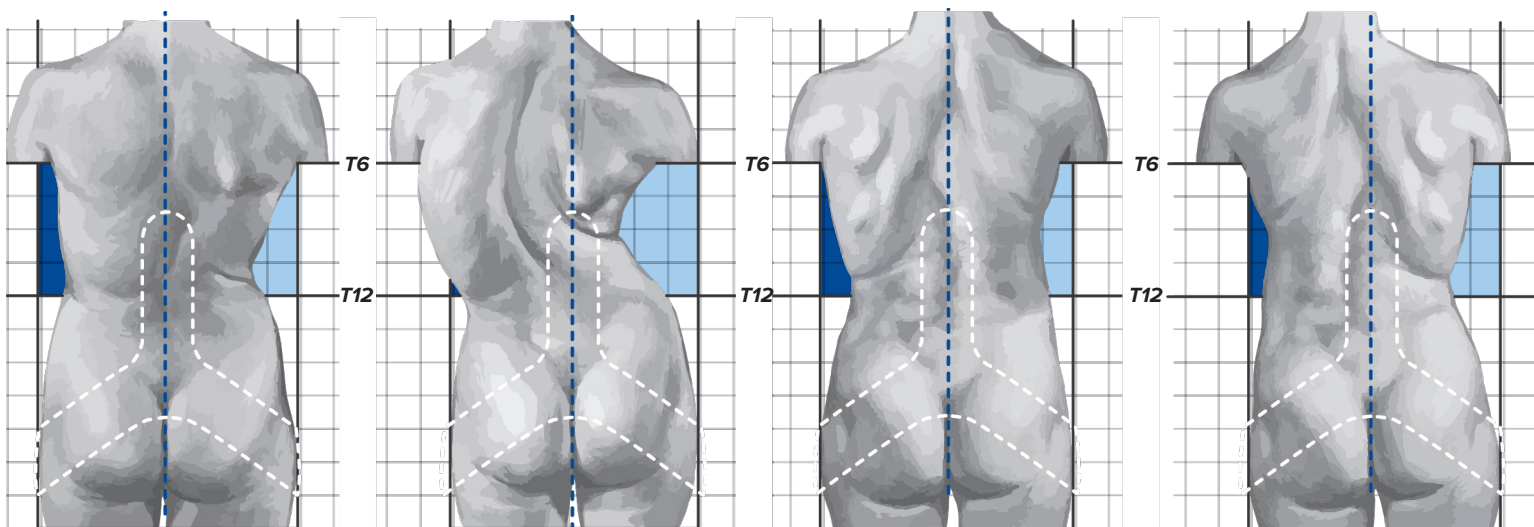
(Associated with major double
curves. Example illustrated Right
Thoracic Left Lumbar)

POSTURE TYPE D

Lower Thorax T6-T12 Slight -
Moderate **Right Imbalance**
Relative to hips

(Associated with major double
curves Example illustrated Left
Thoracic Right Lumbar)

Indications - **left** brace configuration



POSTURE TYPE E

Thorax T6-T12 Moderate -
Significant **Left Imbalance**
Relative to hips

(Typically associated with Left major
lumbar & thoracolumbar curves with or
without minor Right thoracic curve)

POSTURE TYPE F

Thorax T6-T12 Significant
Left Imbalance Relative to
hips

(Typically associated with Left major
Thoracic curves with or without
minor Right Lumbar curve)

POSTURE TYPE G

Thorax T6-T12 Slight -
Moderate **Left Imbalance**
Relative to hips

(Associated with major double
curves. Example illustrated Left
Thoracic Right Lumbar)

POSTURE TYPE H

Thorax T6-T12 Slight -
Moderate **Left Imbalance**
Relative to hips

(Associated with major double
curves Example illustrated Right
Thoracic Left Lumbar)

Design features...

- Superstructure allows virtually unrestricted forward flexion
- Inflatable Lumbar Pad improves Lumbar Lordosis
- Large Lateral Pad improves spinal realignment without discomfort
- Unique Tension Band System maintains optimal Pad position and pressure without unnecessary restriction of movement
- **BOA® Patented Technology** allows precise adjustment by the user for optimal comfort and pain relief
- **FidLock® Patented Technology** allows for ease of fastening and unfastening by even the most manually challenged patients
- Posterior Draw-String adjustment with bilateral ergonomic pull tabs for Lumbar belt tensioning allows for:
 - Effortless tensioning by the patient
 - Optimal compression/support
 - Maximum stability
 - Optimal pain relief
- Bilateral Trochanter Pads for optimal pelvic stability and even force distribution



***Inflatable
Lumbar Pad
improves
Lumbar
Lordosis***



Crocodile Velcro
Elastic Tension
Band Connector



BOA Band
Tensioning Dial



Large cushioned Lateral Pad used
to apply pressure to either side of
the rib cage via the elastic tension
bands



Lumbar Sacral
Tensioning drawstrings
with left and right pull
loops



Fidlock Tension Band
Connector



Lumbar Sacral
Belt with Anterior
Velcro Closure

Trochanter
Pads



*Clear
step-by-step
fitting instructions
included*

Sizing

Measure full
circumference at
widest point of hips

Size	32" ← Hip Circumference → 56"	Front Depth	Overall Depth*
Small	32"-40" (813mm-1016mm)	6" (152mm)	15½" (394mm)
Medium	40"-48" (1016mm-1220mm)	7" (178mm)	17" (432mm)
Large	48"-56" (1200mm-1422mm)	8" (200mm)	18" (457mm)

*NB. Overall depth is from top back edge of brace to lower edge of trochanter pads

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635 Executive Dr. Troy, MI 48017
P 800-521-2192 248-588-7480
BeckerOrthopedic.com f t in