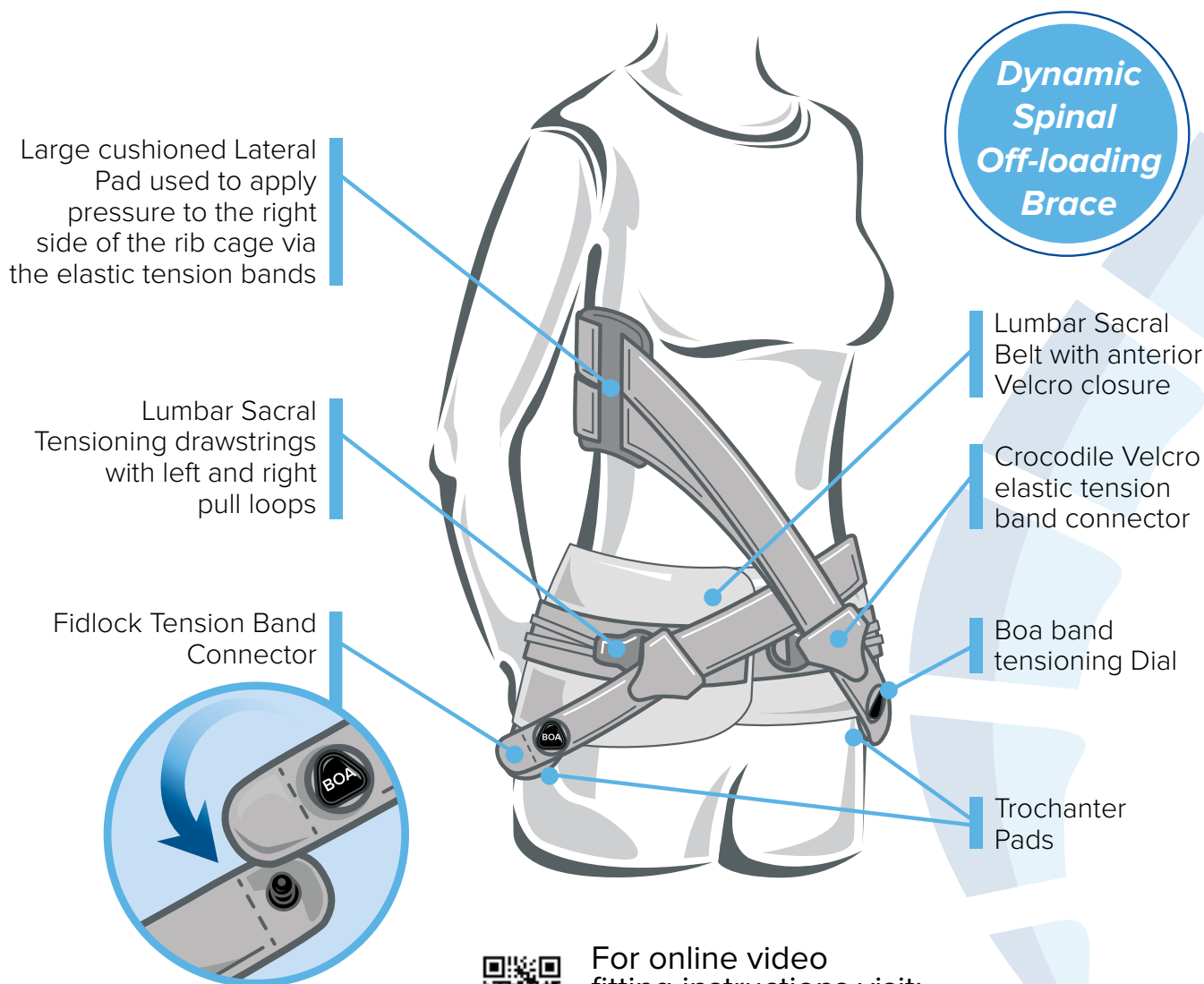


Professional customisation/fitting instructions

TLSO-SCOLIOSIS BRACE



For online video
fitting instructions visit:
www.technospine.org

Patient Suitability Assessment:

Considering patient suitability for a TechnoSpine TLSO-Scoliosis Brace the following need to be considered:

- Is there a diagnosis of scoliosis?
- Is the main complaint pain?
- Does the patient have poor posture?
- Is there a history of progression? Identifiable via;
 - I. Worsening of the Cobb angle(s) radiologically
 - II. Increase in Postural Deformity
 - III. Increasing Pain
 - IV. Decreasing Mobility
- Does the patient have any contraindications to brace treatment, such as:
 - I. Constant un-remitting pain
 - II. Inability to self fit the brace
 - III. No sagittal or coronal imbalance

Patient Posture Type Selection

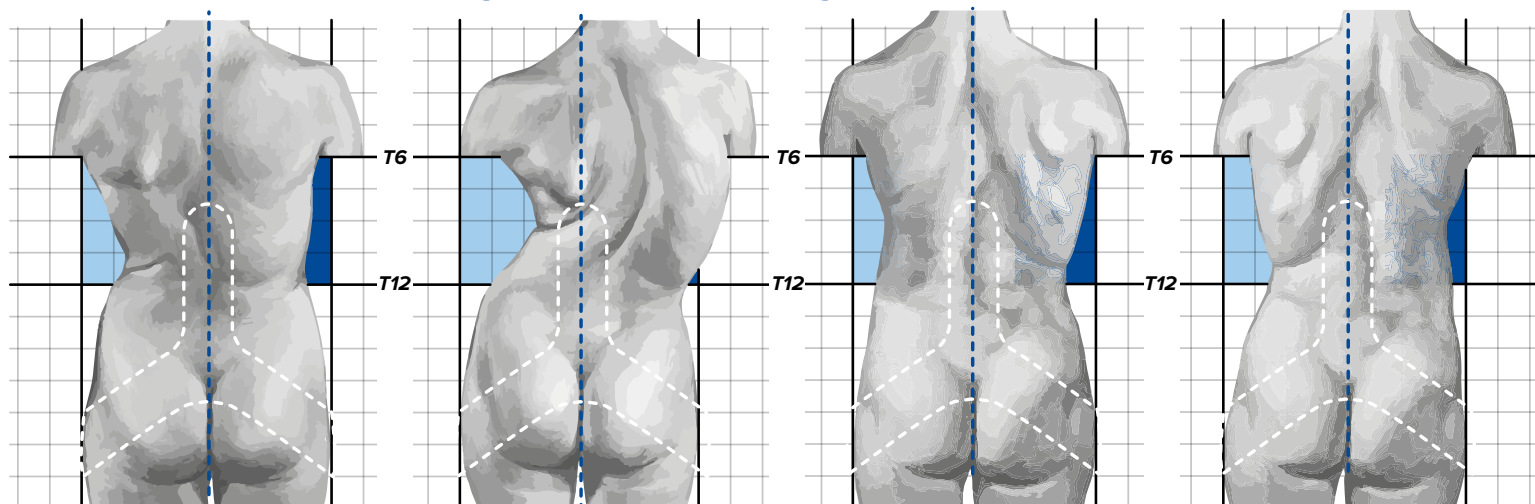
The TechnoSpine TLSO-Scoliosis Brace is not supplied in a posture specific form; postural and/or radiological evaluations need to be performed in order to customise the brace to the specific patient needs.

- Clinical Postural Assessment may be carried out to determine spinal balance (coronal & sagittal) using one of the following methods:
 - I. Clinical PA & Lateral Digital Images may be taken with the patient in front of a Grid Wall, as shown in our TechnoSpine Brace classification/configuration charts.
 - II. Alternatively a laser line projected onto the centre of the patient's back (for coronal balance) or onto the midline of the body (for sagittal balance) will provide a reference for the determination of the coronal or sagittal balance of the patient's trunk.
 - III. The central section of the Posterior Superstructure of the TechnoSpine Brace may itself act as a vertical reference line in order to determine the coronal or sagittal balance.
- Clinical Posture may then be evaluated using the vertical reference lines to determine:
 - I. The direction of coronal shift Right or Left of the lower thorax (T6-T12) in relation to the hips.



- II. The magnitude of the coronal shift (imbalance).
 - III. The direction and magnitude of any sagittal imbalance.
- The patient's specific postural pattern may then be matched to one of the defined Posture Types A-H in the TechnoSpine brace configuration selection chart.
- Please note:** Radiological evaluations may be used, if available, to confirm the posture type classification, but these are not essential in most cases. Radiological assessments that can be useful include:
- I. Frontal PA Image: number, levels, Cobb magnitude & direction of curves
 - II. Frontal PA Image: coronal balance, global (T1-S1) and regional (T12-S1)
 - III. Sagittal Lateral Image: Lordosis & Kyphosis Cobb magnitudes
 - IV. Sagittal Lateral Image: Sagittal Balance
- Once the patient's Posture Type (A-H), has been determined, Brace Customisation may begin.

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

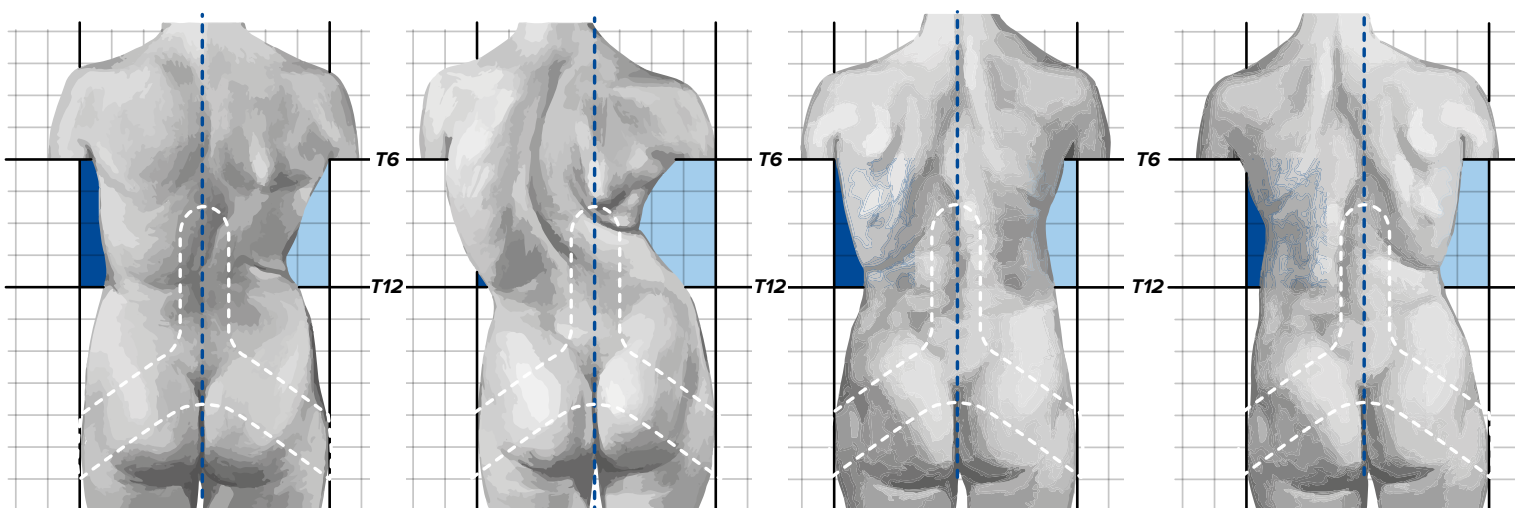
(Associated with major double curves. Example illustrated Right Thoracic Left Lumbar)

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

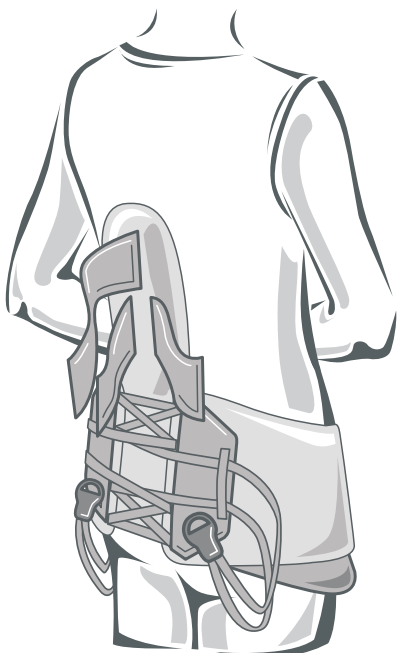
(Associated with major double curves. Example illustrated Right Thoracic Left Lumbar)

Customisation of Posterior Superstructure and Lumbar Sacral Belt



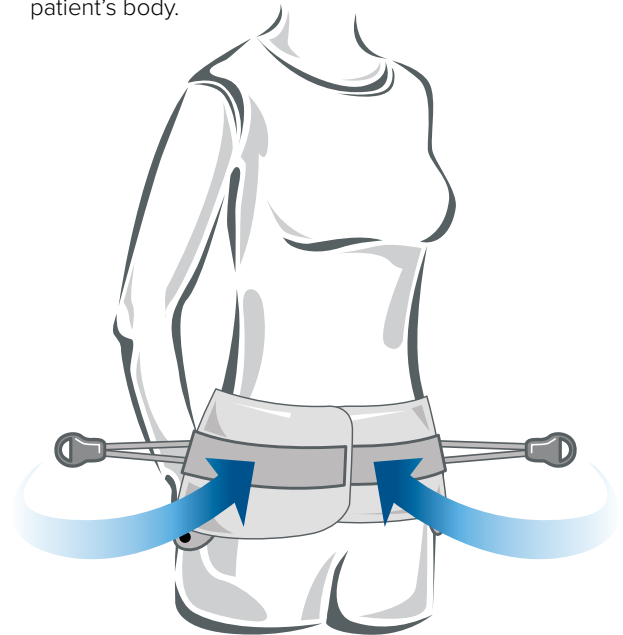
• Fitting the Posterior Superstructure to the patient

- I. First position the trochanter pads so that they just cover the trochanters on each side.
- II. Hand-mould the lateral wings to achieve a snug clip fit over the hips.
- III. Hand-mould the posterior upright to follow the patient's natural sagittal profile or to the profile you wish your patient to move towards.



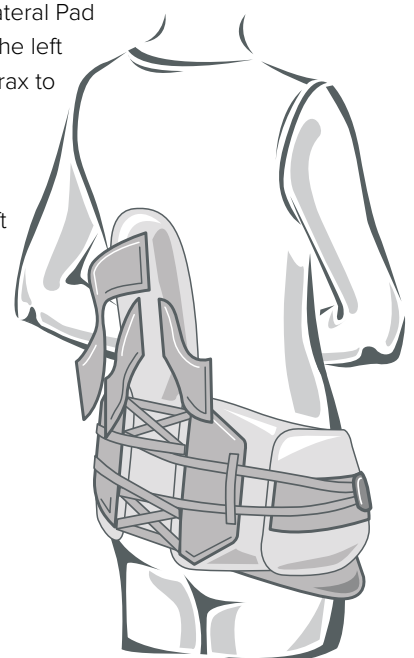
• Fitting the Lumbar Sacral Belt

- I. Position the Posterior Superstructure against the back and around the hips, with the drawstring adjustment open to the maximum.
- II. Connect the anterior left & right Lumbar Sacral Belt sections together at the front.
- III. Connect the right and left Lumbar Sacral panels at the rear to the posterior drawstring section of the belt closing the belt snugly around the body, adjusting the angle of attachment to allow for the patient's hip/waist anatomy.
- IV. Pull the drawstrings to tighten the belt firmly around the patient's body.



• Decision whether to fit a Left or Right Lateral Pad

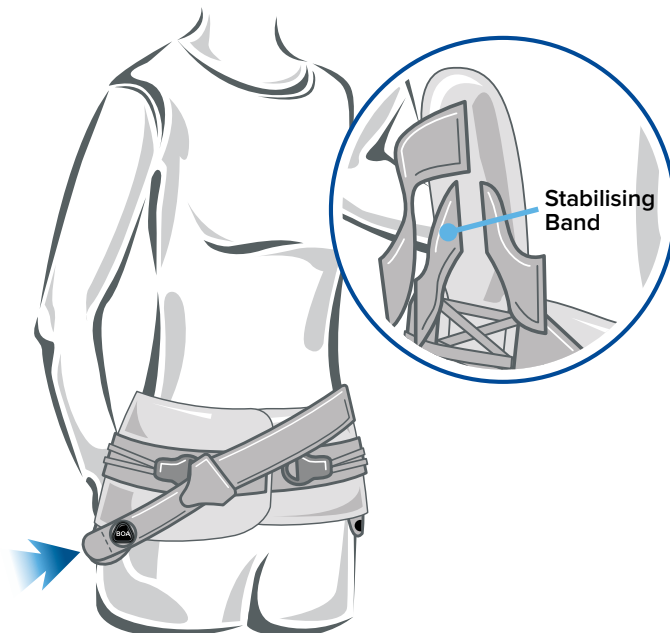
- I. With the central section of the Posterior Superstructure fitted vertically it should be possible to identify if the lower thorax is shifted to the left or the right (see Posture Type images on page 3).
- II. Decide whether the Lateral Pad needs to be fitted on the left or right side of the thorax to off load it towards the midline in the coronal plane.
- III. Follow the Right or Left Brace Configuration instructions on the following pages.



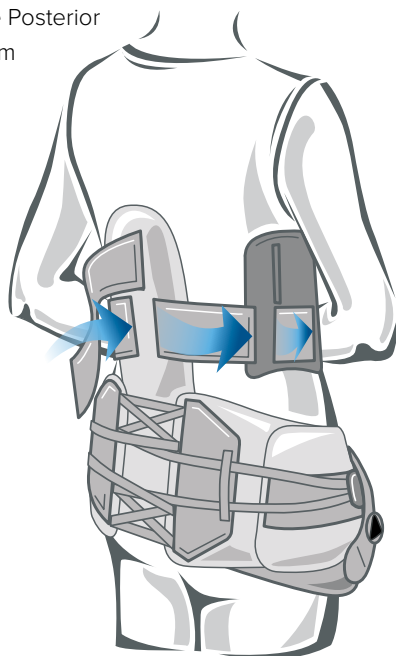
Right Brace Configuration

• Fitting the Lateral Pad to apply force to the Right lower Thorax

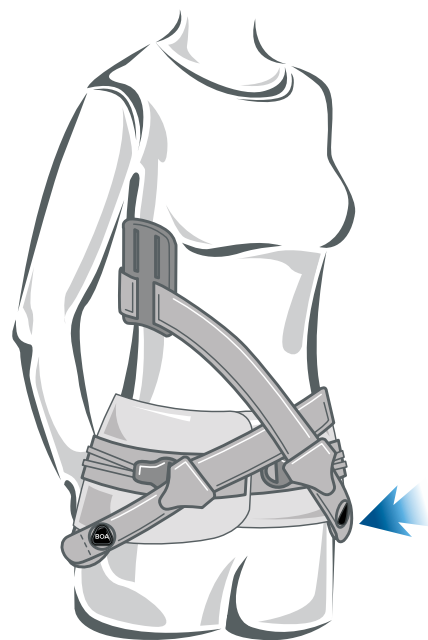
- I. Connect the lower tension band emerging from the left side of the central section of the Posterior Superstructure to the single jaw crocodile clip Boa strap A.
- II. Attach the Boa strap Fidlock male end to the female Fidlock connector over the right hip.
- III. This becomes the Stabilising Band.



- IV. With the Boa strap in its fully extended position pull the tension band snugly around the body, passing the excess band through the double vertical slots in the Posterior Superstructure from left to right.



- V. Pass the right end of the lower tension band through the lower two slots of the Lateral Pad and position the Lateral Pad against the right side of the patient's lower thorax.



- VI. Pass the remainder of the lower tension band snugly across the abdomen to attach into the double crocodile clip of the opposite Boa strap B. This Boa strap should also be in the fully extended position; the lower tension band should easily slide through the Posterior Superstructure to balance the tensions evenly on both sides.



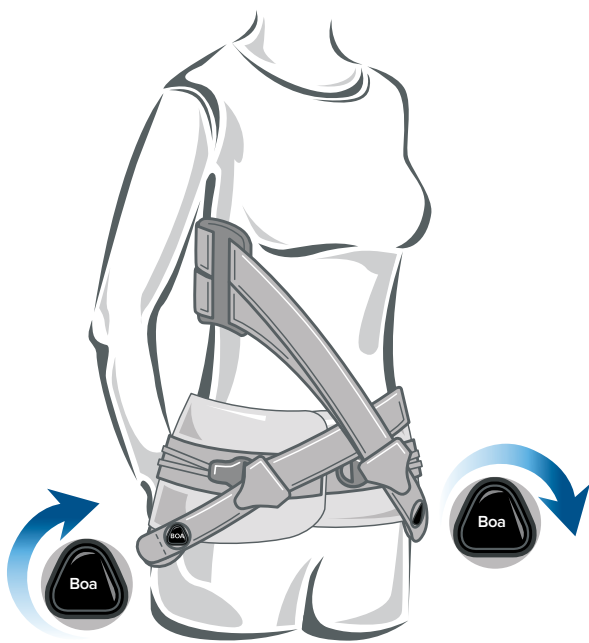
- VII. With the lower tension band fitting snugly and evenly around the body, cut to length and close the end into the crocodile connector.

VIII. Next pass the upper tension band through the upper two slots of the Lateral Pad and pull the upper tension band snugly around the body, keeping the Lateral Pad against the right lower thorax and connect to the crocodile clip. Once the band tensions are fully balanced and even to the opposite band, cut to length and close the crocodile clip.



IX. Now tension the lower Stabilising Band using the Boa dial on the right hand side.

X. Next tension the upper Tension Band using the Boa dial on the left hand side, this should quickly apply pressure to the Lateral Pad and encourage the patient to shift to the left improving their coronal imbalance.

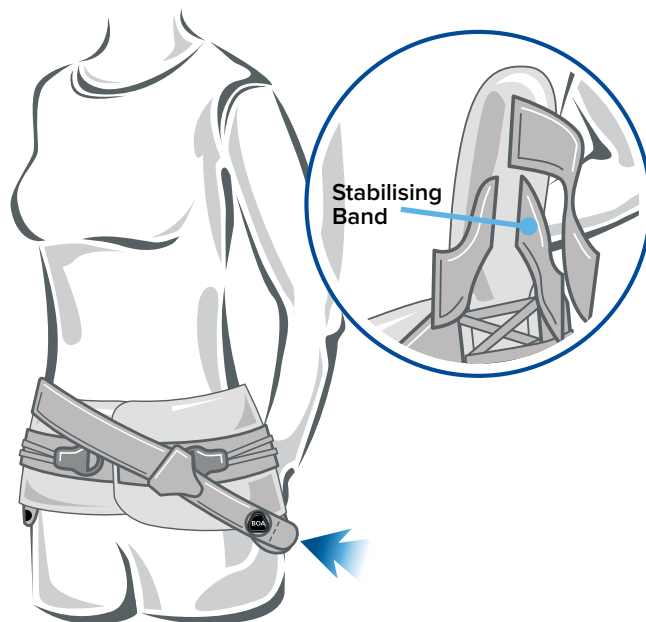


XI. The tensions in the Stabilising and Lateral Pad Tension Bands should remain equally balanced; if greater tension is required both Boa dials must be adjusted.

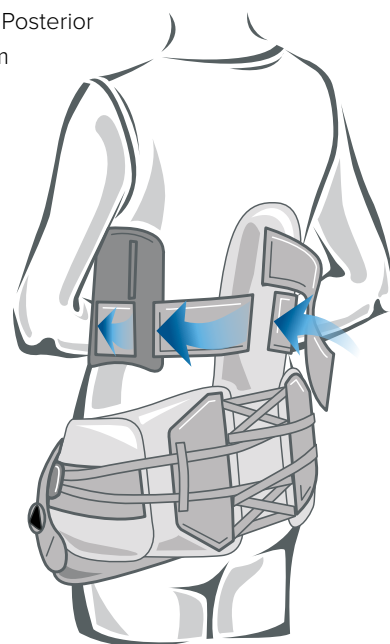
Left Brace Configuration

• Fitting the Lateral Pad to apply force to the Left lower Thorax

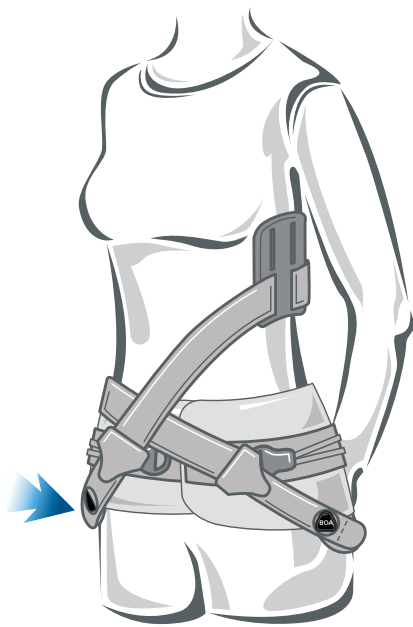
- I. Connect the lower tension band emerging from the right side of the central section of the Posterior Superstructure to the single jaw crocodile clip Boa strap A.
- II. Attach the Boa strap Fidlock male end to the female Fidlock connector over the left hip.
- III. This becomes the Stabilising Band.



- IV. With the Boa strap in its fully extended position pull the tension band snugly around the body, passing the excess band through the double vertical slots in the Posterior Superstructure from right to left.



- V. Pass the left end of the lower tension band through the lower two slots of the Lateral Pad and position the Lateral Pad against the left side of the patient's lower thorax.



VI. Pass the remainder of the lower tension band snugly across the abdomen to attach into the double crocodile clip of the opposite Boa strap B. This Boa strap should also be in the fully extended position; the lower tension band should easily slide through the Posterior Superstructure to balance the tensions evenly on both sides.



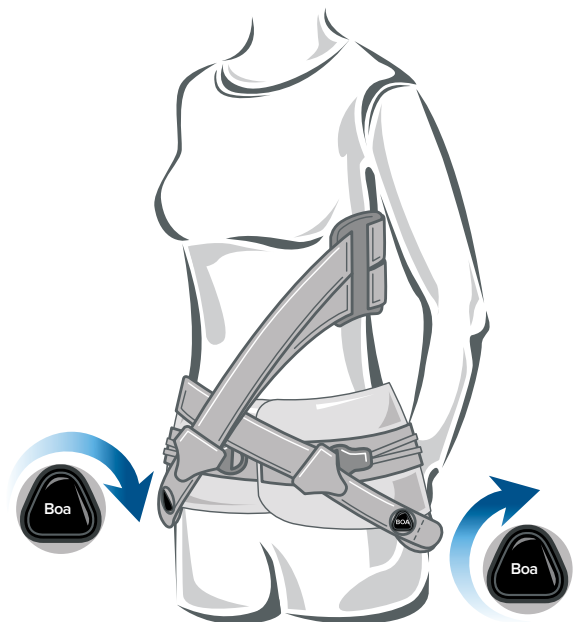
VII. With the lower tension band fitting snugly and evenly around the body, cut to length and close the end into the crocodile connector.

VIII. Next pass the upper tension band through the upper two slots of the Lateral Pad and pull the upper tension band snugly around the body, keeping the Lateral Pad against the left lower thorax and connect to the crocodile clip. Once the band tensions are fully balanced and even to the opposite band, cut to length and close the crocodile clip.



IX. Now tension the lower Stabilising Band using the Boa dial on the left hand side.

X. Next tension the upper Tension Band using the Boa dial on the right hand side, this should quickly apply pressure to the Lateral Pad and encourage the patient to shift to the right improving their coronal imbalance.

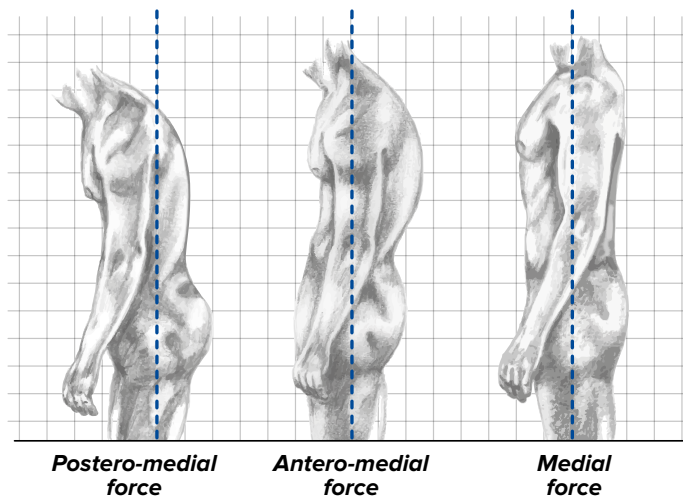


XI. The tensions in the Stabilising and Lateral Pad Tension Bands should remain equally balanced; if greater tension is required both Boa dials must be adjusted.

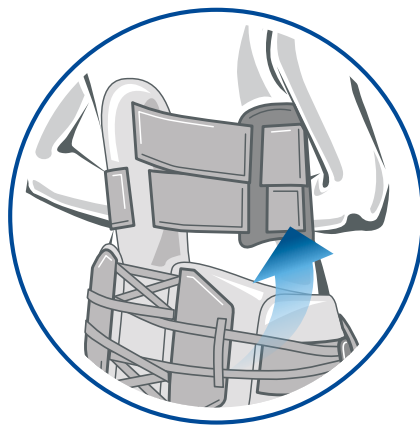
Considerations for optimisation of TechnoSpine fitting

The following considerations when fitting TechnoSpine apply to both the left and right brace configurations.

- **Optimal Lateral Pad Position** - The Lateral Pad can be positioned so that it provides a lower or higher force onto the thorax, and by slightly altering the plane at which it makes contact with the thorax, it can also apply the force in a purely medial, antero-medial or postero-medial direction depending upon the needs of the patient (See sagittal images below for force direction recommendations). The position of the Lateral Pad can be maintained by adding a self-adhesive Velcro coin (provided) to the plastic surface of the Lateral Pad underneath the band/s.



- **Optimal Stabilising Pad Position** - The Stabilising Pad can be fixed into position by adding a self-adhesive Velcro coin (provided) to the plastic surface of the Lateral Pad underneath the band.



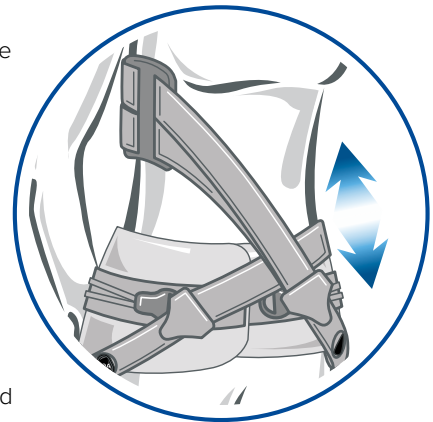
- **Use of the Inflatable Lumbar Pad & shaping of the Posterior Superstructure to improve Sagittal**

Imbalance - Frequently in degenerative lumbar and thoraco-lumbar curves there is loss of normal lumbar lordosis giving rise to sagittal imbalance. In such cases the Posterior Superstructure can be re-shaped to encourage lumbar lordosis.

Further improvement of the lumbar lordosis may also be achieved by inflation of the Lumbar Pad.



- **Waist Vs Ilium configuration of Stabilising Band** - It may be desirable to pass the stabilising band around the body in the waist groove when counter pressure on the lower trunk is required against the action of the Lateral Pad. When no counter pressure on the lower trunk is required the stabilising band can be passed around the body on the Ilium.



- **Optimal Tension Band Force for postural improvement and pain relief** - If sufficient force cannot be applied through the Lateral Pad by tensioning of the single ply tension band alone (cutting to length/shortening using the Boa dial) then an additional upper tension band maybe added. This may be the case when the spine is very stiff, has a large coronal imbalance or there is low muscle tone.

Manufactured by:

THE **SPINECORPORATION**
LIMITED

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www.technospine.org

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