

Trunk and Cervical Orthoses(2)

Iqra nadeem

- Used in association L/L orthoses
- Worn to reduce disability caused by LBP, neck sprain, scoliosis, or other skeletal or neuromuscular disorders.
- Controlling spinal motion
- Patient with SCI benefit from trunk orthoses in two ways...
- Impart control of motion of lumbar region, with or with thoracic control.
- Compress abdomen to improve respiration

corset

- Sole goal is abdominal compression.... Then corset will suffice.
- Fabric orthosis
- No horizontal rigid structure.
- Although some have vertical rigid reinforcement.
- It covers lumbar and sacral regions or may extend superiorly as a thoracolumbosacral corset.

- Primary effect..... Increase IAP
- Although reduce frontal movements
- Some individuals find it relieve pain
- Increase IAP reduces stress on post. Spinal musculature..... Thus diminishing load on lumbar intervertebral disc.
- Long term reliance on corset promote **muscular atrophy** and **contracture** as well as **psychological dependence** on appliance.



Rigid orthoses

- Horizontal as well as vertical , rigid plastic or metal components.
- Motion limitation is accomplished by a series of three-point pressure systems, in which forces in one direction is counteracted by two forces in opposie direction.

Lumbosacral Flexion, Extension, Lateral control orthoses

- Typical example of a **rigid trunk** orthosis is lumbosacral flexion, extension, lateral control

(LS FEL) orthosis also known as a **knight spinal orthosis**

Includes a 1) **pelvic band**..... provide firm anchorage over the midsection of the buttocks,

2) **Thoracic band**..... Lie horizontally over the lower thorax without impinging on the scapulae.

The bands, which may be foam-lined rigid plastic or leather-up-holstered metal, are joined by a pair of

3) **posterior uprights**, which lie on either side of the vertebral spines.

- **4) Lateral uprights**:-

Placed at the lateral midline of the torso.

- 5) abdominal front /corset**

orthosis **restrains flexion** by a three-point system consisting of posterior directing force from top and bottom of abdominal front or corset & an anteriorly directed force from the midportion of the posterior uprights

- Extension is controlled by posteriorly directed force from the midsection of the abdominal front or corset and anteriorly directed force from thoracic and pelvic bands.
- The lateral uprights resist lateral flexion.

Other rigid (LS) orthosis are made entirely of polyethylene with removable replaceable liners.



- A **plastic lumbosacral jacket**..... Restrict motion in all directions.
- **Alternate version** combining the jacket with the LS FEL has been shown to be effective at controlling spondylolisthesis.
- Prevent Or reduce LBP..... controversial



Thoracolumbosacral flexion, Extension control orthoses

- **Taylor brace** (TLS FE) orthosis
- Pelvic band, post uprights terminating at midscapular level, an abdominal front or corset and axillary straps attached to an interscapular band.
- Reduces flexion:- post directed force from axillary straps and the bottom of the abdominal front
- And ant. Directed force from the midportion of post. Uprights.

- Extension resistance post. Directed force from midsection of abdominal front and ant directed force from pelvic and interscapular bands.
- Addition of lateral uprights..... TLS FEL
- A plastic thoracolumbosacral jackets limits trunk motion in all motions



