

Assessing Clinical Outcomes Of A Novel Seating Approach

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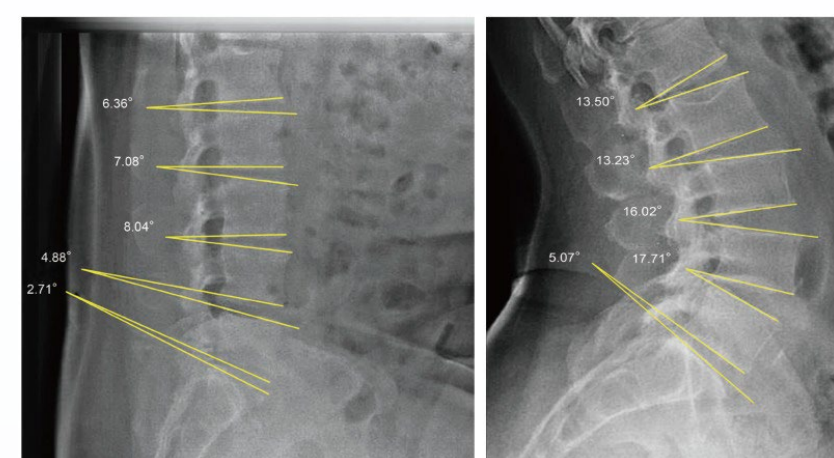
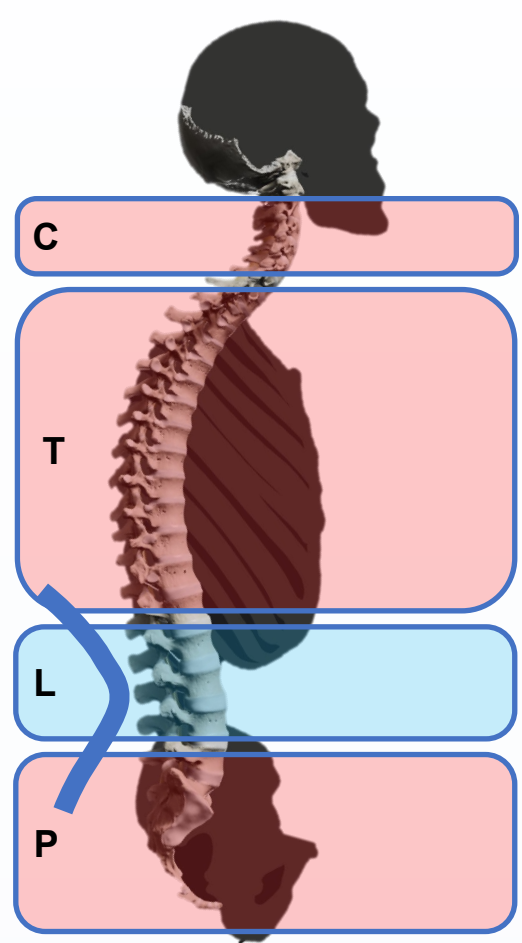
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INTRODUCTION

'Are we truly satisfied with the outcomes of current technology or do our end users deserve more?'

Current technologies for managing our client's posture include tilt-in-space, back support recline systems and after-market back supports providing PSIS and lumbar support. These technologies have benefited our clients for many years; however, seating remains challenging for a large population.

PSIS and Lumbar Support Limitations

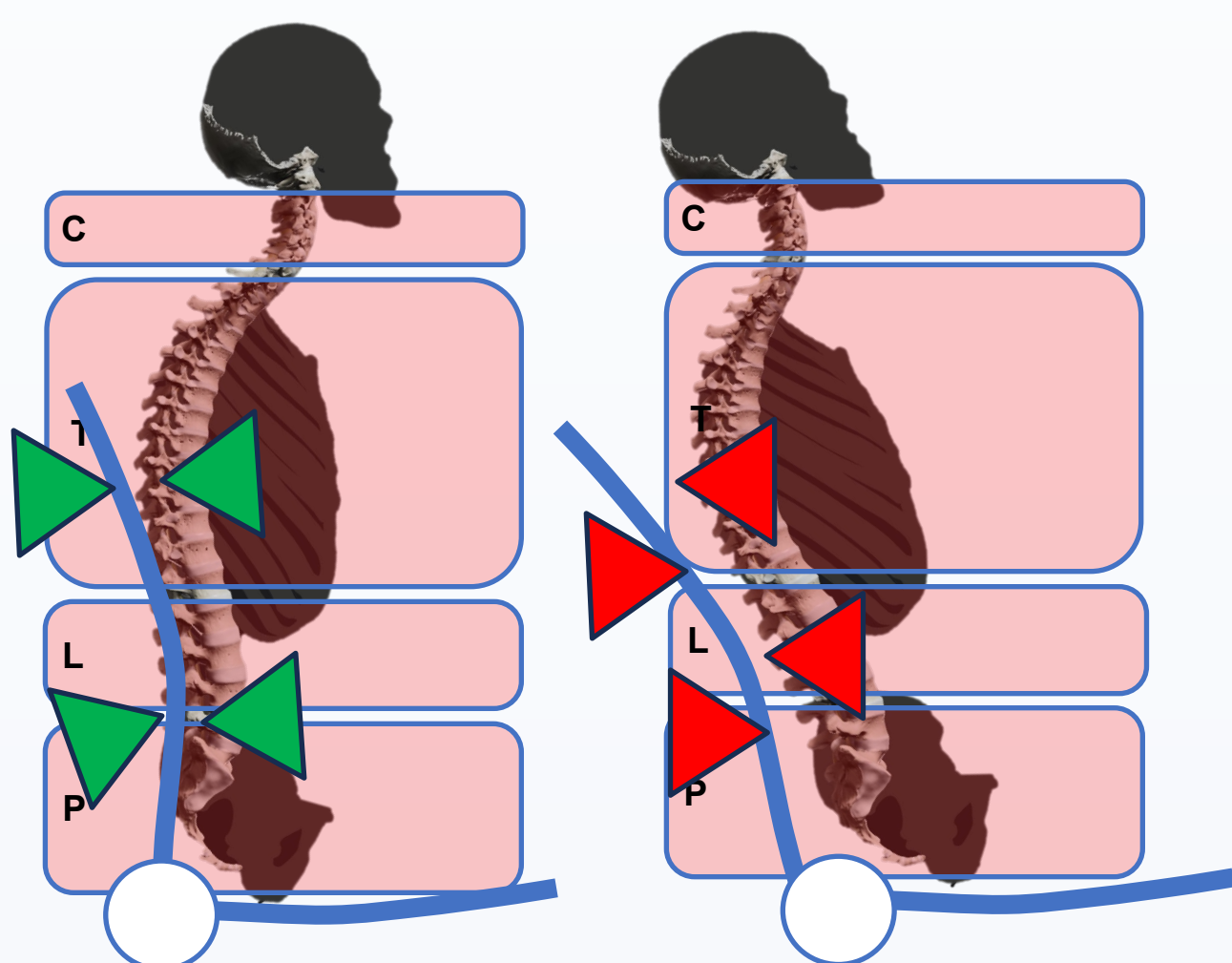


Each lumbar segment has a specific ROM so the Lumbar and PSIS support needs to have an exact shape and specific support



In addition, postural fatigue and postural variations need to be accounted for during the day for functional seating

Back Support Recline Limitations



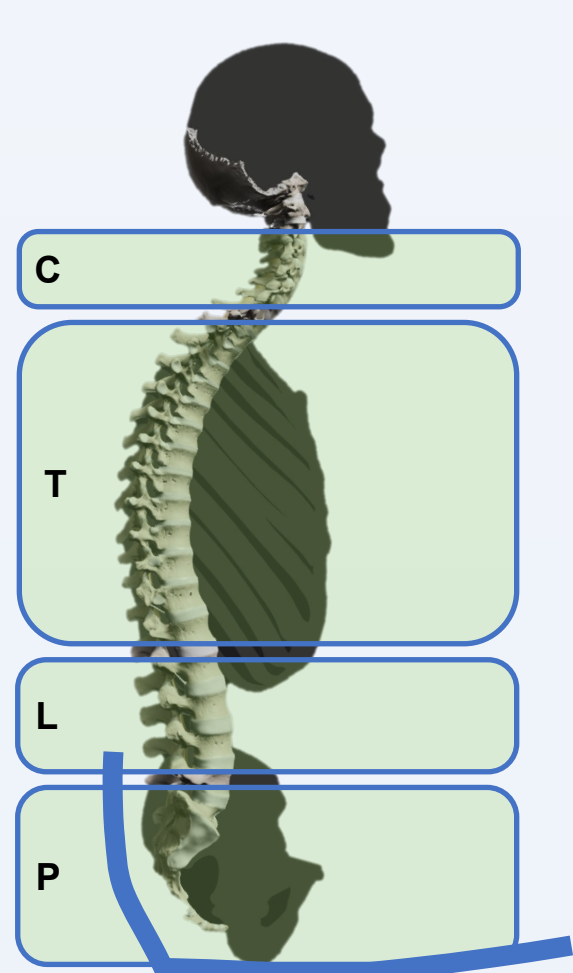
Back support recline introduces shear and friction, shifts laterals and head supports and leaves the PSIS unsupported since axis of movement is different than the movement of the user

OBJECTIVES

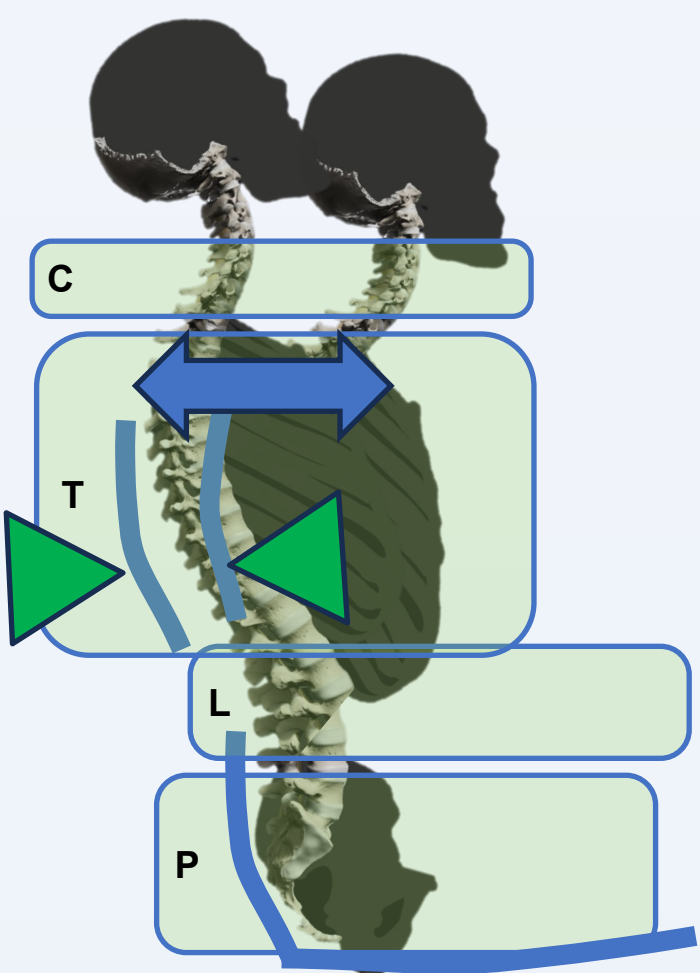
Not being satisfied with the current seating technology outcomes, Bart Van der Heyden (PT), invented and validated a novel ergonomic approach using Finite Element Analysis, resulting in a new way to manage posture which also provides postural variation.

METHOD / DESIGN

The back support is divided into a pelvic and thoracic section. When the thoracic segment is allowed to move in line with the movements of the spine, and the pelvis is made to stay in an optimal position, the user will better maintain overall seating posture and postural variation can be provided.

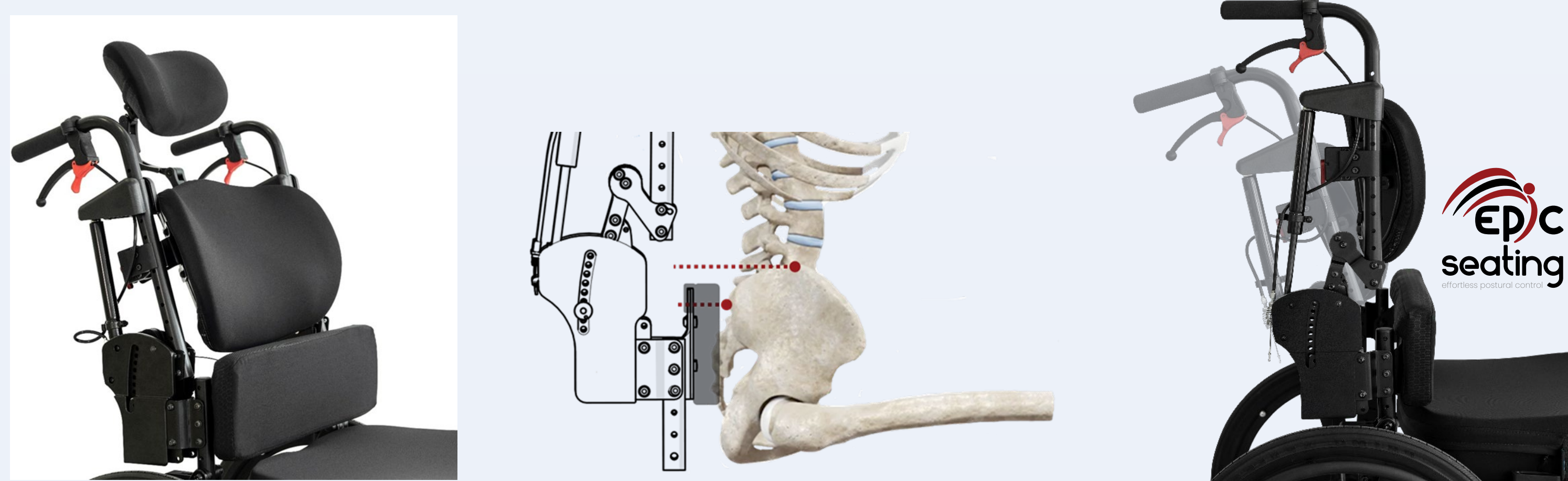


A fixed but adjustable pelvis support controls the pelvic to thigh angle



Thoracic segmentation following the axis of mobility of the spine generates lumbar extension, head position and postural variation without shifting lateral and head supports

This novel seating concept was brought to market by Stealth Products and is called EPiC seating. EPiC seating stands for Effortless Postural Control. EPiC seating is a postural management system which transforms standard back support and recline functions into active and passively adjustable posterior segmentation. Active adjustments means the EPiC seating system can self-adjust to tone and postural fatigue, passive adjustment means the caregiver can adjust without tools and instantly according to changes in postural needs.



RESULTS

Several hundreds of users and clinicians throughout the world have used the EPiC seating system by now and reported improved outcomes such as increased seating tolerance, improved head position, postural alignment, digestion, breathing, function, comfort fatigue and tone management with clients with progressive disorders such as MS, MD, ALS, Parkinson disease, clients with SCI, CVA TBI, Dystonia and kyphotic deformities.



CONCLUSIONS

EPiC Seating transforms the standard back support and recline function into active and passively adjustable posterior segmentation.

EPiC Seating is a "Postural Management System", allowing for the following functional benefits:

- Provides postural variation without shift in laterals / head support and tools
- Provides spine extension, postural control and head positioning minimizing shear forces
- Self-adjust during activities, tone or postural fatigue
- Can be adjusted during the day by caregiver for different functional and postural needs
- All elements remain relative to the body movement during postural variation
- Easy to use for care givers and clinicians

More info: <https://epic-seating.stealthproducts.com>



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