kinetrac DAVINCI

WORLD CLASS PRODUCT OF KOREA 1
세계일류상품

HANMED Hanmed.koreahq@gmail.com

HANMED

Hanmed Therapy solution

WORLD CLASS PRODUCT OF KOREA 1
세계일류상품

New Excellent Technology

KINETRAC DAVINCI

Spine Therapeutic Innovation!

인류 척추의 형상을 고려하여 인간형 만곡견인 감압이론을 구현한 Decompression System Kinetrac DAVINCI

견인과 동시 하지 굴곡신전 기능
Traction With Flexion / Extension of Hip joint 0°~ -20°

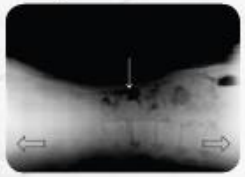
견인과 동시 척추중심축 기준 회전 기능
Traction With Twist directly focused on the Axis of Spine 0°~ -25°

견인과 동시 경추 굴곡신전 기능
Traction With Flexion / Extension of Cervical Spine +5°~ -15°

견인과 동시 경추중심축 기준 회전기능
Traction With Twist directly focused on the Axis of Cervical Spine 0°~ ±15°

Dynamic distraction Toolbox
실시간의 가변적 부하에도 정량적 견인력을 유지하는 Dynamic distraction power

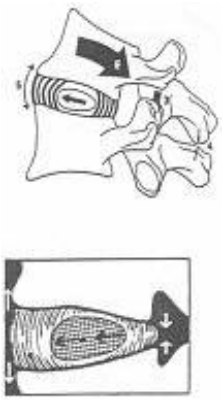
Decompression Function

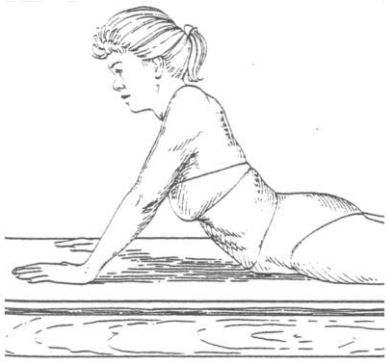


견인과 동시 타겟 전만곡 감압 기능 Traction With Target Lordosis Decompression System

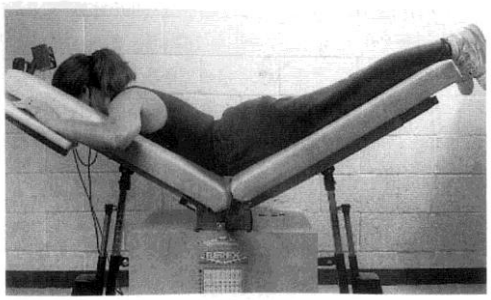
KNX-7000 Back Ground

Extension pressuring technology as one of important technologies in treating spinal has been used for thousands of years in chiropractic etc





How to correct disc extension by Mckenzie



Auto-extension developed by Mckenzie

Dr. Cyriax의 신전 교정법

-Traction Power 없는 신전요법은 불충분 요건 임!

?

필요 충분조건 ?

-신전요법에서 Traction 과 동시에 신전압박기술을 적용하다면 ?

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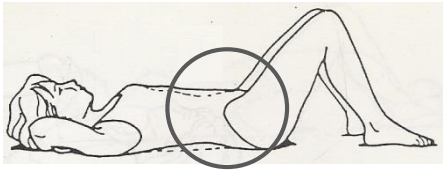
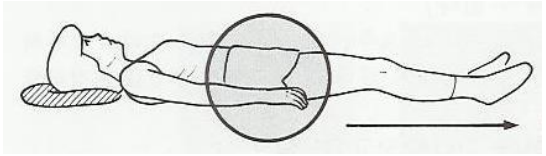
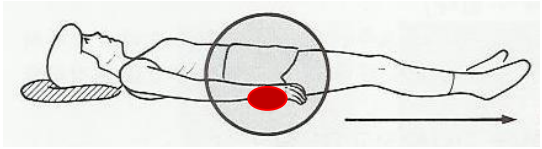
The human Spine

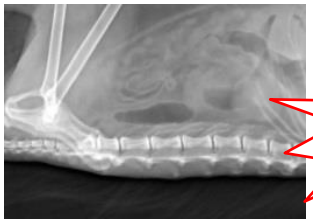
Spine in standing position (Lumbar)

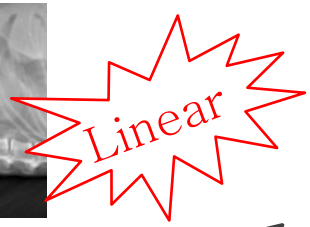


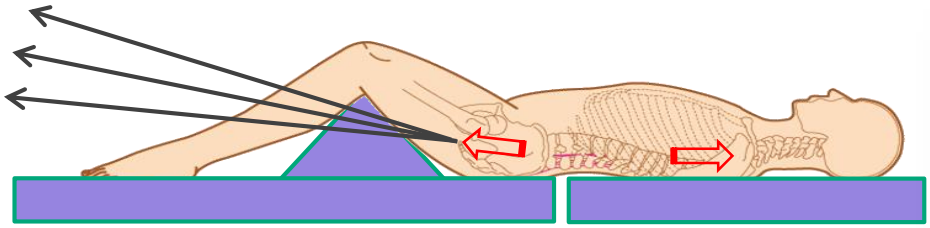




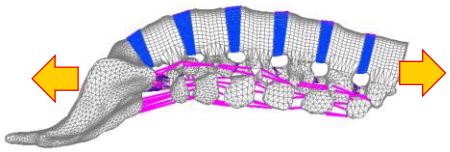
Traditional leaner traction







The Human lordosis spine Pull down leg side



The Linear traction system make the lordosis can be flat, not the lordosis

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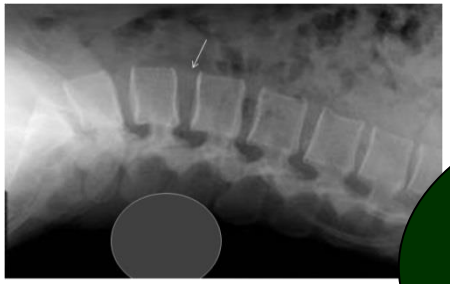
Disc Navigation Target Decompression with the Lordosis



Traction With Target Lordosis

Traction With exercise

Traction With Twist (DAVINCI)

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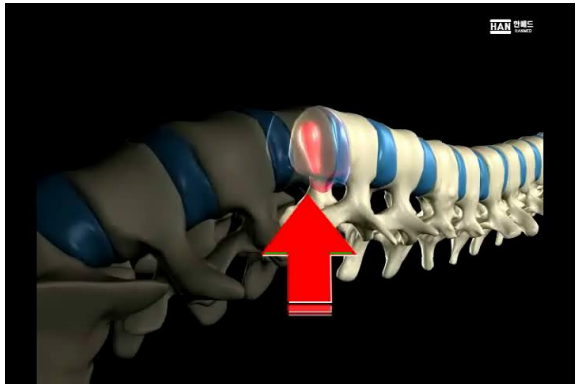
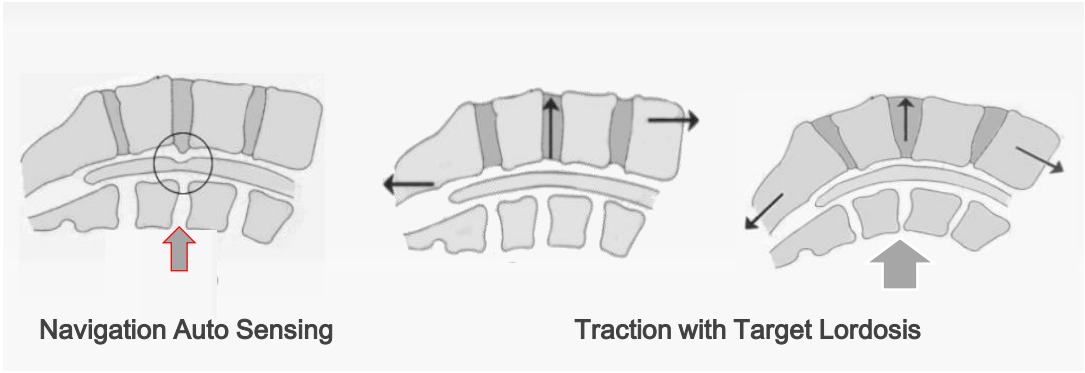
Disc Navigation Target Decompression system

The intelligent navigation system that decompresses after searching the targeted disk region at the time disk decompression completes the TWTL theory..

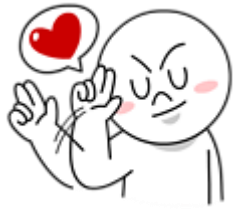




Navigation Auto Sensing

Traction with Target Lordosis

For completion of the TWTL technique, the intelligent navigation system searches the target point (error range of 5mm or less)



Research

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Original article

Biomechanical analysis of two-step traction therapy in the lumbar spine

Won Man Park [a], Kyungsoo Kim [b], Yoon Hyuk Kim [a, *]

[a] Department of Mechanical Engineering, Kyung Hee University, Yongin-si, Gyeonggi-do 446-701, Republic of Korea
[b] Department of Applied Mathematics, Kyung Hee University, Yongin-si, Gyeonggi-do 446-701, Republic of Korea

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ABSTRACT

Traction therapy is one of the most common conservative treatments for low back pain. However, the effects of traction therapy on lumbar spine biomechanics are not well known. We investigated biomechanical effects of two-step traction therapy, which consists of global axial traction and local decompression, on the lumbar spine using a validated three-dimensional finite element model of the lumbar spine. One-third of body weight was applied on the center of the L1 vertebra toward the superior direction for the first axial traction. Anterior translation of the L4 vertebra was considered as the second local decompression. The lordosis angle between the superior planes of the L1 vertebra and sacrum was 44.6° at baseline, 35.2° with global axial traction, and 46.4° with local decompression. The fibers of annulus fibrosus in the posterior region, and intertransverse and posterior longitudinal ligaments experienced stress primarily during global axial traction, these stresses decreased during local decompression. A combination of global axial traction and local decompression would be helpful for reducing tensile stress on the fibers of the annulus fibrosus and ligaments, and intradiscal pressure in traction therapy. This study could be used to develop a safer and more effective type of traction therapy.

1. Introduction

Low back pain is one of the most common complaints in the general population, affecting about 80% of the population at some point in life (Kelsey and White, 1980; Manchikanti, 2000). Conservative treatments, such as rest, exercise, and anti-inflammatory drugs, are often used to treat spinal pain (Hilibrand and Rand, 1999; Gluck et al., 2008; Majid and Fischgrund, 2008). Traction therapy is one of the most common conservative treatments for low back pain. Traction therapy is proposed to relieve pain and to recover joint functions by reducing pressure on discs or nerves (Harrison et al., 2002a,b; Paulk and Harrison, 2004; Horseman and Morningstar, 2008; Apfel et al., 2010; Gagne and Hasson, 2010; Kurutz and Bender, 2010; Diab and Moustafa, 2012). Even though there is a controversy regarding the efficacy of traction for back pain (Maher, 2004) and a case study in which the occurrence of large disc protrusion during motorized traction therapy was reported (Deen et al., 2003), the clinical reliability of traction therapy has been investigated in a number of studies (Harrison et al., 2002a,b; Paulk and Harrison, 2004; Macario and Pergolizzi, 2006; Daniel, 2007; Kurutz and Bender, 2010; Kurutz and Oroszvary, 2010; Diab and Moustafa, 2012).

A small number of studies has investigated the biomechanical effects of traction. Ramos and Martin (1994) measured changes in intradiscal pressure during axial traction with a motorized traction device. They have reported quantitative reduction in intradiscal pressure using a cannula inserted pressure transducer at L4–L5 disc, and inverse relation between intradiscal pressure and applied tension was shown in the study. Kurutz and Oroszvary (2010) analyzed the biomechanical effects of hydrotraction therapy on the intervertebral discs using finite element (FE) models that incorporated age-related intervertebral disc degeneration. They reported that direct traction deformations are 15–90% of the indirect one, while the direct traction load is 6% of indirect one in hydrotraction therapy consisting indirect and direct traction loads. Nonetheless, relatively little is known about the effects of traction therapy on lumbar spine biomechanics, including the stresses on the fibers of the annulus fibrosus and ligaments and the forces on the facet joints.

The purpose of this study was to investigate the biomechanics of the spine in a two-step traction therapy, which consists of global axial traction and local decompression, using FE analysis. Changes

* Corresponding author. Tel.: +82 31 201 2028; fax: +82 31 202 8106.
E-mail address: yoonhkim@khu.ac.kr (Y.H. Kim).

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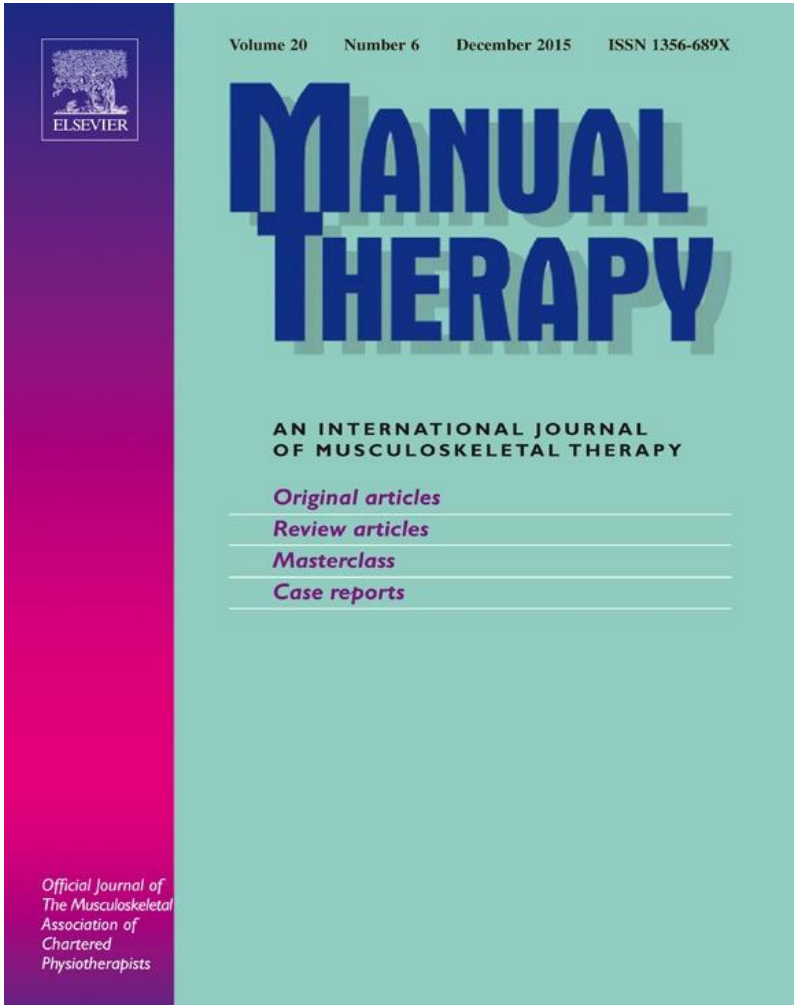
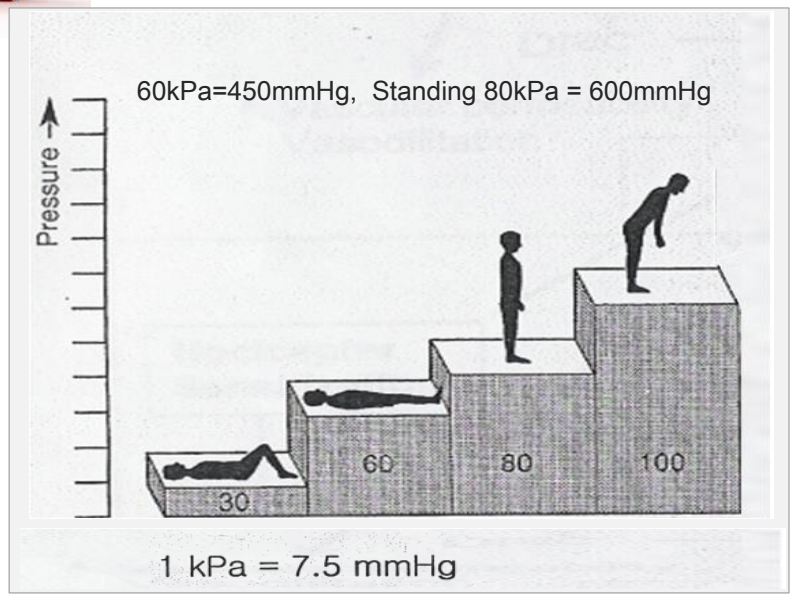
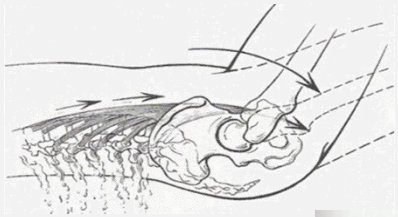


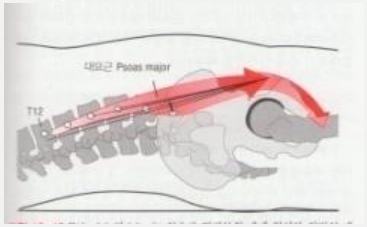
Compare with linear traction and Disc Navigation Target Decompression with the Lordosis, The result is Disc Navigation Target Decompression with the Lordosis is more effect to decompression to disk heriniation.

Research

The Psoas Muscle keep pressure on the Disk





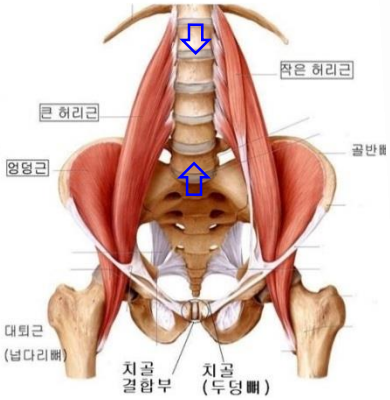


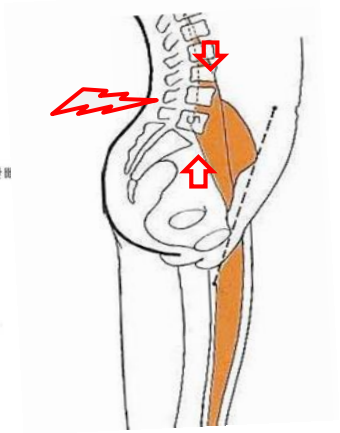
. Even in a supine position, the pressure applied to the disk due to the stiffening of the psoas is maintained as is.

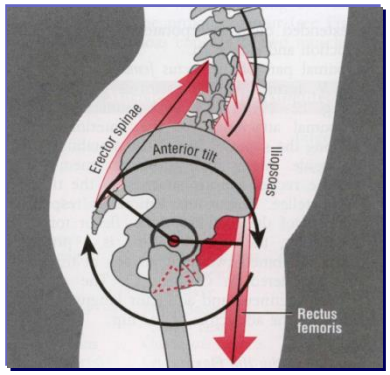
The Stiffen and shortened Psoas muscle keep pressure on the disk, so the Psoas muscle should be release.

Research

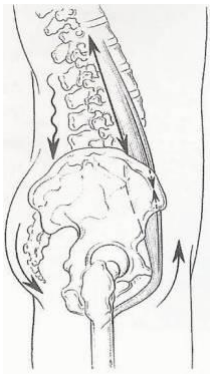
- For the treatment of disk disorder, both disk decompression and treatment of psoas should be performed at the same time.

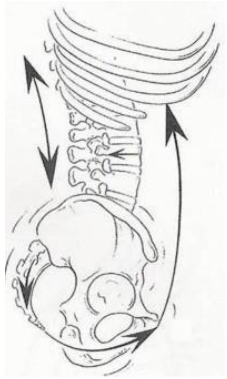


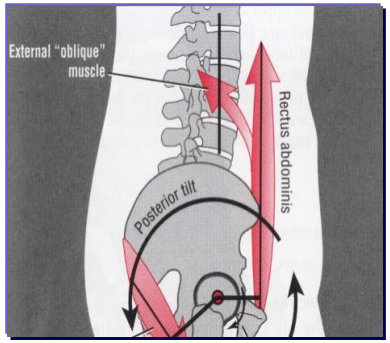




- Illiopsoas Muscle Shortened
- Hip joint, Lumbar -spine Muscle
- Flexion,10 ° Extension 0°-5°-10°-20°







Effective treatment on spinal stenosis and facet joint syndrome
relaxing and stretching muscles on spinal, pelvis, legs to correct them

Research

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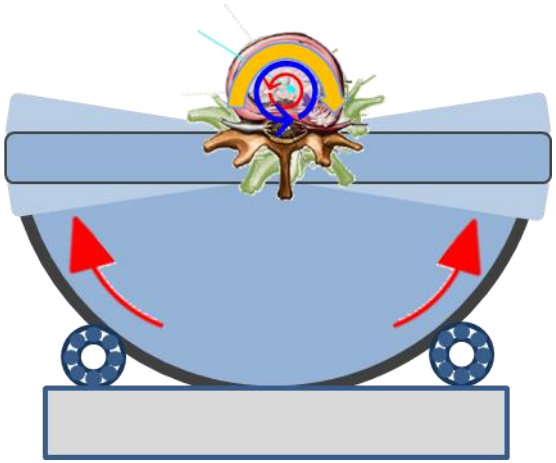
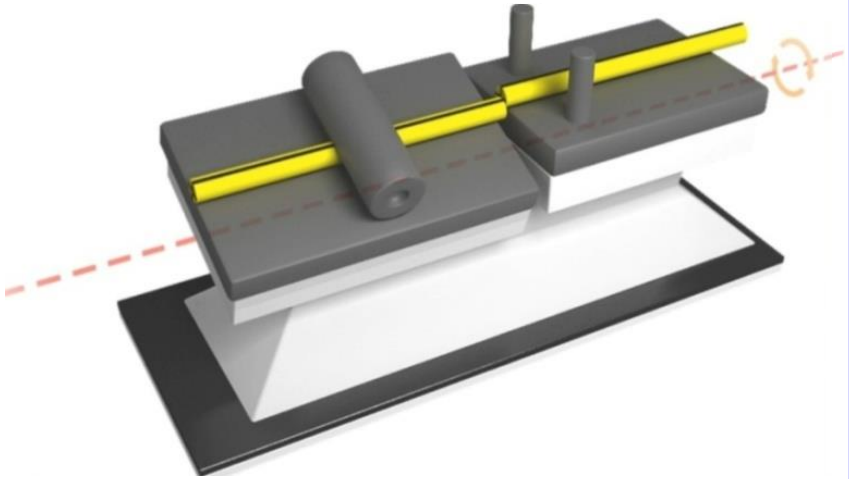
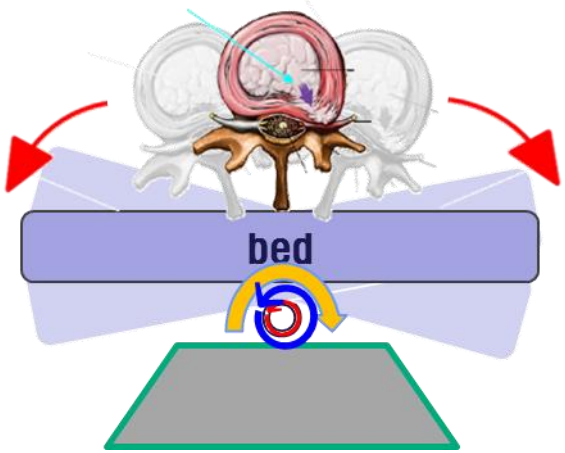


Davinci : The center of the spine twist technology

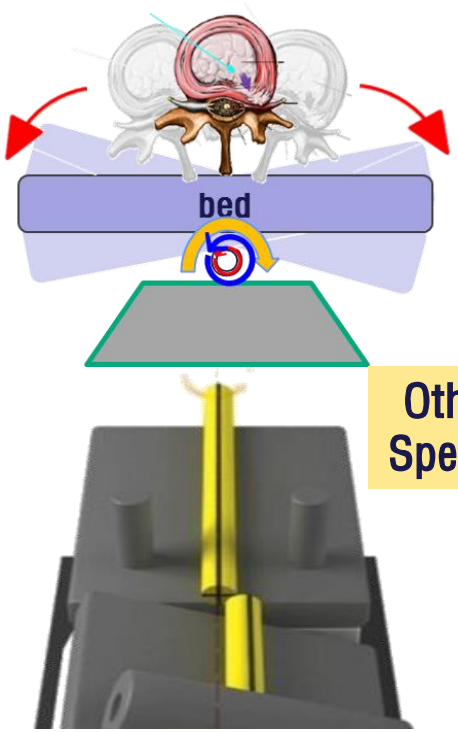
Other Company TWIST





Other technology bad effect on the spine
Specially elderly and weak ligament patient

Research



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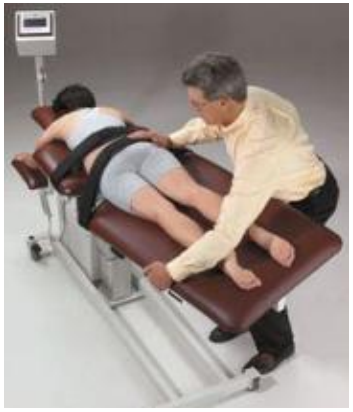
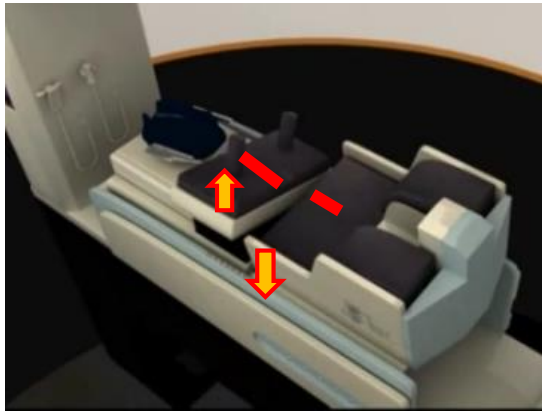
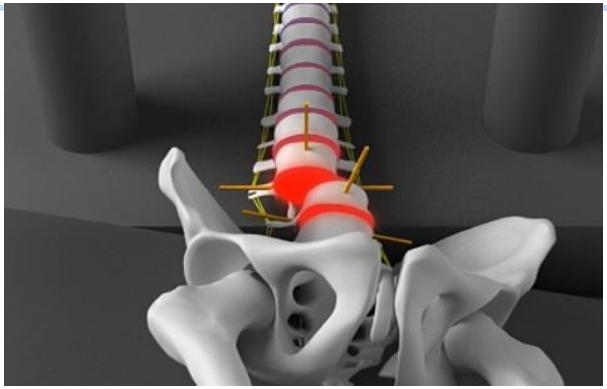


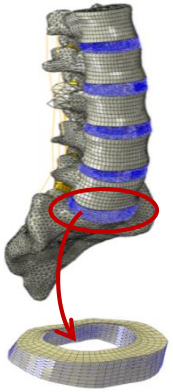


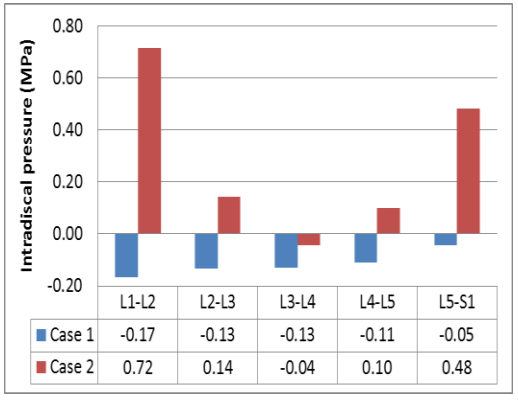
Research

Other technology bad effect on the spine Specially elderly and weak ligament patient



Axial rotation 10.0° Intradiscal pressure





	L1-L2	L2-L3	L3-L4	L4-L5	L5-S1
Case 1	-0.17	-0.13	-0.13	-0.11	-0.05
Case 2	0.72	0.14	-0.04	0.10	0.48

Axial rotation 10.0° Capsular ligament Stress