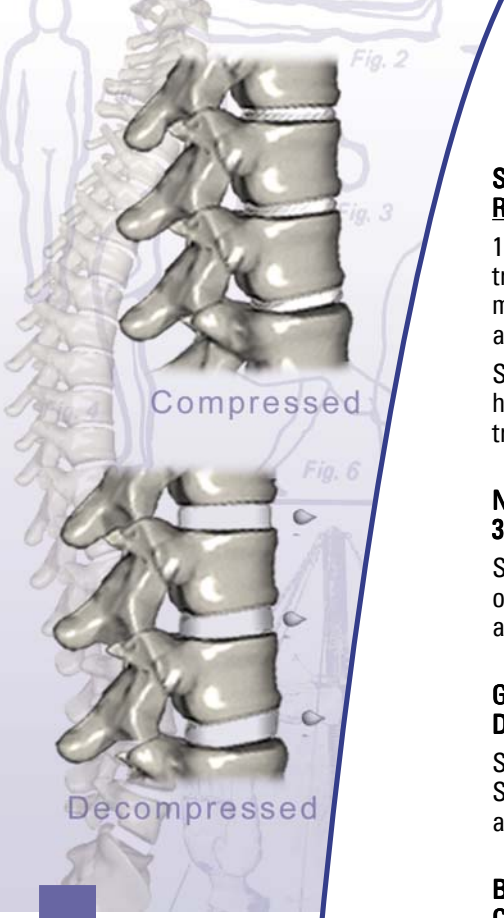


Medical Studies on Inversion

Sheffield, F. "Adaptation of Tilt Table for Lumbar Traction." Arch Phys Med Rehabil 45 (Sep. 1964): 469-472.

175 patients who were unable to work due to back pain were treated. After eight inversion treatments, 155 patients were able to return to their jobs full time. Study concluded that the main basis for improvement was the stretching of paraspinal vertebral muscles and ligaments and possibly the widening of intervertebral discs.

Study found significant improvements in a variety of diagnosis including spondylolisthesis, herniated discs, lumbar osteoarthritis with sciatica, and coccygodynia. Patient experienced traction in a modified hip flexed position.

Nosse, L. "Inverted Spinal Traction." Arch Phys Med Rehabil 59 (Aug. 1978): 367-370.

Study found emg activity (an indicator of muscle pain) declined 35% within the first 10 seconds of inversion. Study found that inversion increases the spinal length. Study concluded there is a correlation between a reduction in emg activity and an increase in spinal length.

Gianakopoulos, G, et al. "Inversion Devices: Their Role in Producing Lumbar Distraction." Arch Phys Med Rehabil 66 (Feb. 1985): 100-102.

Study found all subjects experienced intervertebral separation in the lower lumbar vertebrae. Study concluded that although mechanical traction has been used for centuries, only gravity assisted traction (inversion) offers an effective means of achieving pelvic traction at home.

Ballantyne, Byron, et al. "The Effects of Inversion Traction on Spinal Column Configuration, Heart Rate, Blood Pressure, and Perceived Discomfort." Jour of Orthopedic Sports Phys Ther (Mar. 1986): 254-260.

Study concluded that inversion can be an effective means of spinal traction. Subjects inverting in the hip flexed position experienced greater separation between the lumbar vertebrae.

Kane, M, et al. "Effects of Gravity-facilitated Traction on Intervertebral Dimensions of the Lumbar Spine." Jour of Orthopedic and Sports Phys Ther (Mar. 1985): 281-288.

Study found gravity-facilitated traction produces significant intervertebral separation in lumbar spine. Study concluded gravity facilitated traction may be an effective modality in the relief of low back pain.

Goldman, R, et al. "The Effects of Oscillating Inversion on Systemic Blood Pressure, Pulse, Intraocular Pressure, and Central Retinal Arterial Pressure." The Physician and Sports Medicine 13 (Mar. 1985): 93-96.

Study concluded that full inversion using oscillation procedure presents no risk to normotensive healthy subjects.

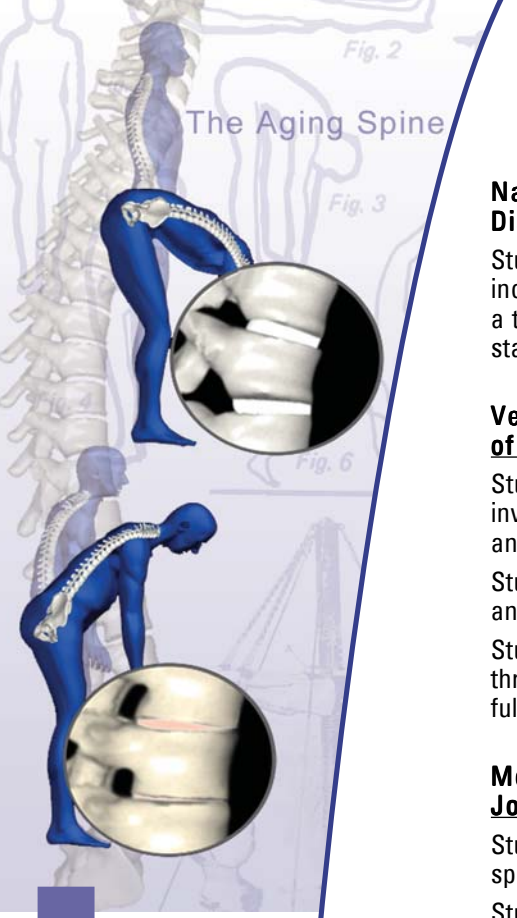
Dimberg, L, et al. "Effects of gravity-facilitated traction of the lumbar spine in persons with chronic low back pain at the workplace." (1993): 1-3.

116 people were enrolled in the randomized controlled trial which lasted for 12 months. A randomized controlled trial with two training groups and one control group was conducted to asses the effect of gravity inversion on pain level and absenteeism due to LBP. Average age = 44 years. 77% men

Group 1: used inversion for 10 minutes 1/day
Group 2: used inversion for 10 minutes 2/day
Group 3: control group

Results after 12 months of training program:

1. The employees in Group 1 and 2 decreased sick days due to back pain by 33%.
2. Average sick days to due back pain fell by 8 days per individual in the treated group.
3. *Inversion is an efficient and cheap way to improve employee health and possibly reduce sick day costs to the employer.*



Nachemson, Alf, et al. "Intravital Dynamic Pressure Measurements in Lumbar Discs." (1970): 1-38.

Study measured internal disc pressure (in the 3rd lumbar disc) through a range of activities, including standing, sitting, bending and vertical and supine traction. The study suggests that a traction load of 60% body weight is sufficient to reduce the residual pressure of 25% standing body weight to zero.

Vernon, H. "Inversion therapy: a study of physiological effects." The Journal of CCA 29 (Sep. 1985): 138-140.

Study found a general reduction of emg (an indicator of muscle pain) after three minutes of inversion. Study found the flattening of the lumbar spine involved a stretching of spinal muscles and ligaments, which lead to a 25% increase in forward spinal flexion.

Study found significant intervertebral separation (posterior *and* anterior). Study concluded that an inversion chair may be sufficient to reduce the majority of intervertebral disc protrusions.

Study concluded that the cardiovascular system (heart rate and blood pressure) remained stable through three minutes of seated partial inversion. Authors conclude this stability is due to the full comfort and support of the chair during partial inversion.

Meshino, J. "The Role of Spinal Inverted Traction in Chiropractic Practice." ACA Journal of Chiropractic 18 (Feb. 1984): 63-68.

Study stated the hip flexed position (90/90) facilitates lumbar traction by flattening the lumbar spine and decreasing the loading effect of the psoas muscle on the lumbar spine during traction.

Study stated inversion therapy is preferred over mechanical traction because there is no need for a constricting harness and the safe and simple operation of an inversion chair allows the patient to administer traction.

Study stated inversion helps to negate the effect of gravity on the spinal column. Study stated inversion offers promise as a form of prevention, maintenance, and therapy.