

Clinical Practice Guideline: Inversion Therapy

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Product: Specialty

GUIDELINES

American Specialty Health – Specialty (ASH) considers inversion therapy as unproven (i.e., a form of traction facilitated by gravity as the patient is either hung or laid upside down typically at an angle of greater than 45° below the horizontal axis) because there is insufficient evidence in the literature to establish long-term safety and clinical effectiveness.

For more information, see the *Techniques and Procedures Not Widely Supported as Evidence Based (CPG 133 – S)* clinical practice guideline.

Patients must be informed verbally and in writing of the nature of any procedure or treatment technique that is considered experimental/investigational or unproven, poses a significant health and safety risk, and/or is scientifically implausible. If the patient decides to receive such services, they must sign a *Member Billing Acknowledgment Form* (for Medicare use *Advance Beneficiary Notice of Non-Coverage form*) indicating they understand they are assuming financial responsibility for any service-related fees. Further, the patient must sign an attestation indicating that they understand what is known and unknown about, and the possible risks associated with such techniques prior to receiving these services. All procedures, including those considered here, must be documented in the medical record. Finally, prior to using experimental/investigational or unproven procedures, those that pose a significant health and safety risk, and/or those considered scientifically implausible, it is incumbent on the practitioner to confirm that their professional liability insurance covers the use of these techniques or procedures in the event of an adverse outcome.

DESCRIPTION/BACKGROUND

Inversion therapy is a form of traction facilitated by gravity as the patient is either hung or laid upside down typically at an angle of greater than 45° below the horizontal axis.

This therapy is used in the treatment of back pain and is believed to help in the decompression of the disks and joints. This therapy takes many forms, from gravity boots to inversion tables the patient lies on before inverting the table.

The use of inversion therapy for back pain can be traced back to Hippocrates when he found that hanging patients upside down could be therapeutic. The modern use of inversion

therapy for back pain was popularized by a physician in the 1960s. The popularity of this therapy increased greatly by the 1990s and is still used today. Inversion devices can be bought for the home and are now often used outside the direct supervision of a physician.

Contraindications to inversion therapy include hernia, glaucoma, retinal detachment, conjunctivitis, high blood pressure, recent stroke, heart or circulatory disorders, spinal injury, cerebral sclerosis, swollen joints, osteoporosis, unhealed fractures, surgically implanted supports, use of anticoagulants, ear infection, and obesity.

EVIDENCE REVIEW

A review of the literature revealed only a small body of work specific to inversion therapy. DeVries and Cailliet (1985), Gianakopoulos et al. (1985), Haskvitz and Hanten (1986) and Nosse et al. (1988) all describe small case control studies evaluating varying aspects of inversion therapy. DeVries and Cailliet (1985) concluded that inversion had a measurable effect on neuromuscular tension as measured by EMG. Gianakopoulos et al. (1985) found that there was some improvement in low back pain in patients who underwent inversion therapy. Haskvitz and Hanten (1986) found that inversion therapy raised the blood pressure of patients receiving inversion therapy. Nosse et al. (1988) found that inversion therapy reduced the depth of low back contour more than sitting. All of these studies are small and methodologically weak; as such it is difficult to apply their findings to the general population. However, all four of the papers support the use of inversion therapy.

Two RCTs ($n = 69$; $n = 108$) evaluating the effectiveness of inversion therapy combined with mechanical percussion for treatment of lower pole renal stones after shockwave lithotripsy (SWL) found positive effects for this therapy compared with observation or SWL alone (Chiong et al., 2005; Pace et al., 2001). Prasad et al. (2012) sought to study the feasibility of a randomized controlled trial on the effect of inversion therapy in patients with single level lumbar discogenic disease, who had been listed for surgery. It was a prospective randomized controlled trial where patients awaiting surgery for pure lumbar discogenic disease within the ambit of the pre-stated inclusion/exclusion criteria were allocated to either physiotherapy or physiotherapy and intermittent traction with an inversion device. Post-treatment assessment was made at 6 weeks for various outcome measures. Avoidance of surgery was considered a treatment success. Twenty-six patients were enrolled and 24 were randomized (13 to inversion + physiotherapy and 11 to physiotherapy alone [control]). Surgery was avoided in 10 patients (76.9%) in the inversion group, whereas it was averted in only 2 patients (22.2%) in the control group. Intermittent traction with an inversion device resulted in a significant reduction in the need for surgery. Authors suggest that a larger multicenter prospective randomized controlled trial is justified in patients with sciatica due to single level lumbar disc protrusions. Inversion may form part of the conservative rehabilitation of patients with single level unilateral lumbar disc protrusion alongside other forms of physiotherapy.

Alternate therapies, such as mechanical traction on a horizontal surface, are more commonly practiced possibly due to reduced contraindications and lower risk of adverse events compared to inversion therapy. Lerebours et al. (2017) reported bilateral retinal detachments with use of an inversion table in a case report. In a case series, Jung et al. (2021) describes 3 patients with cervical spinal cord injuries sustained from falls while using inversion tables correctly highlighting the potential danger when utilizing these devices.

Kassay et al. (2023) discusses the risks of inversion table therapy (ITT), the current regulatory process for ITT, and the need for a better understanding of the role of ITT in the treatment of spinal pain while optimizing consumer safety. Authors highlight that according to the Food and Drug Administration (FDA) statistics, injuries due to non-powered traction from various medical devices have been rising since 2011. The FDA has regulated ITT for only manufacturers that indicated medical use; however, most manufacturers have not made such medical claims and were exempt from FDA regulation. Given this, authors express the need for a better understanding of the role of ITT in the treatment of spinal pain while optimizing consumer safety.

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