

432 – Minimal Leverage Technique

With Steven Bruce and Professor Laurie Hartman

The discussion explored the role, rationale, and application of minimal leverage techniques within manual therapy, with a particular focus on osteopathic and chiropractic contexts. The dialogue concentrated on high-velocity thrust (HVT) techniques that aim to achieve clinical effect with a reduction in force and amplitude. The concept of “minimal leverage” was defined as a therapeutic approach in which multiple biomechanical and neurophysiological factors are precisely aligned—or “stacked”—so that the required thrust becomes minimal in amplitude and safer for the patient.

The speakers began by framing the need for such techniques, particularly in light of medico-legal scrutiny and the profession’s responsibility to reduce the risk of harm during manipulation. It was emphasised that minimal leverage techniques are especially relevant when treating vulnerable populations, such as infants, older adults, and individuals with underlying pathology. In these cases, minimising thrust amplitude while preserving therapeutic effect becomes paramount. The presenters stressed that competence with these techniques requires not only technical skill but also confidence, sensitivity, and a solid understanding of spinal mechanics and neurological responses.

A key theme was the clarification of how these techniques differ from traditional high-velocity manipulations. Rather than relying on long lever arms and forceful movement, minimal leverage methods depend on precise positioning, subtle tensioning of the tissues, and finely timed thrusts. The resultant effect often produces joint cavitation, although the presenters were clear that cavitation is not necessary for clinical success and should not be considered the sole indicator of a technique’s effectiveness. Indeed, the “click” associated with HVT was described as a potential distraction that may falsely reassure both practitioner and patient of success.

Several clinical examples were given to illustrate how these principles are applied in practice. The importance of specific hand placement, vector control, and patient positioning was highlighted repeatedly. It was also made clear that minimal leverage approaches can and should be adapted to suit the individual patient’s presentation. The speakers discouraged the adoption of overly rigid protocols or technique patterns, instead promoting the idea that the practitioner must make continuous, informed decisions about safety and efficacy in real-time.

The conversation acknowledged the influence of historical and international variation in manual therapy techniques. Attention was drawn to the differences in training, regulatory expectations, and clinical emphasis in various countries, particularly between the UK and North America. In the UK context, safety was presented as a defining concern, and minimal leverage techniques were portrayed as a sophisticated, modern response to that imperative. The speakers also referenced their own clinical experiences with patients who had suffered complications from

poorly executed or excessive manipulation, using these examples to reinforce the importance of minimising force and improving technical specificity.

Discussion also touched on the teaching and supervision of manual therapy. It was recognised that minimal leverage skills are difficult to master and that a great deal of tactile sensitivity and clinical reasoning is required. The importance of practice under supervision, reflective learning, and ongoing refinement was underlined. Practitioners were encouraged to continue developing their technique long after graduation and to remain alert to the changing safety profiles and needs of their patients over time.

Demonstrations of minimal leverage technique for the wrist and occipito-atlantal joint were provided, as well as a more traditional high velocity technique for the hip.

The tone of the discussion remained practical and case-based throughout, with an emphasis on learning from clinical encounters and mistakes. The participants underscored that mastery of minimal leverage techniques offers not only physical benefits to patients but also enhances professional credibility and reduces risk. The ability to explain one's method in clear, logical terms was seen as a professional necessity—whether to patients, colleagues, or regulators.

In closing, the speakers expressed concern that many practitioners use excessive force in manual therapy not out of necessity, but out of habit or inadequate training. They proposed that minimal leverage techniques represent a more thoughtful and safer evolution of manipulative practice—one that requires greater understanding of anatomy, mechanics, and neurology, but offers substantial benefit in return. Practitioners were invited to reassess their approach to spinal manipulation, deepen their knowledge, and prioritise precision over power in the pursuit of safe and effective care.