

Manipulation Safety & Physical Therapist Practice

The Background, the Debate & the Evidence

Background

Manipulation techniques are manual (hands on) skilled passive movement treatment techniques used by Physical Therapists, Physicians, Osteopaths and Chiropractors. Manipulation was first used in health care by Hippocrates (460-355 B.C.), the Father of Medicine¹; *Physical therapists (PTs) in the US have used manipulation and other manual techniques since the profession was established in the US in the 1920s.*² European physical therapists have used manipulation since the 1800s.² *Training in manipulation (thrust & non thrust) is a required component of entry level physical therapist education programs in the US.*³ Some PTs complete Residency and Fellowship programs that provide advanced training in manipulation techniques. Residencies & Fellowships are a part of the post-professional physical therapy education system, consistent with how advanced specialty training occurs in other health professions. For PTs, manipulation is one of many treatment techniques used to address a variety of muscle and joint conditions.

The Debate

Manipulation, particularly *thrust joint manipulation (TJM)*, has for decades been the center of legislative turf battles led by the chiropractic profession against the physical therapy profession to attempt to restrict the use of manipulation by physical therapists. *Chiropractors argue that physical therapists are not trained to practice TJM*; Chiropractors also claim that manipulation provided by PTs place the public at risk for serious injury. *Evidence strongly refutes BOTH of these charges.* A Chiropractic publication implies that the legislative war being waged against physical therapists' use of manipulation is based on an economic agenda.⁴ Evidence also shows a very low probability that Physical Therapists who use TJM will cause harm; the vast majority of serious complications from Manipulation are NOT caused by physical therapists (Table 1).^{5,6,7,8,9}

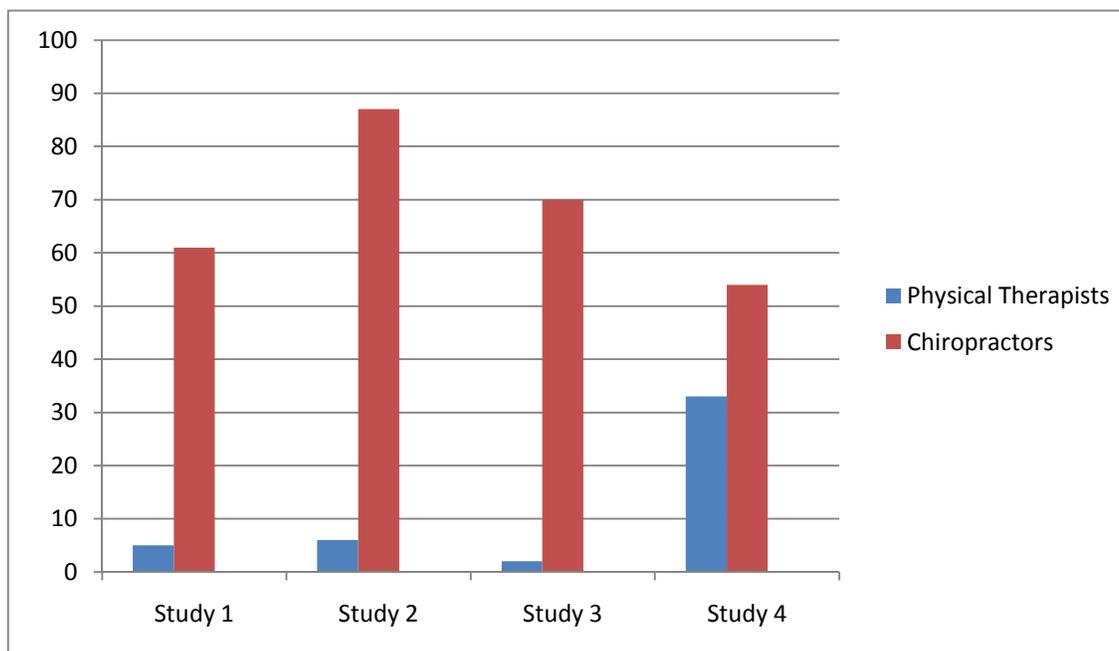


Table 1: Percentage of TJM complications due to chiropractors versus the percentage of TJM complications due to physical therapists (Study 1⁶, Study 2⁷, Study 3⁸, Study 4⁹). Average of the 4 studies shows that 68% of TJM complications are due to chiropractic, 11% are due to PT, and 21% are due to other practitioners.

Terminology

Mobilization/Manipulation - *skilled passive movements to the joints and/or related soft tissues that are applied at varying speeds and amplitudes, including a small-velocity and high-amplitude therapeutic movement.*¹⁰

Thrust joint manipulation (TJM) - *high velocity, low amplitude therapeutic movements within or at end range of motion*¹¹

The Facts

- Physical therapists in the US have used manipulation and other manual techniques since the profession began in the 1920s²
- Training in manipulation is **required** for all physical therapist education programs by national accreditation standards³
- Many governmental agencies (The Veterans Hospital Association, US Department of Health and Human Services, & the Virginia Board of Medicine) acknowledge that Manipulation, including TJM, is within the PT scope of practice
- According to HPSO (largest liability insurance carrier for PTs in the US) there are no higher claims losses related to PT use of TJM than other PT treatment techniques
- Published review of medical literature over a 77-year period found only 10 reports of cauda equina syndrome (a medical emergency lower spinal cord injury) after lower back TJM; **none of those injuries were caused by PTs**⁵
- Summary of scientific reports on TJM complications by profession (Table 1):
 - *61% of complications due to chiropractic and only 5% (12/220) due to PT⁶
 - *87% of complications due to chiropractors and only 6% (6/98) due to PT⁷
 - *70% of complications due to chiropractors and only 2% & no deaths due to PT⁸
- Manipulation Safety Study from New Zealand (Table 1):⁹
 - *more than one-half TJM complications (54%) caused by chiropractors (23/42)
 - *only one-third (14/42) of all complications reported were result of PT treatments
 - *one-tenth the number of practitioners (i.e. the number chiropractors compared to PTs in New Zealand) produced nearly twice (164%) as many complications.
- In the US, practicing PTs outnumber chiropractors by a 4 to 1 ratio¹²

The Bottom Line

Claims that the public is at risk when PTs use manipulation have no factual basis and are refuted by high level scientific studies and insurance reports. PTs are well trained to use manipulation including TJM. **Attempts to limit PTs from using TJM appear to be based on economic concerns—not patient safety.**⁴ PTs use a research based approach in the use of TJM that is proven to be both safe & effective; in fact, research indicates the best approach to many common painful conditions is using a combination of manipulation with exercise and other PT treatments.^{13,14,15}

References

1. Paris SV. A History of Manipulative Therapy. *JMMT*. 2000;8(2):66-77.
2. McMillan M. *Massage and Therapeutic Practice*. 2nd ed. Philadelphia, Pa: WB Saunders Co; 1925.
3. Commission on Accreditation in Physical Therapy Education. *Evaluative Criteria for Accreditation of Educational Programs for the Preparation of Physical Therapists*. Alexandria, Va: Commission on Accreditation in Physical Therapy Education; 2007.
4. Institute of Alternative Futures. *The Future of Chiropractic Revisited, 2005-2015*. Alexandria, Va: Institute of Alternative Futures; January 2005. Available at <http://www.altfutures.com/docs/FutureofChiropracticRevisited.pdf> Accessed on January 23, 2009.
5. Haldeman S, Rubinstein SM. Cauda Equina Syndrome in patients undergoing manipulation of the lumbar spine. *Spine*. 1992;17(12):1469-1473.
6. Assendelft WJJ, Bouter L.M., Knipschild PG. Complications of spinal manipulation. A comprehensive review of the literature. *The Journal of Family Practice* 1996; 42(5):475-480.
7. Patijn J. Complications in manual medicine: a review of the literature. *J Man Med* 1991; 6:89-92.
8. DiFabio RP. Manipulation of the cervical spine: risks and benefits. *Phys Ther*. 1999;79(1):50-65.
9. Rivett DA, Milburn P. Complications arising from spinal manipulative therapy in New Zealand. *Physiotherapy* 1997; 83(12):626-632.
10. *Guide to Physical Therapist Practice*. Revised 2nd ed. Alexandria, Va: American Physical Therapy Association; 2003.
11. *APTA Manipulation Education Manual for Physical Therapist Professional Degree Programs*. Alexandria, Va: American Physical Therapy Association; 2004.
12. <http://www.bls.gov/oco/ocos080.htm> and <http://www.bls.gov/oco/ocos071.htm> accessed January 12, 2010.
13. Jull G, Trott P, Potter H, Zito G, Niere K, Emberson J, Marschner I, Richardson C. A randomized controlled trial of physiotherapy management for cervicogenic headache. *Spine*. 2002;27:1835-43.
14. Haldeman S, Carroll L, Cassidy D, Schubert J, Nygren A. The Bone and Joint Decade 2000–2010 Task Force on Neck Pain and Its Associated Disorders, *SPINE* 33 (45), 2008
15. Gross AR, Hoving JL, Haines TA, Goldsmith CH, Kay T, Aker P, Bronfort G. 2004 A Cochrane review of manipulation and mobilization for mechanical neck disorders. *Spine* 29(14):1541-1548.