

**VIRGINIA BOARD OF MEDICINE
DEPARTMENT OF HEALTH PROFESSIONS**

**Study of Spinal Manipulation
Pursuant to Request from the Chair of the Senate Committee on
Education and Health**

Background and Authority:

During the 1999 Session of the General Assembly, the Senate Committee on Education and Health considered Senate Bill 1141, relating to manual spinal care or spinal manipulation. The Committee failed to report the bill but, at the request of the patron, Senator Edward Schrock, asked the Virginia Board of Medicine to examine the issues relating to spinal manipulation. A letter conveying that request was sent by the Chair of the Committee, Senator Jane Woods, and received by the Board on April 27, 1999 (A copy of the letter from Senator Woods is attached to this report.)

Senate Bill 1141 defined "manual spinal care" as a skill procedure whereby a person uses a directed thrust, contact or leverage to the articular joints with the intent of affecting the structure and/or function of a person's spine. According to the legislation, the procedure includes, but is not limited to, uniquely distinct procedures, such as osteopathic manipulative treatments, spinal manipulations, and chiropractic adjusting techniques and should "only be performed by persons who are (i) doctors of osteopathy, chiropractic or medicine, licensed in Virginia and (ii) practitioners of the specific form of care rendered." Opposition to the bill arose because of its restrictions on the current scope of practice for physical therapists, who are allowed to perform manipulation or mobilization on a patient under the referral and direction of a licensed doctor of medicine, osteopathy, chiropractic, podiatry or dental surgery. The Board of Medicine did not take a position on this or any other piece of legislation during the 1999 Session.

A similar bill was introduced in the 1998 General Assembly, carried over to the 1999 Session, and not reported by the Senate Committee on Education and Health. Senate Bill 600 defined "spinal manipulation" as the skillful treatment of the joints of the spine through the use of directed thrust or leverage to move or mobilize a joint in the patient's spine which is performed by a licensed practitioner of chiropractic or osteopathic medicine; it does not include orthopedic or medical reduction of fractures or dislocations. The legislation further provided that 200 hours of training in a course or institution approved by the Board is required for a licensed physician, osteopath, or chiropractor to be able to perform spinal manipulation. At its meeting on February 5, 1998, the Board voted to oppose any prohibition preventing an individual or group of individuals from doing manipulation.

Study Task Force of the Virginia Board of Medicine

For the purpose of reviewing information on spinal manipulation and data on the risk of harm to the public, receiving public comment, and bringing recommendations to the Board, the President of the Board of Medicine appointed a Study Task Force. With James F. Allen, a medical doctor specializing in neurosurgery and member of the Board serving as Chairman, the Task Force consisted of Paul M. Spector, an osteopathic member of the Board, Jerry R. Willis, a chiropractic member of the Board, and Winston R. Pearson, Jr., Chairman of the Advisory Board on Physical Therapy,

The Executive Director of the Board of Medicine, Warren K. Koontz, M.D. and the Regulatory Boards Administrator for the Department of Health Professions, Elaine J. Yeatts, provided staff assistance for the Committee. In addition, Kirsten A. Barrett, a policy research analyst with the Department conducted much of the basic research and prepared a draft report on the practice and risk of manipulation.

Definitions and Description of Spinal Manipulation or Manual Spinal Care

At its initial meeting, the study task force was asked to define spinal manipulation or manual spinal care, terminology referenced in Senator Woods' letter. Dorland's Medical Dictionary defines manipulation as "skillful or dexterous treatment, as by hand. In physical therapy, the forceful passive movement of a joint beyond its active limit of motion." There is no definition of "spinal manipulation" in the dictionary nor was there agreement among chiropractors and other practitioners about the definition and description of manual spinal care and related terms. Seeking clarification, the Executive Director of the Board of Medicine requested information and definitions from state boards and associations relating to the professions of medicine, osteopathy, podiatry, chiropractic and physical therapy.

Definitions provided by the Virginia Chiropractic Association are as follows:

Spinal Manipulation: Passive movement of short amplitude and high-velocity which moves the joint into the parapsycho-logic range. This is accompanied by cavitation or gapping of the joint that results in an intrasynovial vacuum phenomenon thought to involve gas separating from fluid.

Spinal Mobilization: Passive movements within physiological joint range of motion without cavitation or the popping sound inherent to manipulation.

Definitions provided by the Virginia Physical Therapy Association and the American Physical Therapy Association are as follows:

Manual Therapy: A broad group of skilled hand movements, including but not limited to mobilization and manipulation, used by the physical therapist to mobilize or manipulate soft tissues and joints for the purpose of modulating pain; increasing range of motion; reducing or eliminating soft tissue swelling, inflammation or restriction; inducing relaxation; improving contractile or non-contractile tissue extensibility; and improving pulmonary

function. Manual therapy techniques include connective tissue massage, joint mobilization and manipulation, manual lymphatic drainage, manual traction, passive range of motion, soft tissue mobilization and manipulation, and therapeutic massage

Spinal Care: A generic term that describes no specific intervention, philosophy or methodology. In contrast, the Guide to Physical Therapist Practice describes the "disablement model" and defines "impairment," "functional limitation," and "disability." These are terms that can be applied to any human condition including those that involve the spine.

Mobilization: A skilled passive hand movement that can be performed with variable amplitudes at variable speeds.

Manipulation: A skilled passive hand movement that usually is performed with a small amplitude at a high velocity.

When applied to treatment of spine dysfunction, manual therapy techniques are often termed manual spinal care or manual spinal therapy. The term's spinal mobilization or spinal manipulation may be used depending on the intervention performed.

Utilization of Manual Therapy Techniques in Physical Therapy:

Historically, physical therapists have utilized manipulation in their practices; the literature supporting its use by physical therapists dates back to 1928. Manual therapy techniques, including mobilization and manipulation, are identified as direct physical therapy interventions in the Guide to Physical Therapist Practice, Revised 4/99. In the Guide, intervention is defined as "the purposeful and skilled interaction of the physical therapist with the patient/client – and, when appropriate, with other individuals involved in care – using various methods and techniques to produce change in the condition that are consistent with evaluation, diagnosis and prognosis. Decisions are contingent on the timely monitoring of response to intervention and the progress made toward anticipated goals and expected outcomes."

Manual therapy techniques may be an appropriate intervention for patients with musculoskeletal, neuromuscular, cardiopulmonary and/or integumentary dysfunction. Candidates for manual therapy include patients / clients with: limited range of motion (ROM), muscle spasm, pain, scar tissue or contracted tissue and/or soft tissue swelling, inflammation or restriction. The anticipated goals to be achieved after the application of manual therapy techniques may include any or all of the following:

1. Increased ability to perform movement tasks
2. Decreased edema, lymphedema or effusion
3. Improved integumentary integrity
4. Improved joint integrity and mobility
5. Improved motor function
6. Reduction in muscle spasm
7. Reduction in pain

8. Improvement in quality and quantity of movement between and across body segments
9. Reduction in risk of secondary impairment
10. Reduction in soft tissue swelling, inflammation or restriction
11. Increased tolerance to positions and activities
12. Decreased utilization and cost of health care services
13. Improved ventilation, respiration and circulation

Utilization of Manipulation in Osteopathic Medicine:

According to the American Association of Colleges of Osteopathic Medicine, Osteopathic Manipulative Treatment (OMT) is a system of manual manipulation treatment developed by Dr. Andrew Taylor Still in the late 1800's, based on his recognition of the role that the musculoskeletal system plays in the body's continuous effort to resist and overcome illness and disease. OMT is composed of a spectrum of manual techniques that physicians may use to alleviate pain, restore freedom of motion, and enhance the body's own healing power. Often these techniques are used in conjunction with more conventional forms of medical care, such as prescribing medication or performing surgery. The most commonly used manipulative techniques in osteopathy are: articular techniques, counterstrain, cranial treatment, myofascial release treatment, lymphatic techniques, soft tissue techniques, and thrust techniques.

Education and Training

Physical Therapy Education

There are presently 189 accredited and 25 developing physical therapy programs in the United States (APTA, 1999). Of the accredited programs, 24 are at the bachelor's level, 158 at the master's level and 7 at the doctoral level. In Virginia, there are four accredited physical therapy programs and one developing physical therapy program. By 2002, all physical therapy education programs will be at the Master's level or higher.

Program accreditation is granted through the Commission on Accreditation of Physical Therapy Education (CAPTE). CAPTE is the only recognized agency in the United States for the accreditation of physical therapy and physical therapist assistant programs. Although accreditation is a voluntary process, graduation from an accredited physical therapy education program is one of the necessary requirements for licensure. Since licensure is necessary in all fifty states at this time, institutions necessarily seek accreditation through CAPTE. In addition, many states, including Virginia, require the applicant to successfully pass the national physical therapy examination which has been jointly developed, and is jointly administered and scored, by the Federation of State Boards of Physical Therapy and the Professional Examination Service (PES).

In the accreditation process, CAPTE uses the Evaluative Criteria for the Accreditation of Education Programs for the Preparation of Physical Therapists. The Evaluation Criteria outlines four areas of compliance for institutions. These are organization, resources and services, curriculum development and content and program assessment.

Entry-level skills and knowledge necessary for safe physical therapy practice are outlined in the section of the Evaluative Criteria addressing curriculum development and content. Topic areas include, but are not limited to, communication, critical inquiry and decision-making, professional development, examination, plan of care, intervention, prevention and wellness and social responsibility. Manual therapy techniques can be found in the intervention section (3.8.3.28f). The framework provided in the curriculum development and content section of the Evaluative Criteria is expanded on in the Normative Model of Physical Therapist Education.

The Normative Model of Physical Therapists Professional Education includes manipulation as course content and skill acquisition components. The Normative Model is used by educational programs to determine necessary course content for the physical therapy curriculum and details the educational outcomes for the graduate to achieve in many areas, including intervention. Included in the section on intervention are educational outcomes related to safe practice and skill acquisition. The following is a listing of the educational outcomes related to safe practice:

13.1 Practice in a safe setting and manner to minimize risk to the patient, client, therapist, and others.

The graduate:

- is aware of high-risk aspects of practice.
- is aware of measures to prevent risk.
- corrects unsafe conditions.
- applies standard safety procedures.
- seeks assistance when necessary.
- instructs others in safety procedures
- documents critical incidents
- is aware of impaired-provider issues.
- implements risk-management procedures after a critical incident.

In regards to skill acquisition in performing various physical therapy interventions, the following educational outcomes are identified in the Normative Model:

13.2.1 Provide direct physical therapy interventions to achieve goals that facilitate expected patient or client outcomes based on the examination and on the impairment, functional limitations, and disability.

The graduate:

- administers physical therapy intervention to achieve the desired patient or client response
- delivers treatment procedures accurately based on applicable practice guidelines.
- performs treatment procedures with consideration for safety, timeliness, energy conservation, and organization, including preparation, sequencing, progression, and setting priorities.

- modified intervention based on the attainment of outcomes based on impairment, functional limitations, and disability.
- confers with patient concerning outcomes.

Manual therapy is listed as an intervention in the Evaluative Model and its components are described in the Normative Model. Manual therapy may include connective tissue massage, joint mobilization and manipulation, manual lymphatic drainage, manual traction, passive range of motion, soft-tissue mobilization and manipulation and therapeutic massage.

Additionally, in the area of examination, the Normative Model details the nature of joint integrity and mobility testing. This is germane to the issue of manual therapy. Joint integrity and mobility tests may include:

- Analysis of the nature and quality of movement of the joint or body part during the performance of specific movement tasks
- Assessment of joint hypermobility and hypomobility
- Assessment of pain and soreness
- Assessment of response to manual provocation of the joint
- Assessment of sprain
- Measurement of soft tissue restriction

Utilization of the Evaluative Criteria and Normative Model at the Institutional Level

Samples of actual course syllabi from Shenandoah University School of Health Professions, Program in Physical Therapy and from Hampton University demonstrate how the course objectives, the curriculum development and content criteria relate to manual therapy techniques, as set forth in the Evaluative Criteria and Normative Model.

The Department of Physical Therapy at Virginia Commonwealth University provided a list of course work in which the content relates to manipulation, with the number of contact (lecture and lab) hours of training that each student receives.

Content Related to Manipulation	Course Name	Contact Hours
Gross Anatomy	PHT 501	72 hours lecture, 72 hours lab
Histology/Microscopic Anatomy	PHT 505	56 hours lecture, 20 hours lab
Kinesiology	PHT 502	30 hours lecture, 30 hours lab
Biomechanics	PHT 507	30 hours lecture, 30 hours lab
Examination of the patient with Musculoskeletal (including manipulation of the spine)	PHT 508	90 hours lecture, 45 hours lab (approx. half spent on the spine)
Pathology of the musculoskeletal system (manipulation of spine included)	PHT 540	15 hours lecture
Pathology of the musculoskeletal system	PHT 548	15 hours lecture
Treatment of patients with	PHT 548	60 hours lecture, 30 hours lab

musculoskeletal problems		(approx. half spent on spine)
Traction and massage of the spine	PHT 533	5 hours lecture, 10 lab

In addition to course work, there are a number of methods by which physical therapists acquire clinical competence in manipulation. They include:

- Clinical programs in entry level education - Marymount University in Northern Virginia has specialized clinical opportunities available for students wishing to become proficient in manipulation which range from 3 to 6 months in length and provide direct instruction and supervision.
- Post-professional degree programs - Several exists in universities in the United States both at the masters and doctoral level that offer extensive didactic and clinical training in manipulation.
- Post-professional continuing education - There is an array of post-professional continuing education, such as the North American Institute of Orthopedic Manual Therapy (courses range from 42 to 84 hours) offered around the country which are devoted entirely or partially to manipulation. Included in these are MAPS seminars (Maitland Australian Physiotherapy Seminars) at which accurate assessment and clinical decision-making are emphasized and the methodology includes live patient demonstrations and a hands-on laboratory format.
- Post-professional clinical residency programs - A number of programs exist across the country which offer extensive clinical and didactic training in the area of manipulation.
- Orthopedic Certified Specialist Certification - The American Board of Physical Therapy certifies specialists in a number of specialty areas of physical therapy, including one related to manipulation. The minimum eligibility requirements include at least 6,000 hours of direct patient care in orthopaedics or evidence of completion of an accredited clinical residency and passage of a written examination of advance knowledge and clinical skills.
- Clinical mentorships - The American Physical Therapy Association offers a program designed to assist clinicians interested in developing advanced clinical competencies by providing them with mentors who have expertise in the area of manipulation.

Chiropractic Education Programs

There are presently 16 chiropractic colleges accredited by the Commission on the Accreditation of the Council of Chiropractic Education (CCE). The CCE is recognized by the United States Department of Education. As with physical therapy, in order to obtain a license to practice chiropractic in any of the fifty states, graduation from an accredited chiropractic institution or educational program is one of the necessary requirements. In addition, many states, including Virginia, require the applicant for licensure to successfully complete the four-part National Board of Chiropractic Examiners examination (NCBE). This examination covers basic sciences, clinical sciences, clinical competency and practical skills.

The CCE has described the minimal acceptable clinical criteria necessary for the competent practice of chiropractic. These are found in the Standards for Chiropractic Programs and Institutions, Section 3. The Criteria for Accreditation V. Mission Elements – Clinical Competencies. Included are clinical competencies in the areas of history taking, physical examination, psychosocial

assessment, diagnosis and clinical impression and adjusting competencies. Attitudes, knowledge and skills are described for each area of clinical competence.

The following is an example of the attitudes, knowledge and skills associated with the adjusting competencies.

Adjusting Competencies:

The adjustment is a precise procedure that uses controlled force, leverage, direction, amplitude, and velocity directed at specific articulations. Doctors of chiropractic employ adjustive procedures to influence joint and neurophysiologic function. Other manual procedures may be used in the care of patients such as manipulation, which are not as precise or specific.

Attitudes:

1. Appreciate the need to explain what will be done when administering the adjustment, discuss risks, and recognize the potential for patient apprehension and concern.
2. Demonstrate awareness of the need to accommodate patient privacy and modesty in the course of administering chiropractic adjustments.
3. Demonstrate awareness of the need to reassess and modify adjustive methods appropriate to the needs of the patient.

Knowledge:

1. Demonstrate an appreciation of the normal and abnormal structural and functional articular relationships.
2. Demonstrate awareness of the pathophysiology and methods of evaluating articular biomechanics.
3. Understand the principles and methods of various adjustive and manipulative procedures common to the practice of chiropractic.
4. Recognize the clinical indications and rationale for selecting a particular adjustive or manipulative procedure.
5. Be able to select and appropriately use equipment and instruments necessary to administer adjustive or manipulative procedures.
6. Recognize the indications and contraindications for, and potential complications of adjustive and manipulative procedures.

Skills:

1. Demonstrate an ability to palpate specific anatomical landmarks associated with spinal segments and other articulations.
2. Select and effectively utilize palpatory and other appropriate methods to identify subluxations of the spine and other articulations.
3. Effectively use equipment and instruments that support adjustive or manipulative procedures.
4. Demonstrate an ability to effectively deliver the correct adjustive or manipulative procedures which utilize appropriate positioning, alignment, contact and execution.
5. Demonstrate the ability to effectively administer a variety of adjustive or manipulative procedures in order to accommodate differences in patient body type and clinical status.

6. Accurately record the method of determining location, specific procedure followed and outcome of adjustment.
7. Select and employ palpation and other methods for identifying the effects following adjustive or manipulative procedures.
8. Communicate the health benefits of adjustments to patients.
9. Demonstrate an ability to perform adjustive procedures in a confident and decisive manner.
10. Discuss potential immediate or delayed reactions or responses to the adjustment.

[From: Standards for Chiropractic Programs and Institutions, January 1999; www.cce-usa.org]

All professionals licensed by the Board of Medicine have an obligation to practice with skill and safety. A physician licensed to practice medicine or osteopathic medicine is authorized to practice "the prevention, diagnosis and treatment of human physical or mental ailments, conditions, diseases, pain or infirmities by any means or method." (§ 54.1-2900 of the *Code of Virginia*) Nothing in law or regulation stipulates that additional training beyond that required for basic licensure must be acquired to perform complex brain surgery or other such specialized practices. The professional is expected to practice within his or her scope of education, training and ability. The same may be said about other licensees of the Board who are all subject to disciplinary provisions in § 54.1-2914 of the *Code of Virginia*.

In the section on unprofessional conduct (§ 54.1-2914), the *Code* provides that any practitioner of the healing arts regulated by the Board shall be guilty of unprofessional conduct if he: 1) conducts his practice in a manner contrary to the standards of ethics of his branch of the healing arts; 2) conducts his practice in such a manner as to be a danger to the health and welfare of his patients or to the public; or 3) performs any act likely to deceive, defraud or harm the public. For example, the Guide of Professional Conduct for the American Physical Therapy Association provides that if the examination of a patient reveals findings that are outside the scope of the physical therapist's knowledge, experience or expertise, the physical therapist shall so inform the patient and refer to an appropriate practitioner. If, therefore, a practitioner licensed by the Board, whether it be a physician, an osteopath, a chiropractor or a physical therapist engages in the practice of manipulation without the necessary skills and ability to treat a patient safely and competently, that practitioner could face disciplinary action by the Board. Practitioners understand, both ethically and professionally, that there must be a limitation on practice based on their field of knowledge, particular expertise, and range of ability and training.

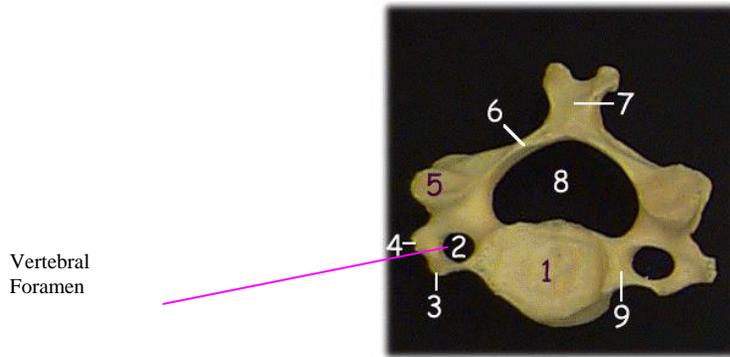
Spinal Manipulation: Risk of Harm

Spinal manipulation is a technique used by healthcare professionals to, among other things, aid in the reduction of pain, increase motion and enhance one's mobility. Whenever there is a technique that is perceived as carrying "risk", one needs to assess the actual risk of harm that the technique presents. In the area of spinal manipulation, there is a perceived risk of neurovascular disruption, with subsequent deficits, that can occur during or after the manipulative procedure. In the absence of rigorous, well-controlled studies, one must rely on case reports that are in the literature to

determine if a trend exists in regards to the harm that has been associated with manipulative procedures performed by various healthcare professionals.

Anatomical Basis for Potential Harm: Cervical Region

Regarding risk of harm, the primary anatomical structures of concern are the vertebral arteries (VA). The vertebral arteries course through the vertebral foramen. The location of the foramina that houses the vertebral arteries in the cervical region is illustrated below.



From: <http://numedsun.ncl.ac.uk/~nds4/tutorials/column/text/1c.html>

The vertebral arteries, at their termination, join together to form the singular basilar artery. Prior to this, the right and left posterior inferior cerebellar arteries (PICA) branch off the left and right VA’s respectively. The basilar artery and its subsequent branches are important in supplying blood to the posterior portion of the brain and the brainstem itself. Disruption in this circulatory structure can result in symptoms that include, but are not limited, to the following: dizziness, visual deficits, dysarthria, dysphagia, ataxia, impaired sensation, impaired motor function and nystagmus.¹ In extreme cases, death can result from disruption of the vertebrobasilar system.

Vertebrobasilar accidents that result in ischemic episodes are often associated with one of the following mechanisms: compression and/or stretching of the VA wall, intimal tear with clot formation, intimal tear with embolic formation, vessel wall disruption with subintimal hematoma, vessel wall dissection with pseudoaneurysm formation or perivascular bleeding.

The majority of incidences of injury resulting from spinal manipulation have been reported in case study format. Consequently, specific information about the exact mechanism of injury to the vertebrobasilar system as a result of spinal manipulation is limited. The following is a graph depicting the type of cervical spine manipulation that resulted in injury: (In 24% of the reported cases, the type of manipulation was not identified because the original article was not published in English and the description of the manipulation was missing from the secondary source interpretation or the English-language abstract.)



MECHANISM

Adapted from: DeFabio, R.P., *Manipulation of the cervical spine: Risks and benefits*. Physical Therapy, 1999; 79(1):50-62.

Injury resulting from spinal manipulation was reported as early as 1934.¹ There are case reports in the literature describing the occurrence of vascular compromise of the vertebrobasilar subsequent to cervical spine manipulative procedures. In 1977, Easton and Sherman reported two cases of cerebrovascular accident as a result of chiropractic manipulation.³ In 1991, Frisona and Anzola reported three cases whereby patients suffered vertebrobasilar strokes as a result of chiropractic manipulation.⁴ In 1993, Sinel and Smith provided a case report of a 32 year old female who suffered a thalamic infarct as a result of spinal manipulation that involved high velocity head turning.⁵ Terret and DiFabio have done extensive literature reviews in the area of injury resulting from spinal manipulation.^{1,2}

In his article entitled, "Manipulation of the Cervical Spine: Risks and Benefits," Richard Di Fabio studied 177 published cases of injury reported in 116 articles between 1925 and 1997. The most frequently reported injuries involved arterial dissection or spasm and lesions of the brain stem. Physical therapists were involved in less than 2% of the cases, and no deaths were attributed to manipulation of the cervical spine by physical therapists.

Limitations in Present Research:

The research that has been done to date, as indicated previously, primarily involves case reporting. In the majority of cases valuable information is lacking in regards to the following:

1. Type of clinician
2. Experience of clinician
3. Patient's past and present medical history
4. Type of manipulative procedure

The following is a chart of “clinician type” derived from the 180 cases (sometimes the same case was reported multiple times, though an attempt was made to eliminate the redundant cases) reported by Terret¹:

Chiropractor / Chiropractic	Medical Practitioner	Osteopath	Physio-therapist	Other	Unknown
103	27	13	6	13	21

*Other category includes: self, wife, kung fu practitioner, barber, lay practitioner, naturopath and kinesiotherapist

Terrett has also "corrected" the identity of the practitioner if it was reported to be a chiropractor, but from his research, the report contained inaccurate descriptions of the practitioner. In some cases, therefore, the practitioner originally identified as a chiropractor was changed to another type of practitioner. In 50 of the 78 cases that resulted in significant disability and/or death, he has identified the treating clinician as a chiropractor. Three out of seventy-eight were attributed to intervention performed by physical therapists, and two of those occurred in South Africa and New Zealand.

Injury Occurrences Independent of Spinal Manipulation:

There have also been occurrences of vertebrobasilar strokes independent of spinal manipulation procedures. In 1973, Nagler reported three cases whereby vertebral artery obstruction occurred as a result of neck hyperextension during activities which included gymnastics, calisthenics and yoga.⁶ Additionally, in 1977, Easton and Sherman reported a stroke that occurred while head turning during driving.³ Terrett reports additional occurrences of stroke related to head/neck rotation and/or extension, independent of spinal manipulation. In the cases reported, head movement occurred during activities such as neck extension for a nosebleed, archery, star gazing, rap dancing and sleeping.¹

Malpractice Reports:

Maginnis and Associates, the group that provides Professional Liability Insurance for physical therapists through the American Physical Therapy Association (APTA), has reported that no specific losses can be attributed to "manipulation or high velocity thrust". A memorandum written in May of 1996 from Judith Cipriano, the Director of Property and Casualty Product Development stated that they were "not able to find a single claim with this allegation."

In a memorandum written in March of 1999, the Underwriting Manager for CNA Health Pro reported to the APTA that they had conducted a review of their national claim file (approximately 600 claims) and found only three claims that mentioned manipulation. Two claims occurred in 1993; one was closed with no payment. One claim was filed in 1997; they did not report whether a payment was made. All three involved manipulation of the neck, and none of these claims occurred in Virginia.

In a commentary written in the Journal of Manipulative and Physiological Therapeutics in 1997, Jagbandhansingh indicates that between 1991 and 1995, the National Chiropractic Mutual

Insurance Company paid over 73 million dollars for 1,403 losses at an average of \$52,000 per case (ref).⁷ The most common malpractice claims reported between 1991 and 1995 are identified in the table below:

MALPRACTICE CLAIM	PERCENT OF CASES
Disc Problems	26.7 %
Fractures	13.8%
Failure to Diagnose	13.1%
Aggravation of Prior Condition	7.1%
Cerebrovascular Accident	5.4%
Burn	3.4%
Therapy	3.0%

From: Jagbandhansingh, MP. Most common causes of chiropractic malpractice lawsuits. *Journal of Manipulative and Physiological Therapeutics*. 1997;20(1):60-63.

Ruling by the Health Care Financing Administration

It had been reported that the Health Care Financing Administration (HCFA) would no longer cover manipulation of the spine if the services were provided by a physical therapist. In a letter from Dr. Thomas Gustafson, Director of Plan and Provider Purchasing Policy Group dated July 21, 1999, he has stated that that is not the case and a clarification of HCFA's position was provided. Section 1852 (a) of the Social Security Act requires Medicare managed care plans to provide all Medicare services, including physician services, to their Medicare enrollees. Accordingly, plans must make available to patients physicians, which includes chiropractors, to deliver manual manipulation of the spine to correct a subluxation. Managed care plans may also use physical therapists to provide services, including manipulative treatment of the spine and other areas, as long as physicians are included and they do not rely only on non-physician practitioners to provide services under the plan.

It was further noted that the HCFA policy is applicable to managed care plans only and has no implications for fee-for-service Medicare. Dr. Gustafson reported that there is no intention on the part of HCFA to introduce additional restrictions on which professionals can bill for manipulative treatments.

Studies and Actions from Other States

As a result of legislation introduced in the New York, the State Education Department's Office of the Professions, which is authorized to regulate 38 professions, including chiropractic, medicine, and physical therapy, conducted a lengthy process of research, analysis and debate on the issue of spinal manipulation. Information about spinal manipulation was obtained from health literature, criteria of national accrediting bodies, national examination blueprints, and statutes of other states. All the data was sent to the Department's counsel with a request for a legal opinion. Findings of the report were as follows:

- Course content on manipulation must be included in the curricula of every physical therapy program accredited by the Commission on Accreditation in Physical Therapy Education.
- The National Physical Therapy Examination, used as the licensure examination for physical therapy, identifies spinal manipulation as an area to be tested.
- Literature supports physical therapists' historic experiences with manipulation, while numerous letters from physicians indicate that physical therapists are performing spinal manipulation with skill and expertise and have been for many years.
- Agreement was reached among the representative chiropractic and physical therapy members of a joint practice committee meeting that what physical therapy refers to as "Stage V Mobilization" is synonymous to what chiropractic describes as "manipulation," that is, movement of joint beyond the elastic barrier without destroying the integrity of the joint structure.
- Definitive evidence was not found to support the position that physical therapists' use of manipulative procedures poses a greater risk to the public's health and welfare than from chiropractors performing this procedure.

The subsequent opinion of the Office of Counsel stated that the law clearly authorizes physical therapists to perform spinal manipulation and/or spinal mobilization and has done so for at least nineteen years. Manipulation was determined to be an activity that can be performed under the heading of physical and mechanical means.

With regard to individual competence to perform spinal manipulation, it is unprofessional conduct in New York for a licensee to perform professional responsibilities which the licensee knows she or he is not competent to perform. Whether a practitioner is a physical therapist, a physician, or a chiropractor, licensees could be charged with unprofessional conduct if they undertake to perform tasks for which they are not competent by education, training or experience, even if those tasks are within their legal scope of practice.

The chiropractic profession has been actively engaged in seeking restrictive legislation on the practice of spinal manipulation. While bills have been introduced in a number of states to restrict the practice of manipulation, most have died in committee; others have been defeated by the legislature or are still under consideration. In several cases, efforts to restrict manipulation have resulted in changes to state practice acts. In North Carolina, physical therapists are precluded from performing manipulation of the spine, unless prescribed by a physician (in Virginia, all physical therapy is performed under the direction and referral from a physician). In West Virginia, the chiropractic practice act limits spinal manipulation to licensees that have received a minimum of 400 hours of classroom instruction and a minimum of 800 hours of supervised clinical training at a facility where spinal manipulation is a primary method of treatment. The state of Florida has adopted a statute stating that physical therapy practitioners are not authorized to practice chiropractic medicine, including specific spinal manipulation. Arkansas, Iowa, Minnesota, Nevada, Utah, and Washington also have some restriction on the practice specified in law.

Under-girded by a policy statement on spinal manipulation urging the profession to "protect the art as uniquely chiropractic", which was adopted by the American Chiropractic Association (ACA) at its annual meeting in August, 1999, legislative efforts are likely to continue.

REVIEW OF DISCIPLINARY CASES IN VIRGINIA

In making a determination on regulation of any profession, the primary issue is always the protection of public and safety. Before any consideration is given to restricting the current scope of practice for any licensed profession, there should be evidence that the public is not being adequately protected. To make that determination on harm to the public, a report was prepared on Complaints, Violations, Sanctions for Chiropractors, Physical Therapists, Physical Therapist Assistants (1991 - 1998) - See attachment.

In addition, the Department conducted a review of all complaints for Chiropractors and Physical Therapists (including those which did not result in a disciplinary case):

Total number:	649 complaints filed
	537 complaints against chiropractors
	112 complaints against physical therapists

Of the 112 physical therapy complaints, 68 involved either unprofessional conduct or standards of care. All of those case files were reviewed by a researcher for any complaints involving spinal manipulation. The finding was that: **No case has ever been documented in Virginia against a physical therapist performing spinal manipulation (or mobilization)**. (All cases in which there was any mention of the words "manipulation" or "spine" were specifically copied and also reviewed by Dr. Warren Koontz, Executive Director of the Board of Medicine.)

SUMMARY OF PUBLIC COMMENT ON STUDY

Comments received in writing on the study included the following:

The position of the Virginia Physical Therapy Association is that there is no evidence that manipulation by a Virginia licensed physical therapist has resulted in patient complications and that any legislation to restrict their practice is unnecessary.

A physical therapist wrote that the "force, amplitude, direction, duration, and frequency of manipulative treatment or spinal manual care are discretionary decisions made by the physical therapist on the basis of education and clinical experience and on the individual patient's profile and are within the scope of practice of what physical therapists are qualified to do."

A recent graduate of Shenandoah University's masters level program in physical therapy wrote to say that she has been comprehensively educated to specialize in manual therapy for all joints of the body. Without the ability to treat the spine, physical therapists would be neglecting a huge component of musculoskeletal injuries.

A medical doctor, a rehabilitation specialist, board-certified in physical medicine wrote to say that the physical therapists to whom he refers patients are well-versed in spinal manipulation and should have full privileges to treat patients with biomechanical dysfunctions. These therapists have taken

extensive course-work in high-velocity, low-amplitude techniques, muscle energy techniques, strain/counterstrain and soft tissue mobilizations.

A physical therapist wrote to express concern over the possibility of limiting the current scope of practice. He points out that joint manipulation is often necessary to ensure that a stiff joint can move through its full range of motion.

A chiropractor who is a delegate to the American Chiropractic Association wrote to explain that a ACA committee has been formed to develop data on Spinal Manipulative Therapy (SMT) and that in its opinion, SMT is a chiropractic science and art that should be a physician-applied service provided only by trained and qualified specialists.

The Virginia Society of Chiropractic noted that medical doctors receive no training in spinal adjustive procedures and recommended that "only Doctors of Chiropractic and Osteopathy, when a) properly trained as part of their core curriculum, including faculty observed clinical training and b) licensed in the Commonwealth, are qualified to perform their profession-specific spine procedures."

The position of the Virginia Osteopathic Medical Association is that Doctors of Osteopathy should not be included in any language that defines the type of manipulation that is being performed or provides any hourly requirement or restriction.

RECOMMENDATION OF THE BOARD OF MEDICINE:

In § 54.1-100, it is stated that every person has a right to engage in any lawful profession and that the Commonwealth cannot abridge such right except as a reasonable exercise of its police powers when it is clearly found that such abridgment is necessary for the preservation of the health, safety and welfare of the public. No regulation is to be imposed on a profession except for situations in which the unregulated practice of the profession can harm or endanger the public and the potential for harm is recognizable and "not remote or dependent upon tenuous argument."

The Board of Medicine considered the content of the report on spinal manipulation as developed by the Task Force and voted 11-5 to accept the report with the following recommendation:

In the opinion of a majority of the Board of Medicine, no evidence has been presented to suggest that additional statutes or regulations are necessary to protect preserve the health, safety and welfare of the public. In fact, there is evidence that the public has not been harmed or endangered by physical therapists who practice spinal manipulation and that the potential for harm is remote. Therefore, the report of the Board to the Chair of the Senate Committee on Education and Health is that legislation such as proposed by Senate Bill 600 in 1998 and Senate Bill 1141 in 1999 is both unnecessary and unwarranted and that there should be no limitations placed on the professions that currently utilize manual spinal care or spinal manipulation within their scope of practice.

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