

Chapter 3

Integration with medicine – the scope of cranial work

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INTRODUCTION

Historical perspective

As indicated in Chapter 1, the modern beginnings of cranial manipulation derive from the osteopathic tradition as interpreted by William Garner Sutherland. And so, in part, the scope of cranial work is embedded in that of osteopathic medicine. Yet many in the osteopathic profession in general have been slow to accept and implement this point of view. Despite osteopathy's ambivalence, a variety of manual practitioners have been attracted to and have developed aspects of cranial manipulation. Historically, then, many practitioners have practiced cranial technique outside their culture's definition of 'medicine'.

In a parallel development, those practitioners working in manual medicine, physical medicine and rehabilitation, sports medicine and American osteopathic medicine have to varying degrees integrated manual philosophy and techniques into orthopedic and disease model medical problem solving. This chapter deals with the sometimes controversial topic of osteopathic medical integration and its relevance in cranial work both in America and Europe. It also addresses the issue of how this integration affects the definition of treatment goals and the choice of techniques.

Historically, the scope of osteopathic work and thought has developed nearly independently on different continents and varied in its expression

even within countries. Despite common inspirations, there has been variation in philosophical focus. In several quarters the search has concentrated on finding and treating the 'osteopathic lesion', which has been variously defined. The emphasis has often been on the articular components of the body, the joints. More recently, at least in American circles and in that sphere of influence, the goal of treatment has been to identify and treat somatic dysfunction, defined as an impairment of body function caused by structural distortion but possibly involving other body systems. These may be due to congenital conditions or may be acquired through trauma, strain or adaptation. This represents an approach that is broader than a biomechanical one.

In other settings, including among the students of J M Littlejohn DO, the British physician who worked with the founder of osteopathy, A T Still and who propagated osteopathy beyond America, there has been considerable focus on normalizing physiology and function. (Littlejohn's point of view will be discussed further below.) In this setting a general protocol is often used in which any variation from normal is corrected until the whole works more harmoniously. Currently there exists a muddle of methods and schools in the USA, Europe and Australia, competing for attention in defining what is and what is not an osteopathic treatment approach. The point being made is that priorities in intent of treatment have shifted with time, depending on how one defines the patient's problem – i.e. is it structural or functional?

As implied above, the scope of osteopathic practice has varied according to cultural and political setting. Early in its history in America, the osteopathic profession fought for, and received, legal recognition as a fully privileged profession on a par with medical doctors. Partly this occurred because of the strong contribution to health care given to communities in the rural mid-West where the profession arose. Through these events, osteopathic medicine has assimilated and contributed to many protocols in standard medical practice, since its practitioners were free to practice the full scope of medicine. Whether this development is viewed as an advance or as a corruption of pure osteopathy has been bitterly debated but it

remains as a fact, influencing the health care of millions of people.

The progression toward legal recognition and licensure of osteopathy has been variable throughout the world and continues to evolve. These different national or regional expressions of osteopathic philosophy have fostered different opinions about the integration of medical concepts into osteopathic practice.

Additionally, in the USA, the separation of John Upledger DO from the greater osteopathic professional community, in teaching craniosacral therapy to the general professional and lay public, has served as a stimulus for the osteopathic profession to be more proactive in teaching cranial methods, while making treatment available to a broader population. With these events, however, has come a greater variation in medical competency or commitment to osteopathic principles among those treating under the name 'cranial'. Craniosacral therapists come from many backgrounds and apply craniosacral principles to complement other aspects of their work. Since they are not necessarily medically trained, their awareness of other aspects of the patient's medical condition will be highly variable.

Chiropractic is another practice tradition that has included the cranial area in its treatment protocol. Although many practitioners incorporate the methods taught as craniosacral therapy, a derived system of sacro-occipital technique (SOT) has evolved out of the work of Bertrand DeJarnette (DeJarnette 1934, 1935) who blended Sutherland's original research with his own systematic thought. DeJarnette's work then was incorporated into the system of applied kinesiology, as formulated by George Goodheart and adapted by others. The latter method varied from manual diagnosis by adding formulaic testing protocols, simultaneously with active muscle testing, in making diagnoses (Walther 1988) (see Ch. 5).

And so, it becomes apparent that cranial work in particular has been introduced into practice differently, at numerous locations and times. Hence, the flavor and particulars of application of the work vary according to the intent and bias of the introductory contact, teaching in new cultural contexts, as well as the practical needs and professional definition of the students. This leads

to the certainty that there is no single authoritative voice for cranial practice. There is no 'right' or 'wrong' cranial approach, whether it is bio-mechanical in its focus and methodology or more 'energy' oriented. At present, despite heated debate, neither of these extremes has a clear evidence base and both seem equally effective in clinical practice, when appropriately applied.

Current focus

This chapter aims to clarify an appreciation of the development of cranial manipulation as it evolved in an osteopathic context and to provide an opportunity for the reader to reflect on the potential scope of application of cranial concepts in his/her own particular health-care practice. Of special relevance is the interface between osteopathic philosophy and contemporary medicine as it affects cranial practices. The particular issue of integrated osteopathic thought and how it affects perceptions, judgments and treatment strategies in applying cranial concepts will be addressed in a cultural and historic review.

- Does the head behave according to its own set of dynamics or is it part of the rest of the body?
- What are the clinical consequences of one (cranial) approach or another likely to be?
- Should the focus be on key symptoms and restrictions or should there be a more global approach to the patient?
- When is it appropriate to blend information, diagnosis and treatment deriving from manual medical or orthopedic contexts?

These questions are becoming more crucial as physicians of manual medicine around the world adopt osteopathic techniques.

The issue of scope of practice and manner of treatment depends on the way one defines the patient as a person. One intriguing area of exploration and redefinition is referred to as the biodynamic model of the patient. This area will be touched on here but addressed more extensively in Chapter 4.

The author, while practicing as an American osteopathic physician, with full medical privileges, will try to set aside bias and assume the position of a moderator, pointing out examples, advantages,

disadvantages, benefits and limitations of implementing cranial concepts in a medically integrated approach to the patient.

DEFINING OSTEOPATHY IN THE CRANIAL FIELD

The dialectic: a drugless science

Osteopathy's founder, Andrew Taylor Still, described an approach to medical care minimizing the use of the harmful drugs of his day and also surgery. His intent was clear: to establish a complete system of health care based on discovering and assisting the natural functioning of body systems by optimizing structural integrity. His scope was universal, including the study of anatomy, physiology, spirituality, philosophy and theology as they applied to the patient. The pursuit of knowledge, of science, was paramount in diagnosing and treating (Still 1992, p. 6; 1902, p. 44; 1899, p. 16).

He gave his students a philosophy but not a handbook of techniques. Briefly this included the conviction that much of patient symptoms and illness depended on distortions of anatomic positions of bones or tension in fascia. This in turn led to congestion or edema, compression of nerves and interruption of free flow in blood vessels. His main strategy in treatment was to find these distortions and correct them in whatever fashion was necessary and to then allow the body to resume the natural function of healthy management.

In leaving this life he gave admonitions which provide the roots of division. He told his osteopathic progeny to 'keep it pure' (Truhlar 1950), meaning not to adulterate their practice with the use of drugs. But he also encouraged them to integrate current scientific knowledge into their understanding of their patient. Despite his disagreements with Drs Littlejohn and Smith (another Scottish physician) regarding the role of physiology in the curriculum, physiological principles are woven through Still's writings. When these two recommended teaching physiology, Still proclaimed that osteopathy was solely based on the understanding of anatomy. But he went on to include physiology as a subset of anatomy and in

practice he observed, speculated and integrated physiological processes into his approach to designing interventions. More will be said in Box 3.1 regarding J M Littlejohn, the father of osteopathy in England.

Sowing and reaping: the varied growth of osteopathic ideas

A variety of historic events have contributed to the dispersal of Still's thought and its growth and cultivation. This has certainly affected osteopathy in the cranial field. Professionally this has generated disagreement and factions; politically it has evolved into nationally distinct circumstances of practice privilege, training and registration requirements within osteopathy. Additionally, the value of the concepts has been noted by many outside osteopathy, in physical therapy, kinesiotherapy and physical medicine, who have integrated aspects of osteopathic concepts into their practice methods. Physical therapy has incorporated strain/counterstrain and muscle energy techniques that have their origins with osteopathic practitioners and teachers. The use of direct articular manipulation or thrust techniques, as used in chiropractic, is argued as being linearly derived from Still's teaching (Trowbridge 1991). All these developments have been a background for the definition of cranial work today.

Similarly aspects of physical medicine, manual manipulation and movement therapies have been imported into osteopathic methodology. Muscle chains, incorporated from Godelieve Denys-Struyf and the meziarists (Denys-Struyf 1979), and effleurage and other soft tissue techniques from massage traditions are examples. The techniques of Jean Pierre Barral (1998), Vladimir Janda (Bullock-Saxton & Janda 1993) and Robert Maigne (1996) are other examples. It should be apparent from this discussion that ownership of an idea by one professional group is a moot point. Good ideas are freely traded and implemented by conscientious practitioners within the scope of their talent, experience and practice. Reverence for the particularities of the experience and context of application of the authors from which we learn ought to be presumed. But an appreciation of this history moves us off center into the broader arena

of appropriate adaptation of ideas in treatment, within the context of an individual's knowledge, licensure and experience and the patient's need.

In this context, then, let us look at some of the threads of diversity which in the past have caused division but which influence how cranial concepts have been or may logically be used in osteopathic and other manual treatment.

General versus specific: where to start?

In classical philosophy there is an issue called the problem of the one and the many. Do we understand the world or any part of it by summing up an understanding of the particulars or do we approach the particular from a conceptual understanding of the whole? In the end it appears that both approaches have their advantages and limitations.

The same dilemma follows us in beginning our approach to the patient with a complaint, whether back pain, headache or sinus congestion. The same diversity of approaches exists. In cranial work, our practical and philosophical biases, or those of our teachers, translate into a preference for beginning with the general or specific features of the patient. Some consider the manipulation of the dynamics associated with the primary respiratory mechanism as adequate for management of all health problems. They then extend the principles first learned in the cranial field to other regions, even the body as a whole. Others proceed from the other direction, by applying articular approaches, learned in dealing with the body as a whole, to problems in the cranial area.

Still is sometimes quoted as saying that the cerebral spinal fluid is 'the highest known element' (Still 1902, p. 44). He had such a deep appreciation of the importance of the neural co-ordinative system, as well as the nutritive aspect of all body fluids. The primacy of the cranial dynamic is further underscored in the writings of William Sutherland (Sutherland 1990, p. 13). He was amazed at the degree of treatment success he was able to achieve on himself as an experimental subject and on others in clinical practice, through application of his personally discovered methods. As a result he somewhat specialized in difficult cases, with which he had

success. Several of his students, including Viola Frymann, Beryl Arbuckle and Robert Fulford, extended this specialization in the particular application to problematic cases, using cranial methodology (Arbuckle 1977, Comeaux 2002, Fulford 1996, King 1998).

In extending the cranial approach – the principles of subtle motion, ligamentous-membranous connectivity and respiratory effects – to working with articular as well as soft tissue elsewhere in the body, some students of Sutherland reformulated their teacher’s thoughts under the title ligamentous articular release (Speece & Crow 2001). Rollin Becker, another student, described a protocol for listening to the soft tissues of the body as ‘taking them where they want to go’.

Using our palpatory skills to read this living body physiology, we’re allowing this patient’s body physiology to show its patterns of health. (Becker 1997, p. 219)

Another student of Sutherland’s, Robert Fulford, interpreted the subtle relationships of the body under the theme of energetic or bio-electric effects or influences (Comeaux 2002). In each of these approaches there is the recognized need to both accept the general orientation of cranial work, to work directly on the cranium as indicated but to also work with other osteopathic principles, in other parts of the body, as the need arose. In this context, the idea of integrating cranial techniques with other trains of thought is not new.

FORMATS FOR MEDICAL INTEGRATION

American osteopathic integration: the introduction of medical concepts

Still opened the American School of Osteopathy to convey his teaching in 1892. As with any new intellectual movement which has economic or political consequence, the early days of American osteopathy were steeped in struggle and intrigue. Politically there was an immediate awareness of the need to gain legal recognition and licensure in each of the United States. This was done in a manner that would preserve the philosophical distinctiveness of osteopathy. However, the

smoldering tumult in Still’s mind, over the scope and definition of osteopathic practice, ignited a conflagration among his early followers.

In starting his school, Still benefited from the interest and help of William Smith MD, a graduate of the University of Edinburgh, Scotland, who contributed greatly to the teaching of anatomy. Additionally, his program was enriched by the knowledge of physiology brought by J M Littlejohn, who had previous degrees in divinity and law and a Master of Arts from University of Glasgow (Berchtold 1975). Littlejohn, who, like many, came to Kirksville as a patient, stayed to learn the basics of osteopathy. A well-educated man, he saw the biological significance of Still’s teaching and was hired both as the second dean of the school and to head the department of physiology, where he began animal research (Trowbridge 1991, p. 174).

As these and other recruited geniuses began to express their ideas, independent of their teacher, Arthur Hildreth, a family friend and initial student of Still, was charged with correcting the situation (Hildreth 1942). Smith was dismissed and Littlejohn relieved as dean. With his intent to leave, Littlejohn was moved to ask for recognition for his academic work and requested not a Doctor of Osteopathy degree, as was conventional, but a ‘Doctor of Medicine, Osteopathic’ degree. The conflict unresolved, he left and founded what remains today as the Chicago College of Osteopathy, before returning to England. Littlejohn’s request was the earliest attempt at full medical privilege in the osteopathic tradition.

Another early controversy stemmed from the role of surgery in this fledgling medical profession. While remaining adamant about the non-scientific use of drugs, as such was the case in his day, Still allowed for surgery when necessary to save life. Surgery related to anatomy and anatomy was to remain the guiding principle of osteopathic practice. Physiology was recognized by Still as subsidiary to anatomy, that should be modified when necessary through structural manipulation. Surgery was, in a broader sense, an extension of manipulation.

The original ASO Hospital (1906), followed by the founding of the Laughlin Osteopathic Hospital by Still’s son-in-law, George Laughlin,

institutionalized this practice (Walter 1992, p. 59). This brought the profession further under the jurisdiction of governmental review, from the point of view of public safety. The standard by which these activities were judged were those of contemporary medical and surgical practice. Additionally, the Still–Hildreth Memorial Sanatorium was another institution in which the profession would undertake the integration of practices compatible with the medical standards of the day.

Medicine in general would be revolutionized in the 1930s and 1940s by the introduction of antibiotic medications. *The Journal of the American Osteopathic Association* in the 1940s demonstrated a significant assimilation or intrusion of popular medical culture. The issue of this author's birth month includes advertisements for neo-synephrine decongestant, ampicillin and even one representing a physician's recommendation to calm the nerves by smoking Camel cigarettes.

Furthermore, local tensions remained as osteopathic physicians attempted to gain practice privilege in allopathic hospitals in order to follow their patients. Additional pressure was applied for inclusion as medics in the armed forces, that finally came during the Korean War.

Through the 1970s and 1980s a sense of urgency for recognition of the professional practice privileges of general practitioners and the ascending specialty of family medicine, led to a general popular appreciation of the full scope of competency of osteopathic education and practice. Internal pressures within the profession led to the renaming of most degrees granted by osteopathic institutions, from Doctor of Osteopathy to Doctor of Osteopathic Medicine and the proper term of address of the graduates to osteopathic physicians rather than osteopaths (Gevitz 1982).

For those cherishing parity with MDs above all else, this has led to a diminution of manual diagnostic skill and application of traditional osteopathic principles in treatment. However, to those who value the contribution to health of complete diagnosis, including palpatory assessment and incorporating manual treatment and its benefits into medical care, there has been an advancement of the quality of medical care.

Although osteopathic medicine in the USA is heavily influenced by the scientific paradigm which advocates the biochemical and molecular approach to medicine, which supports pharmacotherapy, many in osteopathic medicine are beginning to revisit and test the concepts of traditional osteopathy, including osteopathy in the cranial field.

There is a trend in medicine emphasizing evidence-based practice. Independent research supports or finds feasible many of the teaching espoused by Sutherland (Hargans 1998, Moskalenko et al 2003). Additionally, osteopathic researchers are evaluating the physiological laws and phenomena that support osteopathic diagnosis and treatment (Comeaux 2003, Nelson et al 2002).

Still's basic premise that medicine should be scientific cannot be contested. The current emphasis on evidence-based medicine is quite compatible with this and should allow the inclusion of osteopathic medicine in standard medical care. With maturation of medical scientific understanding beyond the macroscopic world available to Still's contemporaries, osteopathic philosophy should support scientific technologies that enhance the harmony of natural processes.

The challenge to modern osteopathic thinkers is to follow this wave of maturation, respecting the vast ocean of scientific biological information while still valuing the hand, the mind and the heart as conductors of interpersonal experience, that are clinically usable to cultivate health in the patient. This transition of paradigms is confusing to all of us. However, the integration of osteopathic manual diagnosis and treatment into general medical practice, most importantly in primary care, brings a wealth of potential benefits that are often only partially appreciated. The case studies below will explore some of this richness.

Current cosmopolitan medical culture

Expanded physician interest

To complement the developments cited above, in the last several years the practice of manual medicine has become more popular among physicians. And so there has been the development of many national and now international

Box 3.1 European osteopathy and cranial concepts

Initial introduction of osteopathy Modern osteopathic practice in Europe, the United Kingdom and elsewhere has a different history and a different contemporary expression from that of the USA.

Osteopathy has been introduced to Europe in several successive waves. After being treated, matriculating, being academic dean and chair of the Department of Physiology at the American School of Osteopathy, Littlejohn returned to England for a visit in 1903, meeting with the first osteopaths to land, J J Horn and Dr Walker (Hall & Wernham 1974, p. 9). Returning to America and founding the Chicago College of Osteopathy, it was not until 1917 that he organized the British School of Osteopathy (BSO) in London. Like Still, Littlejohn was a thinker which made him cherish Still's insights but led to divisive disagreement.

From the following statements on the subject of physiology, one can see the divergence of views.

- 'Physiology is the gateway by which this immense field of osteopathy is to be entered' (Hall & Wernham 1974, p. 9)
- 'A knowledge of anatomy with its application covers every inch of ground that is necessary to qualify you to become a skillful and successful osteopath ...' (Still 1899, p.16)
- 'Work in physiology at the present are compilations of many theories and a few facts.' (Still 1902, p. 29)

Still described physiology and other disciplines as parts of anatomy: 'I want to instill and impress it on your mind that this [physiology] is as much a part of anatomy as a wing is part of a chicken' (Still 1899, p.18).

Though initially semantic, their differences in interpretation of physiological function of the spine led to generations of divergent development in practice styles, as mentioned above. Littlejohn respected the complexities behind biomechanics and recognized the individual differences in function of each of the spinal vertebrae. His system also included dynamic patterns and relationships involving the spinal complex working as a whole. An individual vertebral segment had a role to play in a complex system of reversing arches, pivots and gravitational lines (Wernham 1956).

Littlejohn had a special interest in physiology, or body function, as a key to diagnosis and treatment. Largely through the popular theories evolved from the work of Harrison Fryette (1994), many of the systems of osteopathic work tended to be biomechanical and grossly

articular. The emphasis was more on the key dysfunctional segment, rather than the function of the whole. And so for a long time the preoccupying issues were different in the USA and the UK.

Besides teaching osteopathic concepts, Littlejohn's initial worries included official recognition and political survival of the profession. Finally in 1935, having graduated 100 students, he approached Parliament for medical professional recognition and was rebuffed. From that time until the 1990s, osteopaths in the UK were limited in the scope of their practice and denied recognition of medical education and medical privileges.

Evaluation of the role of cranial osteopathy, as derived from the work of an American DO, William Sutherland (a graduate of Still's second class), and the field of cranial osteopathy or myofascial relationships was to wait until after Littlejohn's death in 1947. Littlejohn's system of curves and pivots stopped at the atlas (Wernham 1956, p. 29).

Cranial infiltration in the UK Sutherland had begun teaching individual physicians his cranial method at his office in Redwing, Minnesota in groups of four, for 2 weeks at a time. This activity began in the 1940s after he had made his thoughts public in 1939 in a small book called *The cranial bowl* (Sutherland 1939).

Denis Brookes, a DO trained in England, took cranial courses in America and began teaching cranial techniques at the BSO. His name appears as a new member of the General Council and Register of Osteopaths in January 1950 (*Osteopathic Quarterly* 1950). Clem Middleton, a younger colleague of Brookes, also British trained, taught cranial therapy at the BSO. He noted:

The idea of applying manipulative treatment to the skull seems at first to be rather absurd but the fact is that the skull can be manipulated with surprisingly beneficial results in a number of very serious ailments. (Middleton 1950)

He goes on: 'As time goes on the scope of application of "Cranial Osteopathy" will steadily widen' (Wernham 1957).

Helen Emily Jackson, an American-born graduate of the Kirksville College of Osteopathic Medicine in 1935, moved to England through marriage in 1939. She later studied in the USA under Sutherland, in 1947 and under Beryl Arbuckle, a student of Sutherland, in 1956. Although not directly associated with a school, she was also influential in introducing the cranial concept to England (Jackson 2000).

Box continues

Box 3.1 European osteopathy and cranial concepts—continued**Second wave of cranial teaching in the UK**

Colin Dove, principal of the BSO from 1968 to 1977 (Dove 1977), in the BSO Diamond Jubilee speech recalled hosting and delivering courses and lectures reciprocally with the Cranial Academy and Sutherland Cranial Teaching Foundation (SCTF), while concurrently running a week's course in cranial techniques for 36 students at the BSO. He recounted, in a later summary, the role of Greg Curry in inviting the SCTF to run a course in London using Frymann, Schooley, Harakal and Woods as teachers. Later he remarked on the positive contributions of Rollin Becker, Robert Fulford, Ann Wales, Herb Miller and James Jealous in sharing aspects of osteopathic work.

While many osteopaths accepted cranial teaching, many did not. Indeed, Dove's initial assignment was to infiltrate the SCTF course, in order to learn enough to be able to reliably and knowledgeably discredit the method. However, he was won over to the approach (*Cranial Letter* 1998). The same period saw the formation of the Society of Osteopathy Cranial Group, whose newsletters chronicle activities and interests of that time. This group was heavily involved with and supported by John Upledger DO, then a professor at the Michigan State College of Osteopathic Medicine. Upledger's research, theory and practice included applications of the use of cranial methods with schizophrenic and autistic children and comparisons with acupuncture technique. Involvement with the emotional components of disease is cited in this attempt to expand the osteopathic synthesis of methodologies.

One editorial from the Society of Osteopathy Cranial Group newsletter gives testimony to the impact of this contact on British osteopathic practice style.

Being educated in the Wernham GOT [general osteopathic technique] tradition, I am painfully learning the magic of the minimal dose, not just in homeopathic terms but also in the osteopathic approach. This seems to apply to Cranial technique, with what little experience I have so far ... my most complex cases are the ones which end up having cranial treatment and a little seems to go a long way. (Society of Osteopathy Cranial Group Newsletter, 1964)

This same issue announced an upcoming discussion between Upledger and Colin Dove, representing different points of view, while Dove, in another setting, called for understanding among British DOs who did and who did not buy into the cranial model. Intermixed with this

contact with Upledger were members of the Sutherland Cranial Teaching Foundation, such as Robert Fulford and Rollin Becker (Bel 1999).

At the same time Brookes was training a group of approximately 30 British and French DOs in a series of weekend workshops that ran from 1969 to 1978. These practitioners formed the Cranial Osteopathic Association, that later became the International Cranial Association.

What becomes apparent is the collegial enthusiasm, shared across borders by those interested in this cranial model. However, the differences in scope of practice between UK- and US-trained DOs heavily influenced the variety of ways in which practitioners in the two countries could use this material. Under common law British DOs had no limitations as to what they could do clinically, only barriers to working within the state-funded health system. Since statutory regulation (in the 1990s), the osteopathic title is now protected and access to the National Health System is now open, with numerous DOs now employed in both GP and hospital settings, primarily in the management of musculoskeletal problems.

Examples in the USA provide the contrast. Upledger, for example, derived some of his pressurestat theory of cranial principles from participating in, or observing, intracranial surgery. American DOs such as Helen Emily Jackson or Beryl Arbuckle, her teacher, were trained and licensed to be involved in the full practice of pediatric medicine. American DOs working with neonatal osteopathy may actually have delivered these children as part of their obstetric practice. These differences would ensure that, although they had a common enthusiasm and language, the practice experience of American and British DOs varied greatly.

One gets the impression that during the 1980s the interest in cranial technique was swamped by resistance and interest in more biomechanical techniques. An example of the skepticism with which cranial technique was met in some quarters is encapsulated in the following quote from Alan Stoddard, DO MD, in his 1986 Littlejohn Memorial Lecture, reflecting on his 50 years of practice.

My fourth conclusion refers to palpation. Palpatory skill can be acquired and refined but there are limits to this method of examination – not merely limits of sensation but limits of interpretation. Imagination can so easily play a major role in palpatory diagnosis. I consider that I have acquired considerable skills in this direction yet I cannot detect the so-called cranial rhythm postulated by

Box 3.1 European osteopathy and cranial concepts—*continued*

Sutherland and expounded here at the BSO. My old friend and expert in palpatory diagnosis, Audrey Smith, cannot feel it either. Is the rhythm of the cranium the same as the silk dresses of the King in the fairy tale? The silk is spun so finely that only the intellect can see it. No one would admit to being unintelligent except the little child who declared the King had no clothes on. Then everyone agreed with the child. ... Anyone who believes you can alter the flow of the cerebrospinal fluid by applying mechanical force to the cranium is gullible indeed. (Stoddard 1986)

A more robust parallel development in British cranial work, that has had a more linear connection to the present, is that of Thomas Dummer at the European School of Osteopathy (ESO) in Maidstone. Dummer's interest in osteopathy began with a background in Littlejohn-style techniques. However, his life was augmented by travels to Tibet and integration of bio-energetic and subtle physics into osteopathic theory and practice. In this setting, the ground was fertile for the planting of cranial thought.

Since the current ESO derived from the French School of Osteopathy, that history will be included below.

Introduction of cranial concepts to continental Europe As in the UK, cranial concepts came in through osteopathic teaching. An early introduction of osteopathic concepts in 1923 by Major Stirling, in France, was to a group of medical doctors. In 1957, Paul Geny, a French massotherapist, opened the first school of osteopathy in France, Ecole Européenne d'Osteopathie. Geny was also assisted greatly by Denis Brookes, the British-trained DO mentioned earlier (Barillon 2000).

Geny moved the school to London in 1964 to avoid political problems with medical doctors. Eventually the School was relocated to rural quarters near Maidstone, Kent. During this transition he was assisted by Francis Peyralade, Parnell Bradbury (an American-trained DC, practicing in Brighton), as well as Denis Brookes and Tom Dummer, mentioned above.

Prior to the move to the UK, Geny hosted a course in cranial technique taught by American students of Sutherland, Harold Magoun, Viola Frymann and Thomas Schooley. Many in this class were previously trained physicians. The course represented the first osteopathic cranial training in mainland Europe and its graduates joined the Cranial Academy.

A side note is that Dr Magoun was initially apprehensive about training non-physicians. In order to advance in the course, he gave the prospective students a proficiency test that amounted to a blindfolded challenge to identify and describe the form of individual cranial bones (Bel 1999).

A third introductory wave of cranial osteopathy occurred in Europe during the 1990s and 2000s, with the continued travels of Viola Frymann, now nearly the last living student of Sutherland.

The program at the ESO has continued to include courses and speakers incorporating cranial concepts in the expanded osteopathic model, as is reflected elsewhere in this book.

The third wave continues in Europe The osteopathic community in France has now regrouped to train under the Centre Internationale d'Osteopathie (CIDO), in Saint Etienne, with other schools emerging. More recently a generation of European osteopaths have been introduced to the field through the work of Viola Frymann who has contributed regularly to the curricula in schools in Germany, Canada and Russia. These students have received an orientation that cranial osteopathy is *the* focal concept or one of the founding concepts, of osteopathic practice.

This impetus and gradual continued training of foreign students in English osteopathic schools has led to a small but progressively growing group of osteopaths practicing, sometimes without official government recognition, in most European countries, including Spain, Italy and Portugal.

In Belgium the first osteopaths given training and degrees from the ESO opened offices but did not organize as the Belgian Society of Osteopathy and Research in Manual Therapy until 1976, later to reform as the Belgian Society of Osteopaths in 1986.

Osteopathy was exported to Russia in 1989 by Viola Frymann with a cranial emphasis. However, the Russian School of Osteopathy was also assisted by the ESO and BSO. Education largely follows the British model. Although many graduates have a prior medical degree, osteopathic training does not grant general medical privileges in Russia.

In Germany, since the 1990s the kinesiotherapy and medical models have competed as the prototype of osteopathic training and practice. This is also true in France, Sweden, Norway and Finland. In Canada, the largest training stream for osteopaths, the College

Box continues

Box 3.1 European osteopathy and cranial concepts—*continued*

d'Etudes Osteopathiques de Montreal, complies with the English model. Started by Phillippe Druelle DO (French trained) and Jean-Guy Sicotte MD, DO (Canadian medical graduate with American osteopathic training), this college has expanded to implement programs in Germany (Deutsche Osteopathische Kolleg) and Switzerland (Swiss International College of Osteopathy). A small Canadian Osteopathic Association comprises mainly American-trained osteopathic physicians.

In Asia the introduction of osteopathic techniques has followed a different course. One key figure, Kunihiko Takagi MD, found his Western orthopedic training lacked correlations with Japanese traditional medicine, including acupuncture. Introduction to the

concepts of Robert Fulford DO, a cranially trained DO who developed an interest in bio-energetic medicine, compatible with the Asiatic concept of qi (chi), aroused an interest in him for osteopathic concepts.

In this rapid review of developments it is apparent that there is no uniformity as to the teaching of osteopathic principle and the role of cranial therapy. It is also apparent that in many settings there is a mix of physicians and non-physicians using the ideas and techniques. While there is a struggle for dominance, regardless of bias, physicians are being trained in osteopathic methods, including cranial concepts and approaches.

associations of physicians involved in manual medicine. In the USA and in many other countries, the specialty of physiatry, or physical medicine and rehabilitation, provides a non-osteopathic approach to musculoskeletal disorders. Many in that field now value and seek training in osteopathic methods to integrate into their style of practice. Reportedly in Russia, manual medicine has been recognized as a separate specialty. However, the route of entry into this area is also through general medical education in the political jurisdiction of the practitioner. In many contexts this brings practitioners into the same topical arena as the osteopath but with a different, non-osteopathic orientation or philosophical training. Interested practitioners may then seek out osteopathic or craniosacral training

Recognizing this trend, organizations such as the Federation Internationale de Medicine Manuelle (FIMM) have evolved in an effort to develop standards of education and practice. The FIMM now hosts biannual international conferences for its membership associations from 26 countries. The FIMM was founded in 1958 through the initiative of Dr Christian Terrier (Switzerland) and representatives from Belgium, Great Britain, France, Scandinavia, Switzerland and West Germany. In this context, osteopaths, including those who practice cranial techniques and those coming from other training paths, meet and

discuss ideas that have begun to influence individual practice styles.

As a consequence of such sharing, osteopathic practice, especially among those who have medical training, continues to evolve. Inevitably this will lead to further integration of medical and osteopathic concepts (Hutson 2003).

Physician/non-physician mix

In Europe there are continual efforts, by several groups, to develop international osteopathic consortia. American osteopathic organizations have made efforts to recognize the legitimacy of osteopathy in the international community. Embedded in these developments are discussions relative to qualifications required for recognition.

Recent efforts to develop formal international relationships have been made by the two major American osteopathic political organizations, the American Osteopathic Association (AOA) and the American Academy of Osteopathy (AAO). At the 2003 Convocation of the AAO, the committee on international relations facilitated the incorporation of the World Osteopathic Health Organization which is open to individual membership, regardless of practice style or training (www.woho.org). As this chapter is written, the AOA is continuing meetings toward forming an Osteopathic International Alliance which would consist of

members with full medical licensure. Such developments will further influence the integration of osteopathic medicine with relevance to the practice of osteopathy in the cranial field.

INTEGRATED OSTEOPATHIC TREATMENT – INCLUDING CRANIAL

Current practice

Recognizing that the roots of osteopathic treatment were based in the intention to develop a complete approach to health and that medicine has evolved over the last 130 years, the following list of medical indications and contraindications to osteopathic manipulative treatment is proposed. This list will be followed by illustrative case scenarios. It is realized that in some circles the scenarios will appear as compromised standards of medical care, whereas to others they may appear as a corruption of osteopathic practice. Still himself, on several occasions, said there was not one way to treat (Still 1992).

The case examples will begin with several that integrate palpatory diagnosis and manual treatment into general medical management. Following this, some case examples will be presented which more directly involve cranial diagnostics and treatment as their focus.

The discussion below depends on an acceptance of the resolution attempted in the paragraphs on specific and general treatment above. It is the author's belief that there are interactive relationships within the body that integrate apparently separate systems, as well as structural interrelationships which affect systems. If a symptom is a reflection of a breakdown of body function, a failure of adaptation, the elements of the body that are locally, regionally or systemically most closely related to that area's normal function can be recruited to clarify the diagnosis and to expedite treatment. Clinical experience is the best teacher in selecting the local and non-local structures that will be most relevant to normalization of local function.

Whether or not the pharmaceutical industry is effective in achieving it, this is also the goal of modern pharmacology. While all therapy falls short of faithfully replicating natural body

functions, it is the author's experience that it is often advantageous to use the complementary benefits of manipulation, pharmacology, herbal remedies, acupuncture, diet and other lifestyle or behavioral approaches in any attempt to restore normal function.

Indications and contraindications

Many of these are relative, depending on the diagnostic acumen of the practitioner, the physiological consequences of the therapeutic methods used and the current goals of treatment. To demonstrate this point several examples have been included, under both the indications and contraindications, in order to stimulate reflection and thought.

The suggested applications are derived from personal case experience, collegial consensus and the logical extension of physiological principles. Osteopathy has not advanced to full participation in the evidence-based medicine process because of lack of funds and patient numbers, as well as challenges in standardization of patient populations. Items marked with an asterisk (*) will be illustrated below, in the case scenarios.

These lists are in no way intended to be comprehensive. They are also not intended to suggest any application beyond the reader's professional competency or practice license.

Indications

Non-cephalic medical presentations benefiting from manipulation Most orthopedic complaints routinely referred to physical therapy, including:

- Extensor tendonitis
- Tennis elbow
- Biceps tendonitis
- Frozen shoulder
- Lumbar strain
- Plantar fasciitis*

Peripheral neuropathies

- Carpal tunnel syndrome
- Brachial plexus compression/thoracic outlet syndrome*
- Sciatica
- Vertebral disk prolapse

Systemic disease

- Edema including congestive heart failure
- Bronchitis, acute and chronic
- Hypertension
- Chest wall pain.

Non-cephalic medical presentations benefiting from cranial treatment

Structural or general medical

- Myofascial pain syndromes
- Cumulative chronic systemic disease
- Cancer, palliative phase of treatment

Psychological

- Anxiety, depression*
- Post-traumatic stress disorder*
- Panic disorder
- Anxiety associated with mitral valve prolapse

Developmental

- Growth retardation*
- Learning disabilities*
- Attention deficit disorder with hyperactivity
- Infant colic.

Cephalic-related complaints benefiting from cranial treatment

- Headache*
- Temporomandibular joint dysfunction*
- Whiplash-type cervical strain*
- Hemiparesis secondary to stroke
- Congenital non-synostotic plagiocephaly
- Postencephalopathic hemiplegia*
- Allergic rhinitis*
- Chronic otitis media
- Direct cranial trauma without fracture.

Contraindications

Structurally or medically unstable conditions

- Stroke in evolution
- Suspicion of subarachnoid hemorrhage
- Suspicion of acute fracture, cranial or cervical
- Suspicion of cancer not yet diagnosed or staged
- Potential for metastasis when cure is still sought
- Acute encephalopathy or meningitis
- Vertebral disk prolapse
- Dizziness, loss of consciousness, blurred vision with cervical rotation/sidebending

- Local infection, cellulitis or abscess
- Untreated fracture.

All conditions beyond the practitioner's/therapist's training level.

Prescription: technique selection and dosing

All manipulation has health consequences and depends on knowledge, experience and judgment to appropriately select a method and to dose the intensity, duration and frequency of treatment. Many types of treatment, including cranial, allow an operator to be an artist, to work intuitively, modifying the technique for individual patient requirements.

The issue of individualization of treatments, according to patient need and therapist skill, reiterates what was mentioned regarding indications and contraindications.

These prescriptions are meant to serve as suggestive guidelines, with skill and sound judgment presumed. They are not intended as permission for the unqualified to apply a newly learned technique, nor for a patient to self-prescribe and then go looking for a practitioner. All medicine is, and should remain, serious business. Medically integrated manipulative practice is serious business and no part of this text should be construed as a substitute for trained medical judgment.

In no case is it intended to give anyone intellectual permission to practice outside the scope of their license or training.

CASE EXAMPLES

Explanation and disclaimer

A selection of case examples illustrating the integration of osteopathic manipulation, including cranial manipulation, in an otherwise medical context are detailed below. The author has attempted to describe routine situations, in which manipulation has been very useful, with unusual or heroic applications. These are presented to the reader as suggestions for further developing a practice repertoire within the scope of the currently held license and training. The descriptions

are not meant to engender competency or increase practical skill.

Non-cephalic medical presentations benefiting from manipulation

Case 1: Plantar fasciitis

Complaint: JK is a 37-year-old female complaining of recent-onset left foot pain. She believed she injured it the previous weekend during a hike that involved unusual exertion.

Examination: Stocky individual, reasonable muscle tone, erect carriage with shoulders posterior to center of gravity and increased lumbar kyphosis. Posterior view demonstrated pelvic sideshift and declination of the sacral base to the left. Hip drop (Gillette) test was positive on the right. Standing flexion test was positive on the left. There was a left lumbar scoliosis pattern with thoracic compensation and the shoulders were level.

Seated examination revealed a similar scoliotic pattern, with positive seated flexion test on the left. Supine exam revealed tenderness in the medial aspect of the left heel, with an apparent short leg on the left. Cranial exam revealed a right sphenoid torsion pattern.

Assessment:

- Plantar fasciitis
- Restriction of motion/somatic dysfunction: lower extremity, pelvis, lumbar, thoracic and cranial.

Treatment sequence: Diagnoses were shared with the patient with an explanation of functional interrelationships between her pain and her pattern of postural and structural imbalance. Her condition was reinterpreted as a chronic condition, requiring more than acute care, with her symptom reflecting an acute exacerbation. Prognosis and the need for steady applied effort were described.

The patient was offered an integrated treatment approach that included osteopathic manipulative technique (including cranial), home exercise, use of an insert heel pad and anti-inflammatory medication. Although mentioned as a last resort, injectible corticosteroids for symptom relief were considered but dismissed.

The focus of osteopathic manipulation was threefold. To convince the patient of our care and knowledge, treatment began with a connective tissue stretch to the plantar aspect of the foot and the posterior compartment of the leg. The primary focus of the treatment approach was to restore symmetrical balanced function to the pelvis. This was accomplished using a combination of connective tissue releases, muscle energy and oscillatory techniques. By inference, through the core-link concept, this would imply optimal and symmetrical cranial function. A home exercise protocol was recommended and taught. This included a leg-over stretch, derived from a yoga spinal twist but with repetitive isometric contraction added. For the plantar fasciitis, a standing stretch of the posterior lower extremity was demonstrated.

Over a 3-week period, the patient used a cushioned heel insert and an anti-inflammatory medication and received three treatments involving manipulation. At each visit changes in cranial function and other somatic dysfunctional patterns were noted and treated as appropriate. Typically this would entail connective tissue stretch of the posterior compartment of the leg and muscle energy technique applied for the sacral and pelvic findings. The scoliosis improved with leveling of the sacral base. Cranial mobilization included gentle but direct stretch of the membranes and guidance of the cranial base into free motion.

Improvement of the heel pain was slow at first and the patient was frustrated. Coaching was critical to encourage her to persist with the heel cushion and home exercises to complement the office treatment. Each visit showed incremental improvement in her postural and cranial pattern of imbalance.

The early return of cranial symmetry suggested that the cranial findings represented a secondary or accommodative pattern. Cranial work, moving from direct manipulation to inductive balancing techniques, was continued in subsequent sessions, with the intention of monitoring diagnostic changes as well as treating subtle dysfunctions.

The patient was relieved when a decrease in the intensity of her pain was noted, particularly the absence of symptoms on rising. Progressively the frequency of visits was decreased and after

3 months she recognized that she had been symptom free for several weeks. She was encouraged to continue the stretching exercises.

Discussion: This case reflects the interrelatedness of the body in diagnosis and treatment. It also demonstrates the balance to be struck between attending to the patient's point of view, in their experience of symptoms and simultaneously attending to the issues of interrelatedness of the body as a functional unit and the issue of a primary cause of patterns of adaptation.

In this context structural and functional findings in the cranium may reflect a primary problem or an adaptive pattern to an underlying problem elsewhere. Classically the interconnectedness has been attributed to the distribution of dural attachments, resulting in forces being transmitted through the cerebrospinal fluid.

However, the 'core-link' hypothesis is not the only unifying concept through which explanations of interconnectedness can be produced. Several attempts to systematize the unifying function of the connective tissue system, notably the fascia, have been put forward which complement the implications in Sutherland (1990, p. 273) and Still. Rollin Becker describes the key role of a higher level potency which is responsible for the vital mobility underlying all of physiology (Becker 1997, p. 95).

Additionally, the work of Godelieve Denys-Struyf describes the functional interrelationship of muscles whose investing fascia create chains which direct the force and which are expressed in postural prototype (Fig. 3.1). The prototypes are also thought to correspond to emotional states, either endogenous as personality or acquired as attitude, deriving from thoughts or experience such as trauma. Her primary intervention is postural retraining, by means of which the person intentionally adjusts posture to a more desirable and consistent pattern (Denys-Struyf 1979).

Myers (2001), with his system of muscle trains, approaches treatment from a different point of view by conceptualizing the fascial interrelationship of a region as functional connections between nodes, the joints. Rather than seeing the limbs and trunk as a collection of separate bones and activating muscles, Myers expresses the structural

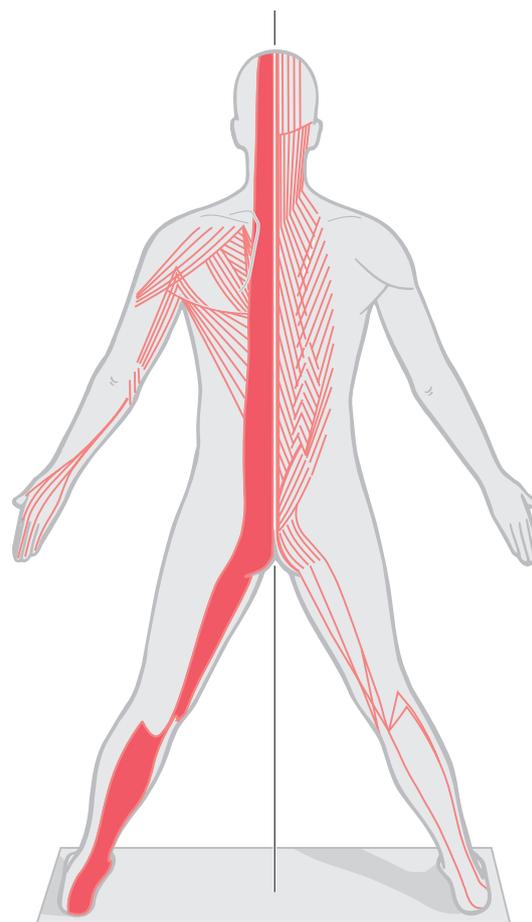


Figure 3.1 Diagram of muscle chain pattern PA, corresponding to attitude of confrontation. (Reproduced from Denys-Struyf 1997.)

interrelationship of parts as if they were elements of a continuum (a virtual tensegrity structure). The muscles and investing fascia are seen as railroad tracks, with the enthesis or attachment to bone as 'train stations' or important points for therapeutic intervention.

Schultz (1996), in his book *The endless web*, expresses in a more basic way the extension of the fascia of the trunk and extremities which might express themselves in injury or pain patterns. However, the point is the same: the continuum of the fascial system is often underappreciated in bodywork. Classically, osteopathy, including that in the cranial field, has always created and promoted this idea, though admittedly not in a

unified manner. This case shows a practical example of how these interrelationships are reflected in clinical practice.

The case draws us into the dilemma of attending to the patient's complaint of pain, their symptom, while simultaneously looking deeper into the chain of causation. Both postural and mechanical (articular) interrelationships, within the affected region and throughout the body, require consideration. The relationships may include vasculohumeral factors such as inflammation. They may include biomechanical consideration such as accommodation by regionally compensating joint surfaces. Additionally, they may be viewed from the neuromuscular or myofascial point of view. Whichever perspective is chosen, the person is a functional whole that can be affected from many points within a series of functional loops. On a more esoteric level, the chaos mathematical models can contribute to our appreciation of clinical syndromes, as discrete phase states organized around a particular attractor (Kelso 1995).

The integration of orthopedic, podiatric and pharmacological approaches to patient care, as illustrated in this case, represents a wide application of this paradigm. Each intervention, though sometimes redundant, can perturb the current unsatisfactory pattern and encourage normalcy, in a time frame satisfactory to the patient. This is important for maintenance of credibility with the patient, ensuring compliance with the critical aspects of care that involve their behavioral changes.

Non-cephalic medical presentations benefiting from cranial treatment

Case 2: Cognitive and constitutional delay and later onset of adolescent growth

Complaint: At the time of consultation CH was a 12-year-old boy, alert and active but small in build and behind his peers in reading skills. He had slight asthmatic bronchitis, allergic rhinitis and had taken allergy desensitization shots for 2 years. His mother brought him to a family practice initially for the weekly desensitization shots but on one occasion remarked about her dissatisfaction with his delayed growth and reading problems.

Out of school the child seemed developmentally normal. He had participated in the routine public health immunization schedule and had no serious perinatal conditions or illnesses. CH was the youngest of three siblings, delivery having been rapid after a medically normal but emotionally stressful pregnancy. APGAR scores were 9 and 9. (APGAR is a sum score determined by several physiologic parameters including color, cry and heart rate at 1 and 5 minutes after birth – ideal is 10 and 10.)

Examination: Physical examination showed a boy of slight build, pale but alert and oriented with good muscle tone. General musculoskeletal exam revealed no significant abnormalities or restrictions. Cranial exam revealed general symmetry with 4/5 strength of cranial rhythmic impulse, as noted on biparietal contact; no frank focal articular restrictions were apparent. If anything, there was stiffness and resistance to motion in the membranes.

Assessment:

- Dyslexia/learning disability
- Allergic rhinitis
- Small for age.

Treatment sequence: A general treatment protocol was initiated aimed at optimizing respiratory, cranial and bio-energetic function. Much of this included working from a posterosuperior supine vault hold but included application of cranial compatible principles elsewhere in the body. A percussion vibrator was also used, as will be described below.

The child was seen intermittently, if possible at the time of his allergy shots, averaging every other week. Over several months the mother noted a marked increase in reading skills and school grades improved. CH went into an adolescent growth spurt.

Discussion: Manipulative management integrated into this child's care reflects the complexity of influences. Continuation of the allergy desensitization injections may be seen to reflect a virtual 'schizophrenia' inherent in medically integrated osteopathic practice, that demands compliance with politically opposed paradigms of care.

Osteopathy is viewed by many as being an inherently drugless therapy while, in addition, many are concerned about the adverse effects of meddling with the body's immune system. Often such conflicting approaches occur due to the patient's acceptance of the utility of particular medical methods, such as desensitization injections. Building patient confidence regarding the quality of care is an important aspect of any treatment regimen.

The utility of cranial manipulation for an apparently behavioral problem is based on the concept that, as humans, our behavior is partly grounded in the physical substrate that is involved in co-ordinating the behavior – the brain. It is considered that deficiencies in childhood behavior and learning may be due to marginal dysfunction of intracranial processes caused by constitutional restriction of healthy inherent motion. Sutherland, Magoun, Arbuckle, Fulford and Frymann all attest to the importance of successful resolution of preterm and congenital strains in the later full functioning of the child. They all developed protocols for dealing with extreme cases of birth trauma, as well as injuries producing only minor immediate disturbance of function. Learning disability, in this context, reflects a slight, progressively disclosed inhibition

of normal higher human function. Cranial manipulation is used to optimize function by normalizing subtle membranous, parenchymal and bony relationships, relative to the brain. There is often no evidence of a single glaring focal point of dysfunction, although sometimes there is one previously undiagnosed lesion.

The functional deficit may evidence itself in subtle ways. In general cranial work there is an appreciation of the complementarity of diaphragmatic respiratory function and cerebrospinal fluid fluctuation. Nelson & Gloneck suggest that these rhythmic phenomena help regulate the physiologically recognized Traube-Hering-Meyer oscillation (Nelson 2002). Based on his experience in subtle palpation, Robert Fulford explained the normal movement and function as an energetic component of the vital function of an individual. He termed the initiation of this vital process the 'first breath', which he described as qualitatively and quantitatively palpable to the trained individual. Stressful preterm or birth-related events could possibly limit the quality of the function. Arrests or suboptimal expressions of this first breath, the absence of a spirited cry, could be reflected in suboptimal function until corrected. In addition to his manual approach, he would use a percussion vibrator, variously applied, to normalize



Figure 3.2 Palpation of the cranium with anterior approach, accommodating reciprocal complementary polarity, after protocol of Robert Fulford DO. (Reproduced with permission from Comeaux 2002.)



Figure 3.3 Percussion vibrator applied to treat pelvic dysfunction, after the protocol of Robert Fulford DO. (Reproduced with permission from Comeaux 2002.)

the electromagnetic relationships of cells and tissues involved in a dysfunction (Comeaux 2002).

In the percussion vibrator a motor drives a padded hand piece, by means of a flexible rotating shaft. The hand piece applies a short excursion force perpendicular to the surface of the skin. The frequency may be varied from 100 to 4000 strokes per minute and is generally used in the range of 40–100 Hz.

A formal protocol, with many considerations for modifying treatment, is described in Fulford (1996). The pad is applied over a bony prominence to disseminate oscillatory force through the target tissue. The vibratory force is intended to entrain the endogenous vibration of tissue that may have been reduced or dampened by trauma or other strain.

Cephalic-related complaints benefiting from cranial manipulation

Case 3: Headache with whiplash

Complaint: BK, an 18-year-old, presented with headache and neck pain in a family practice setting 8 days after a motor vehicle accident. Emergency department evaluation included an incomplete cervical spine series which revealed cervical spine straightening; the patient had been dismissed from the emergency department after

he insisted on staff response to his father's complaint of pain and an argument ensued. Both were injured when their vehicle was rear-ended by a vehicle impacting at high speed. The patient was a first-year college student and prior to the accident reported episodic neck stiffness for which he received some physical therapy.

Examination: After repeating a cervical spine series with odontoid view to demonstrate absence of fracture, the patient was further evaluated manually. As is typical of this type of injury, there were no discrete segmental vertebral restrictions but rather diffuse soft tissue tenderness, secondary to ligamentous and dural strain. The cranial base was found to be compressed with minimal mobility.

Assessment:

- Headache
- Cervical strain
- Sphenobasilar compression.

Treatment sequence: Treatment progressed and serial re-presentations of an evolving postural adaptive pattern were remolded over a 4-month period. Initially work was done to facilitate mobility during the healing phase. Minimal tissue texture changes in the occipito-atlantal and C1–C2 region were addressed by manual traction, focal inhibition, gentle connective tissue release and

muscle energy technique, using oculocephalogyric reflex activation (Ward 2003). The full length of the dura was evaluated and focal restrictions were treated where appropriate. The cranial base compression was treated with a traction technique, separating the occiput and the sphenoid wings.

As healing progressed, there was localization of restriction in the thoracic inlet region and attention was paid to fascial and rib mobilization in this region. Eventually the patient resumed class work with progressively diminishing complaints.

Discussion: This case represents a rather straightforward case of head and cervical strain without more distant problems. However, both the strain pattern and the restrictions were viewed regionally, rather than as local articular dysfunctions.

The dura, the fascia and the cranial-spinal chain represent a continuum of structure and function. Cranial mobility and restriction should not be viewed in isolation from the structures with which they are continuous.

Objective findings become very valuable in the context of automobile accidents, in which litigation, narcotic seeking or other malingering are real possibilities.

Case 4: Allergic rhinitis

Complaint: CV, a 22-year-old woman, came to a family practice office complaining of recurrent sore throat and earache. She anticipated a positive streptococcal screen with a view to receiving an antibiotic. Her symptoms had worsened over the previous 3 days although she had noted no fever. She indicated recurrence of these symptoms over the last 4 months, despite using a course of cephalexin (antibiotic) 2 months previously. She had no shortness of breath but reported a cough at night.

Examination: The patient was a trim female, with slight 'allergic shiners' beneath her eyes. Examination of the ears, nose and throat showed the external auditory canals to be clear, the tympanic membranes to be slightly pink with retractions and no injection or significant fluid in the middle ear. The mucosa over the nasal turbinates were

boggy and pale. The throat revealed pharyngeal erythema and hyperemia, with no erythema or exudates associated with the pharyngeal arches.

Supine cervical exam revealed adenopathy in the posterior triangle. No frank segmental rotations were noted but the right occipito-atlantal area revealed edema and tension in the rectus capitus posterior major. Cranial mobility was adequate and symmetric.

Assessment:

- Allergic rhinitis with secondary pharyngitis
- Serous otitis media.

Treatment sequence: It was necessary to begin where the patient was concerned, in order to convince her that the assessment of her condition was accurate. An explanation was offered as to a differential diagnosis suggesting irritative pharyngitis, secondary to the postnasal drip of allergic rhinitis. The acute and chronic aspects of this condition were then discussed. The futility of empiric antibiotics and complementary pharmaceutical methods of dealing with allergic rhinitis were also discussed. Although it is a stimulant, use of the appropriate dose of pseudephedrine was suggested to decrease congestive edema.

While discussing the pros and cons of various approaches the patient was asked to lie supine. Treatment involved a stroking or effleurage of the posterior fascia of the neck, as well as stretching to mobilize the fascia of the lower neck and the thoracic inlet (the doorway to the lymphatic ducts as it enters the subclavian vein).

Facial effleurage and a pumping of the mandible (called the Galbreath maneuver: see Fig. 3.4) were applied (Ward 2003).

Cranial manipulation followed the pattern and rationale as discussed below. In this case the patient agreed on a short course of an antihistamine, as well as over-the-counter pseudephedrine.

Discussion: A mundane but frequent complaint, nasopharyngitis can reflect a cranial problem. Though not threatening, the condition has a high prevalence and a significant amount of money is often spent on pharmacological and over-the-counter remedies, all aimed at masking symptoms.



Figure 3.4 Galbreath maneuver to normalize Eustachian tube function and minimize serous otitis media. (Reproduced with permission from Steele & Essig-Beatty 2004.)

Cranial manipulation can be very helpful. Although the patient was aware of the nasal and throat drainage, the majority of fluid which enters the head leaves posteriorly, through the jugular foramen. Treatment of the occipito-atlantal area by gentle stretching, mobilization of the occiput and spreading of the occipitomastoid suture is helpful in long-term management. Additionally a frontal lift, sphenoid flexion, as well as frontonasal traction and exaggerated flexion of the zygomata all contribute to opening the ostia of the sinuses and the venous and lymphatic channels which serve them.

Allergic rhinitis represents an enhanced immune response, the result of genetic, developmental and systemic factors. In the correct environment, the author has found homeopathic, as well as medical, desensitization to be of value.

Additionally there is a classic system involving use of neuroendocrine tender points (neurolymphatic or Chapman's points) (Ward 2003, p. 1051) which can be very helpful in upper respiratory complaints such as this. An energetic approach to these types of problems may reflect the work of Marcel Vogel, as passed on by Robert Fulford DO (Comeaux 2002).

Case 5: TMJ dysfunction, migraine trigeminal nucleus affected by the temporal bone

Complaint: MC was a 25-year-old female referred for osteopathic assessment and treatment by her family physician for recalcitrant jaw and neck pain plus headache. She reported that an automobile accident had caused the onset of symptoms 8 months previously. In the accident she, as the driver, collided with one car, looked over her right shoulder to care for her young daughter in the back seat and was struck by another car.

Initially after the accident she was unable to open her mouth and lost 18 pounds (~ 9 kg). Her current weight was 137.5 pounds (62.5 kg). Headaches continued intermittently and were debilitating; they were largely right frontal and temporal, associated with photophobia.

Prior to presentation the patient had been treated with physical therapy, with limited improvement and was using an orthodontic splint.

Current medications at the time of presentation included hydrocodone/acetaminophen, amitriptyline, sertraline, metaxolone and an oral contraceptive agent.

Prior to the author seeing the patient, she was seen by a colleague in the group practice for five sessions. During this time osteopathic manipulation, including cranial therapy, was used. Also, rizatriptan was added in an unsuccessful attempt to treat migraine-type headaches.

Previous studies: Plain radiographs of the cervical spine revealed flattening of the normal curvature; dynamic X-rays showed slight ligamentous laxity. No fractures were evident. MRI of the cervical and thoracic spines showed a slight bulge of the intervertebral disk at T2, with slight cord flattening.

Examination: The patient was a lean female with a tightly clenched jaw. There was paraspinal tension at multiple levels in the thoracic and lumbar regions, with excessive tension in bilateral masseter muscles. With the splint removed, the temporomandibular joint seemed regressed bilaterally. With the splint in place, there was a soft edematous feel, with restriction of motion bilaterally. There was no asymmetry.

Cranially, there was compression of the sacral base. She pointed to a knot at the back of her neck that represented the atlanto-occipital area, which was tender. C2 was rotated and sidebent right and

flexed. The patient had a depression anterior to the lambda, presumably reflecting a congenital failure of closure of the sutures. She was anxious about this feature.

Tissue texture changes and articular asymmetries were noted throughout the cervical and thoracic spine and upper ribs. Additionally, the sacrum, though symmetrical, demonstrated limited respiratory flexion.

Assessment:

- Cranial dysfunction
- Dysfunction of cervical spine
- Headache
- Temporomandibular joint dysfunction.

Treatment sequence: Initially restrictions, beginning with the more remote elements of the sacrospinal-cranial complex, were evaluated and treated using a variety of osteopathic approaches. The temporomandibular joint was treated with traction and balanced ligamentous tension. Associated with this release were direct cranial mobilizations of the zygoma, maxilla and sphenoid.

The cranial base was progressively decompressed with traction technique. With greater



Figure 3.5 Temporomandibular decompression technique. (Reproduced with permission from Steele & Essig-Beatty 2004.)

mobility, restriction of the mandible, the sphenoid and zygoma on the right became more apparent. In addition to treating these restrictions, cervical manipulation was applied over several visits, using traction, ligamentous articular release and high-velocity thrust techniques.

When anticipated improvement was delayed, a cranial computed tomographic (CT) scan and repeat MRI of the cervical spine were ordered. The CT was read as normal; the MRI revealed diffuse mild, broad-based bulging from C3 to C7 and minor cord flattening.

Additionally, the implications of a chronic allergic rhinitis were evaluated with a course of an antihistamine, loratidine. Trials of periods with and without her mouth splint were tried.

Behavior issues, including overall tension and jaw clenching, were discussed and addressed, with a progressive relaxation method and a relaxation breathing protocol.

After 15 months of following and treating the evolving symptom complex and physical findings, the patient acknowledged she was well enough to withdraw from regular treatment. Seen in public, she looked happy, active and relaxed.

Discussion: This case represents a complex interaction between social, legal, psychological and biomechanical features. It involved a case of whiplash-type strain, with associated unresolved features. There was a distinct disadvantage in having to enter the case rather late.

Overall, the mandible is rarely addressed in classic cranial work. In some spheres of chiropractic and applied kinesiology there is recognition of what is called the somatognathic system (Walther 1983, p. 343; see also Ch. 5), indicating the relationship of jaw mechanics to other anterior body structures. In conventional whiplash strain, most attention is paid to the soft tissues of the cervical spine. However, as an appendage to the anterior skull, the mobile jaw, if abruptly altered in its inertial state, is capable of straining its suspensory muscles and ligaments. It is surmised that this was the case with this patient, especially considering the unusual bilateral quality of the tissues around the temporomandibular joint.

Additionally, no element of the biomechanical system is affected in isolation. The mandible is

intimately associated with the temporal bone and also the occipito-atlantal (OA) area. Resumption of normal function and relief of pain depend on normalization of these elements.

Although articular restriction at the TMJ and OA joints and the cervical spine, plus tension in the associated soft tissues, can cause a tension-type headache, a further potential cause of headache in this patient might be atypical migraine. Although for many years migraine has been viewed as vascular dysregulation, the primary cause of this disorder is now considered to be trigeminal nerve irritation, due to irregularities at the ganglion (resting as it does on the temporal bone) (Tepper 2003). In a cranial context, one could legitimately surmise that temporal bone imbalance, restriction or dysfunction may underlie some cases of migraine. Cranial treatment in such a context can therefore have many goals and the potential for offering relief.

This case additionally highlights the regional relationships involving the cranium. While in the context of Sutherland and Upledger we cite the core-link concept of cranial and sacral interrelationship, the author finds it helpful to recall that the dura attaches at each of the spinal nerve roots and is therefore capable of affecting the motion of each of the spinal segments. This feature of the craniospinal complex requires assessment and normalization if dysfunctional.

Philosophically and consistent with this clinical observation, Charlotte Weaver (1938) conceptualized the embryonic development of the cranial base as paralleling the development of the vertebral segments, with separate ossification centers within the adult structure. This developmental similarity suggests that spine and cranium are part of a larger integrated system, with similar behavioral characteristics. Treating them as totally separate systems is inappropriate and ineffective.

The apparent disparate pattern of symptoms in this patient suggests these interrelationships. The clinical challenge is to work through these symptoms and findings as if one were untying a ball of yarn.

Case 6: Postencephalopathic hemiparesis

Complaint: ES was a 37-year-old male who had been in a long-term convalescent nursing home for 3 years, after having an acute viral encephalopathy which left him with aphasia and paresis, affecting legs and arms bilaterally. A laborer with limited education, he had been abandoned by his wife who also took any financial assets he had. He was now a ward of the state, with limited prospects for a better life.

Having experienced a fatalistic approach to continued medical care, he was assigned to the author to care for his routine adjustment of antihypertension medications and other needs. Following an offer, he began to be transported to the author's office for monthly osteopathic treatment.

Examination: The patient arrived in a motorized wheelchair and was transferred with partial co-operation to the treatment table. He demonstrated about 20% normal strength in all extremities, with the ability to spontaneously move these. Passive mobility testing was complicated by limb spasticity. Involuntary movement spasticity of the extensor muscle groups predominated, preventing balance, essential to standing or walking. He struggled unsuccessfully to contribute to chair-to-table transfers.

Cranial evaluation revealed a large depression in the posterior occipital area as a result of exploratory surgery. CRI was initially very diminished without a clear rhythm. His stocky neck and spasticity made assessment of the cervical spine almost impossible. He had almost complete left arm and leg paresis with greater voluntary movement of the right limbs. Even passive range of motion testing was complicated by the spasticity. This was a most challenging patient.

Assessment:

- Postencephalopathic partial quadriparesis
- Cranial dysfunction
- Complications of surgery
- Depression.

Treatment sequence: Treatment was given intermittently, at monthly intervals, over 3 years.

Monthly, when he was willing, he was transported by wheelchair from the nearby nursing home. On such occasions treatment was on a conventional treatment table. Sometimes he was treated with an anterior approach, in a chair, on monthly medication rounds at the nursing home.

No formal protocol was developed for treating this patient. Cranial treatment initially began using a CV-4 (see p. 189) or occipital compression technique, along with other inductive techniques, to enhance cranial mobility. An attempt was made to involve the scarred areas in the mobility pattern. Work ceased for a time when seizures resumed and the patient associated these with beginning the cranial work. He later returned to treatment.

A second approach involved experimentation with limb movement. Using the remaining power of his right arm, more controlled motion was introduced by recruiting and involving muscles other than the natural prime movers of the limb. In other words, to flex the arm, rather than contracting the biceps, he was encouraged to try to keep the biceps relaxed and to find a more circuitous route to get his arm to the desired level. He would then be able to use the lateral head of the triceps and the deltoid. This strategy worked with both arm and leg movements. Over several years he progressively resumed a fair range of his previous movement pattern. This probably had to do with a gradual reassignment of cortical areas of the brain to limb movement.

Significant effort was applied to reducing restriction of fascial and articular motion, utilizing passive stretch techniques. Stretches needed to be achieved in a way that avoided the spastic contractions.

As he made incremental gains and saw progress, he applied himself in heroic fashion to his efforts. In part he was relieved of his feelings of oppressive helplessness and began to set goals. He eventually applied for an assisted independent living arrangement.

Discussion: The osteopathic profession describes its commitment to working with the whole person. Here we had a patient who had experienced a major health crisis. Additionally he had been abandoned and legally deprived of his assets, so that he became a helpless ward of the state.

Through a bonding between patient and physician and the patience of all involved, he was able to achieve a more hopeful and self-reliant status. Most of the work involved being creative in the application of principles, being persistent and trusting instinct. Nothing done was technically complex.

Case 7: Post-traumatic stress

Complaint: BB was a 48-year-old female who presented in a family practice 4 weeks after suffering midback strain in a motor vehicle accident, from which she was not recovering. She attributed the location of her pain to the seatbelt restraint as she was hit by another vehicle obliquely from behind but had turned to the left in response to noise. Physical therapy was painful and her regular physician resorted to a pharmacological approach (pain medication) only. The patient was dissatisfied with this. She presented a litany of complaints of pain in her midback, arms and legs and initially exhibited near-hysterical responses to almost any contact.

She normally worked as an assistant head teller in a bank and felt harassed by her employer who wanted her to return to work. She also expressed anger that there must have been something deficient about her medical care thus far, since she had not sufficiently recovered. She expressed indignation about being involved in the accident at all. For emotional support she would most often come to treatment with another family member, usually a young daughter.

Examination: The patient had a straightforward pattern of left sidebending and rotation of her ribcage, with a primary spinal segmental dysfunction. The OA area was very tender and there were a series of tissue texture changes throughout the cervical spine. Cranial mobility, though symmetrical, was diminished.

On directly but gently attempting to treat these areas, the patient was disproportionately anxious, protesting about the pain.

Assessment:

- Cranial, cervical and thoracic strain
- Anxiety
- Post-traumatic stress.

Treatment sequence: Treatment began in the area of her primary thoracic complaint, with gentle articular and muscle energy approaches. Again the patient protested at every approach, however gentle. By the third visit, it became apparent that her anxiety was presenting an obstacle to comfortable treatment and also to her expectation of, and acknowledgment of, any improvement.

The patient expressed a need for relief from the pain that became worse with walking, even to the extent of making her nauseous to the point of vomiting.

Expanded physical examination showed a cervical strain pattern, consistent with her injury history. Cranial examination revealed the occipital condyles posterior, resisting anterior translation into cranial base flexion.

There was extreme muscle tension in the suboccipital area. Cranial monitoring revealed global limitation of mobility, consistent with cranial base compression. Even light cranial contact was reported as causing nausea, as well as pain in her midback. Associations with vagal nerve compression seemed probable. However, discovery of further tender areas sent the patient further into a panic over her prognosis.

The initial approach to her emotional state was to try to help her develop cognitive insight into the association between findings and symptoms. An attempt was then made to use relaxation breathing as a way to help her control her panic. Neither effort achieved credibility with the patient.

Pharmacological therapy was tried temporarily, using anxiolytics as well as several trials of anti-inflammatory and pain medication. Integrated into this approach were time-lines for tapering, or intermittent use, of the medication.

Despite protests, treatment continued on a weekly or biweekly basis, on her thoracic distortion pattern, using articular, muscle energy and connective tissue approaches. Reassurance was given to generate a more positive attitude toward progress. Additionally, each visit included cranial balancing, according to the findings of the day, integrated with gentle upper cervical manipulation. Special attention was paid to the disposition of C1 and C2 and their relation to the muscles of the suboccipital triangle.

Two months after her first visit the patient requested release to resume her occupation.

Discussion: The role of cranial manipulation was twofold. One aim was to normalize structure and function of the tentorium which supports the diencephalon and the base of the brain. These structures support the tissues of the limbic system and the thalamic nuclei that relate to interpretation of experience and emotional response. It has been hypothesized that the experience of post-traumatic cervical strain, 'whiplash', may include neural reflexes involving this area, relating to vision (Levine 1997).

The symptoms of nausea associated with this patient's pain could be a centrally initiated vagal reaction to the pain experience. However, they could also represent symptoms of vagal crowding at the jugular foramen, at least partly in response to restriction of the occipitomastoid suture and the muscles of the suboccipital triangle, as mentioned above.

Additionally there were regional biomechanical relationships in her complex injury pattern, which involved the so-called 'core-link' (Magoun 1976, p. 337), the linear relationship of the dura below the cranial cavity. In conventional cranial work this is used to describe the relationship between the disposition of the sacrum and the cranial base. However, the responsible connecting structure is the dural tube, which also attaches at the lateral aspect of the spinal nerves, relative to their associated thoracic segmental vertebrae and ribs. These mechanisms become significantly more complex in the lower thoracic area, with the presence of the thoracoabdominal diaphragm. Robert Fulford has mentioned the involvement of this diaphragm in the 'shock of trauma'. In this case, the flexion-extension whiplash-type injury was compounded by the folding of the thoracic cage over the seatbelt

restraint. Force was disseminated upward and downward with the focal area acting as a fulcrum.

CONCLUSION

This chapter has attempted to show the history of the development of cranial thought and work in the context of the osteopathic profession's attempt to define the scope of its practice, compared to conventional medicine. This development has varied around the world and is continuing to do so.

This discussion is not meant to imply that cranial work or osteopathy is being subsumed into medicine and will no longer be recognizable. Rather, it is the author's premise that there is natural compatibility between contemporary physiological knowledge and osteopathic principles, which can be the key to including the cranial approach comfortably – to great patient benefit – in regular medical practice. This chapter has used excerpts from osteopathy's long history to illustrate this point.

There are additional aspects of osteopathic principles and work that go beyond the defined scope of medicine. In the author's mind these represent a part of the future of cranial work, as well as of medicine, and need to complement the research hitherto performed to validate the cranial concept. The work of John Upledger with somato-emotional release, the thoughts of Robert Fulford DO and the bio-energetic approach to treatment, the expression of James Jealous DO regarding the significance of the 'long tide' as well as Hugh Milne's (1995) 'liquid electric' model all point to the horizon of our understanding and what has been summarized as the biodynamic model. Aspects of this dimension of cranial work will be addressed in Chapter 4.

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