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## OSTEOPATHIC RESEARCH: CLINICAL EVIDENCE - BASED STUDIES

**S**tudents are challenged by certain unanswered questions about the practice of osteopathic manipulative treatment. Is it good for this diagnosis or that? How does it work? What evidence is available that it is effective? Finally comes the statement, "I want to do some research" and many times the topic that has already been selected is otitis media. The following commentary will be applied specifically to **otitis media** but the questions and considerations will apply similarly to any other clinical entity.

As an osteopathic physician or a practicing exponent of osteopathic manipulative medicine, what is essential for your research to be osteopathic? Is it the testing of a particular technique? Is it the evaluation of the practice of former renowned practitioners? Is it the comparison of the effect of your favorite manipulative approach with that of other modalities of treatment? All of these questions may contribute to your final conclusions, but the fundamental consideration must be its foundation in osteopathic philosophy and principles. First, it must recognize the dynamic unity of the patient. Second, it is essential to recognize the fundamental structure and function relationship of which motion is the primary function, and muscular, skeletal structure provides the framework for the circulatory, lymphatic, visceral and neurological sustaining services of this whole organism.

Can research be designed in accordance with these fundamentals and still meet the traditional medical model?

A uniform group of subjects and a comparable group of controls are initial requirements accord-

ing to tradition. Let us therefore look at the possibility of other media research.

What do you mean by otitis media? Should it be serous otitis media, purulent otitis media, acute or long standing otitis media. Is there fluid identifiable in the middle ear or Eustachian tube, have tubes been introduced in the past and removed or are tubes present today. Have prescriptions for antibiotics been administered and how often? Is there a measurable hearing loss? Is there earache, is there otorrhoea and if present is it clear or purulent? These are but a few of the questions that will enable you to select your subjects. But remember the whole patient, that dynamic unit of function. Is there a history of cranial trauma or present evidence of trauma to the head, the cervical spine and other regions of the body? Is there a history or present evidence of dysfunction in the nose, nasopharynx and mouth? Does the nutritional program include an abundance of mucus producing foods or foods evoking allergic responses?

It is thus obvious that it will be very difficult to assemble a uniform group of subjects for the study, even if you have defined parameters of age, sex, race, etc.

Consider the second requirement, controls. Can you recruit a matching group of subjects selected according to the above criteria?

Assuming that you have succeeded in the selection of appropriate subjects and matching controls, have you planned your therapeutic program that is to be put to the test? But each patient is an individual with unique anatomic - physiologic - pathologic characteristics. Is it consistent with osteopathic concepts to administer the same technique to each of the subjects just because a protocol has been designed? Somatic dysfunction in any area of the body may contribute to the problem and its resolution. Furthermore, is there such a thing as a sham treatment? It is well documented that the

touch of an untrained or uneducated hand can make a child feel better.

Thus it appears that the selection of subjects and controls presents almost inseparable obstacles, which are further compounded by the need for patient specific treatment. But it is important to prove to third party payers and to other branches of the health professions that the work of osteopathic manipulation is significant in the ear problems of children. It is therefore time to consider a third osteopathic concept declared by A. T. Still - **"Diseases are effects." The challenge to the physician is to find the cause.** Furthermore a study of human anatomy reveals a ubiquitous design for motion, even of the temporal bone. In children it is appropriate to recognize intraosseous and periosteal articulations relative to it, each with its own essential dimension of motion.

The tympanogram is a very useful instrument which will reveal the motility of the tympanic membrane and the state of the middle ear and eustachian tube. It is very easy to use even in infants and it provides immediate information regarding the middle ear and Eustachian tubes. Testing before treatment and immediately after the technique will show unmistakably if the treatment has made a change.

This, therefore, is a device to prove that specific technique applied to the temporal bone will change the compliance of the tympanic membrane and the state of the middle ear.

Before undertaking any research project involving manipulative procedures establish a track record of proficiency in order to be confident that you are demonstrating the effects of efficient osteopathic practice.

Another diagnostic category that challenges the young graduate is cerebral palsy. Again the question must be addressed, what is meant by cerebral palsy? Is it a child who walks on the toes but functions in life very efficiently or is it a spastic quadriplegic operating from a wheel chair?

Respiratory function may be profoundly influenced by temporal bone mobility. This can be demonstrated and documented accurately by a rela-

tively simple technique.

Time can be used as a controlling factor in some studies. Perhaps the incidence of otitis media is reduced in frequency after osteopathic treatment. But this child might be spontaneously improving or merely growing older.

In a long standing neurologic disability the group of research subjects and that of the control subjects may each be divided in half. Half of each group begins treatment immediately while the other half is not treated for 3 months. Record the status initially, 3 months later, six months later and, if possible, a year later. Note the rate of change recorded in each group.

Research currently developing at the Russian academy of Science in St. Petersburg is demonstrating that the venous sinus technique can enhance circulation in the middle cerebral artery and enhance motility of cerebrovascular fluid. This is a more complex and costly type of research but it is included here to emphasize that a study that can demonstrate the anatomic - physiologic effect of a specific osteopathic technique provides the evidence based research that will undergird the practice of this profession.

In conclusion, demonstrating that technique applied to the temporal bone can change function of the tympanic membrane or move fluid from the middle ear is not a claim to cure otitis media but it is evidence that this particular technique can change middle ear function. Therefore some physician may justifiably conclude that if the status of the middle ear can be changed in this way, this technique might be appropriate in the management of otitis media.

Demonstration that restoring inherent temporal bone mobility can enhance the depth and rhythm of pulmonary respiration does not put forth a claim to cure asthma, or emphysema but it does suggest that addressing that region of osteopathic somatic dysfunction may improve this particular respiratory disease.

Therefore, consider a specific technique and ask about its anatomic-physiologic impact on the patient. Then design a procedure that can record that effect. Thus you will indeed find the cause behind the disease.