OSTEOPATHIC MEDICAL HISTORY AND PHILOSOPHY

Objectives: The osteopathic medical student will demonstrate a minimum 70% understanding of the following subject arenas on an examination.

1. Osteopathic history
2. Principles of osteopathic medicine
3. Origins of the Caduceus and the Rod (staff) of Aesculapius
4. Principles of treatment
5. Models of systemic function and dysfunction.

Key Words: national history of osteopathic medicine; Caduceus, rod (staff) of Aesculapius, principles of osteopathic medicine; principles of treatment; models of systemic function and dysfunction

References:
Margotta, R., The History of Medicine, Reed International Books Ltd, Smithmark Publishers, 1996, page 121

The Challenge of Innovation:

- About 133 years ago, Andrew Taylor Still, MD (1828-1917) struggled with the medical armamentarium of his day as he observed helplessly while conventional medicine of his era failed to cure his children stricken with spinal meningitis.
- Still, who practiced for many years as an orthodox physician, came to the conclusion that contemporary orthodox medical treatment of his day was unscientifically based, and was largely ineffective or at times outright harmful. Still practiced medicine with his physician father since

Andrew Taylor Still, MD
at least 1849, receiving his medical training in a manner similar to most American physicians of his era. This consisted of an apprenticeship of approximately two years, supplemented by the reading of medical textbooks, observation and the treating of patients. It was later stated that Still attended the Kansas City School of Physicians and Surgeons immediately after the Civil War, but left before being formally awarded a diploma. It is of some interest to note that some American physicians could obtain a university degree in medicine by attending courses lasting only 3-6 months (Trowbridge, page 53). To the average physician of Still’s era, a medical diploma had no practical value as no formal training was required for a person to represent themselves as a “physician” as no medical licensing laws existed until the 1870’s and 1880’s.

Still sought a different approach to understanding disease that would permit an alternative to the common remedies of his day. These “remedies” included “blood-letting” (the medical practice of surgically opening a vein and bleeding the patient for “therapeutic” purposes), and the use of lead or mercury (“calomel” = mercurous chloride) based purgatives to induce bowel movements (“heroic” medicine espoused by Benjamin Rush of the University of Pennsylvania, [Trowbridge, page 16]).
Still explored many types of medical philosophies of his day, but again found them wanting. The central issue of medicine, he would later maintain, was not which drug to use, but whether drugging the patient in and of itself was always an appropriate form of therapy.

Still felt that the body possessed an efficient “chemical laboratory”, capable in health of creating all of the substances that it needed.

Thus, in sickness the answer would not, by his reasoning, be found in administering more drugs. Remember, in his era most of the so-called “medicines” were in fact, mostly poisons of unproven efficacy.

Still felt the solution to disease was to find out what was creating the bodily disturbance and remove that interference so that the body could return to its normal state of healthful homeostasis.
Origins of the Caduceus versus the Rod (Staff) of Aesculapius (Asclepius)

- The *caduceus* (kerykeion in Greek) is a staff comprised of two intertwining snakes.

![Caduceus](image)

The caduceus

- It was used as a symbol of commerce and is associated with the Greek god Hermes, the messenger of the gods, creator of magical incantations, conductor of the dead (into the afterlife), and protector of merchants.
- In the seventh century, the caduceus gradually became to be associated with a precursor of medicine known as *alchemy*. Though historically the caduceus and the rod (or staff) of Aesculapius (see below) had distinctly different meanings, over the course of time, there distinctions became somewhat blurred and are often (though some would argue inappropriately) used interchangeably.

![Rod of Asclepius](image)

Rod (Staff) of Aesculapius

- The origins of the caduceus are thought to be as early as 2600 BC in Mesopotamia. It was thought to be a symbolic representation of the “subtle” nerve channels described in different belief systems of the time.
• The Rod of Aesculapius is an ancient Greek symbol associated with medicine. As shown above, it differs from the caduceus by having only one snake intertwining around a rod or staff.

• The DO profession incorporates the Rod (staff) of Aesculapius as its symbol.

DO and the Rod of Aesculapius

• Aesculapius was the god of healing in the ancient Greek pantheon and was instructed in medicine by the centaur Chiron.

• The Rod of Aesculapius symbolizes the healing arts by combining the serpent, which in the act of shedding its skin symbolizes rebirth and fertility, with that of the rod or staff which is a sign of authority. The snake or serpent wrapped around the rod is widely acclaimed to be a species of rat snake known as the Aesculapian (Elaphe longissima) snake. It is native to southeastern Europe, and Asia Minor, and may have been imported by the Romans for their purported healing properties.

• Some scholars have suggested that the symbol represents a worm wrapped around a stick or rod. In ancient times, parasitic worms such as the guinea worm (Dracunculus medinensis) were common and were extracted from beneath the skin by winding the protruding end of the worm around the small stick. Physicians may have “advertised” this common service by posting a sign depicting a worm (“snake”) on a rod outside of their business establishments.
A guinea worm being removed from a festering sore on the foot of a patient by wrapping it around a stick (or rod)

**The Four Principles of Osteopathic Medicine**

- The human being is a dynamic unit of function.
- The body possess self-regulatory mechanisms, with inherent self healing properties.
- Structure and function are inter-related at all levels.
- Rational therapy is then based upon this understanding of body unity, self-regulatory mechanisms and the inter-relatedness of structure and function.

- Still’s philosophical beliefs led him to investigate drugless forms of healing, including “bone-setting”.
- His experiences with many patients demonstrated that a variety of ailments that had not been relieved by orthodox ministrations of the day were receiving considerable benefits from his manual manipulations.
“Seek Health in Your Patients, Anyone Can Find Disease”.

Still would argue that the effects of disease were due to obstruction or imbalances of the fluids of the body, principally the blood (denoted by the metaphor: “The artery rules supreme.”) And he believed that these physiological disturbances were caused by misalignment of the musculoskeletal system.

In 1874 he announced his medical philosophy of “osteopathy”. Still attempted to establish his doctrine on the grounds of Baker University in Baldwin, Kansas (land that was previously donated by his family), but the university administration refused his request.

Mark Twain (Samuel Clemens),
“The educated physician will himself be an osteopath…” (1901)
[Trowbridge, page 190]
In 1892 he established the first school in Kirksville, Missouri to train others in this philosophy.

Still’s first faculty at the Kirksville school (American School of Osteopathy = ASO) incorporated the knowledge of more orthodox medical traditions into the philosophy of Osteopathy.

They argued that the “germ theory” of disease was controversial for its day (Still did not initially endorse the “germ theory”), that while bacteria or viruses might be the causative agent of infectious disease, musculoskeletal dysfunctions may predispose towards physiologic derangement that would place the person in a state of lowered resistance, permitting infection to gain a foothold in the body and expressing itself as manifest disease (“host control of illness and susceptibility”).
• By correcting the musculoskeletal derangement, the body’s natural defenses would then be more effectively expended to address whatever process was affecting it.
• The musculoskeletal system is primary to how humans express their interaction within a given environment. Without it we would be unable to move or interact with this environment (metaphor for “mind, matter and motion”).

_The Challenge of Institutionalization_

• As a social movement, osteopathy was off to a successful beginning.
• By 1898, more than 700 students were enrolled in ASO.
• The American Osteopathic Association (AOA) established itself in 1901.
• Osteopathy, much to the surprise of early detractors, would not prove to be a transitory fad or fashion, but rather an ongoing phenomenon.

First graduating class of ASO, 1893.
[Dr. Still in the center with his faithful teaching skeleton, “Columbus”].
[Trowbridge, page 146]
Anatomy cadaver dissecting class at ASO, about 1904. Dr. Still is seen standing slightly to the left of the seated female student with his outstretched and pointing arm (From the AT Still Memorial Museum, Kirksville, Mo.)
The Challenge of the Scope of Practice

- A few years after Still established ASO, he announced that he wished his graduates to be general practitioners, caring for patients with a wide variety of medical complaints, able to perform surgery, and deliver babies. He also sanctioned the use of some types of drugs: anesthetics, antidotes and antiseptics, which he believed had been demonstrated to be effective.
• However, many of Still’s followers believed that a more wide based materia medica (pharmacopoeia), including vaccines, serums and other agents, should be employed.

• Many of the DO’s of the era argued that if a drug had practical value, it should be integrated into osteopathic methods.

• During the great pandemic flu of 1918-1919, the profession gained considerable success in treating patients with a considerable lower mortality rate than their allopathic counterparts.

• In 1929 the AOA gave its permission for the schools to integrate a complete course in materia medica and pharmacology.

• Though Still utilized the musculoskeletal system in his medical approach, the science of osteopathy was not limited to the mere adjustment of bones. As Still stated:

“Osteopathy is a knowledge of anatomy applied to healing diseases. It is the surgical adjustment of all parts of the body by the anatomist who knows all bones of the human body, their forms, places and how they are held together, where each joint is, where the muscles are attached and how they act when in their normal places; how a normal limb looks, how it feels to his hand, how an abnormal limb, hand, foot, spine or neck feels to his fingers in which the sense of touch is developed to a very high degree....If he is wise in Anatomy and Physiology, he (the osteopath) will at a glance detect any abnormality in form and easily prove the cause of any failure in perfect functioning....thus establishing the normal functioning which is the all of health” (Trowbridge, page 164).

The Challenge of Amalgamation

• During the 1930’s and 1940’s the osteopathic and allopathic professions (a term coined by Samuel Hanneman, MD, to mean “allo” = other, “pathos” = disease, a system of therapeutics in which diseases are treated by producing a condition incompatible to the condition to be cured) and standards of practice grew closer together.

• Some DO’s questioned whether they should maintain their separateness.

• In 1962 some 2000 of the then existing 2500 California DO’s agreed to accept a new MD degree.
• The College of Osteopathic Physicians and Surgeons (COP&S) ceased to exist and was transformed into the California College of Medicine, affiliated with the University of California at Irvine. Licensure of new DO’s in the state was prohibited by referendum (Proposition 22).

• The debacle in California galvanized much of the osteopathic profession. Much to the consternation and surprise of many, osteopathic medicine successfully resisted further state mergers and grew academically and organizationally stronger.

• In 1968, the United States Post Office elected to honor the osteopathic profession by commissioning a postage stamp.

• In 1974, the California Medical Association was challenged in the state supreme court and Proposition 22 was declared unconstitutional.

Stamp Honoring the Osteopathic Profession

**The Profession Today**

Currently there are about 61,000 DO’s practicing medicine in the United States (comparable or more to the number of podiatrists, chiropractors and optometrists, veterinarians). DO’s are represented in all medical branches, with equivalent medical practice rights to MD’s. They have practiced medicine in the military since 1967. Thus there are DO family physicians, internists, obstetricians, surgeons, pediatricians, neurologists, psychiatrists, radiologists, etc.

Currently there are 23 accredited colleges of Osteopathic Medicine in the United States.
There are several “satellite” COM’s in existence. Touro University operates a satellite campus in Nevada, and has a provisionally accredited campus in New York. Its main COM campus is in Vallejo, California. The Edward Via, Virginia College of Osteopathic Medicine also has provisional accreditation status. The Rocky Vista University, College of Osteopathic Medicine (Colorado), and the Robert Morris University School of Osteopathic Medicine (Pennsylvania), have pre-accreditation status. The Lake Erie COM operates a satellite campus in the Bradenton area of Florida. The Philadelphia COM, has a satellite campus in Suwanee, Georgia. A newly free standing COM is currently being planned to open in Yakima, Washington, anticipated for 2007 (The “Pacific Northwest University of Health Sciences”). An additional COM is anticipated to open in 2007 in Tennessee (the Debusk College of Osteopathic Medicine at Lincoln Memorial University, currently enjoys pre-accreditation status).

**Principles of Treatment**
- Restore physiologic motion where it is appropriate (“lengthen those structures that are pathologically short and strengthen those structures that are weak”).
- Enhance or maintain optimal fluid low via the arterial, venous and lymphatic systems as appropriate (as previously stated, implied in the metaphor: “the artery rules supreme”).

**Models of Systemic Function & Dysfunction (some of the models will overlap and are not mutually exclusive)**
- **Biomechanical-Neuromusculoskeletal Model**
  Alterations in the mechanics of the bones, joint relationships, muscles, and fascial elements can compromise neurologic, circulatory and general autonomic functions.
- **Neurologic Model**
  Spinal reflexes (somatosomatic, somatovisceral, viscerosomatic, and viscero-visceral), the autonomic nervous system and the central nervous system may have imbalances or inappropriate set-points which result in pathologic conditions and pain.
- **Respiratory-Circulatory Model**
  Dysfunctions of the respiratory system (including the thoracic diaphragm and other functional diaphragms), in conjunction with circulatory inadequacies, may cause lack
of proper oxygen and nutrient distribution, reduced lymphatic flow and impaired immune functioning and impaired removal of toxic metabolites.

- **Nutritional Model**
  Dietary and nutritional factors (such as malabsorption syndromes) contribute to optimal function or disease in the other systems. Examples range from cholesterol and atherosclerosis to food allergies and alcoholism

- **Behavioral Model (Biopsychosocial)**
  Inability to cope well with stress, poor lifestyle choices, such as tobacco abuse, and lack of exercise may induce dysfunctions in any of the body's systems.