

APPLIED KINESIOLOGY: Holistic Vitalism & Your Well Being

We see below 11 factors, among many others, that are simultaneously considered when **AK** (Applied Kinesiology), and more broadly **HOT** (Holomatrix Optimization Technique) is brought to bear on the vast array of clinical conditions that they help to resolve.



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HISTORY

Applied Kinesiology (AK) provides an integrated, interdisciplinary approach to health care. George J. Goodheart, D.C., originated AK in 1964.¹⁻² Dr. Goodheart found a technique that could immediately make a muscle that tested weak strong. The technique did not correct all muscles that tested weak but from this initial experience, testing muscles in a precise manner became routine in his examination protocol. The investigation of other causes of muscle weakness and their correction developed into what is currently the practice of AK.

The actual testing of the muscle had been previously and firmly established by Kendall and Kendall,³ who held that a muscle from a contracted position against increasing applied pressure could either maintain its position (rated as "facilitated" or "strong") or break away and thus be rated as "inhibited" or "weak". The testing of muscle strength itself had been widely practiced in manual medicine for decades by such authorities as Daniels, Worthingham, and the use of the MMT for functional conditions continues today with the work of Janda, Chaitow, Sahrmann, Bergmann, Lewit, Liebenson, and Hammer.⁴⁻⁹

Each of these researchers uses the MMT to diagnose muscular imbalance. In a sense, the early work of Goodheart and Kendall has influenced generations of practitioners spanning many disciplines and it has become a consensus methodology across a broad spectrum of professionals.

Even the American Medical Association has accepted that the standard method of MMT used in AK is a reliable tool and advocates its use for the evaluation of disability impairments.¹⁰

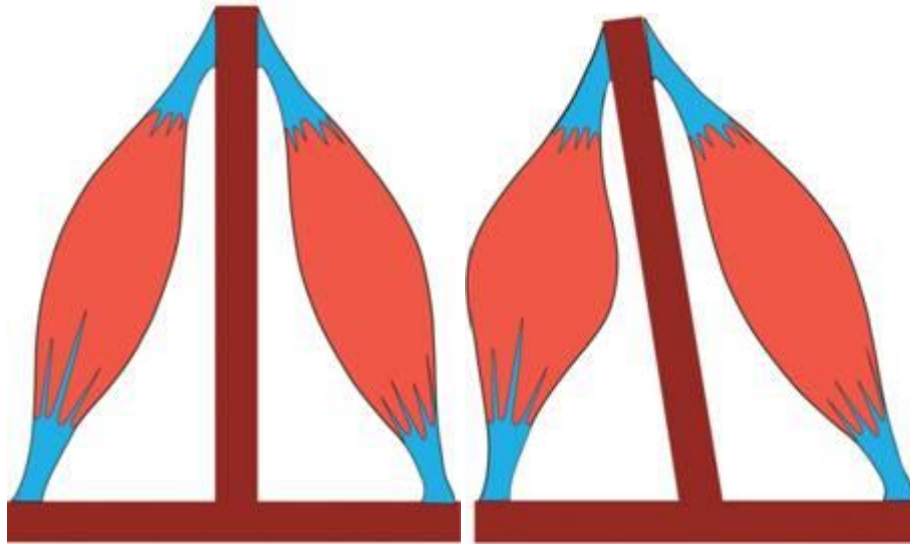


Figure 1. Hypertonic muscle secondary to inhibited muscle and inhibited muscle responsive to chiropractic manipulative therapy (AK model)

Goodheart's work drew a large following of doctors and recognition. He was the first chiropractor officially appointed to the US Winter Olympic Sports Medicine team.¹¹

In 1976 the International College of Applied Kinesiology was founded to promote the research and teaching of AK.¹²

The ICAK began in the United States with a majority of chiropractors as members. There are now chapters in Australia, Austria, Benelux, Brazil, Canada, France, Germany, Italy, Korea, Russia, Sweden, Switzerland, United Kingdom, and the USA. The organization is multi-disciplinary; membership includes medical doctors, osteopaths, dentists, psychologists, and other health care providers who are licensed to diagnose patients. Medical practitioners using AK vary by country. There are nearly 1,000 medical doctors in Germany, for instance, who use AK as part of their diagnostic system.¹³

The first book to describe the value of AK to other professions -- "AK and the Stomatognathic System" -- was authored by Gelb, a dentist, and Goodheart in 1977.¹⁴

Goodheart set the peer review trend for AK by publishing a discussion of dentistry and AK in 1976.¹⁵ Scopp published the first research paper discussing the AK approach to a functional organic disorder with allergy testing in 1979.¹⁶

There are now over 100 papers published in peer-reviewed journals on the methods and outcomes of AK.^{12,17} **Few chiropractic therapeutic methods have been investigated or written about as extensively as AK. There have been 35 separate books published about AK methods since 1964.**¹²

Since the original discovery, the AK examination system has broadened to include evaluation of the:

- 1) nervous, vascular, and
- 2) lymphatic systems,
- 3) nutrition,
- 4) acupuncture,
- 5) cerebrospinal fluid function and
- 6) Many other controlling or disturbing factors that influence health and neuromusculoskeletal function.

Each of these areas of human function have been shown to effect the muscular

system. and AK and allied health systems' research evidence in this regard is constantly growing.^{12,18}

Three areas that have been shown to effect muscle function are the cranial system, the meridian system, and nutritional imbalances.

Nutrition and Adverse Chemicals

The understanding of the effect of [nutrition](#) and chemicals on health and muscle function is evolving. Modern science is constantly discovering new information furthering this knowledge.

Nutritional items, when chewed, stimulate the nerve endings in the mouth. This may have an immediate effect on muscle function. For example, if the muscle clinically associated with the liver is weak and vitamin A is indicated for liver support, chewing vitamin A or a carrot may cause immediate and dramatic improvement of the muscle's function, as indicated by the MMT. Conversely, if a toxic chemical is causing a problem in the liver, a muscle associated with the liver will test poorly immediately after the substance is chewed or inhaled.

All aspects of the AK examination, when correlated with lab tests, imaging studies and the history then lead the clinician to a working [diagnosis](#) and recommendation for treatment. Applied kinesiology muscle tests for nutrition and chemicals do not take the place of a complete, thorough examination; rather, they augment it by evaluating how the body responds to the substance(s) being tested. This functional evaluation takes into consideration the biochemical individuality of people, essential given that each person is biochemically unique.

Travell and Simons, for instance, showed that in the case of myofascial trigger point formation, **correction of nutritional “perpetuating factors” can be the most important part of therapy.**¹⁹

In **HOT (*Holomatrix Optimization Technique*)**, a highly augmented type of AK) the need for the many nutritional interventions used over months in AK is compressed into only minutes and is a major reason why those using HOT based care can get well so much

faster.

Systemic perpetuating factors for trigger point problems encompass many conditions that compromise muscle energy metabolism. These conditions include anemia, low serum ferritin, inadequate thyroid function, vitamin B1 (the energy vitamin) inadequacy, folic acid, and/or vitamin B12 inadequacy.¹⁹ **Frequently**, several of these are present at once, and the laboratory reports low-normal values.

Travell and Simmons are clear in their insistence that **nutritional imbalance has to be restored if myofascial pain is to be adequately dealt with**: “Nearly half of the patients whom we see with chronic myofascial pain require resolution of vitamin inadequacies for lasting relief.” In their opinion, nutritional factors must be considered in most patients if lasting relief of pain is to be achieved.

Cranial Bone Movement and the MMT

It was originally thought that the skull was a solid mass primarily protecting the brain. In reality, there is minute predictable movement between the bones that is necessary for normal function of the nerves and spinal fluid circulation.²⁰ Spinal fluid surrounds the brain and spinal cord, providing nutrition, lubrication, and hormone movement. A bump or other type of strain to the head can jam the skull bones, causing abnormal movement. ***The skull's bone motions provide some of the pumping force needed to remove the 1500 ml of daily CSF production from the skull and spine out into the extracellular fluid and the blood plasma to maintain proper pressure and nutrition for our brain and spinal cords. Improper nerve function may result from aberrated pumping patterns that can cause problems in remote organs or other body structures.***

There are several methods for evaluating skull function that have been developed in AK examination. The doctor may test a muscle, apply a challenge to bones of the skull, and

then re-test the muscle. The patient may be asked to take a deep breath and hold it, and then a muscle is re-tested to determine any change. The doctor may have the patient touch various areas of their skull while a muscle is tested. Dysfunction of the skull is called a cranial fault. If one is found, a specific gentle pressure, the direction of which is determined by the MMT examination, will be applied to the skull, usually with a specific phase of respiration. If the correction is successful, there will be an immediate improvement of the MMT. Research supporting the functional integration of the neuromuscular system and the craniosacral system has presented by the ICAK, Walther and Goodheart.^{1, 12, 21}

Meridian Therapy

The Chinese developed a system of treating disease and maintaining health that balances the energy in the body's meridians. In modern times, [acupuncture](#) – or more accurately “*meridian therapy*” – ***has proven a valid method of treatment***. Dr. Goodheart and the ICAK have provided some of the first advancements in this treatment in the Western world.²² ***By using AK techniques, the flow of energy in the***

meridians can be evaluated and corrected if out of balance, thus making the AK practitioner a “one-stop-shop” in the area of natural health care. Correction can be made by many methods of stimulation, such as electrical, laser, needles, small tape patches with metal balls, simply by mechanically stimulating certain spots or highlighting with touch and engaging the brain's editing function as in **HOT**.

The quickest global shifts in acupuncture flow and balance are obtained with the brain specifying the contacts and running the changes to completion (i.e. using HOT). There is usually an immediate improvement in muscle function after meridian balancing. A number of recent published reports have demonstrated the effectiveness of the AK system of analysis for acupuncture system dysfunctions.²³⁻²⁵

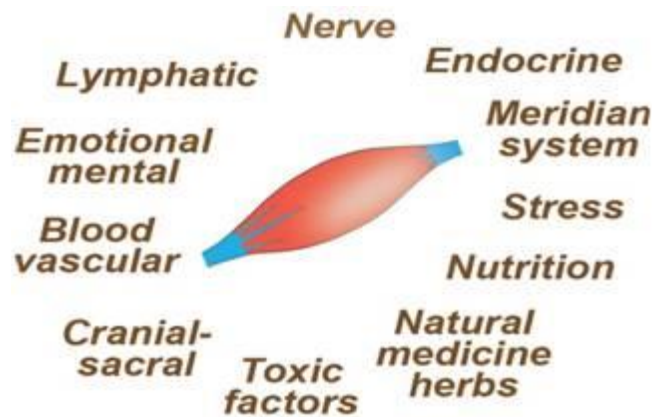


Figure 2. Abnormal results of the manual muscle test, whether the muscle is weak or hypertonic, may indicate abnormal involvement of any of the factors surrounding it. A change in muscle function when specific stimulation or therapy is applied to one of these elements also indicates dysfunction of the surrounding factors.

PRINCIPLES & THEORIES

When muscle dysfunction is found the doctor proceeds with examination to find what therapy restores proper function. Application of the therapy, if successful, immediately returns proper muscle function. Re-examination at a later time determines if the correction is maintained.

Thus the **AK** and **HOT** systems:

- (1) Finds disturbance,
- (2) Determines how to fix it,
- (3) Determines if the corrective effort is successful and, most important
- (4) Determines if the correction is stable.
- (5) If the correction is not stable, further examination is done to find the reason so it can be eliminated.

But what distinguishes **AK** and **HOT** is its emphasis upon proprioceptive responses of the muscle rather than the strength of the muscle itself. It essentially sees muscle function as a transcript of the central integrative state of the anterior horn motoneurons, summing all excitatory and inhibitory inputs.¹⁸ In other words, ***the locus of dysfunction ultimately rests with the nervous system.***

Unique to these systems are many approaches to establishing useful clinical correlations of effects and some of their multiple causes. Two in wide use are “therapy localization” and Challenges”. The procedure called **therapy localization**, is strictly diagnostic and observes for any change of muscle strength when the patient’s hand is placed over an area of suspected involvement. **Challenge** defines a mechanism to test the body’s ability to cope with external stimuli, again assessed by muscle testing.

Challenge is a diagnostic procedure unique to AK used to determine the body’s ability to cope with external stimuli, which can be physical, chemical, or mental. Cranial challenge (for instance) has been described in the literature previously.²⁶⁻²⁷ After an external stimulus is applied, muscle-testing procedures are done to determine a change in the muscle strength as a result of the stimulus. ***Pretesting of potentially useful interventions to rate whether they will actually benefit each unique person’s needs, prior to employing them, is one of the most clinically useful benefits of this work and goes a long way to explaining its unusually high rate of clinical success.*** This type of triage is now employed widely among those with the training including Emergency Department MD’s at the Mayo Clinic in Scottsdale. Through this approach, ineffective therapies that produce no improvements in muscle strength are rejected and only those that elicit a positive muscle response are used. This guides the treatment given to a patient.

Therapy localization is a diagnostic procedure unique to AK that consists of placing the

patient's hand over areas of suspected involvement and observing for a change in the MMT. This method is used to assist the doctor in finding areas that are involved with the muscle dysfunction found on MMT and has been used clinically for over 30 years.¹ Pollard et al in a recent literature review presented some of the research about the AK concept of therapy localization.²⁸ Collectively these data suggest that stimulating the skin and the cutaneomotor reflexes can produce changes in muscle function.

Diagnostic Philosophy

The AK diagnostic philosophy is that **if we understand, identify and quantify the abnormal features involved in a patient's presenting disorders from a broad multi-systems physiological perspective, this will lay the foundation for better differential diagnosis and treatment.** It is the AK contention that understanding the underlying processes of human illness and disorders as well as their development over time will direct the development of specific and relevant treatment strategies. In AK, we have developed and tested new treatment strategies for many functional disorders and this process, like all research, is on-going.

Based on the evidence to date, management of:

- 1) complex motor disturbances,
- 2) functional illness and
- 3) illness behaviors,
- 4) Stress-induced diseases (i.e. 90% of what US citizens go to doctors for),
- 5) chronic pain disorders and
- 6) postural instability

should address not only impairments but also the source of altered somatosensory input (e.g., impaired muscle function and strength, painful and restricted joints).

Thus, AK advocates a multi-model program with treatment inclusive of spinal manipulative therapy (SMT) or, with **HOT**, the brain-assisted release of the need for a manipulative procedure entirely, cranial manipulative therapy, specific muscle testing and correction, biochemical evaluation and treatment, and psychosocial evaluation and treatment in order to improve muscle dysfunction (reflective of neural dysfunction) throughout the body in a holistic way.

Since 1964 the AK model has aimed to integrate the physical and psychosocial manifestations of musculoskeletal pain. This integrative model is over-do in the conceptualization and investigation of musculoskeletal pain and the causes of the traditional chiropractic subluxation and will provide a frame work for future investigation of musculoskeletal conditions. This model will also provide an evidence-based basis for the integration and appropriate timing of treatments directed toward both physical (biological) impairments and psychological factors. It is suggested that this integrated approach will be the way forward in the management of musculoskeletal pain rather than the dichotomous separation of physical, biochemical, and psychological factors that so often occurs in medical and physical therapy research and practice.

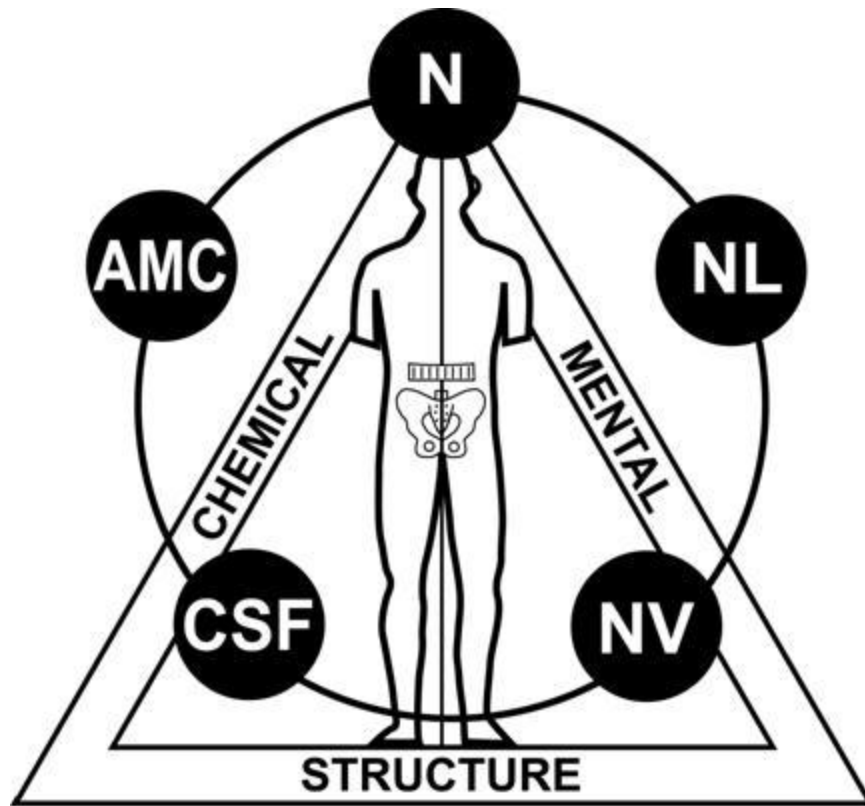


Figure 3. The “Triad of Health” in AK demonstrates how structural, biochemical, and psychosocial factors are components in functional disorders that are amenable to elucidation and body-wisdom guided remediation through natural means.

It is now more evident, we hope, how the AK technique offers an important diagnostic tool to supplement those already in place.

Consider how acupuncturists focus upon meridians, physiotherapists upon rehabilitative exercise, naturopaths upon nutrition, and chiropractors on the articulations. In contrast, AK does not overlook the need to address articulations that are subluxated (i.e. joints not moving fully and freely) but rather finds that subluxations may be attributed to causes far removed from the local joint motion problem that will often be elsewhere than the spine. This allows for an integrative model of Vitalistic healthcare with an AK framework to be developed:

1. It frees the professions from having to limit the concept of subluxations strictly to the spine or to joint aberrations.

2. It helps to overcome the popular conceptual limitations of many chiropractors that their role is merely to serve as a practitioner who administers only high-velocity thrusts to free stuck joints through manipulation or adjustments. In **HOT** the manipulation and adjustments have been superseded by having the brain release the field that binds the joints without adding force.
3. It accommodates the application of physical modalities outside of the spine and, as such, invites closer collaborations of chiropractors with osteopaths, dentists, physiotherapists, [massage](#) therapists, physiatrists, and acupuncturists.
4. By returning the focus to neurological imbalance, it immediately allows such major determinants of health as nutrition and stress to become integrated with chiropractic's central tenet and message that all articulations must move well and freely or they will rot with arthritic decay. Now nutrition and emotional elements appear as adjunct concepts which compliment the more traditional chiropractic concepts of subluxation.
5. It recognizes that many sources of irritation lie outside of the spine, such that reflexes often described by chiropractors as "somatovisceral" may in fact be quite the opposite; i.e., a subluxated vertebra could be the result of a visceral disturbance. In this manner, as pointed out by Carpenter, Hoffman and Mendel, the vertebral subluxation could both initiate and reflect **neural dysfunction**, the latter being **the ultimate indicator of compromises to health.**²⁹

GOALS

Due to the uniqueness of AK methodologies (its breadth and the number of other health care modalities integrated into its system of diagnosis and treatment) AK will continue to intrigue clinicians who wish to integrate broad methods of examination and treatment into their treatment regimes.

There are particular difficulties involved when evaluating patients with chronic pain and stress-induced diseases. Often biomechanical adaptations and compensations have advanced to a stage where biochemical, lymphatic, structural, neural, and psychological interfaces are co-present and abundant. Each of these cofactors affects the choice of protocols and this requires a broad foundation of clinical screening tests. For these reasons it is important to be able to screen for the presence of these factors, and AK and its derivatives provide the only known means for doing this without recourse to intuition alone.

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