

Applied Kinesiology

Revised Edition

A Training Manual and
Reference Book of Basic
Principles and Practices

ROBERT FROST, PhD


APPLIED KINESIOLOGY

Revised Edition

A Training Manual and Reference Book
of Basic Principles and Practices



Robert Frost, PhD

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TABLE OF CONTENTS

Cover

Title Page

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Foreword by George J. Goodheart

Acknowledgments

Introduction

Chapter 1

FROM BIOMECHANICS TO APPLIED KINESIOLOGY

How Muscles Are Tested in Applied Kinesiology

The Development of Traditional Kinesiology or Biomechanics

A Short History of Applied Kinesiology

A Short Discussion of the Anatomy and Physiology of Muscles

Medical Definitions

AK Definitions

History of Applied Kinesiology (continued)

Applied Kinesiology Today

Chapter 2

SCIENTIFIC PRINCIPLES OF APPLIED KINESIOLOGY

Anatomy and Physiology of the Muscles and Related Structures

Neurophysiology: The Nervous System

The Nerve Receptors

Good Posture and the Central Nervous System

Stress Research and Applied Kinesiology

A Change in Worldview: From Newtonian Physics to Quantum Mechanics and Chaos

Theory

Traditional Worldviews

Quantum and Chaos Theories

A Comparison Between Traditional and Modern Models of Reality

Fractal Geometry

Holograms

Biological Medicine and the Systems of Regulation

Chapter 3

THE MUSCLE TEST

Theory, Procedure, and Interpretation of Muscle Testing

Examiner Prejudice or Impartiality

Applications of Muscle Testing

Challenge

1. Structural or Mechanical Challenge
2. Emotional Challenge
3. Functional-Neurological Challenge
4. Chemical-Physical/Energetic-Electromagnetic Challenge

Therapy Localization

Surrogate Testing

Technique for Surrogate Testing

Chapter 4

PRETESTS

How to Prepare an Indicator Muscle for Accurate Testing

- A. Is Dehydration Present?
- B. Does the Muscle Test Strong in the Clear?
- C. Can the Muscle Be Weakened?
- D. Is the Individual Muscle in a Hypertonic State?

Is Neurological Disorganization (Switching) Present?

- E. Ocular Lock
- F. Kidney 27 and Ocular Lock Correction
- G. Auxiliary K 27
- H. Central (Conception) Vessel and Governing Vessel

Muscle Testing Pretests — A Summarized Overview

General Hypertonicity

How to Detect Hypertonic Muscles

How to Correct Hypertonicity in Individual Muscles

How to Correct Hypertonicity in Bilateral Muscle Pairs

How to Correct General Hypertonicity

Chapter 5

DIAGNOSIS AND CORRECTION TECHNIQUES

The Origin-Insertion Technique

How to Perform the Origin-Insertion Technique

Neurolymphatic Reflexes

Neurolymphatic Reflex Point Technique

Neurovascular Reflexes

Vascular Circulation from the Arteries to the Veins

Neurovascular Reflex Point Technique

The Meridian System

The Meridians

Diagnosis of the Reaction to Substances and Other Stimuli

Testing for Possible Positive Effects of Stimuli

Testing for Possible Negative Effects of Nutrition or Other Non-Toxic Substances

Hidden Problems

Finding Hidden Problems

Activation of the Right and Left Halves of the Brain

Detecting Hidden Problems through Activating the Halves of the Brain

Repeated Muscle Testing

Repeated Muscle Testing Technique

Fascial Release or Chill and Stretch Techniques for Muscle Stretch Reaction

Testing for Muscle Stretch Response

Draining Excess Fluids from a Muscle

Performing the Fascial Release Technique

Performing the Chill and Stretch Technique

Reactive Muscles

The Reactive Muscle Technique

Exercise

Basic Formula for an Exercise Routine

Basic Formula for Muscle Injuries: "RICE"

Two Types of Exercise: Aerobic and Anaerobic

Improving Posture

Typical Postural Difficulties

Specific Exercises for the Most Commonly Neglected Muscles

Chapter 6

MUSCLE TESTS

Adductors

Deltoids: Anterior, Middle, and Posterior

Gluteus Maximus

Gluteus Medius

Hamstrings

Iliopsoas

Infraspinatus

Latissimus Dorsi

Pectoralis Major Clavicular

Pectoralis Major Sternal

Pectoralis Minor

Peroneus Longus and Brevis

Peroneus Tertius

Piriformis

Popliteus

Rectus Abdominis Group

Rectus Femoris

Rhomboid Major

Rhomboid Minor

Sacrospinalis Group

Sartorius

Serratus Anticus

Sternocleidomastoideus: Neck Flexors

Subclavius

Subscapularis

Supraspinatus

Tensor Fascia Lata

Teres Major

Teres Minor

Trapezius, Lower

Trapezius, Middle

Trapezius, Upper

Chapter 7

STRUCTURE

Ligament Interlink

Ligament Interlink Technique

Strain Counterstrain

Strain Counterstrain Technique: Jones

Strain Counterstrain Technique: Goodheart

Gaits

Gait Testing Technique

Further Gait Testing

Discussion

Eliminating Gait Imbalances with Fluorite (Mineral) and Pink Ivory (Wood)

Cloacal Synchronization

Pretests: Testing the Individual Limbs First

Cloacal Synchronization Technique

Discussion

Hyoid Bone

Muscles of the Hyoid

Hyoid Technique

Injury Recall Technique

Injury Recall Technique: Talus Bone

Injury Recall Technique: Cervical Vertebrae

Ocular Lock, Eyes into Distortion, Eyes Out of Distortion

Ocular Lock: Further Considerations

Eyes into Distortion (EID)

Eyes Out of Distortion (EOD)

Body into Distortion

Proprioceptive Neuromuscular Facilitation

Proprioceptive Neuromuscular Facilitation Technique

Frank Mahoney's Hyperton-X Technique

Chapter 8

CHEMISTRY

Substance Testing

Techniques to Elicit Hidden Dysfunctions and Muscle Weaknesses

Organ Neurolymphatic Reflex Points

Substance Testing and Consequences

Retrograde Lymphatic Technique

Retrograde Lymphatic Technique

Hot or Cold?

Testing Whether to Apply Heat or Cold

Chapter 9

Psyche: Mind and Emotions

Emotional Neurovascular Reflex Points

Hand on Forehead Technique

Fine-Tuning the Emotional Neurovascular Reflex Treatment

Frontal-Occipital Holding

Practical Applications

Determining If There Is a Mental/Emotional Aspect to a Dysfunction

Reversals and Conflicts

Conflicts Elicit Switching

Sabotage Programs Running

Temporal Tapping

Front Brain–Back Brain

Phobias

Homolateral Organization

Chapter 10

Diagnostic Protocol

Standard Applied Kinesiology Diagnostic Protocol

Structural Screening

Mental/Emotional Screening

Appendices

- I. Glossary of Anatomical Terminology
Vocabulary
- II. Correspondences of Meridians, Muscles, and Organs/Glands
- III. Charts
- IV. Step-By-Step Plan for Conducting a Session with AK Techniques
- V. Applied Kinesiology Techniques of Examination and Diagnosis
- VI. Additional Tips for Correcting Weak-Testing Muscles
Locating Active Reflex Points
Challenge All Corrections
“Unsolvable” Problems
- VII. How to Improve and Maintain Optimal Health
General Health Tips for the Therapist to Tell to His Patients
- VIII. Case Histories
- IX. Bibliography
- X. Contact Addresses and Sources
Orthomolecular (Nutritional) Products
The Best Sources of AK Test Kits in Europe
Tables and Tools
Manufacturers of Tables
Diagnostic Labs
ICAK Chapter Contacts
Fractals

About the Author

FOREWORD

Applied Kinesiology had a simple beginning in 1964, based on the concept that muscle weakness is involved in most muscle spasms and, indeed, is primary.

Applied Kinesiology is based on the fact that body language never lies. The opportunity of understanding body language is enhanced by the ability to use muscles as indicators for body language. The original method of testing muscles and determining their function, first brought to my attention by Kendall, Kendall, and Wadsworth, remains the prime diagnostic device.

Once muscle weakness has been ascertained, a variety of therapeutic options is available, too numerous to enumerate here. The opportunity to use the body as an instrument of laboratory analysis is unparalleled in modern therapeutics because the response of the body is unerring; if one approaches the problem correctly, making the proper and adequate diagnosis and treatment, the response is adequate and satisfactory both to the doctor and to the patient.

The name of the game, to quote a phrase, is to get people better. The body heals itself in a sure, sensible, practical, reasonable, and observable manner. "The healer within" can be approached from without. Man possesses a potential for recovery through the innate intelligence or the physiological homeostasis of the human structure. The recovery potential with which he is endowed merely waits for the hand and the heart and the mind of a trained individual to bring it into manifestation, allowing health to come forth; this is man's natural heritage.



DR. GEORGE J. GOODHEART, JR.

This benefits mankind individually and collectively. It benefits the doctor who has rendered the service, and it allows the force which created the structure to operate unimpeded. This benefit can be performed with knowledge, with physiological facts, with predictable certainty. It should be done, it can be done, and this book offers a means and

measure of how it can be done. My appreciation to the author and his staff for the excellent job he has performed in advancing these principles, and my best wishes are extended to all who read this manual.

—George J. Goodheart, Jr., DC, FICC Diplomate, ICA

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First of all, I would like to give a heartfelt thanks to the founder of Applied Kinesiology George Goodheart, DC. His insights and research are the reason this field exists at all.

Next, I am indebted to the excellent texts of David Walther, DC, David Leaf, DC, and Wolfgang Gerz, MD. These were my most-used references for the writing of this book. Dr. Gerz was also kind enough to read the text, answer questions by phone and fax, provide various diagrams, and to help with specific questions including the correct translations of Applied Kinesiology terminology (*Fachbegriffe*) for the German edition. His critical reading of this text, corrections and suggestions greatly assisted its accuracy and completeness.

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Parts of this text were derived from my doctoral thesis. While I was writing that thesis, my father played the role of the interested but uninformed student of kinesiology. Through his continual questioning, I rewrote and rewrote until a beginner could understand what I meant. Through the magic of electronic mail (between California and Switzerland/Germany), he assisted me in clarifying this text as well. He taught me to seek unity, coherence, and emphasis in my writing. I hear his guiding words whenever I write. Thanks to you, Joe Frost.

A special thanks to Tatjana Schuba (*Heilpraktikerin*, acupuncturist, fitness trainer, designer). Her design and precision craftsmanship produced the various anatomical and other graphic drawings. During the initial writing of this book, Tatjana sat next to me and translated the text into German. Through her extensive knowledge of anatomy and physiology, the text achieved scientific accuracy. In particular the parts about the nervous system, neurophysiology, hormones, and the meridian system have, through her research and reworking of my text, achieved greater precision. Writing together made the work fun and stimulated us both to keep at it for long hours. Through her questioning of exactly what I meant to say, many unclear sections of the text were rewritten and greatly improved.

I also want to thank Kaitlyn Vera, CPT, the model in [chapters 7–9](#), as well as Michael Lebowitz who allowed me to summarize his latest protocol of systemic corrections for dealing with difficult patients.

INTRODUCTION

This book is for those who want a detailed introduction to Applied Kinesiology (AK) as it is performed by qualified chiropractors, medical doctors and health professionals. The goal of this book is to present the principles and basic practices of AK in their original form as developed by George Goodheart, but in a manner and a format which may be understood even by the reader with no prior medical training. Standard medical terminology as used in AK is adhered to in this text. However, since most every specific term or concept is defined and logically presented, even the complete beginner should be able to follow and understand the ideas. Since I especially wish to present these concepts using the vocabulary common to occupational groups with medical background, I utilize the following terminology which is also typical in AK literature: The “examiner” tests the “patient,” “diagnoses” and provides corrective “treatments.”

At the beginning of the first chapter, I present short definitions of traditional kinesiology (biomechanics), Applied Kinesiology and muscle testing so that the reader may more easily understand these topics. Then a short history of Applied Kinesiology, its methods and techniques is provided. In order to describe how living beings move (the original meaning of kinesiology or biomechanics), I describe the anatomy and physiology of muscles and related structures. Since muscles are driven by nerves, sections on neurophysiology and nerve receptors are included. The stress concept of Hans Selye and how this relates to muscular dysfunction follows. Since many of the phenomena of Applied Kinesiology cannot be adequately described within the limitations of the old Newtonian cause-and-effect scientific model, this is contrasted with the new worldviews provided by quantum and chaos theories. Biological medicine, which uses quantum and chaos theories to provide a basis for a holistic model of healing, and which often uses Applied Kinesiology for diagnostic purposes, is then described at length. There follows a section on how to use the concepts of biological medicine to improve and maintain optimal health.

For those with some experience in muscle testing, the main portion of this book will provide the theoretical background necessary to deeply understand and to explain to others how muscle testing is performed and how muscle strengthening techniques function. The testing and strengthening of thirty-three muscles are illustrated and carefully described. The muscle strengthening techniques discussed in this text include Goodheart’s original origin-insertion technique, neurolymphatic reflex point massage, neurovascular reflex point holding, appropriate nutrition, and manipulation of the neuromuscular spindle cells and Golgi tendon organs. The detailed explanations of how these techniques are performed in AK will enable the “apprentice” muscle-tester to use muscle testing and strengthening techniques with improved precision and effectiveness. The advanced AK diagnostic and treatment techniques explained in this book include therapy localization, challenge, nutritional and other substance testing, individual activation of the right and left halves of the brain, repeated muscle testing, muscle stretch response, and reactive muscles. Use of these techniques will produce much greater ability to locate and correct the energy imbalances that affect health and optimal functioning. These basic and advanced AK techniques are described in a step-by-step format designed for easy application in a therapeutic session. A selection of case histories using the

format is presented to help the reader bridge the gap from theory to practice. Most anatomical and other specific terms used in this text are defined in the glossary.

The AK techniques in this book should give the student a thorough theoretical grounding in muscle testing and its application. However, nothing can replace “hands-on” experience. It is highly advisable to seek training with a health professional experienced with AK techniques before attempting to perform them. Readers who already have experience in muscle testing will find the techniques that are new for them described in enough detail here that they will be able to put them directly into use. It is hoped that this text will also whet their appetite for more. For all those who have the required prior training in a health profession, it is recommended that they acquire training under the guidance of a qualified teacher of Applied Kinesiology.

Sports trainers and physical therapists of all sorts will learn useful techniques from this book and thereby be better able to help their clients. Mastery of the practical techniques described in this text should give any health professional who practices them the ability to help patients dispel health problems, improve posture and coordination, increase endurance, eliminate pains, increase the recuperative powers and many other salutary effects.

Applied Kinesiology was created in the 1960s by the American chiropractor, Dr. George Goodheart. It has been further developed by other chiropractors and by medical doctors. The requirements for the highest accreditation, the “diplomate” of Goodheart’s International College of Applied Kinesiology (ICAK), are high indeed. To join the organization, or take training courses, you must already be a chiropractor, medical doctor, or other health professional with a four year medical training and the legal right to diagnose. Then you must have at least 300 hours of accredited instruction in AK, publish two AK research papers and practice AK for two years. Finally, you must pass intensive written, oral and practical examinations. The ICAK diplomates have tremendous training, knowledge, and experience behind them. But due to the stringent and extensive requirements for accreditation, there are not many of them, and the successful work they do is not yet very widely known.

In the German branch (ICAK-D), membership and specially designed AK training programs are available for accredited practitioners of all state-recognized health professions including Heilpraktiker, Krankengymnasten, Physiotherapeuten and Psychologen. A special branch of ICAK-D, the International Medical Society for Applied Kinesiology (IMAK), exists to serve the interests of medical doctors and dentists, offering an exclusive AK training program for them. Germany, Austria and Switzerland are the first countries where the medical community is beginning to take serious interest in AK. In fact, there are more medical doctors who use AK techniques in the German-speaking countries than in the rest of the world combined.

In and of itself, AK is not a profession. Therefore, in the world of AK, there are no “applied kinesiologists.” As mentioned, to study AK one must already be a chiropractor, medical doctor, or at least a state-approved therapist. For simplicity in this book, qualified therapists who use AK will be referred to as “examiners” or “therapists who use AK.”

John Thie (chiropractor and first president of Goodheart’s International College of Applied Kinesiology) gave some of his patients AK techniques for self-application as “homework.” He saw that the patients who did this homework had better and swifter results than those who didn’t. Excited by these practical results, he then urged Dr. Goodheart to write a popular book about his discoveries in AK. Dr. Goodheart gave the job back to Dr. Thie. First with the

help of Mary Marks, and then with both research and writing assistance from Richard Dure and Gordon Stokes, Dr. Thie wrote the now famous *Touch for Health* book, first published in 1973. This was designed for use by lay persons. The only requirements were that the chosen techniques be easy to learn, would (even in simplified form) be able to do a lot of good and even if done incorrectly, would cause no harm. It is an excellent system for mothers to help improve the health and performance of their children. As far as it goes, the system works very well. In fact, it works so well, that many people use it professionally as a therapeutic system. This was a great surprise to its founders. No one ever intended that Touch for Health become a professional system of healing. Through its widespread popularity, Touch for Health has greatly increased the awareness of Applied Kinesiology. More than two million people world-wide have been introduced to kinesiology muscle testing techniques through Touch for Health. The many “kinesiologies” that have been developed from the root of Touch for Health are today referred to as belonging to the field of “Specialized Kinesiology.”

In many countries such as Germany, Touch for Health was being taught long before Goodheart's Applied Kinesiology became known at large. And many of the practitioners of Touch for Health and related kinesiologies called their work “Angewandte Kinesiologie,” the German translation of Applied Kinesiology. At that time there were few therapists using Applied Kinesiology and there seemed to be no reason not to translate from English and use the term themselves. This can be compared with California calling its sparkling wine “champagne.” The French complained bitterly but to no avail. Although no one denies that Champagne is a province in France, the French had not internationally patented the word “champagne.” Similarly, Goodheart never patented the term “Applied Kinesiology.” One unfortunate consequence is that many therapists believe that Touch for Health and Applied Kinesiology are identical. And seeing that Touch for Health is for lay persons, they do not pursue studies in Applied Kinesiology. In order to avoid further confusion, Goodheart's original work, even in foreign language texts, is now called “Applied Kinesiology” with no translation of the term.

The simplified techniques of Touch for Health do not go as far or do as much good as can be achieved by the original and more complicated techniques of AK. For example, Touch for Health advises, as a muscle strengthening technique, that the neurovascular points be gently held. AK teaches that neurovascular points be not only held, but gently tugged in various directions, until the direction that produces maximum pulsation is detected. Then the points are held in this exact direction for 20 seconds longer. Just holding the points will often strengthen the muscle test. Careful experimentation has revealed that the best effects upon the associated organ and bodily areas are only achieved with the precise application taught in AK (and explained in this book).

In most systems of Specialized Kinesiology, there is a conspicuous absence of descriptive detail of the anatomy and physiology involved. And an explanation of how the technique's function is also lacking. This is to be expected, because Touch for Health was designed for lay persons. For those who began with Touch for Health and/or other branches of Specialized Kinesiology and are now ready for more detailed knowledge and precision, this book will provide a bridge toward the deeper understandings and applications of the original techniques of Applied Kinesiology. It is hoped that this book will demonstrate the professional level of knowledge, the wide range of application and the practical usefulness of the techniques of A

and thereby attract more health professionals to study AK.

The English version of this book has been in print for eleven years. I am proud now to present the revised edition.

—Robert Frost, Ph.D.

June 2011



From BioMechanics To Applied Kinesiology

KINESIOLOGY (from the Greek *kinesis*, movement) began in antiquity as the study of human and animal movement. Over the course of many centuries, this original, traditional form of kinesiology (*biomechanics*) has produced a broad body of knowledge of how nerves stimulate muscles to act upon bones in order to produce posture and movement. Like physiotherapy, kinesiology is a therapeutic profession with a long history. Medical muscle testing existed in biomechanics long before the emergence of Applied Kinesiology.

The biomechanic principles of kinesiology (such as the application of the minimal force necessary to produce maximal result) have been successfully applied to a wide variety of ergonomic problems of industry, sports, and medicine. The application of biomechanics in industry has resulted in the design of tools, chairs, work stations, etc., that are “user friendly.” It has stimulated the development of ergonomic work techniques (e.g., how to lift heavy objects without endangering the body) that result in fewer injuries and yield greater productivity. Athletes work with kinesiologists to learn how to more efficiently and successfully perform the movements required by their sports. And biomechanic principles have many applications in the various fields of medicine including the designing of artificial joints and the development of more effective rehabilitation methods.

The research and developments of biomechanics or “traditional” kinesiology can be traced back over thousands of years and continue into the present. By contrast, Applied Kinesiology (shortened in this book to AK) began in 1964 with the research of the American chiropractor George J. Goodheart, Jr., DC. His extraordinary powers of observation, his curiosity, his drive to research the causes of what he observed and the resulting discoveries have been the source of most of the diagnostic techniques used today in this relatively new discipline.

Various kinds of health professionals schooled in AK use standard medical muscle tests and biomechanics to directly assess the functional integrity of the nervous system and the muscles. Muscle testing is described at length later in this book. As a preliminary introduction, a brief description of muscle testing as performed in AK is given below:

How Muscles Are Tested in Applied Kinesiology

1. Most muscles are attached through their tendons at both ends to bones that meet in a moveable joint. When muscles contract, they shorten. This shortening pulls one of the attached bones toward the other.
2. To prepare for the muscle test, one bends the joint over which the muscle is attached. This shortens the muscle, bringing it into a position of contraction. The examiner places

his hand in a position to resist the further contraction of the muscle.

3. The patient initiates the test by steadily contracting the muscle from zero force up to the maximum force of contraction against the examiner's unmoving hand. During this short period, the examiner provides an equal and opposite, steadily increasing resistance to maintain the starting position of the muscle test. When the patient has willfully contracted his or her muscle as much as possible, the examiner applies a bit more force. The whole test procedure should not last longer than 2–3 seconds. If the patient can maintain the original test position against this small extra force without movement, the muscle “tested strong.” If not, it “tested weak.”
4. In the first part of the muscle test, one is testing the determination and ability of the patient to strongly contract the muscle. In the second part of the muscle test, one is also testing the ability of the patient's nervous system, “on its own,” to provide a little more contraction than the patient can willfully provide. By this technique, one is actually assessing the functional integrity of the complete circuit of the muscle and the portion of the nervous system involved with that muscle. This initial muscle test is performed “in the clear,” i.e., with no extra stimulus of any kind. The muscle is contracted as strongly as the patient is consciously able. In the second part of the muscle test, the question asked is: After the patient has completely contracted the muscle, and the examiner then applies additional pressure, can her nervous system finely coordinate the muscle to contract just a bit more than he or she is consciously able to do?
5. AK uses not only muscle testing “in the clear” as described above, but also “indicator” muscle testing. In this type of muscle testing, a muscle that previously tested strong in the clear is used as an indicator for testing some other stimulus. The extra stimulus can be provided by touching an area of the patient's body that is “disturbed” or dysfunctional because of injury, infection, etc. If this is done while repeating the test of a previously strong-testing indicator muscle, such stimulus may cause that muscle to test weak. The stimulus provided by the patient touching himself or herself is referred to as “therapy localization.”

In practice, many examiners touch the patient to therapy-localize, which is often easier, faster, and usually produces the same results. However, on occasion, when the examiner touches the patient, the results of therapy localization are different than when the patient touches the same area of the body. Therefore it is recommended that the patient touch himself for therapy localization. When the patient is presented with some other kind of stimulus besides touch, or performs some kind of activity and the effect is then measured with muscle testing, this is called “challenge.”

Much of the fascination of Applied Kinesiology lies in the fact that most factors influencing health may be tested using an indicator muscle and therapy localization or challenge. As will be described later, health professionals familiar with AK techniques use standard muscle testing “in the clear” and indicator muscle testing of various stimuli to evaluate the structural/mental/emotional, and biochemical functions of the human organism.

Applied Kinesiology is primarily a diagnostic technique. Although extensive methods for the evaluation (diagnosis) of dysfunction were developed early within the field of AK, most of the treatments used in AK have been gathered from other (sometimes quite foreign) areas.

of healing. Besides its well-developed diagnostic techniques, the practical advantage of AK is that one can determine which of many possible therapy methods will be the most effective for the individual problems of specific patients. In this way, before applying any therapeutic technique, the examiner can determine the relative effectiveness and thus choose accurately from a wide variety of treatments.

The diagnostic techniques of AK allow one to determine which body system is disturbed and which treatment modalities are best suited to the correction of the disturbance. Interventions of all sorts (structural, chemical, nutritional, mental, electromagnetic, etc.) may be individually tested in advance to assess their worth in treating a specific problem. After treatment, the same techniques can be applied to determine whether the treatment was appropriate, correctly applied, and effective.

The Development of Traditional Kinesiology or Biomechanics

Beginning with the ideas of Aristotle (384–322 BC), who is often called the “father of biology,” the study of movement (the original kinesiology) has for centuries centered upon anatomy and mechanics. Leonardo da Vinci (1452–1519) is especially well known for studies of human structure and function. These make him one of the best known pioneers of the study of movement, or kinesiology.

Mechanics is the branch of physical science that deals with energy and forces and the effect upon bodies. The central interest of the early kinesiologists was the mechanical consideration of how muscles act upon bones and joints to produce posture and movement. Eventually, in the modern age, representing the bones as levers, the joints as fulcrums, and the muscles as springs provided a simple model of body mechanics for mathematical calculations. Although idealized, such models do provide useful insights into human and other animal movement. Kinesiology was originally defined as the study of the structures and the functions that produce animal and human movement. Today this study is called biomechanics, and it is sometimes referred to as “traditional” kinesiology.

After the spectacular contributions of Leonardo da Vinci in the fifteenth century, traditional kinesiology made little progress for more than two hundred years. When Luigi Galvani made his discovery (1780) that muscular contraction is produced by electrical impulses, the development of kinesiology began again. Galvani applied a small electrical voltage to a frog's leg, which produced a twitch contraction in the muscles of the leg. From this he correctly concluded that muscular contraction is initiated by electrical impulses. Until his time, muscle was considered to have a will of its own. This thinking is still to be observed in certain phrases such as “the biceps act to bring the wrist toward the shoulder.” Galvani's experiment demonstrated that muscular contraction, and thus movement of the body, is the result of electrical stimulation of the muscles. With the further discovery that electrical impulses were, in the living animal, provided by nerves under central nervous system (brain and spinal cord) control, the study of the function of nerves and the central nervous system (*neurophysiology*) automatically came to be included in the study of movement (kinesiology). Neurophysiology will be discussed at greater length in the following chapter. First we will

A Short History of Applied Kinesiology

Applied Kinesiology grew out of Dr. George J. Goodheart's analysis of his day-to-day chiropractic practice. Accepted chiropractic procedures served him well in his practice, most of the time. However, he was keenly disturbed by his lack of techniques to adequately diagnose the occasional set of paradoxical (or just plain puzzling) symptoms. And without adequate diagnosis, he was at a loss to devise effective treatments. When stumped by a patient's unusual symptoms and diagnostic results, Goodheart continually asked himself the age-old query of the scientist-researcher: "Why is this?"

In his search for explanations that might lead him to effective corrective procedures, Goodheart carefully considered the anatomy and physiology involved in his patient's problems. This knowledge often led him directly to possible interventions. Examples of new methods he deduced include his theory and treatment of reactive muscles and his effective treatment for sustained muscle use. (Both of these methods are described in detail later in this text.)

Goodheart explored beyond the boundaries of his formal chiropractic training to consider the concepts of other innovative healers and scientists. He studied the traditional knowledge and research findings of many other healing systems (Chinese acupuncture, lymphatic drainage, nutrition, neurology, etc.) and then found ways to incorporate them into Applied Kinesiology. He experimented with many alternative treatment modes such as Chapman's reflexes, Bennett's reflexes, synchronization of pulses in reflex points, etc. When a puzzling diagnostic situation could not be solved with the techniques he already knew, he experimented, even with highly unusual measures. Out of his uniquely open-minded search for procedures came most of the techniques used in Applied Kinesiology today.

In 1964, Goodheart made the discovery that marks the birth of Applied Kinesiology. As a chiropractor, he assumed that correcting structural imbalances in the body (postural problems, false alignment of bones, etc.) will reduce or eliminate most health problems. Structural balance, optimal postural alignment of the parts of the body, is the goal of chiropractic. But structural balance cannot be obtained when muscles are overly tense or too limp.

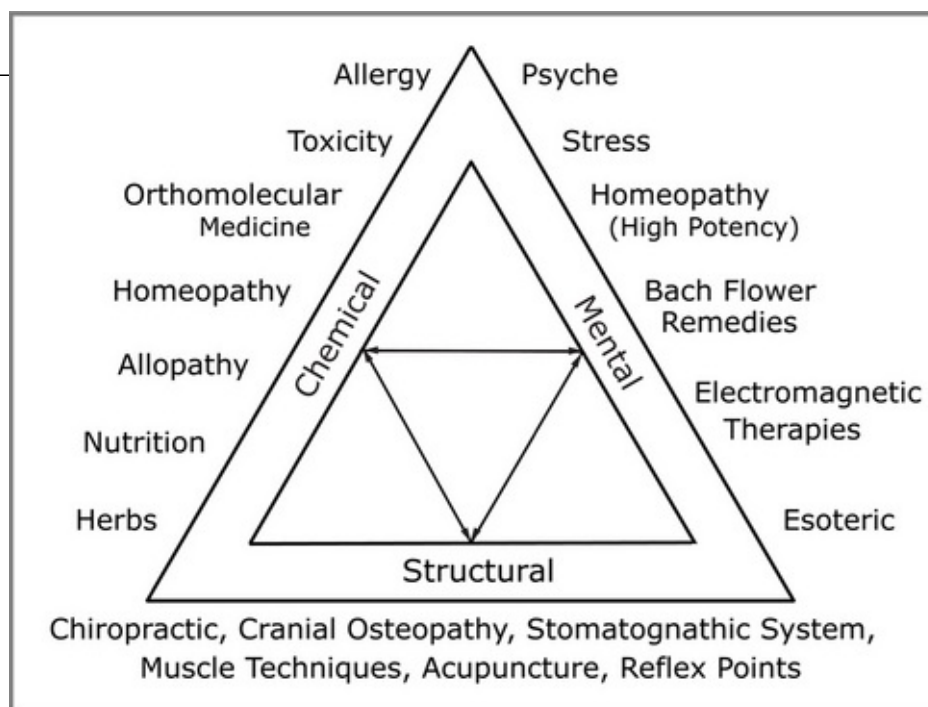
For several months, Goodheart unsuccessfully treated a patient whose presenting symptom was one shoulder blade that stuck out away from his back. He remembered reading Kendall and Kendall's classic, *Muscles: Testing and Function*, about a muscle that pulled the shoulder blade down upon the back. He used the muscle testing technique described by Kendall and Kendall to test this muscle, the serratus anticus (often called the anterior serratus). It tested weak only on the side where the shoulder blade protruded. The serratus muscle is called "serrated" like a saw because of its "toothed" shape (see illustration on [this page](#)). It connects the upper eight or nine ribs to the inner vertebral side of the scapula, the shoulder blade. The muscle was not less developed on the weak-testing side and Goodheart found no other reason for the one-sided test weakness. Exploring the weak-testing muscle

with his fingers revealed painful little lumps (nodules) where the tendons of serratus anterior attach to the ribs. When he firmly rubbed one of these nodules, it disappeared. As an experiment, he firmly massaged all of these nodules and upon retesting found an immediate increase in the “test strength” of the muscle. Encouraged by this discovery, Goodheart used Kendall and Kendall’s book to teach himself how to muscle-test many other muscles as well. This was the first discovery of Applied Kinesiology and the beginning point of ongoing and very fruitful research.

This surprising discovery that a weak-testing muscle may be made to test strong through the massage of its extreme ends where its tendons attach to bone is referred to in Applied Kinesiology today as the “origin-insertion technique.” This technique worked often enough in establishing muscular balance (and thus structural balance also) that many chiropractors began to use manual muscle testing to assess structural balance, the goal of chiropractic. When the origin-insertion massage strengthened weak-testing muscles, many other health problems often disappeared without further treatment. This provided more confirmation of the basic chiropractic premise that structural balance affects all aspects of health.

However, the origin-insertion technique often failed to strengthen weak-testing muscles and reestablish muscular balance. Muscle-building exercises didn’t help either. Such exercises specifically designed to strengthen the weak-testing muscle, often did increase the mass of the muscle and its weight-bearing strength, but it still “muscle-tested” weak. Factors other than pure physical strength were at work that needed to be unearthed. Goodheart’s further research revealed that muscular imbalances may be the result of problems not just in the origin-insertion area of the muscle itself, but also in any of the areas represented by the three sides of the chiropractic “triad of health”—that is, dysfunction could be the result of structural, chemical, and/or mental problems.

The interaction of the three sides of the triad of health is an important and very useful principle in Applied Kinesiology evaluation. Some examples of how one side of the triad may affect another side are well known. For example, certain foods or chemicals may cause mental disturbances. Fear (mental) causes the release of adrenaline (chemical), which increases the tension in skeletal muscles (structural) in preparation for fight or flight. Tension in the neck (structural) may cause severe headaches and depression (mental). Emotional problems (mental) may cause over-acidity in the stomach (chemical) which may result in a painful stomach that causes the patient to bend forward and down (structural).



THE TRIAD OF HEALTH

The various healing professions each tend to specialize in only one side of the triad of health. *Structural* therapeutics include chiropractic, massage, osteopathy, surgery, and dentistry. *Chemical* therapeutics include nutrition and medication. *Mental* therapeutics include counseling and psychology. Specialists in one of these systems are rarely well-trained in dealing with problems involving the other sides of the triad of health. With patient specialists naturally use the concepts and techniques with which they are experienced. However, counseling is not likely to relieve a headache if the cause is primarily nutritional. To pictorially illustrate this point, if the only tool one has is a hammer, the whole world looks like nails. What all of these specialists need are better techniques for diagnosing the causes of the problems of their patients and determining which treatments are likely to be successful.

When a health problem exists for an extended period of time (becomes chronic), all three sides of the triad of health usually become involved. And the problem that brings a patient to a therapist is often not the primary problem, but rather a reaction on another side of the triad.

As long as the primary problem is not diagnosed and treated, the same symptoms will return or other secondary problems may emerge.

Goodheart recognized that in order to most effectively help his patients, he needed to extend his field of inquiry. From his chiropractic training, he was aware of the need to be able to evaluate and treat problems on all three sides of the triad of health. To do so, he investigated the capacity of the muscle testing technique to comprehensively test all three sides. Extensive investigation convinced him that muscle testing worked well in the assessment of all of the factors affecting health. He found that:

- a) Specific health problems may cause specific muscles to test weak.
- b) The muscle that tests weak due to a health problem can be used as an indicator to determine possible treatments.
- c) Treatments making the muscle test strong may positively influence the health problem.

Considering that Goodheart was already fully trained in chiropractic, his flexibility of thought is amazing. After all, like any professional, he was already focused upon the limiting concept of his specialized field of knowledge. With uninhibited enthusiasm, Goodheart evaluated a wide variety of therapeutic approaches in his attempts to achieve the chiropractic goal of structural balance. He thoroughly researched any procedure that resulted in the strengthening of a weak-testing muscle.

Sometimes, patients with the same symptoms require very different therapies. Many of the most successful interventions that Goodheart studied had been previously developed but were seldom used due to a lack of diagnostic techniques that could identify when a specific intervention would be helpful. The use of muscle testing provided him with the needed diagnostic tool to choose among the many possible interventions for each disturbance. Since muscle testing uses the patient's body itself as the instrument for performing diagnostics, it provides a direct method for studying the effects upon the body of just about any kind of healing modality. Goodheart found muscle testing to be the most direct method to locate the treatment best suited to the needs of each particular patient.

For use in his own practice and for the benefit of other practitioners, Goodheart gathered, adapted, developed, and codified many techniques useful in the strengthening of weak-testing muscles. The greater portion of the techniques known and used in AK today stem from his research.

Goodheart's research is remarkable for its intuitive conceptual leaps. For example, he first determined that a correct treatment measure almost always swiftly returns a weak-testing muscle to testing strong. He then intuitively jumped to the proposition that muscle testing conversely might be used to test for the effectiveness of any treatment after it has been applied. Further careful research proved the inspiration to be true. He established the rule that by using muscle testing after the treatment, one can determine whether the applied treatment has been effective. Health professionals using AK today stand on the shoulders of the giants like Goodheart that have gone before. From this perspective, we can mistakenly feel that such intuitive jumps are actually obvious. The challenge is to be such a giant and to discover some of the similar "jumps" of realization still waiting to be made in this young field of research.

A Short Discussion of the Anatomy and Physiology of Muscles

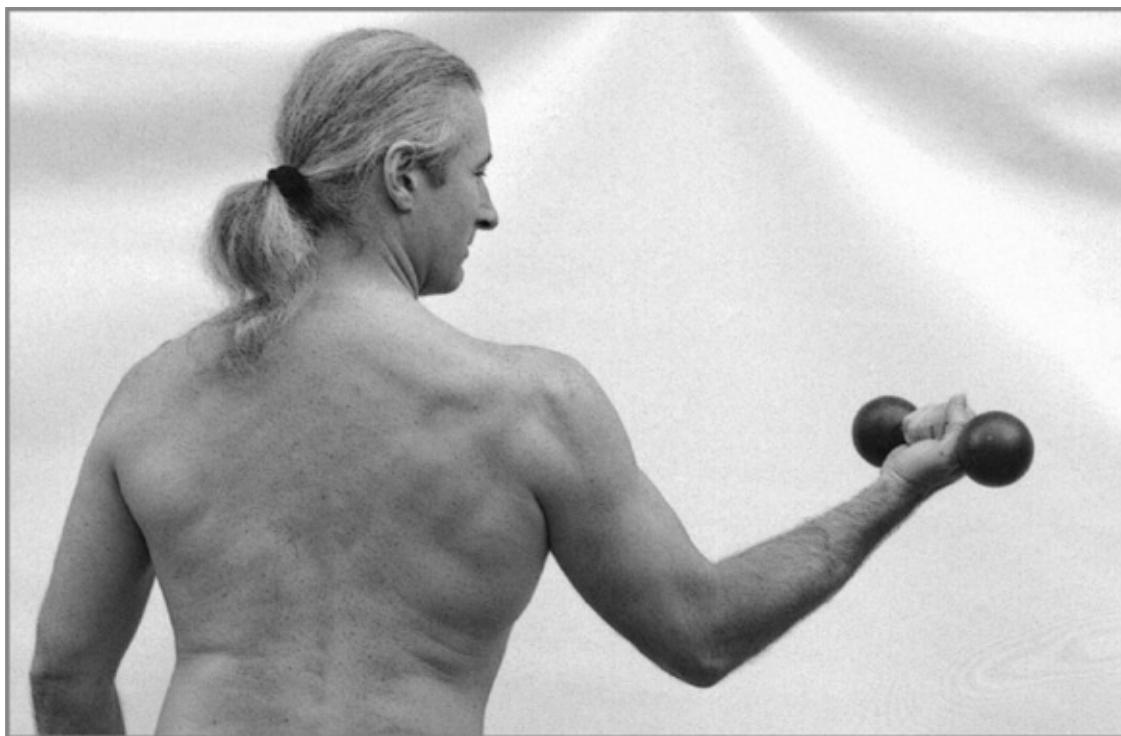
In order to understand the depth of Goodheart's work, a very short discussion of the anatomy and physiology of muscles is included here. Definitions of the words used will also be discussed briefly. These topics will be discussed at greater length in later sections of the book.

Many muscles work in functional pairs (agonist-antagonist), with one contracting to open a joint (moving the attached bones apart) and the other contracting to close the same joint (moving the attached bones together). The biceps and triceps form a clear example of two such opposing muscles. Contraction of the biceps brings the wrist toward the shoulder, closing the elbow joint. Contraction of the triceps brings the wrist away from the shoulder, straightening the arm and opening the elbow joint. A more complex example is provided by

the upper trapezius muscles, one function of which is to elevate the shoulders, and the latissimus dorsi muscles which, among other functions, pull the shoulders down.

Muscle tone is defined as the level of continual contraction while the muscle is at rest meaning not actively contracting. In medical terminology, when a muscle has too much tone and feels hard by palpation (examination through touch), it is said to be *hypertonic*. When a muscle has optimal tone, it is said to be *normotonic*. When a muscle has too little tone and feels somewhat limp, it is *hypotonic*. When a muscle has no tone, it is *atonic* (flaccid or limp). In AK, these same medical terms have slightly different meanings: A *normotonic* muscle tests strong and can be weakened by specific methods. A *hypertonic* muscle tests strong but cannot be weakened. The term *hypotonic* is found in the literature and refers to a weak-testing muscle.

A hypertonic muscle, by palpation, feels hard and usually muscle-tests very strong. Sheldon Deal (through the work of his patient, Richard Utt) was the first in AK to present a term to define a muscle that tests strong but cannot, by usual means, be made to test weak. He called the state of such a muscle “frozen.” Others describe this state as “hypertonic” or “over-facilitated.” Referring to the results of muscle testing, Goodheart stated that the muscle “weak” or “strong.” He also mentioned the existence of *hypertonic* muscles once by stating that “strong”-testing muscles can test “too strong.” Unfortunately, Goodheart never deeply explored the state of muscles that test “too strong,” nor were his terms “weak” and “strong” really accurate descriptions. And he never “laid down the law” by choosing the precise nomenclature to be used by all in AK. Therefore various AK authorities use different vocabulary for the same items, which can lead to confusion for those studying the AK literature.



AGONIST-ANTAGONIST MUSCLE PAIRS:
BICEPS-TRICEPS, LATISSIMUS DORSI-UPPER TRAPEZIUS

For simplicity and clarity in this book, the terms used for the response of a muscle to muscle testing will be “weak-testing,” “normotonic,” and “hypertonic.” The medical terms

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