

APPLIED KINESIOLOGY (AK)

A MEDICAL EXAMINATION METHOD WHICH HOLISTICALLY BROADENS DENTAL DIAGNOSTICS

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Preliminary remarks

The number of patients showing vague symptoms, suffering from unclear complaints, which have been existing chronically for years and are resistant to therapy, has increased steadily over recent years. Mainstream diagnostics, in spite of considerable progress in the field of medicine, often are at a loss. The effects of harmful substances and toxins on various parts of the human body are manifold and difficult to grasp with the help of “modern technical medicine.”

In search of complementary diagnostics, practitioners – besides inspection, palpation, X-ray, laboratory tests, etc. – increasingly also resort to bioenergetic examination methods. Doctors nowadays are expected to deal with their patients’ illnesses and the causes not merely from a monocausal and isolated point of view. The realization of quantum physics, that everything is connected to everything else and that all things influence each other, should also inspire the medical practice of the future.

Ailments of the modern age!

Millions of people in Europe suffer from so-called lifestyle diseases such as allergies, diabetes, rheumatism, osteoporosis, from diseases of the stomach, the bowel, the heart, and the thyroid gland, or from parodontitis, etc. And increasingly it is younger patients who are worst affected. High-performance medicine is concerned with alleviating the symptoms and lessening the complications of these diseases, less with exploring the causes.

Many of the patients with chronic diseases do not show a clear pattern that could be categorized according to mainstream medicine. The causes of these illnesses are down to many different factors and affect the system of basic regulation (matrix regulation) in the connective tissue.

Why do these diseases become more frequent?

It is uncontested that inflammation, i.e. the activation of our immune system, either directly or indirectly, via a negative impact on the immune function or biochemical processes, constitutes the key to nearly all systemic diseases.

Genetics alone will not account for the dramatic rise in inflammatory diseases. Today, we know that a multitude of individual trigger and co-factors play a part in setting off chronic inflammatory illnesses. In our modern society, we are increasingly forced to deal with ever more complex foreign substances, which – taken together – constitute the source of inflammation and, against the background of genetic predisposition and biochemical changes, give rise to the most widespread diseases of our day and age. Unfortunately, modern medicine too plays a significant part here. Interfering with the biological integrity of humans has nearly become everyday routine. For instance, only think of foreign substances used in the fields of dentistry, orthopedics or surgery, drug- and hormone-based therapies, treatments using immunostimulants or immunosuppressives.

A fact that is often neglected is that any interference in the organism has various effects on the body as a whole. Sadly, the specialization in medicine also leads to side effects and secondary diseases often not being recognized as long as the latter are not directly connected to the organ system the respective discipline is dealing with. These developments also affect modern dentistry.

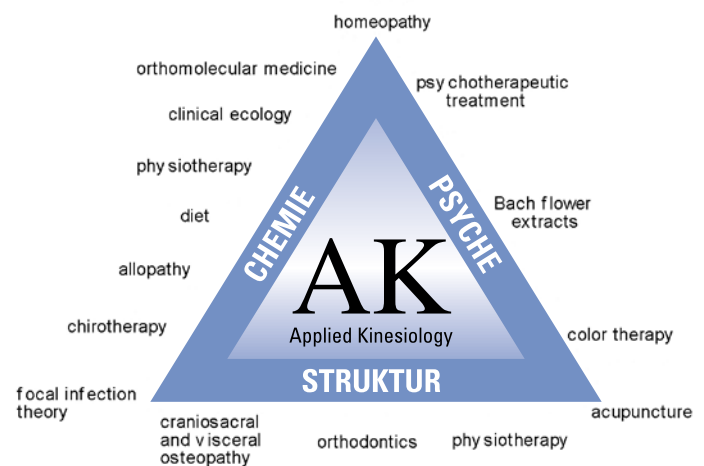
Especially the head and the oral cavity are embedded in a system of energetic pathways. Here is where meridians begin and end. In the course of their research, R. Voll and J. Gleditsch have

proved impressively what a highly energized area of the body dentists work in. A large number of the bioenergetic methods of diagnosis rely on electronic measuring equipment. Applied kinesiology, on the other hand, enables us to examine the basic state and the body’s reactions to various forms of stimulation without using technical equipment.

What is Applied Kinesiology (AK)?

First and foremost, Applied Kinesiology is a diagnostic method, which, by complementing other conventional test results, can help corroborate and refine the diagnosis, yet maybe also broaden the resulting spectrum of therapies.

The first medical texts on AK were written by the American chiropractor George J. Goodheart, Jr., D.C., and published in 1964. He observed that muscles, which he examined by means of the standardized muscle testing methods as described by Kendall and Kendall, changed their strength from one second to the other when patients were stimulated by various means, either locally in the area of the muscle in question or also peripherally somewhere else on the body. The reaction of the test muscle, which was also reproducible, changed from weak to strong, and vice versa, depending on the form of stimulation used. Goodheart, quite genially, combined his extensive knowledge of dietetics, phytotherapy, acupuncture and constitution therapy with his vast chiropractic experience as well as the results gleaned from his muscle tests to develop applied kinesiology. The natural consequence, for him, was to view each health problem from a holistic point of view that takes everything into consideration. This approach he called the “Triad of Health.”



In this triad, the body’s structure, the biochemical milieu and the psyche merge to form a dynamic system. With each illness diagnosed, taking into consideration all three sides, and putting different emphasis on each depending on the situation, there will be various viable options for therapies. The use of AK in each case builds on the basis of all the necessary medical tests such as inspection, palpation, imaging procedures or laboratory results.

Variants of Kinesiology

As with all great innovations, a wide variety of “kinesiological” variations have developed besides AK, especially in lay circles. We are thinking, for instance, of the Touch for Health movement, Behavioral Kinesiology, Neural Kinesiology, or Edu-kinesthetics,

to name but a few. Many of these methods do not even perform the necessary conventional medical tests or do so only superficially. They often set no great store by sound standardized muscle testings. Applied Kinesiology, as proposed by George Goodheart, clearly distances itself from these lay movements in this respect.

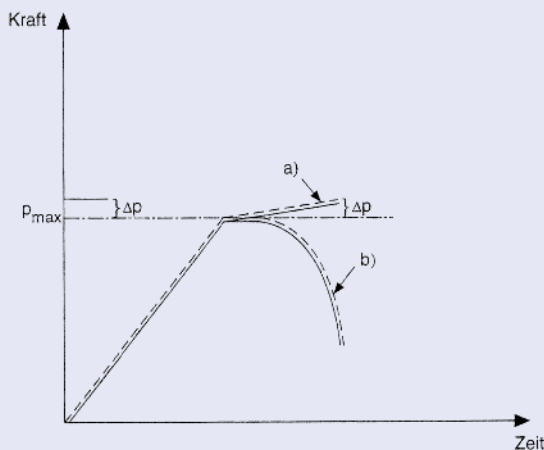
Muscle testing in Applied Kinesiology

The most important tool of Applied Kinesiology, as mentioned above, is a correctly carried out muscle test. The muscle is brought into the standardized test position. The testing procedure consists of the practitioner pressing the muscle, at maximum contraction and without pain, against a broad hand contact. This test is carried out isometrically. As soon as the patient has reached his or her maximum strength, the practitioner slightly increases counter pressure for two to three seconds. It is important that the increase in strength is gradual and not too sudden, so that additional muscle fibres can be recruited. All advantages in power, during the test, should remain with the patient.

p_{max} the patient's subjective power maximum
 patient's pressure
 - - - - - practitioner's pressure
 Δp 2-3-4 percent additional pressure through practitioner slowly increasing

- a) The patient's muscle stays strong, i.e. it is able to react correctly to the little extra pressure (Δp) applied by the practitioner ("locking in").
 b) the muscle suddenly "breaks down," i.e. Δp cannot be answered correctly.

Graphische Darstellung eines AK-Tests



The recognition of p_{max} and the sensitive execution of the test is the true art of the tester. The patient's reaction, i.e. a) or b), is the crucial aspect of AK muscle testing!

In a properly carried out test, there are three possible muscle reactions:

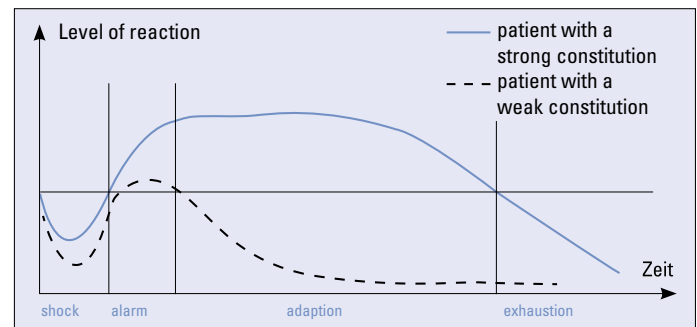
1. The muscle is hyporeactive, i.e. the patient is not able to adequately recruit the test muscle in order to resist the practitioner's counter pressure.
2. The muscle is not sufficiently able to resist the practitioner's increasing test pressure. To sedating, i.e. weakening, measures (e.g. approximating the spindle cells in the muscle belly, placing a strong magnet on top of the muscle belly, or stimu-

lating the sedation point of the respective muscle's meridian), the muscle temporarily reacts by way of a functional weakening. This muscle is described as normoreactive.

3. The muscle is strong while being tested, does not react to the sedative measures described in point 2 though, and remains strong. AK calls this a hyperreaction.

These three types of muscle reaction are comparable to the hyperactive and hypoactive stages of the General Adaptation Syndrome as defined by Hans Selye, namely shock, alarm reaction with subsequent adaption, and exhaustion.

GAS (General Adaption Syndrome) according to Selye:



In the first reaction to stress (shock), physical performance drops for a short period, in order then to increase again thanks to a release of cortisol and adrenalin (alarm phase). If the stress continues, probably over months and years, the body will adapt (stage of resistance) at a considerably raised level. This is a sensible reaction, as the organism thus is very efficient and able to remain so over a long period. If the stress is kept up for too long, however, a state of exhaustion must follow, a return from which to the stage of resistance is hardly possible. What is required then, in any case, is an extended recovery phase and comprehensive therapeutic measures including a change in the patient's lifestyle (lifestyle modification). Today, many patients complain about typical stress-related symptoms. The effects of stress on the immune system nowadays are beyond dispute.

Challenge and therapy localization

After the initial examination, which provides the therapist with information on the strength and reactivity of the test muscle, the patient, depending on the clinical problem, is subjected to a structural, chemical or mental stimulus (Triad of Health). Applied Kinesiology calls this provocation a challenge. In reference to the concept of stress formulated by Selye, the practitioner tests, which effects a stimulus will have on the muscle reaction, which of course is relevant for the patient and therefore in need to be cleared up.

The simple touching of a part of the body to be examined (e.g. scar, infected tooth, joint, vertebra, etc.) is called therapy localization (TL). The latter is a special form of the so-called challenge, or a touching challenge, as it were. Each change of the normoreactive muscle towards hyporeaction or hyperreaction signals to the practitioner that the tested substance, the area touched, the structural change, or also the imagined psychological stress constitutes a strain for the test muscle and thus for the patient. New insights gained by neurophysiology, yet especially by quantum physics and chaos theory, today give us the opportunity to elaborate on the scientific basics and expla-

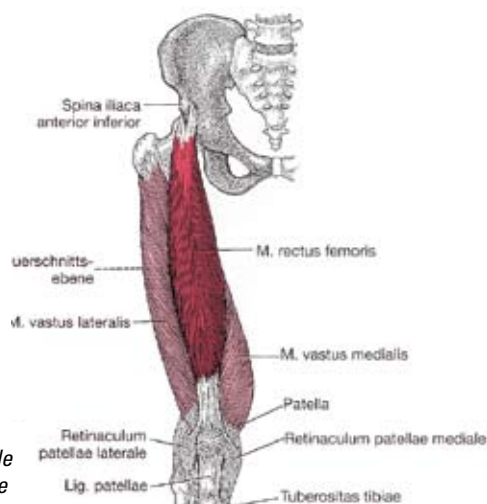
natory models behind this diagnostic process relying on muscle testing.

The therapist must understand anatomy, innervation, test position, organ affiliation, and nutrient connections of all the muscles examined in the course of the AK test.

Description of a muscle resp. of the test, using the example of the rectus femoris muscle

With the exception of specific orthopedic problems, esp. in the knee or the pelvis, out of the four parts of the quadriceps muscle we usually only test the rectus femoris muscle, which for this reason is the only one dealt with in detail here.

The muscle test is generally performed with the patient lying on the back. The leg is brought into a position of 90 degrees bending in the knee joint and equally 90 degrees in the hip joint. The practitioner pushes against the distal thigh in the direction of a straight extension. Rotation or a change in the knee's angle should be avoided. This muscle, organ- and meridian-wise, is affiliated to the small intestine.



Anatomy of the rectus femoris muscle cross-sectional plane



Checking for normoreaction while stimulating the sedation point

Beware:

A bilateral, partially extreme weakness of the rectus femoris, frequently without any serious findings on the spine, is often found in connection with allergies related to the small intestine and dysbioses, especially also with candidosis! These groups of patients often also show the opposite symptoms, namely a hyper-reaction on both sides of the rectus femoris as a consequence of an allergic reaction of the small intestine. The rectus femoris therefore is the ideal indicator muscle for the evaluation of this problem area.

The one-sided hyporeaction of the rectus femoris often is associated with a subluxation of the sacroiliac joint, whereby the ilium, due to a lacking stabilisation by the rectus femoris, shows a posterior tilt.

The use of Applied Kinesiology in dentistry

Dental material testing

Hardly any other group of medical practitioners introduces as many different materials into the human body as we dentists do. Every field of medicine deals with symptoms that have their origin in incompatible dental materials. Due to the ever increasing number of patients reacting with intolerances resp. sensitizations to dental materials, it should be conditio sine qua non for the responsibly operating dentist to clarify in advance whether a pathological reaction can be expected to the dental material to be newly introduced, or already incorporated, in order to save the patient unwelcome consequences through immune responses. It should be taken into account that every incompatible material can constitute a trigger for chronic inflammations, as it will interact with the organism itself as well as with all foreign materials already present in the body. In this way, inflammatory irritations may be triggered or already existing complaints accelerated and amplified.

Applied Kinesiology provides us with a quick, simple, and reproducible method of approaching the issue of material tolerance both from a preventive and a curative angle. In this manner, moreover, the results can be corroborated very selectively and thus economically in conventional medical terms through the appropriate laboratory tests (see below)



Testing procedure – rectus femoris muscle

Testing dental materials to be introduced into the mouth for the first time

The dental materials to be applied are produced and tested according to product standard in the exact state in which they are later introduced into the mouth. Acrylics have to be polymerized completely with all corresponding adhesion agents and bond systems, metal alloys moulded and processed with ceramics or acrylics and all necessary additives as required.

For the pre-test, the material to be tested is placed on the patient's tongue for 30 to 60 seconds. If the normoreactive indicator muscle remains normoreactive after the exposition period ends (i.e. if there is no change in the muscle tone), this is an indication that the material tested, at the time of the AK testing, is tolerated individually by the patient. Each aberration from normoreaction hints at an intolerance towards the dental material.

In order to avoid type IV allergies (delayed response) to these dental materials, the patient is given the materials, individually tested for tolerance, to take home. Persons not suffering from allergies are asked to take the samples into their mouths, for five to ten minutes daily, over a period of seven days at least (allergy sufferers for 14 days) and to swallow the saliva. Due to this contact, the body's immune response will be activated. Should the materials cause a burning sensation on the tongue, numbness, or other symptoms, patients are instructed to no longer take the respective material in the mouth because of an increased danger of sensitization.

If, after 7 to 14 days of this procedure, there is no dysreaction in the AK test to the provocation with the material to be tested, it is still advisable, in cases of chemical sensitivity and other cases of a hyperreactive immune system, despite individual tolerance, to undertake a special laboratory diagnosis (LTT, EFTYP or BDT) with possible native material.

AK testing of suspected incompatibilities of materials present in the mouth

Materials already present in the mouth can only be tested for individual incompatibility with the help of a homeopathically processed test substance (potentized dental materials). In case isopathics of the prefabricated compound or its individual components are available, the test takes place using a dysreactive muscle, or a positive therapy localization (TL), that functionally should be attributed as closely as possible to the symptomatic region (e.g. submandibular lymph nodes)

The suspected material, potentized to between D6 and D30, is brought into contact with the patient's skin. The suspicion is confirmed if in the process there is a normoreaction of preferably several dysreactive muscles resp. if the positive therapy localizations are suspended.

An invasive removal of such irritating materials, however, must always be preceded by a confirmation of the diagnosis through laboratory testing. The latter can prove an allergy and the actual activity of the allergic process in conventional medical terms. Depending on the material in question, a toxicological suspicion is verified by way of saliva, blood, stool, or urine analysis.

Material incompatibilities are caused by immune mechanisms, primarily type I (acute response) and type IV (delayed response) as described by Coombs and Gell, as well as mechanisms of the pseudoallergic activation of inflammatory and pain mediators. Additionally, toxicological stress can also be quantity-related.

Laboratory diagnostics (complementing AK)

Type IV allergies can be recognized by way of a lymphocyte transformation test (LTT). Effector cell typing (EFTYP) can detect type I allergies as well as certain pseudoallergic reactions. With type I allergens (especially acrylates, root filling material, local anesthetics) proof happens by way of a basophil degranulation test (BDT). Toxicological stress can be diagnosed through a DMPS test or by analysing saliva. Sensitization to organic decomposition products, such as mercaptans and thioether, is verified through cytokine analyses, a gradation of the individual inflammatory predisposition through genetic polymorphism of IL-1 and TNF-alpha. Skin tests, such as an epicutane or intracutane test (type IV), are not advisable due to a danger of sensitization and low reproducibility.

When attempting to diagnose a "hypersensitivity" to titanium, due to the specific properties of the metal, a lymphocyte transformation test for titanium (proof of sensitization to metal implants) and a titanium stimulation test (proof of a hyperinflammatory cytokine response to titanium oxide) should at all times be undertaken as well.

Testing for infections and pathologies (foci)

With the help of Applied Kinesiology, potential foci (infectious or hidden chronic inflammations) or areas of disturbance (e.g. scars) can be identified and the most effective therapy available found. A problem preoccupying dentistry is the question of possible dental foci, as radiological changes become visible only once destruction of osseous structures has reached a certain stage. AK provides the attending dentist with a valuable tool, both in view of preserving or extracting individual teeth and in treating edentulous areas.

Endogenous areas of disturbance and bacterial foci in the region of the teeth, the mouth, and the jaw are of particular pathogenic and thus therapeutic significance, that is often underestimated in everyday practice.

Such potential areas of disturbance may be present in the organism as hidden sources of stress for a long time. Due to their being active for such an extended period, the organism's regulatory system and also its rate of metabolism are under increasing stress. As a consequence, even just a reduction in the body's own resistance and a breaking down of the local defence mechanism due to endogenous and exogenous factors can lead to one of these potential areas of disturbance developing into an active infectious focus, that may manifest itself not just ad loco but also at a distance in certain organs. The spread varies under the influence of secondary stress and differs depending on constitution and predisposition.

From the point of view of holistic dentistry, teeth with a chronically inflamed pulp, impacted teeth, retained roots, cysts in the jaw area, foreign substances in the jaw area (implants), individually incompatible dental materials, chronic inflammation of the jaw (osteitis), intraosseous pockets (marginal parodontitis), scars, devital teeth, teeth subjected to radioectomy and endodontic treatment may – through bacterial infections and the migration of toxins – have osseous, lymphatic, immunological, vasal, endocrine, vegetative-nerval and meridian-specific effects on the entire organism's regulatory system, which may be disrupted and blocked.

One should keep in mind, though, that not every area of disturbance is a focus of infection, while every focus of infection is an area of disturbance.

The initial testing for this problem happens by way of therapy localization (TL) or challenge (CH), looking at suspicious, potentially affected areas of the body (teeth, scars, body cavities, edentulous areas). Using nosodes such as jaw osteitis, gangrenous pulp, sinusitis, etc. to test for positive TL/CH, it is possible, via the tonus change in the test muscle, to determine which form of infectious process is taking place. Thus, by way of a nosode testing in these places, it is also possible to quickly settle, by differential diagnosis, the frequent question, for instance, whether a pain in the region of the upper molars is of dentogenic origin or caused by a sinusitis.



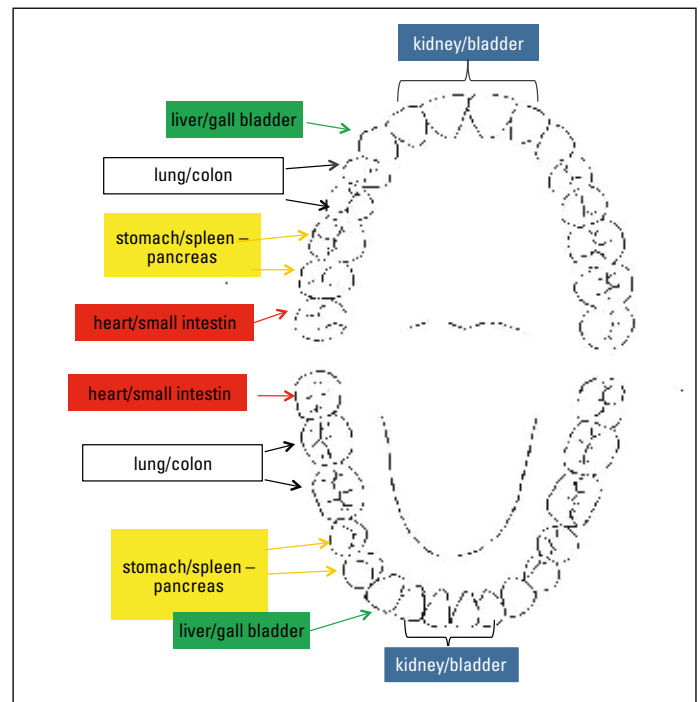
Testing for dental foci, incl. therapy localization (TL) in the root area, with the help of a ball plugger against a suspect tooth.

The purpose of a special focal diagnosis is to clarify whether there is a connection between the area showing the symptoms (joint, organ) and the suspected cause (tooth, tonsil). In Applied Kinesiology

this happens by way of the so-called “double therapy localization.” If two positive challenges in the test cancel each other out, then a causal connection between the focus of infection and the peripheral site of pain/inflammation is highly probable. A further corroboration of the diagnosis is possible by way of probationary neural therapy (that has been tested for individual tolerance). In this manner it is generally possible to temporarily neutralize the cause of a structural or organic dysfunction. This procedure is equivalent to an unspecific regulation therapy. As long as the anaesthesia is effective, the complaints (remote effect) can be deactivated.

Thus the causal relations can be demonstrated to patients in an impressive manner, also sensitizing them to the question: “What can be achieved by treatment?” At the same time we are also given the opportunity to verify the diagnosis.

According to research done by Voll, Kramer and Gleditsch, there are empirical connections between teeth and organs via the meridian system. In this way, infected frontal teeth can for example cause disorders of the kidney, or infected molars lead to dysbioses, etc.



Tooth-organ relation in the upper and lower jaw

The use of Applied Kinesiology in holistic periodontal treatment

All advocates of a holistic periodontal treatment, by way of a concomitant therapy, substitute vitamins, trace elements, phytotherapeutics, or homeopathic substances. The positive effects of these substances on the body as a whole and the periodontal tissue today are well known. It certainly makes sense to provide the body with all the necessary building blocks for healing and bone development in case repair work becomes necessary on the diseased structure. Applied Kinesiology here offers the means to test for substances lacking in the individual case, so that the patient will not be indiscriminately doused with all kinds of substitutes. Not least due to the antagonism in vitamins and trace elements, such procedure can do more harm than good.

Testing is done, without applying pressure, with a periodontal probe in a deep periodontal pocket via a normoreactive test muscle that changes its tone due to this therapy localization. All potential substances now are tested on the tongue. Those medi



AK remedy test during probing of a parodontal pocket

cinal substances neutralizing the change in tone, i.e. making the test muscle normoreactive again, are lacking individually in this patient and are substituted. In a similar fashion, it is also possible to detect a mycotic infestation in the periodontal pocket and test the necessary therapeutic.

This individual substitution therapy, carried out in the wake of AK testing, has proved extraordinarily successful over the years in connection with the usual periodontological procedures, and moreover is verifiable in the laboratory. However, the therapist should be acquainted with the complexities of orthomolecular medicine when applying this therapy.

Applied Kinesiology and craniomandibular dysfunction (CMD)

By using the examination techniques of TL and challenge, Applied Kinesiology is able to offer a quick and, if carried out correctly, effective method for diagnosing a craniomandibular dysfunction, but also for differentiating between potential consecutive effects like facial pain, head ache, migraine, tinnitus, dyslexia, hyperactivity, or pain in the musculoskeletal system. Once again, of course, a comprehensive anamnesis, inspection, palpation, and also a complete oral-orthopedic and an exploratory, overall orthopedic examination must be the starting point. As a minimum program we advocate a series of mechanical challenges:

- light and hard biting in the intercuspal position (ICP)
- opening and lateral movements
- protrusion and retrusion

From the types of challenges producing a positive challenge we can draw conclusions as to the structures of the stomatognathic system that are dysfunctional. A three-dimensional change of the occlusal position can be reevaluated straight away and thus clues gathered for the required adjustment of the position of the lower jaw in a possibly necessary treatment with a dental splint. In the same manner we subsequently also control the incorporated splint and its effects on the entire cranosacral system.

Further fields of application

Applied Kinesiology provides dental practitioners with a wide variety of options for broadening their diagnostic and therapeutic spectrum. It is a tool, for example, with which to test out all medicinal substances prescribed in the course of pain treatment or also complementary treatment after operations.

We would also like to mention here the occlusal test with fillings and with prosthetics, or the effects of orthodontic appliances, including all materials used therein, on the patient. The so-called double therapy localization (DTL) moreover makes it possible to determine the connections between detected problem areas and organic disorders as well as disrupted structures, and to treat these effectively.

Summary

Besides all the options described, offered dentistry through Applied Kinesiology, a common examination protocol across the different fields can lead to a common language and thus to successful interdisciplinary cooperation in the interest of patients, that is one of the main motivations inspiring Applied Kinesiology.

Across all the fields of general medicine, and manual medicine as a whole, Applied Kinesiology has a comprehensive, highly diversified range of diagnostic and therapeutic tools to offer.

The basic requirements for a successful implementation of Applied Kinesiology in medical practice is comprehensive training

in the strict classical method of muscle testing, learning to understand the systems interacting within the body, knowing about holistic medical correlations, as well as a knowledge of naturopathy. Techniques of manual medicine and of craniosacral therapy ideally complement Applied Kinesiology and are therefore important aspects in the course of training.

The deliberate use of different diagnostic methods, and also the interpretation of the results and their clinical application, require a close dialogue between the dentist and practitioners from other areas, e.g. environmental medicine, dental and diagnostic laboratories. In future, in order to provide our patients with the best possible treatment, intensive interdisciplinary communication should be a matter of course. In this way we could on the one hand avoid repetitive examinations in the service of diagnostic clarification, and on the other better coordinate, and therefore intensify, therapeutic programs. All of which could largely help prevent that correctly applied therapies at times still turn out unsuccessful.

For more information on the training guidelines in connection with the professional diploma in Applied Kinesiology please refer to the web pages of the following organizations:

International Medical Society of Applied Kinesiology (IMAK)

www.imak.co.at

German Medical Society of Applied Kinesiology (DÄGAK)

www.daegak.de

International College of Applied Kinesiology – Austria (ICAK-A)

www.icak-a.at

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