"THERE IS NO SCIENTIFIC BASIS FOR..."

Clinician's Version

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It happened again last week. There, on the evening news was a postgraduate degreed person wearing a white lab coat and looking quite proper being asked her opinion about some new, alternative medicine approach to health care. Then she said it. And she said it so typically, in an arrogant, self-righteous, almost disgusted tone, "There is no scientific evidence that the procedure has any value."

What does it mean when someone with credentials says, "There is no scientific evidence for this..." or "there is no scientific basis for that...?" We have all heard it said dozens of times. It is always stated as an argument AGAINST whatever new idea is being proffered. And it is always expressed in a tone demeaning to the new idea. But the terms "scientific evidence" or "scientific basis" have such an official ring to them that the average person is inclined to side with the "authority."

Often, the "authority" adds to the declaration the fear that "not only is the new procedure of no value, it may be dangerous to a person's health or well-being." This has always confused me. How can a scientist proclaim that the same new, untested procedure which has no scientific basis for merit at the same time does have scientific basis for harm? This fear tactic is not a device of scientists, but rather of questionably motivated people who are attempting to sway public opinion.

The term "scientific" is an adjective. It means "of or dealing with science." And I'm sure what those illustrious professionals mean by "no scientific evidence or basis" is that they are unaware of a study on the subject which follows the scientific method and which has been reported in refereed, scientific journals. This fact, however, does not prohibit a new finding from being scientific in nature or from being derived from sound scientific investigation. A good scientific observation is just as scientific before it is published as it is afterward.

The scientific method is a good methodology. And even though the classical double blind crossover model is not applicable to all studies, we should all try to apply this method when it is applicable to our research efforts.

But first and foremost, science is a state of mind – a state of an OPEN mind. A true scientist will not make a rigid, "scientific" statement about an idea, be it his or someone else's. There must always be room for new information and reevaluation of an idea. This is not to disallow a scientist from expressing personal opinions; just that these opinions should be designated as personal and not confused with scientifically derived principles.

If there exists no actual evidence based on scientific methodology, the true

scientist can not make a "scientific" statement as to the validity of an idea. A true scientist will state with an impartial tone that there is nothing that has been studied. Taking a stand on a new idea (i.e., an untested hypothesis) before it has been tested, disqualifies a person from true scientific evaluation of the hypothesis. Expectancy and operator prejudice arise from making up one's mind before a hypothesis is tested. These are common errors of which we in AK are all aware.

If testing the hypothesis ends in negative results, a true scientist will use a phrase like, "The evidence at hand seems to suggest that..." But still, the true scientist will not be able to make conclusive statements.

About twenty years ago, I spoke with two scientists from Nova University in Ft. Lauderdale who had investigated some of John Ott's theories regarding natural versus artificial light. Using microscopic time lapse photography, their study showed a certain regular flow of cytoplasmic granules around the periphery of plant cells under natural light. Under artificial lighting, there was a decided disruption of plant cytoplasmic flow. I said, "This proves that living things are better off under natural light than under artificial light, doesn't it?"

Their reply was, "Dr. Ott might say that in his application of this project to his concepts. But there is nothing at present which suggests that a change in the flow of the cytoplasm is a bad thing. As true scientists, all we can do is report our findings and let others make their own conclusions from them." I learned a lesson about science that day.

About the same time, I met for two hours with three Palmer College of Chiropractic faculty members in Davenport, Iowa. One of the doctors, a Ph.D., began by telling me that he had only had one previous exposure to applied kinesiology and that it had been very negative. He then continued, saying, "But that was my only exposure and I am very interested in what you have to say today." The man is a true scientist. In spite of his previous negative feelings, he maintained an open mind, still willing to listen to new information and accumulate a wider base for his opinion.

In my experience, there are many self-proclaimed scientists who are in reality "pseudoscientists" or "scientific cultists." These usually self-righteous folks hide behind the cloak of the term "science." They may even use the scientific method and publish in scientific journals. They may have multiple degrees after their name, and may have even been the recipients of prestigious awards in their professions. Due to their illustrious positions, this group is often asked their opinions about matters relative to science and new findings. They are nearly always very outspoken and opinionated. I think you know the type. Too often they inhabit faculty positions in chiropractic colleges and medical schools or find themselves in other positions of authority.

This type of scientific cultist lacks the one attribute that can qualify him or her as a true scientist: an open mind. When scientific cultists begin to take their own positions and opinions too seriously, they lose this fundamental requirement for scientific evaluation and the humility that accompanies it.

Pseudoscientists are very proud of being part of the scientific community, even though they do not rightfully belong. But if they can say the right words at the right times, they can pass themselves off, particularly to other pseudoscientists. They can be easily spotted, however, by true scientists and by just about anyone else with a little common sense. For example...

In July, 1987, I had the opportunity to attend the Olympic Sports Festival Medical Conference held at Duke University. The program included presenters from all over the world including the U.S.A. and the Soviet Union. At that time in history

the Soviet Union dominated the Olympic games, by far outscoring the United States and all other countries.

The representative of the USOC Sports Medicine Committee made strong negative comments regarding the use of nutritional supplements and belittled any nutritionally associated benefits for athletes. He stated, roughly, that "There has never been any scientific study that demonstrates that any of these nutritional supplements has any helpful effect on athletic performance." He continued to show slides of various nutritional supplements while he was speaking and when a slide appeared showing a bottle of bee pollen, he stated incredulously, "Can you believe it? We even have athletes who take bee pollen thinking it will help!" Everyone, or at least almost everyone, laughed.

Soon thereafter, the Russian Olympic doctor gave a short presentation followed by a question and answer period. One question was "Is there anything that all Russian athletes take or do?" As she answered through her interpreter, she listed seven or eight vitamin and mineral factors that all Russian athletes took, "And," she said, "they all take bee pollen."

'Nuf said.

Clinical practice requires a delicate blend of training and experience. No clear thinking practitioner would criticize another doctor for a therapeutic approach based on the doctor's previous good experience. And yet many approaches are called "unscientific." I have never understood this, particularly since AK has far more supportive peer reviewed scientific papers than any other similar clinical approach.

Scientific methodology requires developing a hypothesis, testing the hypothesis, and modifying the hypothesis based on the initial observations. This process can be continuous. In the laboratory, the process results in new theories. In dealing with patients, the process should result in a diagnosis and an effective course of therapy.

In the patient care setting, the scientific methodology involves listening to the patient and asking questions, doing tests on the patient, and arriving at a working diagnosis. This is developing the hypothesis. Then a treatment is performed or prescribed based on all of the above. This is testing the hypothesis. The response to the procedure verifies or refutes the hypothesis (diagnosis).

Too often, this procedure is employed by the doctor listening to a patient's complaints, maybe doing further diagnostic evaluation or maybe not, and arriving at a working diagnosis. The working diagnosis is usually an attempt to classify the patient into a standard named, category of disease (e.g., pneumonia, rotator cuff syndrome, chronic fatigue syndrome, etc.) This is the development of the hypothesis.

Finally, the doctor performs or prescribes some previously determined treatment procedure based on the diagnostic category that most closely fits the patient. Such a treatment by categorization procedure leaves little room for individual variations. The treatment becomes the testing of the hypothesis. I guess this fits the criteria of scientific methodology, but if the therapy is improper, the doctor must await the patient's lack of response or negative response before modifying the hypothesis and attempting a new treatment. This can be very tough on the poor patient!

What could be more scientific than monitoring each step of the diagnostic and therapeutic process along the course of the treatment? This is exactly what we do in the practice of applied kinesiology.

In AK we are constantly making and testing hypotheses each time we perform a muscle test. Armed with the results of one test, we redefine the hypothesis and test once again. By the time we arrive at the treatment procedure, whether it be a manipulation, a nutritional supplement, or an exercise regime, we have already received the body's biofeedback that the therapy is appropriate.

This approach of AK is the most efficient application of clinical science at the present time. AK doctors practice and think like scientists. But even more importantly, AK supplies a framework for simultaneously applying both the science and the art of clinical practice. In the context of treating patients, AK sets the standard as the most scientific approach in the healing arts today.

So the next time I hear an authoritative person claim "no scientific basis" for this or for that, I will know that the person is a non-scientist of questionable motivation. But when I hear "there is not enough information available at the present time to be able to formulate a reasonable scientific opinion on the subject..." my ears will perk up to hear what the scientist has to say.