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Keating JC. Introducing the Neurocalometer: A view from the Fountain head. JCCA 1991; 35(3):165-178.

To the Editor:

In response to my previous letter regarding his paper on the Neurocalometer (JCCA 1991; 35(4):242-243), Dr. Keating invited me to share with your readers my insight on the social variables which I feel mitigate the scientifically questionable claims made in marketing and healthcare promotions by B.J. Palmer as well as modern chiropractors.

I appreciated Keating's clarification of his view of "quack cures" versus "quack promotions". He indicates that it is inevitable and therefore acceptable to clinically utilize scientifically unproven methods, but strongly objects to advertising or promoting them. In his words, "We should claim nothing more than has been scientifically proven."

While appearing wholesomely idealistic from a scientific viewpoint, this statement is simultaneously naive and unrealistic. Certainly if Dr. Keating purports to reflect a balanced view, he would acknowledge that public education and healthcare marketing must also reflect the widespread empirical knowledge of the relevant disciplines. I whole heartedly endorse the restraint and conservatism exhibited by the majority in our profession.

The closest thing to proof for a clinical procedure involves several controlled clinical trials, such as Dr. Meade's British Study and others reviewed by the Rand Corporation.

David Chapman-Smith, editor of *The Chiropractic Report* points out, however that there will never be controlled trials for most healthcare procedures, because of cost and time factors.¹

Consider that even the British Study and the Rand reports do not offer "proof" of success with manipulation for low back pain. Even the most conservative chiropractor or regulatory body would also claim success for the common or "tension" headache. This, without proper controlled clinical trials with adequate sample sizes, which would be required to pass Keating's "scientific purity law" for marketing.

It would appear that Keating would have chiropractic climb under a rock and wait for the world to discover it, while honoring his scientific gag order.

I feel there are legitimate social factors which render his position extreme. The powerful political and financial lobbying efforts of the medical associations, and the billion dollar pharmaceutical company advertisement campaigns have entrenched legislative and insurance biases which favor access to treatment solely by physicians. The social harvest for medicine is that the naive public automatically consults them for virtually all health matters.

The present law and legislator perception is that virtually all health disturbances are curable, or at least best managed by medical intervention. This universal misconception dwarfs the reality of testimony by medical experts who conclude that only about 15% of medical treatment is supported by valid scientific evidence.² Others suggest that medical treatment efficacy runs about 20%.³ While engaging medicine, the public tolerates a staggering iatrogenic fallout estimated at 250,000 deaths per year in the U.S.A. alone.⁴ Most people are not even aware that there are alternatives, yet alone informed enough to question efficacy and iatrogenesis.

Due to medicine's effective monopoly, they do not have to make the leap of faith from quack cure to quack promotion which so offends Keating.

Indeed, B.J. Palmer as well as modern chiropractic have had to advertise, market, educate and promote in order to lure the public into our offices. We've also had to do this in order to establish and maintain our colleges, including the one that feeds Keating's family, obtain healthcare funding, and initiate research. Many of us sincerely believe our efforts are of tremendous social benefit, as opposed to being the lurid spectacle that Keating would intimate.

Regarding Keating's assertion that there has been no marketing rhetoric in the JCCA, I would like to know if he is referring

to the published articles or the advertisements. If it is the published papers clearly here there is no place for rhetoric, though, to me, the B.J. cartoons in his own article are certainly questionable.

If he is referring also to the product advertisements, I would direct his attention to the inside front cover of the JCCA issue in discussion. Here, we read "When you want to work your body into the best it can be, come see us" captioned over a large photograph of a bottle of garlic pills. Or flip to the back cover to discover an analgesic rub that is "extremely effective for . . . the discomfort of arthritis". This second product incidentally, is "Exclusively recommended by the College of Chiropractic Sports Sciences (Canada)".

Personally, my "scientific crap detector" as Dr. Keating calls it, goes on Red Alert when I read these statements. Keating's alarm, set to a different frequency, goes off when the ACA makes claims of the "(clinically) proven value of chiropractic care in improving athletic performance". I would humbly point out that there are also medical experts in manipulation who publicly voice a similar scientifically reckless viewpoint on this matter. European neurologist Karel Lewit strongly advocates prophylactic manipulation not only for athletes, but also for children.⁵

Liberal medical discussions of the scope of manipulation also include Dr. John Tanner of the British Wholistic Medical Association. In his multidisciplinary lay back help book he even talks about manipulation improving conditions "such as migraine, pre-menstrual tension and constipation", in addition to preventative treatments to delay degenerative spinal changes.⁶

In summary, I cannot agree with Dr. Keating's criterion of requiring rigid scientifically established proof of efficacy before chiropractic can promote or educate the public as to what we successfully treat or think we can treat. To do so would render us impotent as the public pursues less effective, traditional yet equally unscientific iatrogenic ridden alternatives. Certainly, if the conservative ACA ad does not pass his acid test, our viewpoints must remain divergent.

Patrick G. Bickert, DC
Kelowna, British Columbia

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To the Editor:

Despite Dr. Bickert's assertion that "Keating would have chiropractic climb under a rock," it is my contention that the chiropractic profession, comprised of licensed health care providers, has both a right and a responsibility to inform the public of the types of services provided and the sorts of health problems which might prompt a patient to seek the DC's care. Public education, in my opinion, should also include discussion of patient's responsibilities for health, information on the history of the profession, the education of chiropractors, and ought to address the broader health issues that concern the profession, such as drug abuse, disease prevention, poverty and the like. Chiropractors should also address the nature of the hundred years war that has gone on between DCs and organized medicine. These issues constitute a fairly broad mandate, I believe, and provide ample room for chiropractors to compete (where appropriate) with medical providers and to offer complementary services where indicated. However, the profession's prerogative to inform is not a blank check; there are boundaries of propriety and accountability that ought to be heeded by any group that aspires to the status of a health science.

It is Dr. Bickert's right, and the right of the chiropractic profession, to ignore the ethical boundaries in communications with the public. It is also the prerogative of DCs to attempt to redefine the nature of these boundaries; such would be an interesting exercise in philosophy, and might be worthy of a scientific discipline. Chiropractic could also decide to abandon its historic aspirations to be a science; the profession as a whole could adopt a self-definition as an *art-minus-science*. I doubt that this is the desire of the majority, although there is probably a sizable minority who would be quite content to abandon science as a defining characteristic of the profession. Not all agree that chiropractic should be a scholarly and scientific discipline.

To choose the path of science, however, involves a number of self-restrictions. One of these self-imposed cautions involves distinguishing among assumptions, hypotheses and experimentally demonstrated effects. Assumptions (often expressed as metaphors) are untested and/or untestable beliefs, such as "for every effect there is a cause," "first do no harm," and "the strategic role of the nervous system in health and illness." Hypotheses are tentative but potentially testable assertions about the relationships among phenomena, for instance "spinal adjusting increases longevity." Demonstrated, published, experimental results and findings provide our best approximations to "truth" at any given moment in time, but are limited in several ways. Experimental "proof" is necessarily embedded in the assumptions that guide science and in the particular hypotheses/theories that guide particular experimental research programs. If our assumptions are incorrect, or if our theories lead us to test less than optimal hypotheses, then our conclusions may be false, irrelevant or clinically trivial. Additionally, use of the experimental method to ask nature to assist us in choosing among competing hypotheses and clinical methods can be misleading, for instance, when our experiments yield unusual,

improbable, ambiguous or false results; this is why scientists are so insistent on replication of experiments before drawing conclusions.

Given such uncertainties in science, it behooves clinical disciplines to exercise extreme caution and considerable humility in drawing conclusions and in making claims for the value of various clinical methods. Obviously, such restraint and the ethical values it represents are severely taxed in the increasingly competitive environment of health care. We have seen medical associations relax their former bans on advertising, and I suspect that unsubstantiated claims-making is on the rise in that profession, particularly in the United States. Big brother will undoubtedly have to wrestle with the same ethical conflicts between marketing and scientific values that currently challenge chiropractors.

I am hopeful but not confident about chiropractors' willingness to meet these ethical challenges head on. After nearly a century of survival struggle against political medicine's persecution, the chiropractic profession may be too twisted from abuse to straighten itself out (at least in the short-term). The old marketing values, which have enabled the profession to survive organized medicine's onslaught, will not easily be subordinated to scientific values. However, until such occurs, until chiropractors self-criticize and restrain themselves in public communications, the Hatfield/McCoy struggle between chiropractic and medicine will persist, and patients, as ever, will be the real losers.

As I suggested,¹ B.J. Palmer's introduction of the neurocalometer (NCM) provides a "model of quackery." It does so by virtue of the extreme and outrageous nature of the claims made for the instrument, and because the episode meets the other characteristics of Jarvis'² definition: done for profit and without experimental substantiation. Palmer tells us that he had only three choices with respect to the NCM: keep the device as "a school trade secret," sell the device to anyone (including barbers, plumbers, MDs, DOs, DCs), or lease it to chiropractors exclusively. I strongly disagree that these were his only options. He could have ignored the device entirely. He could have conducted and published experiments to determine the clinical merits and limitations of the NCM. He could have made the device freely available to other DCs and to scientists who might have wished to test the NCM's usefulness. He could have offered the NCM cautiously and humbly to patients and to the profession, based on some empirical knowledge of the instrument's worth, but acknowledging the lack of scientific validation. He could have refrained from the extraordinary, unsubstantiated claims he made for the NCM, such as "THE MOST VALUABLE INVENTION OF THE AGE BECAUSE IT PICKS, PROVES AND LOCATES THE CAUSE OF ALL DISEASES OF THE HUMAN RACE."³ Palmer could have sought other methods of attempting to encourage a straight chiropractic orientation by the majority ("mixer") faction in the profession. Does Dr. Bickert argue that such flagrant abuses of the public trust were necessary or justified in order to market

chiropractic care?

Palmer's behavior provides a "model of quackery" because his actions so clearly amount to the promotion of unproven health care methods for financial gain. The NCM episode can be employed as a standard against which to compare contemporary claims made by chiropractors. Consider, for example, the patient brochure recently released by the Foundation for the Chiropractic Education & Research (FCER), ACA's research funding arm. This brochure⁴ proclaims that:

"CHIROPRACTIC WORKS! . . . RESEARCH PROVES IT: CHIROPRACTIC WORKS! . . . Now, thanks to mounting research-based evidence, chiropractic is proud to claim – **scientifically** – what doctors and patients have known all along: **CHIROPRACTIC WORKS!**"

No amount of scientific investigation can support such claims. The claim that "chiropractic works" is not only untested, but untestable. The FCER brochure goes on to talk about the significance of subluxation, as though demonstrations of the analgesic effects of chiropractic care (as in the Meade study) somehow confirmed chiropractors' traditional theories. It is possible to test the value (clinical effectiveness) of particular chiropractic methods for patients with specific types of health problems, although for the most part, we have not yet done this. Moreover, experimental demonstrations of the symptom-relieving effect of adjusting do not necessarily confirm the validity of subluxation theories. The FCER brochure continues on to suggest that "spinal mechanics . . . plays a primary role in the health of the whole body." This is more of the same chirobabble, for the claim lacks specificity, lacks substantiation, and offer a panacea. Such assertions are just a step away from asserting the value of manipulation for AIDS, improving immune system function and/or relieving silent killer subluxations. The difference is one of degree, not of kind.

I believe it is appropriate to keep in mind, as Dr. Bickert reminds us, that medical scholars (e.g.,⁵) acknowledge that few specific medical procedures have been tested for effectiveness in rigorous trials. I believe that the medical profession has much to be humble about, and that MDs have often assumed an arrogant posture, not only towards chiropractors, but also towards the public. However, this hardly justifies sweeping claims that "chiropractic works." This assertion is vacuous, since it fails to specify which patients with what sort of health problems are likely to benefit from which chiropractic methods; it would make no more or less sense to claim that "chiropractic doesn't work" than that "it does." "Chiropractic works" may be an excellent marketing slogan (I wouldn't know), but it also misleads patients and tends to confirm that chiropractors are often unable to critically evaluate what literature there is to support the effectiveness of manipulation.

I believe Dr. Bickert is correct to criticize the JCCA's publication of an advertisement in which garlic is promoted for "when you want to work your body into the best it can be come

see us!" This claim is so broad as to be untestable, and I would urge the Editor to reconsider its propriety. With respect to claims by Mentholatum to be "extremely effective treatment for strained muscles and the discomfort of arthritis," I can say very little. If available experimental data substantiate such claims, I would not object. Since I am not knowledgeable of the literature bearing on such remedies, I cannot offer an informed opinion; indeed, my crap-detector is tuned to a different frequency; the literature of manipulation and adjustment.

Concerning Dr. Bickert's insertion of the word "(clinically)" in the ACA's anti-steroid pamphlet claims:⁶

"... Chiropractic is a drugless, non-surgical method of procedure which has been (clinically) proven effective for improving performance ...",

I think this is gobbledygook. "Clinically proven" in this case means there are no controlled trials demonstrating that adjusting will help one run faster, jump higher, swim farther, nor make a hole-in-one. By making such a claim the ACA negates its own public declaration that it accepts all of the responsibilities for the profession of chiropractic;⁶ apparently it does not see scientific restraint in advertising as one of those responsibilities. In my opinion, these patient brochures are clear evidence of an anti-scientific epistemology (philosophy), and are a disgrace to the profession.

Spinal manipulation and adjustment may be the best prophylactic care for children and athletes, but expert opinions (of MDs, DCs, etc.) do not constitute scientific evidence; neither do such opinions justify marketing claims for the prophylactic benefit of chiropractic care. Similarly, it is my prerogative as a consumer to seek chiropractic adjustments for migraine or constipation, but neither my opinion, nor that of Dr. Tanner, nor Dr. Bickert's sincere beliefs constitutes "proof." Moreover, I do not accept the contention that organized medicine's arrogance, its abuse of the public and its persecution of chiroprac-

tors can justify chiropractors' abuse of the public through unsubstantiated claims. Advertisements for chiropractic care of migraine, constipation, etc. ought to make clear that such notions are merely hypotheses, and largely untested hypotheses at that. Otherwise, we risk making the same sorts of mistakes that the medical profession has.

I submit that Dr. Bickert misstates my stand on advertising, particularly in the closing paragraph of his letter. I do not propose a ban on the promotion of chiropractic nor on educating the public. I do propose that claims for clinical effectiveness ought to be made quite cautiously and humbly, and that we should be guided in our public communications by the standards of evidence that are the mark of a science in the service of the public. To do less is to reject the principle of accountability in health care.

Concerning any misgivings about the "milking cow" cartoons, all credit or blame goes to BJ, who published them first in the *Fountain Head News*.⁷ I was but the scribe.

Joseph C. Keating, Jr. PhD.
Professor, Palmer College of Chiropractic/West
Sunnyvale, California

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