

Scientism, Fool's Gold and the RCT by Dr. Christopher Kent

Students, practitioners, insurers, government entities, and **managed care** organizations all long for a level of clinical certainty which simply does not exist. The future of health care may be a paternalistic bureaucracy that dictates practice parameters, rather than the attending doctor. More disturbing is the fact that the doctor will be accountable to the bureaucracy, not the patient. As Weed observed over three decades ago, "Medical schools teach you to memorize what you don't understand and to solve problems by answering multiple-choice questions. Well, patients are not multiple choices ... Patients recognize their own uniqueness, even if we do not."¹

Before proceeding further, it is necessary to define the term *science*. According to the Wikipedia Dictionary, *science* is "The intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment." Science provides investigators with a useful method of inquiry. Scientific methods have led the healing arts from a world limited by anecdotal observation, myth and superstition. However, doctors must not lose sight of the fact that traditional science may not be the only valid method of inquiry.



Further, it must be realized that while predictability may be considered in designing clinical strategies, all that ultimately matters is what is effective for a given patient in a specific circumstance. **Educational institutions** producing health care providers must guard against graduating practitioners who are automatons following flow charts, rather than thinking, feeling human beings.

Although science is not an enemy of chiropractic, *scientism* most certainly is. Scientism limits all fields of human inquiry to contemporary technology. Again according to Wikipedia, "Scientism is the notion that natural science comprises the most authoritative worldview or form of human knowledge, and that it is superior to all other interpretations of life."² Smith states that scientism "refers to an uncritical idolization of science – the belief that only science can solve human problems, that only science has value." Holton observed that scientism "divides all thought into two categories: scientific thought and nonsense."²

What's wrong with that? A practitioner of science 150 years ago would be forced to declare cosmic rays, viruses, and the double-helical structure of DNA "unproven" concepts. Such a scientist, bound by the limitations of the technology of the times, would be unable to "prove" or "disprove" the existence of such things. Our hypothetical scientist might go one step further and deny the possibility of their existence, active as some of them may have been in the dynamics of health and disease. Scientism is a scourge which blinds the visionary and manacles the philosopher.

Aldous Huxley was acutely aware of the folly of limiting all human inquiry to the traditional scientific method. He stated, "The real charm of the intellectual life – the life devoted to erudition, to scientific research, to philosophy, to aesthetics, to criticism – is its easiness. It's the substitution of simple

intellectual schemata for the complexities of reality; of still and formal death for the bewildering movements of life."³ Science has a place in chiropractic. Scientism does not.

Just as scientism limits human inquiry to available technology, bad science, characterized by questionable research designs, leads to faulty conclusions. The randomized clinical trial was first proposed by the British statistician Austin Bradford Hill in the 1930s.⁴ Since then, the RCT has received a plethora of praise and a paucity of criticism. Despite such widespread enthusiasm, Hill recognized that clinical research must answer the following question: "Can we identify the individual patient for whom one or the other of the treatments is the right answer? Clearly this is what we want to do ... There are very few signs that they (investigators) are doing so."⁵

The inability of the RCT to deal with patient heterogeneity makes it impossible to use **RCT results** to determine if a given intervention will achieve a specified result in an individual patient. Friedman stated, "The patient must not be viewed as merely one subject in a population, but rather as a unique individual who may or may not benefit from such treatment."⁶

There are other problems associated with RCTs. Littlewood⁷ observed, "It is not uncommon for RCTs to arrive at conflicting conclusions. This conflict might be explained by the quality of the different studies and their inherent risk of bias." Croft, et al.,⁸ flatly stated, "The focus on RCTs as the only design paradigm to address clinical questions is wrong." And Rosner⁹ warned, "To sum up, whoever is seeking documentation of clinical practice needs to be critical enough to avoid the lure of the gold standard in assessing evidence, so as not to end up like the three prospectors in 'The Treasure of the Sierra Madre' who, much to their great horror, find that they have come up with fool's gold."

Are there alternatives? Happily, yes. Clinical decision-making in chiropractic practice should rely on clearly defined, objective indicators of a favorable outcome. In the case of **vertebral subluxation**, this entails assessment of its structural and neurophysiological aspects, and resultant changes in quality of life. Such methodology takes into consideration the unique constitution of each patient, the skill of the doctor, and the nature of the doctor /patient relationship. Use of objective anatomical and functional outcome assessments, performed throughout a course of professional care, enables the clinician to develop more effective clinical strategies.

Furthermore, failure to recognize the role of the spiritual and human elements involved the healing process must result in a fragmented, incomplete approach to health care. To stake our claim in the 21st century, we must purge the dogma of scientism from our profession.

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