RESOLVING THE CLASH OF IDEOLOGIES: MAINSTREAM MEDICINE VERSUS COMPLEMENTARY AND ALTERNATIVE MEDICINE IN THE WITNESS BOX.[1]

Randall Kune[2] & Professor Gabriel Kune.[3]

TABLE OF CONTENTS

I. INTRODUCTION 1
II. MAINSTREAM MEDICAL IDEOLOGY 2
III. COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) IDEOLOGY 4
A. Varieties of CAM Treatments 5
B. Scientific Evidence for CAM Treatments 6
C. Why is Evidence of CAM Effectiveness so Sparse? 7
IV. FORENSIC ISSUES 7
A. Rule against Opinion Evidence 8
B. The Expertise Rule 11
C. The Basis Rule 12
D. Witness credibility 13
V. CONCLUSIONS 14

I. INTRODUCTION

In the past 12 months, half of all adults in Australia have received some form of Complementary and Alternative Medicine, or CAM as it is referred to in the literature.

Five years ago, the House of Lords Select Committee on Science and Technology delivered a very thorough report on CAM, particularly on how often CAM is used, its effectiveness, its safety and other regulatory concerns[4] The Report sets out 28 CAM modalities practiced in the UK at the time.[5] Most of these, if not all, are practiced here in Australia.

---

[1] Presented on 17 October 2005 to the International Institute of Forensic Studies' Third International Conference *Experts and Lawyers: Surviving in the Brave New World*, Broome, Australia, 16 – 19 October, 2005.
[2] LLB (Hons), LLM; Barrister, Victoria Bar; Course coordinator, Graduate Certificate in Forensic Studies, International Institute of Forensic Studies, Monash University Law School.
[3] MD, FRACS, FRCS, FACS; Emeritus Professor of Surgery, University of Melbourne; Consultant Surgeon, Royal Melbourne Hospital.
[4] See http://www.parliament.the-stationery-office.co.uk/pa/ld199900/ldselect/ldsctech/123/12301.htm. Viewed 15 December 2005.
[5] See http://www.parliament.the-stationery-office.co.uk/pa/ld199900/ldselect/ldsctech/123/12304.htm#a15. Viewed 15 December 2005.

Consumers of healthcare services can choose from this vast array of diverse treatments or use mainstream medicine. There is also a growing number of mainstream practitioners integrating CAM into their treatments, delivering what is known as Integrative Medicine.

We cannot ignore the forensic consequences of CAM use. The issues need to be considered by consumers, practitioners of CAM and mainstream medicine, members of the legal profession, and regulators, though here we focus not on regulation but on expert evidence in court.

We will outline the structure of mainstream medical education, practice and ideology, the so-called scientific method, and evidence based medicine. We will then consider a number of CAM ideologies and techniques, and examine what scientific evidence is available to support those techniques. Using some of the legal cases, we will highlight some forensic difficulties which arise when evidence from mainstream medical and CAM practitioners are compared and evaluated. We will conclude by raising some possible solutions to these difficulties, in the short term, as well as in the medium-to-long term.

II. MAINSTREAM MEDICAL IDEOLOGY

Although the results of various medical treatments have been recorded for thousands of years, the pillars of assessing the effectiveness of modern treatment rest on the concepts of observation and experiment and more recently, on the introduction of controlled studies. For doctors, this long medico-scientific legacy is reinforced by 5-6 years of rigorous study for a medical qualification, followed by Internship and several more years of training if a specialist career is sought, as well as by the presence of professional standards and disciplinary bodies and continuing education programs.

Just over a decade ago the idea of "Evidence-Based Medicine**"** was introduced from Hamilton, Ontario, in Canada as a crystallisation of the scientific method.[6] This unified and integrated the doctor's experience of effective treatment with the best available scientific evidence, in consultation with the patient, so that a mutually agreed plan of management was developed.

[6] Evidence-Based Medicine Working Group. Evidence-Based Medicine. *JAMA* 1992; 268:2420-2425.

Out of this concept of Evidence-Based Medicine also arose a specific guide which is a measure of the quality of the evidence regarding treatment effectiveness. This is called "Levels of Evidence Ratings", and serves as a guide for the strength of the recommendations which can be made by the doctor regarding a particular form of treatment.[7] In reverse order, and slightly simplified, these levels are:

Level IV ***Opinion evidence of experts***

Level III ***Non-randomised controlled studies***

Level II ***Randomised controlled trials (RCT)***

Level I ***Meta-analysis of all randomised controlled trials***

Level IV – ***Opinion Evidence of experts***

Hippocrates almost 2500 years ago in his first Aphorism said "Life is short, the art is long, the opportunity is elusive, experience treacherous, judgment difficult".[8] Hippocrates already felt that expert opinion may not carry great value.

Level III – ***Non-Randomised Controlled Studies.***

Why do we need controls? There are at least two important groups of reasons. First, there are self-limiting condition, such as a headcold or a bruised arm, conditions which resolve with the passage of time without specific treatment, and secondly, the placebo effect, which can account for 25-30% of positive results.

We emphasise that the placebo-effect is *not* regarded as a negative. However, the question asked here is what specifically is responsible for the positive treatment result.

There is a hierarchy of controlled studies, starting with non-randomised studies, beginning with historical controls, moving to "Case-Control" studies, and then to "Cohort" studies, and progressing up to randomised controlled trials (RCT), the last rated as Level II evidence.

---

[7] National Health and Medical Research Council. Guidelines for the Development and Implementation of Clinical Practice Guidelines. Canberra:AGPS, 1995 and 1999.

[8] Sigerist HE, *A History of Medicine Vol II*, Oxford: Oxford University Press 1961.

Level II – ***Randomised Controlled Trial (RCT).*** The hierarchy within this level starts with studies which are randomised only, followed by those which are randomised and placebo controlled, and finally randomised double blind and placebo controlled. Double-blind refer to the situation in which neither the giver or receiver of treatment knows whether it is the tested treatment or the placebo that is being administered.

Level I – ***Meta Analysis of all Randomised Controlled Trials***. This is regarded as the "gold standard" of treatment, in which all RCTs are put together for a final evaluation.

So this is the medico-scientific ideal of measuring the efficacy of treatment. The reality is that the gold standard applies only to a limited number of treatments, such as newly developed forms of medication. Most currently used mainstream treatments are Level III and IV evidence only with respect to their efficacy. This does not make them invalid, and simply indicates that their use relies on being time-honoured, or evidenced by historical controls only. For example, medical and surgical treatments are mainly Level III and IV. On ethical grounds alone we couldn't possibly do a randomised placebo controlled trial on say penicillin and lobar pneumonia or an appendicectomy for acute appendicitis, where we rely quite appropriately on historical controls. Treatments such as psychotherapy are almost all Level IV, and one can find only a handful of Level III studies, usually in the form of counselling, regarding the value of psychotherapy versus no treatment.

A further area which needs development and refinement is the risk/benefit equation for many forms of mainstream treatments. Some cancer chemotherapies, for example, have serious adverse side effects in a significant proportion of those treated, with relatively short survival benefit.

III. COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) IDEOLOGY

CAM treatments have become very popular for a number of reasons. These reasons include poor results and adverse side-effects of some orthodox medical treatments, for example, arthritis, cancer, mental stress; the emergence of the "New Age" ethos; medical practitioners often with little time and some with indifferent communication skills; CAM treatments are known to have few adverse side-

effects in contrast with some mainstream treatments. Also there is undoubtedly a “CAM industry” promoted by the manufacturers and practitioners, by the media, and by word of mouth.

A. Varieties of CAM Treatments

The principles underlying the various CAM treatments are widely divergent, in contrast to the long evolution of the largely unified scientific method of mainstream medicine. Six of these treatments were chosen from the large number available, to very briefly illustrate the essence of these divergent ideologies:

Chiropractic – This engages in the concept of a straight spine and “healthy” nerve supply as the basis of musculo-skeletal problems in the body, righted by manipulation and “adjustments”.
Acupuncture – Using the “Qi” (vital energy), which is said to travel along the body in “meridians”, which the acupuncture points affect.
Herbal Medicine – This is a system of medicine which uses various remedies derived from plants and plant extracts to treat disorders and to maintain good health. This is sometimes also called Phytotherapy, and also other forms of herbal treatment such as Chinese herbal medical treatment overlap with this.
Homeopathy – A treatment based on the theory of treating like with like, but using highly diluted substances. Very popular in England and supported, at least in the past, by the Royal Family.
Crystal Therapy – This is based on the ideology that crystals can absorb and transmit energy, and the body has a continuing fluctuating energy which the crystal helps to tune. Crystals are often placed in patterns around the patient’s body to produce an energy network, or a space which can look like a temple in order to “adjust” the patient’s energy field, or “aura”.
Kinesiology – This is a manipulative therapy by which it is alleged that the patient’s physical, chemical, emotional and nutritional “imbalances” are assessed by a system of muscle testing. The measurement of variation and stress resistance of groups of muscles is said to identify deficiencies and imbalances, thus enabling diagnosis and treatments by techniques which usually involve strengthening the body’s energy through acupressure points.

B. Scientific Evidence for CAM Treatments

Apart from acupuncture for a limited number of conditions (Level III evidence), and for a few herbal medicines (Level II evidence), CAM treatments have only Level IV evidence of their effectiveness, or at best Level III evidence with only historical controls.[9]

Chiropractic – Evidence is time-honoured symptom relief, historical controls and Level IV evidence.
Acupuncture – Level III evidence for relief of head and neck pain. Cannot do placebo control because of the specific physical nature of the treatment. Acupuncture for a limited number of symptoms has gained mainstream medical acceptance as a result largely of Level III evidence, as mirrored by a Medicare rebate on this in Australia.
Herbal Medicine – Level II evidence to treat depression with St John's Wort, Ginkgo Biloba for memory and Alzheimer-like conditions, Saw Palmetto for prostate enlargement, Valerium for sedation and sleep. However, there is only Level IV evidence for most other herbal remedies.
Homeopathy – Level I evidence of 110 studies recently reported in the Lancet, showing a null result, that is, homeopathy no better than placebo.[10]
Meditation/Relaxation – Level III evidence for quality of life improvement for conditions such as hypertension, and some cancers, the latter after mainstream treatment has been given.
Kinesiology – Level IV evidence for both diagnosis and treatment, together with personal testimonials, which are not regarded as scientific evidence at all.

It needs to be emphasised that there is very little if any risk associated with almost all CAM treatments in contrast to several mainstream treatments. A real risk with CAM treatments is if effective mainstream treatments are being withheld for serious chronic conditions. Another problem is the issue of over-enthusiastic or even false promotion of CAM products.

---

[9] Robson T, *An Introduction to Complementary Medicine*. Sydney: Allen & Unwin, 2003.
[10] Shang A, Hüwiler-Müntener K, Nartey A, Jüni P, Dörig S, Sterne JAC, Pewsner D, Egger M. Are the clinical effects of homeopathy placebo effects? Comparative study of placebo-controlled trials of homeopathy and allopathy. *Lancet*, 2005; 366: 726–732.

C. Why is Evidence of CAM Effectiveness so Sparse?

No funds – Companies cannot protect their intellectual property by patent, and therefore cannot recoup research and development outlays, and this is a major problem. There has been no government funding for CAM research in Australia, but there has been in recent years in the USA.
No training in research methods – There is limited professional education requirements for many CAM practices. CAM practitioners attend diverse institutions of widely varying educational standards compared to doctors.
No motivation to do research – Many CAM practitioners are convinced about the correctness of their approach and their ideologies, particularly for treatments with a long tradition, such as Chinese herbal medicine.
Non acceptance, or indifference towards the validity of the scientific method.
Fear of null result.
Special problems – These include performing controlled studies for CAM treatments, such as acupuncture and other physical therapies like massage and chiropractic.

This is a snapshot of currently used ways to evaluate and compare the evidence for effective and safe treatments in both mainstream medicine and in CAM. The forensic issues which emerge from this will now be discussed.

IV. FORENSIC ISSUES

Courts and tribunals can be faced with the need to evaluate the conflicting evidence of CAM practitioners and mainstream medical practitioners in an extremely wide variety of jurisdictions.[11] The cases don't show courts holding an irrational predisposition against CAM or in favour of mainstream medicine. But that doesn't put CAM on a level playing field to mainstream medicine in the forensic context.

[11] For example, professional disciplinary tribunals, the Professional Services Review Tribunal for Medicare use in integrative medicine, negligence claims against CAM practitioners, false advertising of alternative healthcare products, workers compensation claims for rebates on CAM treatment, migration and refugee cases where applicants rely on CAM qualifications to assist in their application, custody disputes in the Family Court where involvement in CAM impacts a court assessment of a person's parenting ability, revenue cases where medications are exempt from tax or excise, and defamation cases where CAM practitioners claim to have been defamed concerning their therapies, and industrial relations law where awards apply to particular therapies but not others.

Two factors reduce the persuasive power of CAM and its practitioners in the witness box. Those are the rules of expert evidence and the way courts assess witness credibility. Let's see how this happens.

A. Rule against Opinion Evidence

We've already noted that many CAM treatments lack supportive scientific evidence. Perhaps for this reason, litigants seeking to prove the effectiveness of CAM treatments or products have turned to lay evidence to support their claims.

The lay evidence is generally "before and after" evidence, or a testimonial: the witness had such and such condition; took the relevant treatment or product; and the condition went away or somehow their health improved. Whether this sort of evidence is admissible depends on the issues in dispute. But how should courts assess the weight of such evidence?

We'll answer these questions after we consider an interesting false advertising case, the *Australian Competition and Consumer Commission v Giraffe World Australia Pty Ltd* [1999] FCA 1161. Giraffe World sold a Mat which consumers would connect to an electricity supply and lie on. The company claimed that lying on the Mat would produce negative ions in the body, and create at least 32 health benefits, such as helping blood circulation, building up the immune system, reducing the need for sleep, curing insomnia, curing back, neck and shoulder pain, constipation, arthritis, heart murmurs, slowing down the progress of AIDS, improving sex life, and so on.[12] The ACCC alleged in the Federal Court that these claims were misleading and deceptive under the *Trade Practices Act*.[13]

[12] Listed at *Australian Competition and Consumer Commission v Giraffe World Australia Pty Ltd* [1999] FCA 1161 para [48]
[13] In particular pursuant to the *Trade Practice Act* 1974 (Cth), ss 52 and 53(c).

Justice Lindgren admitted "before and after" evidence from 60 consumers, but only as to what change occurred in their health, and not as to whether any improvement was *caused* by the use of the product. The latter would have required expert evidence.[14]

Testimonials such as these are *speculation*. For this reason, testimonials do not feature in the levels of evidence ratings for evidence-based medicine. In the forensic context, their weight can be questioned in any one of three possible ways.

First, if there are no controls, then a court can't distinguish those cured by the *placebo effect* from those cured by the *treatment*.

Second, it is essential to know what proportion of people treated claim to have got better. Were 100% of consumers cured? Or 25%? Or less? If a higher percentage were cured than might normally be accounted for by the placebo effect, then the treatment is more likely to have caused the cure in *some* of them.

Third, were the conditions self-limiting conditions, which would have resolved without any treatment? There were 87 conditions deposed to in *Giraffe World*. 64 of them were *self-limiting*[15] *or vague conditions*,[16] *or not medical conditions at all*,[17] leaving only 23, or one quarter of the claimed conditions, that may have been relevant to the court's inquiry.[18]

So how is that relevant to questions of expert evidence? If the ACCC had sought to "substitute knowledge for speculation",[19] then it could have called a medical scientist to raise these doubts on the weight of the "before and after" evidence.[20]

---

[14] See *Giraffe World*, n 12, at para [56]. This approach was adopted by Nicholson J in *ACCC v Emerald Ocean Pty Ltd* [2002] FCA 740 at [27]. Cf. *ACCC v Purple Harmony Plates* [2001] FCA 1062, where Goldberg J assumed the testimonials were admissible, but each one was "of no probative value as it is merely evidence of that person's belief and does not address the issue whether the company had reasonable grounds for making the representations" at para [20].
[15] Eg, arm injury, indigestion, influenza, constipation.
[16] Eg, shoulder pains, nose bleeds, cold hands and feet, back pain, headaches.
[17] Eg, low blood pressure, wrinkles.
[18] See *Giraffe World*, n 12, at para [57].
[19] Gordon Samuels, "Medical truth and Legal Proof: The changing expectations of the expert witness" (1998) 168 *MJA* 84-7.
[20] Cf. the type of expert evidence proposed by Lindgren J in *Giraffe World*, n 12, at para.[58].

What the ACCC did was to make submissions about the placebo effect, which the court refused to accept due to the lack of expert evidence about its relationship to the 60 satisfied customers. The ACCC was successful in the case however, because it called experts in all the health areas about which Giraffe World made representations, to show that there were no studies, and no known medico-scientific mechanism existed, to support the representations.

Lay evidence like this can become particularly misleading if it is combined with level IV evidence from "theoreticians", or experts who assert (or, more accurately, "speculate about") a theoretical mode of action to explain the lay evidence. Courts need to recognise that if a treatment or product isn't supported by controlled studies or a scientifically-tested mode of action, then such evidence can only be speculation.

These concerns apply as much to mainstream medicine as they do to CAM. Take, for instance, the various proceedings in the United States against Dow Corning's breast implants which bankrupted that major company after the combination of lay "before and after" evidence and questionable Level IV evidence from theoreticians.[21] We could also use as an example here the assertion of a link between autism and the MMR vaccine.[22]

Courts *have* expressed concern about theoreticians in other contexts. The Full Court of the Family Court has been highly critical of the evidence of mental health "theoreticians" who sought to give opinions about crucial issues, such as whether child abuse had occurred, without those experts ever having seen the parents and children.

Professor Freckelton has written a thorough analysis of these cases.[23] He notes how the Full Court's criticisms do *not* prevent an expert being asked, for example, to review the relevant literature on a particular issue, or assess the investigative process used by another expert. That is not the danger of the theoretician.

---

[21] Angell, M "Evaluating the Health Risks of Breast Implants" (1996) 334 (23) *New Eng J. Med* 1513 at 1516.
[22] "Does the MMR Jab Cause Autism" ABC TV, 4 Corners, 12/9/2005, where Dr Andrew Wakefield's assertion of a link comprises the "theoretician" level IV evidence, and the parents of autistic children provides the lay evidence.
[23] Freckelton, I, "Expert Evidence in the Family Court: The New Regime" (2005) 12 *Psychiatry, Psychology and Law* 234 at 241-2.

B. The Expertise Rule

Where the subject of expertise of mainstream medicine and CAM overlap, such as chiropractors and GPs reading and interpreting X-rays, or manipulating the spine, then a doctor's expert evidence would be admissible. But what weight should it be given?[24]

The South Australian Full Court decision in *Bawden v Marin*[25] was an appeal by an elderly female plaintiff who unsuccessful sued her chiropractor in negligence for breaking her ribs. The plaintiff called expert evidence from a medical practitioner to establish a breach of the standard of care. The trial judge allowed the opinion evidence of the medical practitioner, and the doctor's opinion was that the patient was too old for safe spinal manipulation.

But in his decision the trial judge preferred the expert evidence of another chiropractor, incidentally called by the plaintiff herself, who conceded, presumably under cross-examination, that the treatment the plaintiff received was reasonable. The Appeal was dismissed. The Full Court noted that the medical practitioner "did not in any event encourage the use of chiropractic treatment."[26] So the decision recognises the cultural bias by mainstream practitioners who might simply be uninformed sceptics of CAM.

Similarly, courts ought not to assume that mainstream practitioners are experts in evidence based medicine, or have the statistical skills necessary to properly interpret epidemiological studies.[27]

Courts should also ensure that mainstream practitioners who seek to give opinions about a CAM therapy or product are sufficiently expert in that area to evaluate it.

---

[24] Another issue is the relevance of mainstream learning to CAM practice. See, for instance, the case of *Shakoor v Situ* [2000] 4 All ER 181, where the UK High Court held that a Chinese herbalist could be negligent if they failed to read the mainstream medical literature relating to the herbs they prescribe.
[25] Unrep'd, Supreme Court of South Australia, Full Court, No. 1447 of 1989, 2 July 1990.
[26] Bawden v Marin, n 25, p 1.
[27] Cf. the comments by Spigelman CJ in *Seltsam Pty Ltd v McGuiness* [2000] NSWCA 29 at para [150] that His Honour would have little hesitation accepting epidemiological evidence from a medical practitioner.

In *Druce v Bartram*,[28] a decision of the District Court of South Australia in 1995, Mrs Druce sued her dentist for negligence. Bartram had recommended jaw surgery for Mrs Druce to alleviate her apparent need for a hysterectomy. Sadly, despite what was described as his interest in the "fringe" areas of dentistry, Dr Bartram did not have any gynaecological training, and it appeared that Mrs Druce did not have the need for a hysterectomy anyway.

Bartram had used on Mrs Druce a machine known as the "Dermatron" to help diagnose an infection in her jaw that required surgery. The Dermatron measures electrical resistance of the subject's skin. Those who use the machine claim that by placing it on an acupuncture point, it can measure the flow of energy along the acupuncture meridian.[29] Dr Bartram found that his patient had inflamed teeth because the energy transmission along a meridian was inhibited, as the reading on the Dermatron indicated. This, in his view, could have been the true cause of her gynaecological problems. Dr Bartram acknowledged being the only dentist in South Australia to use such a machine, which incidentally he had been using since 1977. He also claimed it was a recognised form of treatment in Germany and Austria, but not yet in the USA or Australia.[30]

The Court found Dr Bartram guilty of negligence. It accepted the opinion of another dentist, Doctor Abbott, that the Dermatron was unscientific and diagnostically unacceptable, that the diagnosis of infection was mistaken, and hence that jaw surgery was unnecessary. But to what extent was Dr Abbott an expert in the Dermatron? It is unclear whether he had ever used the machine himself, but he was able to explain the difficulties associated with getting consistent results with a machine such as the Dermatron, and spent some time in the witness box explaining how the machine was not supported by scientific evidence, why that type of machine was not "scientifically validated" and was considered diagnostically unacceptable by mainstream Dentistry.[31] However, the reason why the court eventually accepted his evidence related to more than his mere technical knowledge, as we will mention later.

C. The Basis Rule

[28] *Druce v Bartram*, Unrep'd, South Australian District Court, 6 October 1995, Judgment No. D3318, Lowie J.
[29] See http://www.quackwatch.org/01QuackeryRelatedTopics/electro.html. Viewed 12 October 2005.
[30] *Druce v Bartram*, n 28, pp 6 – 8.
[31] *Druce v Bartram*, n 28, pp 11 – 12.

For courts to properly assess the basis for an opinion about the effectiveness of a treatment or product, they must understand the significance of levels of evidence, the placebo effect, and self-limiting conditions. We have discussed these already.

Courts should also understand the *reasons* why scientific evidence in support of many CAM treatments is scarce, but they must also understand that many treatments and products in *mainstream* medicine and surgery have little evidence to support them beyond level III and IV.

Compare this with the tenor of one of the expert's called by the ACCC in *Giraffe World*, who produced in Court an editorial from the prestigious New England Journal of Medicine stating:[32]

> "*It is time for the scientific community to stop giving alternative medicine a free ride. There cannot be two kinds of medicine - conventional and alternative. There is only medicine that has been adequately tested and medicine that has not, medicine that works and medicine that may or may not work. Once a treatment has been tested rigorously, it no longer matters whether it was considered alternative at the outset. If it is found to be reasonably safe and effective, it will be accepted. But assertions, speculation, and testimonials do not substitute for evidence. Alternative treatments should be subjected to scientific testing no less rigorous than that required for conventional treatments."*

Noble sentiments, but comments like this are likely to mislead. For most treatments, be they mainstream or CAM, randomised double blind controlled trials have simply not been done, and practitioners must rely on their own experience and observations, the opinions of other practitioners, and historical controls, to find the right treatment.

D. Witness credibility

When a court considers how much weight to give the evidence of a CAM practitioner, it will consider such things as the amount of training, study or experience required to practice the modality,

[32] See *Giraffe World*, n 12, at para [154].

the existence and standard of formal educational bodies, and professional disciplinary bodies or associations, and the level of professional standards. It appears that most CAM modalities would fare poorly on these indicia if compared with mainstream medicine.

But CAM practitioners might be disadvantaged in other ways when opposed to a mainstream practitioner, simply because they may not be as educated or trained. This may affect their communication skills, preparation, objectivity, and reasonableness in the witness box. The Court in *Druce v Bartram* preferred Dr Abbott's evidence "not only because of the nature of his qualifications, but as well the thoughtful manner of his evidence."[33] Courts of Appeal are hesitant to second-guess a trial judge who has preferred one expert over another, as the trial judge has had the benefit of seeing the demeanour of each expert.[34]

As we have seen, mainstream practitioners can be over-zealous in their criticisms of CAM, particularly when comparing the scientific evidence for CAM with mainstream medicine. Their apparent credibility can mask a prejudice against CAM.

V. CONCLUSIONS

We have shown how CAM and its practitioners can face indirect disadvantages in court when evaluated and compared with mainstream medicine and its practitioners. These disadvantages arise from the operation of the rules of expert evidence, and the way courts assess witness credibility. They would be heightened by the recent procedural reforms such as the concurrent hearing of expert evidence, joint expert conferences and joint reports.

Obviously there is no problem getting the public to accept CAM therapies, but for CAM to reach a level playing field in the forensic context, it must increase its authority in the scientific community, and shift the cultural bias against it. How can this be done? We propose four starting points.

---

[33] *Druce v Bartram*, n 28, p 10.
[34] See *Abalos v Australian Postal Commission* (1990) 171 CLR 167 at [31]; *Devries v Australian National Railways Commission* (1993) 177 CLR 472 at 479.

First, CAM practitioners must undertake scientific research, and develop a more rigorous scientific basis to their theories and therapies, like mainstream medicine is doing now.

The second, and related point, is to strengthen educational and professional bodies for CAM. CAM practitioners must develop academic departments, to encompass standardised teaching and funded institutional research. And this is happening but slowly, in Australia, and more quickly in the USA and UK. Professional bodies enforcing a code of ethics are also highly desirable to encourage a consistently high standard of practice, as well as some regularity in the methodology employed by CAM practitioners.

Third, scientific training of lawyers, to understand the issues, particularly the levels of evidence ratings, and reasons why levels may be lower for particular treatments, especially CAM treatments; and, the significance of the placebo effect and self-limiting conditions.

Fourth, and finally, there needs to be some meaningful instruction on CAM for mainstream practitioners, from a comparative evidence-based perspective, to remove the cultural bias, and encourage research by all healthcare professionals.