IN THE MATTER OF THE FEDERAL "HEALTH PRACTITIONER REGULATION (administrative arrangements) ACT 2009". *"THE ACT"*

AND IN THE MATTER OF THE ESTABLISHMENT OF A CODE OF CONDUCT FOR CHIROPRACTORS BY THE CHIROPRACTIC BOARD OF AUSTRALIA (hereafter the CBA).

7TH APRIL 2010

AN INDEPENDENT SUBMISSION TO THE CBA
FROM KEITH CHARLTON

1. Introduction

1.1. Dr Phillip Donato, CBA Chairman, sent a letter dated 26th March 2010 to the President of the Chiropractors' Association of Australia (CAA hereafter), of which I am a member, inviting interested stakeholders to make a submission, *inter alia*, on the proposed Code of Conduct for Chiropractors.

1.2. I (and many others) lament being given only a few days to provide this Submission. *Process should serve purpose, never the reverse*. I am not persuaded that the explanations of the need for undue haste so that an arbitrarily set deadline for implementation of July 1st 2010 are enough. There is clearly a case to be made for unrepresentative and inadequate consultation with stakeholders and I entreat the CBA not to render itself vulnerable to legal challenge at the outset with this timetable.

1.3. Further, it has been very difficult for me to read much, on paper or screen, as I have just had eye surgery after nearly going blind a

few weeks ago. So, I have aimed for explanatory power and as comprehensive a response as possible under the circumstances in casting this document. Where I might fail in either of the foregoing (especially omitting any detail), the CBA may care to take this difficulty into account when reviewing my Submission.

2. Qualifications of particular relevance to this Submission.

2.1. I am a Doctor of Chiropractic with 35 years of experience in private practice, having qualified in 1975 from the then National College of Chiropractic in suburban Chicago.

2.2. I practised in Pimlico, London, and Newport Pagnell in Buckinghamshire, from 1975 until 1976, then in the Northern Territory of Australia as the "flying chiropractor" until June 1976, then in Brisbane until 1993. In 1993 I went back to the UK, and practised in Sutton Courtenay, Oxfordshire until early 1998, when I returned to Australia and have practised in metropolitan Brisbane since. I have thus worked extensively in several jurisdictions.

2.3. I secured an MPhil degree from Griffith University in 1991, for original research supervised by Nikolai Bogduk, in diagnostic

imaging, where I invented a new way of reading lateral cervical spine radiographs for bone position change.

2.4. I secured a Masters degree in Pain Medicine from Newcastle University in NSW in 2006.

2.5. I have been a PhD candidate in the School of Medicine at University of Queensland since 2003, further developing my radiographic research on neck kinematics and its relationship to pain in the neck and head.

2.6. From 1982 until 1990 I was the Queensland Health Minister's appointee to the Queensland Chiropractic Registration Board.

2.7. I have been an examiner for the Queensland Radiological Advisory Council in radiation physics, radiation protection, radiography generally and radiographic positioning (the only chiropractor ever to have held such a post in Australia).

2.8. I am one of about 30 (mostly medical) national expert contributors to the establishment of Evidence Based Guidelines for the Management of Acute Musculoskeletal Pain for the Australian

Federal Government's National Health and Medical Research Council in 2003 [1].

2.9. I am one of a similar number of national expert contributors to the establishment of evidence based Guidelines for the Management of Acute Pain generally (cancer pain, burns pain, post-surgical pain and neurological pain like migraine) for the Australian Federal Government's National Health and Medical Research Council in 2005[2]. This report has been endorsed by the International Association for the Study of Pain (IASP), the Royal College of Anaesthetists (UK), the Australian Pain Society, the Australasian Faculty of Rehabilitation Medicine, the Royal Australasian College of Physicians, the Royal Australasian College of Surgeons, and the Royal Australian and New Zealand College of Psychiatrists.

2.10. In the last 25 years I have appeared as an expert witness or provided expert written testimony in several criminal and civil trials in Australian and British courts or tribunals (including before the GCC).

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1. http://www.nhmrc.gov.au/publications/synopses/cp94syn.htm
2. http://www.nhmrc.gov.au/publications/synopses/cp104syn.htm

2.11. I have been a member of many chiropractic and other associations here and abroad over the years, including terms as President in one of them. They include the American Chiropractic Association ’75 – ’86, the British Chiropractic Association ’75 – ’85, and 9/’93 – 12/’95, the Australian Chiropractors’ Association ’76 – 7/’93, the Canadian Chiropractic Association ’83 – ’87, the Scottish Chiropractic Association ’96 – ’98,the Society for Clinical Trials ’87, Fellow of the American Back Society ’89, the Oxford Spinal Research Group ‘97 - ’98, the Chiropractors’ Association of Australia ‘98 – ’02 and ‘04 – ’06, the Chiropractic and Osteopathic College of Australasia ’98 to present, the Australasian Association of Musculoskeletal Medicine currently, and the International Association for the Study of Pain currently.

2.12. I’m a Fellow of the International College of Chiropractors (elected April 2007).

2.13. I have been a Fellow of the Royal Society of Medicine.

2.14. I’m a Fellow of the Australasian Academy of Functional Neurology.

2.15. I have been a member of the Editorial Boards of most of the major world journals in our field, including the Journal of

Manipulative and Physiological Therapeutics, the Chiropractic Journal of Australia, and Chiropractic and Osteopathy.

2.16. I have attached my CV as Appendix A

APPENDIX A

SUMMARY CURRICULUM VITAE: Keith Charlton

Professional Education:

- Doctor of Chiropractic degree 4/'75 from National College of Chiropractic, Lombard, Illinois.
- Diplomate of the (US) National Board of Chiropractic Examiners 4/'75.

Private Practice of Chiropractic:

- London, England 4/'75 -2/'76; Oxford, England 9/'93 - 4/'98
- Darwin, Northern Territory ("the flying chiropractor") 2/'76 - 7/'76
- Brisbane, Queensland 7/'76 –7/'93 and 7/'98 to present.

Memberships:

- American Chiropractic Association '75 – '86
- British Chiropractic Association '75 – '85, and 9/'93 – 12/'95
- Australian Chiropractors' Association '76 – 7/'93
- Canadian Chiropractic Association '83 – '87
- Scottish Chiropractic Association '96 – '98
- Society for Clinical Trials '87
- Fellow of the American Back Society '89
- Oxford Spinal Research Group '97 - '98
- Chiropractors' Association of Australia "98 – '02 , '04 – '07, '09 and current
- Chiropractic and Osteopathic College of Australasia '98 to present
- Australasian Association of Musculoskeletal Medicine current
- Philosophical Society of England current
- International Society of Philosophers current
- International Association for the Study of Pain to 2009
- Fellow of the Australasian Academy of Functional Neurology

Political Activities:

- Secretary, Queensland Branch, Aust Chiropractors' Assoc '77 – '78

- President, Queensland Branch, Aust Chiropractors' Assoc '78 – '84 (in this office I played a key part in securing legislative recognition in 1979 for the profession in Queensland).
- Queensland Branch Delegate to the Federal Executive Committee of Aust Chiro Assoc '79 – '83.

Appointments:

- Health Minister's nominee to the Queensland Chiropractic Registration Board '82 - '90. (In this position, I set and graded clinical examinations for chiropractors and osteopaths required by the Board to be tested for clinical competence before they were allowed to practise. Twice I was a member of institutional inspection teams which examined the chiropractic and osteopathy undergraduate degree programs at the Phillip Institute of Technology (now RMIT) for accreditation of their qualifications to practise in Queensland (the other members were the Deputy Director General for Health and the Professor of Social and Preventive Medicine at the University of Queensland Medical School. Further, I served three times on the same inspection team examining the degree programmes at Sydney College of Chiropractic, now at Macquarie University).
- Examiner for the Queensland Department of Health, Division of Health and Medical Physics, Radiological Advisory Council '85 – '93. (I set and marked examinations in radiation physics and radiographic practice, with a radiographer and physicist. I am the only chiropractor who has ever held such a position).
- Member, Editorial Review Board of the *Chiropractic Journal of Australia* '86-98.
- Visiting Fellow, Division of Science and Technology, Griffith University 7/'88 – 12/'88
- Honorary Fellow, Division of Science and Technology, Griffith University 1/'89 – 10/'89 (These last two appointments mark the first time anywhere in the world that a chiropractor has been appointed to a senior university post on the basis of a DC degree to design a portfolio of research and educational activities for chiropractors).

- Member Editorial Board of the (US) *Journal of Manipulative and Physiological Therapeutics* ’89 – ’02.
- Sessional lecturer on chiropractic in the Family Medicine programme of the Royal Australasian College of General Practitioners. ’89.
- Examiner for fifth year medical student research projects, University of Queensland ’90.
- Member, Editorial Board *Philosophical Constructs for the Chiropractic Profession* ’91.
- Member, Editorial Board *Journal of Chiropractic Humanities* current
- Member, Editorial Board *The Back Letter for Chiropractors* ’91 - ’94.
- Member, Editorial Board, *Chiropractic & Osteopathy* current
- Governor, Australian Spinal Research Foundation ’92 – ’93.
- Research Advisor, Australian Spinal Research Foundation ’92 – ’93.
- Visiting lecturer in Clinical Science, Macquarie University, ’93.
- Principal Research Supervisor for Macquarie University Master’s degree candidate ’93.
- Invited contributor, Oxford Medical School curriculum development committee ’94 – ’95.
- Visiting Lecturer, Dept Public Health and Primary Care, Medical School, Oxford University ’94 – ’97.
- Advisor on chiropractic education, Oxford Brookes University, 3/’96.
- Member of expert committee elaborating Evidence Based Guidelines for the Management of Acute Musculoskeletal Pain for the National Health and Medical Research Council (Australia’s NIH) ’02 – ’03.
- Member of expert committee elaborating Evidence Based Guidelines for the Management of Acute Pain with the College of Anaesthetists, Royal Australasian College of Surgeons, for the (Aust) National Health and Medical Research Council ’04 – ‘05.
- Graduation Speaker, National University of Health Sciences, Chicago, 4/’07.
- Fellow, International College of Chiropractors 4/’07.
- Fellow, Royal Society of Medicine 2/’07

- Fellow, Australasian Academy of Functional Neurology, current

Other Educational Activities:

- Convener and Originator of the Brisbane Spinal Study Group, an interdisciplinary body promoting excellence in knowledge of the human spine ’84 – ’93, ’04 – ‘05.
- Graduate studies for credit, in History and Philosophy of Science and Problems and Methods in Research, Griffith University 1/’86 – 5/’86.
- Courses for credit in Statistics and Multivariate Statistics, Griffith University 6/’86 – 11/86.
- *Master of Philosophy* degree, Griffith University ’92. (Thesis titled “Approaches to the demonstration of vertebral subluxation in the human cervical spine.”). Supervisor Professor Nikolai Bogduk.
- Attendances and visits to symposia and centres of research locally and overseas: Prof Alf Nachemson in Gothenburg, Sweden 6/’84; Prof William Kirkaldy-Willis at Saskatoon, Saskatchewan 1/’85; Anatomical Society of Australia Spine Symposium, Perth 6/’85; Australian Pain Society Symposium in Brisbane 3/’86; Presented four papers at the World Federation of Chiropractic meeting in Sydney 10/’88; Presented four papers at the joint meetings of the American Back Society and the World Federation of Chiropractic in Toronto 4/’91; Invited speaker at the Australian Chiropractors’ Association Annual Conference, on Philosophy, in Alice Springs 10/’91; Keynote Speaker at the AGM of the New Zealand Chiropractic Association in Wellington, 6/’92; Keynote speaker at the AGM of the Scottish Chiropractic Association 11/’95; Keynote speaker at the World Congress of Chiropractic Students in Melbourne ’06.
- Fellow in Clinical Epidemiology, Centre for Clinical Epidemiology and Biostatistics, Medical School, Newcastle University, Callaghan, New South Wales ’92 – ’93.
- *Doctor of Philosophy* candidate (thesis title “Vertebral Subluxation in the Human Cervical Spine”) in Graduate School of Medicine, Univ of Queensland, supervisors Professor Ken Donald, Dean of the Faculty of Medicine,

Queensland University; Professor Nikolai Bogduk, Department of Clinical Research, Newcastle University'02 to present.

- *Master of Pain Medicine* degree, Newcastle University Medical School, December 2006.

Peer Reviewed Indexed Publications (others in outlets not peer reviewed):

1. Charlton KH. (Letter to the Editor) *Med J Aust* 1985; 142:168.
2. Charlton KH. "The nature and environment of knowledge production, chiropractic theory and future progress." *J Aust Chiropractor's Assoc* 1986; 16 95-8.
3. Charlton KH. "Data and dogma: the use and abuse of information". *J Aust Chiropractor's Assoc* 1987; 17:46-8.
4. Charlton KH. "Popper-Kuhn debate: a consideration of some of the implications for the philosophy of science and the chiropractic investigative community". *J Manipulative Physiol Ther* 1988; 11:224-7.
5. Charlton KH. "Approaches to the demonstration of vertebral subluxation: I. Introduction and manual diagnosis: a review". *J Aust Chiropractor's Assoc* 1988; 18:46-9.
6. Rock BA, Maxwell RM, Charlton KH. "Tribes and Paradoxes: construction of a chiropractic scientific knowledge base".*J Aust Chiropractor's Assoc* 1989; 19:46-8.
7. Charlton KH, Sheehan M. "Proposed masters degree in chiropractic science: an interest survey". *J Aust Chiropractor's Assoc* 1989; 19:97-100.
8. Charlton KH. "Caves and wizards and the state of the petunia patch". *J Manipulative Physiol Ther* 1990; 13:343-5.
9. Charlton KH. "A Traveler's Guide to Philosophy for the Chiropractic Profession". *Philosophical Constructs for the Chiropractic Profession* 1991; 1:18-20.
10. Charlton KH "Hit and Myth". *Chiropr J Aust* 1991; 21:58-61.
11. Charlton KH. "A Pox on all your Houses." *Chiropr J Aust* 1991; 21:176-8.
12. Charlton KH. Letter to the editor. *BMJ* 2002; 325:1134b (electronic reply).

13. Charlton KH. "Silence is not golden: it's consent" (Guest editorial) *Chiropr J Aust* 2003; 33:81-2.

14. Charlton KH. "Foolosofy" *The Australian Chiropractor* magazine, August 2004.

15. Keating JC, Charlton KH, Grod JP, Perle SP, Sikorski D, Winterstein JF. "Subluxation: dogma or science?" *Chiropractic & Osteopathy* 2005 13: 17.

16. Charlton KH. "A Chiropracticness test". *Chiropractic & Osteopathy* 2005, 13:24

17. Charlton KH. "Radiation dose in cervical spine radiography." In preparation.

18. Charlton KH. "Does chronic non-disease musculoskeletal pain originate outside the neuraxis?" In submission.

3. **Documents considered.**

3.1. I have considered the following material:

3.1.1. Various Chiropractic Acts.

3.1.2. Copies of the proposed Codes taken from the CBA website.

3.1.2.1. Copies of various items of correspondence.

3.1.2.2. The CBA refers to the British experience informing its perspectives, so I have considered that material here. The UK Chiropractic Act 1994, the UK GCC Code of Practice and Standard of Proficiency, the UK Ionising Radiation (Medical Exposure) Regulations 2000, the GCC "Advice to Chiropractors on the Ionising Radiation (Medical Exposure) Regulations 2004".

3.1.2.3. Research and other articles in the field of chiropractic, clinical science, radiation dosimetry and the like.

3.1.2.4. Several textbooks.

3.1.2.5. Several websites.

3.1.2.6. My own data for a research project involved in irradiating the necks of normal volunteers as part of my PhD at the Mayne Medical School at the University of Queensland.

3.1.2.7. Several papers on the notions of validity, reliability, subjectivity, objectivity, critical appraisal of the literature, clinician behaviour change, and the construction of scientific knowledge bases (many authored by me).

PREAMBLE

I begin by thanking the members of the Chiropractic Board of Australia for their hard work and contributions to the betterment of the Chiropractic profession in its service of the Australian public. There is a wealth of administrative experience and history of hard work on past Boards for several members of my acquaintance, and they will make worthy contribution in future, I'm sure.

Further, I'm grateful for the opportunity to make a submission on the matter of the Code of professional practice for chiropractors. I shall deal with each issue *seriatim* and provide a summary at the end. Let me say at the outset that I understand that the Code is a work in progress.

The most compelling issue is that of lack of time to secure a truly suitable well thought out series of contributions from the stakeholders who will be governed by this Code: the Chiropractors. In fact, other aspects of the whole set of protocols also cause me alarm, but I am denied by dint of time poverty to address them and so comment on the Chiropractic Code alone.

Process must surely serve purpose, not the converse, and to say that we have to get it all into shape because of an arbitrarily chosen date is, respectfully, just not good enough. I fear that some individuals (I am not one of them) and agencies are already planning legal challenges on just this basis, and that does nobody any good. The time frame must, please, be extended.

Further, as preamble, let me emphasise that I have the greatest respect for the Board and its members, but some of what I will say is challenging at the very least, as I feel the Code is replete with gaps, redundancies, unsuitable requirements, errors of understanding, failure of perspectives and the like. It shows all the hallmarks of haste and insufficient time to consider difficult perspectives. I hope that none of what follows in seen to be disrespectful or unappreciative of the members sincerity, integrity or efforts.

Background perspectives:

People use their chiropractors in different ways. Some want brief transitory care on an event basis. Perhaps they have spent the weekend gardening and have a backache the next day. Such a person might present for a few visits to get his hinges unstuck and only return a few months later, the next time he feels an ache.

Some choose elective supportive care on a non-event basis because they find that periodic chiropractic care affords them either an agreeable subjective sense of well-being not evident without the chiropractic care, or affords them relief from treatable but not curable musculoskeletal or neurological (headache, for instance) pain syndromes.

Some want attention for a pain or other problem which has become chronic (in other words, it has persisted beyond usual healing time … about three months). Chronic pain is a quite a different disease than acute pain and the care and management should be quite different. So, in general terms, should be the diagnostic workup and the protocol

for care, which may need to be longer term, and involve a partnership of active as well as passive care, rehabilitation, exercise and lifestyle change.

This is the reality of chiropractic practice in Australia for nearly a hundred years. There is a breadth of opinion and choice of emphasis from one chiropractor to another. Some prefer to offer well person care in an active health promotion emphasis and prefer not to emphasise pain and the like. Others prefer the reverse. No preference should assume dominance over another as all ought to be able to flourish to offer the best their approach may provide to the individuals, communities and public health of the nation. Crude ‘reliability’ and ‘validity’ statements in the proposed Code are especially unhelpful for well person clinicians as there is but primitive documentation even for notions of diagnostic tests or interventions in pain related chiropractic practice.

Some problems with the Code as presented for comment (there are more than this, but the time available for further elaboration forbids my further commentary):

In the Introduction, on page 1:

The document asserts that the Code of Professional Practice for Chiropractors addresses *"the profession-specific practice and performance aspects",* as well as "*areas of conduct and ethics*." In fact, the Introduction extemporises at great length on the word "professional" without defining it.

I suggest that here there are two quite distinct elements comprising professional conduct and they should be handled in quite different ways. The first and most obvious is "*administrative*" or "*clerical*". And this goes to non-directly-clinical matters like ethics and protocols. Clearly, practitioner Board members have vast experience in administrative and clerical matters from the past, and in the case of one or two of my acquaintance, a natural aptitude too, in my own opinion.

The second element of "*professional*" is "*clinical behaviours*". There are clearly overlaps, but this aspect of professional practice goes to clinical competence, clinical science and clinical aspects of practice.

I respectfully have concerns with a Board comprising individuals with no personal formal or informal clinical qualifications of any kind beyond the most basic for entry to practice formulating and enforcing clinical science behaviours and protocols. Dr

Kimpton has a PhD, but it's in laboratory biology, not clinical practice, and not one practitioner Board member has, as far as my hurried searches have revealed, published original *clinical* science papers in significant peer-reviewed indexed periodicals, including her.

How then can they then credibly sit in judgement on others equally or better qualified when their only apparent 'qualification' for the role is to be a political appointee? Some might argue that it's not a good look.

I respectfully invite the CBA to consider whether it's appropriate for it to proscribe scientific clinical behaviours under these circumstances. Perhaps a subcommittee of those properly and publicly demonstrably scientifically informed might be appropriate. This will be further developed below.

Section 1.6.7

Financial and management plans for many patients in most practices include the elective well person protocol of a visit a month on a continuing basis. Why molest this perfectly reasonable service arrangement which has been part of the chiropractic profession for a century or more?

Section 2.2.1

Provides that a practitioner (hereafter P) has "a responsibility" to display "responsibility". Sic.

Next, P must work towards achieving justice in the provision of health care for all people. Note the "must". What is going on here? Chiropractors at the docks in Darwin, required to protest that 'boat people' get poor dental care? Surely this is an unintended consequence of hurried and unsuitable heavy handedness in the casting of this section.

Next, P has a responsibility to serve, *inter alia*, on health profession boards. I fear that I am guilty of a Code breach already, having declined in recent years about eight requests or offers to nominate to serve on this board, committee or that. Including the one I now address. Whilst this may be a hope, should it really have a place in a Code of practice?

Section 2.6.1

On the face of it, this can seem reasonable, and I suspect is drawn from the UK protocols for chiropractors using ionising radiation. So what does the UK experience tell us (again, why the UK when there is vastly more resource in North America on all of this?)?

Regulation of the taking of radiographs by chiropractors in the UK derives from two sources: The Ionising Radiation (Medical Exposure) Regulations 2000 (IRMER), and the Advice to Chiropractors on the Ionising Radiation (Medical Exposure) Regulations 2000 from the General Chiropractic Council in 2004. The purpose of these directives and Advice is "to lay down the general principles for the protection of individuals in relation to radiographic practice" (Paragraph 2 of the Advice).

Paragraph 9 establishes that the principle of justification is that medical exposures shall show sufficient benefit so that the potential diagnostic and therapeutic benefit is greater

than the individual detriment that the exposure might cause. The key requirement of this section is that each individual medical exposure should be justified in advance.

Paragraph 10 says that in order to justify a medical exposure as showing sufficient net benefit, the practitioner must give appropriate weight to the following matters:

The specific objectives of the exposure and the characteristics of the individual involved, the total potential diagnostic or therapeutic benefits, including the direct health benefits to the individual and the benefits to society, of the exposure, the individual detriment that the exposure may cause and the efficacy, benefits and risk of available alternative techniques having the same objective but involving no or less exposure to ionising radiation.

Paragraph 12, relating to Section 7 on Optimising requires that all doses due to radiographic exposure for health care purposes should be kept as low as reasonably practicable, consistent with obtaining required diagnostic information.

The IRMER requirements (and good radiographic practice) require that such exposure is kept to a minimum.

The quantum of benefit is to be judged by the clinician in each case on its merits individually.

The quantum of detriment must be calculated as well, and I rely here on evidence that the life shortening effect of an ionizing radiation dose equates to about 150 minutes per

mSv[3]. This means that the life shortening effect of a single lateral cervical spine radiograph would shorten life by a minute and, say, fifty seconds.

Another way to establish a perspective is to assess against background radiation for the geographical area and/or occupation of the patient (aircraft flight crew, for instance, have higher background doses). CBA member Dr Goodreid's return flights to Melbourne for a dozen CBA Board meetings from Perth will have exposed him to about as much ionizing radiation dose as lateral neck x-rays, from cosmic radiation entering the skin of the aircraft (and him) during the flights[4].

Background radiation in Australia is, on average, about 2.2 mSv per person per year. In Cornwall, or Colorado, or a number of other places in Northern Europe and elsewhere, background radiation exposure can reach more than 7 mSv per person per year. No adverse health effects can be measured at these doses.

As part of my ethics approved current PhD research at the School of Medicine at the University of Queensland, I take lateral cervical spine radiographs of normal volunteers, and have thus needed to calculate radiation doses to keep within Guidelines for Volunteers in research involving ionising radiation established by ARPANSA[5] (the Australian Radiation Protection and Nuclear Safety Agency) of 5 mSv per volunteer per year.

I had been unable to secure a suitable recent source of dose calculations for lateral cervical spine radiographs, so I undertook an experiment with the assistance of Dr

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[3]. Cohen BL, Lee IS. "A catalog of risks". *Health Physics* 1979; 36:707-22.
[4]. http://www.hpa.org.uk/radiation/publications/misc_publications/x-ray_safety_leaflet.pdf
[5]. See: http://www.arpansa.gov.au/pubs/rps/rps8.pdf, page 7.

Lawrence Sim, Chief of Diagnostic Radiation Physics for the Princess Alexandra Hospital (Brisbane).

We found that for the hospital radiology department and for four private medical radiology facilities, the average dose for three radiographs (my research is on radiographic assessment of neck kinematics in the sagittal plane, and involves neutral, flexion and extension views on all volunteers) to be about 0.04 mSv, or about 2% of the annual background dose. The individual projection dose is therefore less than 0.013% of the annual background dose, or about two and a half days. If the person lived in Cornwall, the dose from a single lateral projection cervical spine radiograph would amount to an equivalent background dose of a few hours of a single day.

None of the foregoing, I hasten to add, leads me to conclude that the risks of radiation should not be taken into account in decisions to irradiate a patient but there can be no evidentiary case to be made for radiographs taken typically by a chiropractor in Australia causing the slightest measurable harm to an individual patient, on best current evidence.

As an addendum, and declaring that I am not trying to go beyond my remit, I note that there is an elephant in the room with us all. The radiation issue here and elsewhere goes to consideration of public policy, including calibrating how policy should guide chiropractic clinicians in assessing risk (of radiation, or other harms) and communicating that risk to patients.

I note that the erudite Sir Kenneth Calman, at the time Chief Medical Officer for the United Kingdom, in an extract from his Calum Muir lecture in Edinburgh, noted “the need for appropriate evidence in making decisions; secondly, the importance of human

behaviour and making choices; and thirdly, the development from this of public policy."[6] On page 802 of that article, Sir Kenneth declares: "From a public policy point of view, therefore, whenever possible a risk assessment should be evidence based." So much of the proposed Code is proscriptive in the most declaratory way, non-referenced, and I fear is a poor exemplar of Sir Kenneth's exhortation.

Section 2.6.3

How does a P find clinical indications for fracture or bone pathology in an infant without radiography? The reasoning runs backward here.

Section 2.7.1

This section suggests a misunderstanding of the nature of evidence driven diagnosis in clinical chiropractic practice. All clinical truth in diagnosis or intervention for dichotomous outcomes comes in 2x2 contingency tables. The relative values of sensitivity and specificity from which we derive positive and negative likelihood ratios form the basis for how much certainty pre and post test we can calibrate in a given patient.

In general musculoskeletal and neurological typical chiropractic practice almost no such calculations are in the literature, never mind the bias such a burden levies against those Ps who practise well person care as a focus. To wit, this is the great research need of the future, and it will be done, but at present, the experience of the P in question is often the best or only evidence at the patient encounter. The section mentions validity and

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[6]. Calman KC. "Cancer: science and society and the communication of risk." *BMJ* 1996; 313:799-802.

reliability, which all come *after* the research of the future reveals the data of which I have spoken above.

What seems to be expected of a reasonable chiropractor by the CBA might betray a dangerously unrealistic appreciation of issues of subjectivity and objectivity and the nature of science in the context of offering an expert opinion on clinical science. Ultimately (and I won't foray into the philosophy and history of science here), science, one hopes, is about tentative testable "knowledge" offering some reliability, and as the late Sir Karl Popper observed, an asymptote of verisimilitude, or congruence to truth[7]. It's not about established facts as much a framework for discerning thinking. There are in science, most especially clinical science, no final answers (even to eternal questions).

Section 2.7.2

Depth, in my opinion, is more important than breadth in diagnostic testing, to the extent that is ever achievable at present (see the prior paragraphs).

Section 2.7.6

NOTHING should ever be misrepresented to a patient.

Section 2.8.1

This is a completely redundant section. *Res ipsa loquitur.*

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[7]. Charlton KH. "Popper-Kuhn debate: a consideration of some of the implications for the philosophy of science and the chiropractic investigative community". *J Manipulative Physiol Ther* 1988; 11:224-7.

Section 2.8.2

This section is unworkable, too. Can the CBA explain how an interpreter meets these requirements? Or a P? If I could speak Vietnamese, why would I have the interpreter there?

Section 2.10

The preamble is entirely redundant.

Sections 2.10.1, 2.10.2, 2.10.4, 2.10.6, 2.10.7

Are all redundant. The last bullet point of section 2.10.7 on false positives again reveals an unbalanced view of the clinical decision making process. False negatives are also important in diagnosis, as a false negative may deny a patient the considerable benefits of chiropractic care. One of the real risks a patient may suffer is NOT getting chiropractic care.

Section 2.11.2

The first sentence is, on the face of it, wrong. A preventive or health promotion focus is indeed entirely desirable at the individual patient encounter, not just at the general public health level.

Section 2.11.3

Besides being redundant to the point of being insulting for many Ps (they have, unsolicited, expressed as much to me in the last two days), this section again betrays a complete misunderstanding of evidence driven chiropractic practice. Best available

evidence from the literature? There is no literature on so much of what we do, as I hope I have made clear. Good chiropractic clinicians will do what they have always done. They will rely on such knowledge on the rare occasions it is known, and they will use their own experience and calibrated judgement, along with patient preferences for the kind of care they deliver, whether they are well person Ps, or more overtly pain focused. Further, what on earth is 'accepted standards of chiropractic care'? Here I assert that I am very evidence based in my argument. I don't accept what the CBA is trying to enforce here. Who should prevail (check my CV at the end)?

Section 2.11.5

Unhappily, again, I disagree, especially with the penultimate sentence. If a patient fails to respond, a perfectly legitimate clinical path in the right circumstances is a trial of withdrawal of care for a time and watchful waiting. Good chiropractic care may not resolve a condition but hold it in check. Discharge prematurely will prevent P and the patient from learning whether, if there is no objective or subjective improvement in the patient's condition, at least chiropractic care rendered nevertheless may prevent further worsening of the condition. CBA requirements here may cause a terrible exacerbation in a patient's condition if the P adheres to the present requirement.

Section 2.11.9

Takes no account of elective well person care by wellness driven Ps. As I hope I have shown elsewhere, the poverty of decent diagnostic tests in chiropractic pain related practice requires that such a P use experience as a major tool for care. The wellness driven P is further deprived of external tools than the pain driven P. Again, experience

is best evidence here. Even in pain driven P practices, a large proportion of patients seek well person care on, say a monthly basis, permanently. I think the casting of this section may better reflect current and past chiropractic practice is such reviews that are used are given at, say, yearly intervals, or each 12 visits.

Section 3.1.2

Second bullet point: I suspect I could have the Gettysburg Address and the Declaration of Independence in each room, too. Why? In all consulting rooms?

Section 3.2.1

All equipment? Pencils, paper towels, erasers, carpets, trigger point knobs (how DOES one 'maintain' a trigger point knob?). This is the casting of the section at its worst. A blunt reading means that an un-maintained pencil is an offence under the Code.

Section 5.1

The last sentence of the first paragraph is problematic. It demands such declaratory statements ought to be referenced by the CBA. For a start, an antalgic posture with a posterolateral lumbosacral disc herniation is diagnostic, as is the person's gait (dynamic posture). A festinating gait and *risus sardonicus* in a person presenting for screening for spinal stiffness is, for instance, compellingly diagnostic of perhaps undiagnosed Parkinson's disease. Further, posture is not necessarily static, as I have said. Active and passive ranges of trunk and neck motion very frequently reveal loss of motion amplitude and pain

at the end range or mid-range. This is likely to be in someone who will present saying ”It hurts when I bend”. This is not diagnostic?

In larger perspectives on posture assessed radiographically, the CBA unreferenced claim that “*other sources argue that there is no concrete evidence that spinal posture is related to patient symptoms*” suggests an ignorance of the relevant literature the CBA is so keen to have Ps maintain familiarity with.

There is a long list of authors (and I quote here mostly on the cervical spine) who find evidentially that a straight or kyphotic cervical spine is associated with increased incidence of neck pain[8] , headache [9,10], and increased incidence of intervertebral disc and bone damage in the neck [11,12]. Tellingly, several prominent authors, on the matter of achieving the best symptomatic outcome after corrective spinal surgery for scoliosis, assert in their conclusions “*This study suggests that restoration of a more normal sagittal balance is the critical goal for any reconstructive spinal surgery*.”[13]

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8. McAviney J, Schulz D, Bock R, Harrison DE, Holland B. “Determining the relationship between cervical lordosis and neck complaints”. *J Manipulative Physiol Ther* 2005; 28:187-93.
9. Nagasawa A, Toshimasa S, Takahashi A. “Roentgenographic findings in the cervical spine in tension-type headache.” *Headache* 1993; 33:90-5.
10. Vernon H, Steiman I, Hagino C. “Cervicogenic dysfunction in muscle contraction headache and migraine: a descriptive study.” *J Manipulative Physiol Ther* 1992; 15:418-29.
11. Matsunaga S, Sakou T, Sunahara N, Oonoshi T, Maeda S, Nakanisi K. “Biomechanical analysis of buckling alignment of the cervical spine: predictive value for sub-axial subluxation after occipito-cervical fusion.” *Spine* 1997; 22:765-71.
12. Wiegand R, Kettner NW, Brahee D, Marquina N. ”Cervical spine geometry correlated to cervical degenerative disease in a symptomatic group.” *J Manipulative Physiol Ther* 2003; 26:341-6.
13. Glassman SD, Berven S, Bridwell K, Horton W, Dimar JR. “Correlation of radiographic parameters and clinical symptoms in adult scoliosis.” *Spine* 2005; 30:682-8.

Further, others have argued with some justification that certain parameters of skeletal disposition are indeed related to *pathological* signs and symptoms. We are not just talking about symptoms, but poor posture causing frank pathology. For instance, altered alignment of the spinal column has long been known to cause bone[14], disc[15] and ligament[16] harm. Surely the CBA assertions here fail.

Section 5.2

Given that the commonest preventable morbidity in Australian women aged between 20 and 45 is Intimate Partner Violence, surely all Ps are seeing people with high psychosocial dimensions to their presenting complaints. Further, chronic pain (longer than healing time … about 3 months) is almost invariably accompanied by psychosocial dimensions, and in my experience Ps are very good at managing such people, if only from the transmission of empathy from therapeutic touch, say, during an adjustment. But to require staff to be trained in suicide prevention is a step far too far.

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[14]. Stillwell D. "Structural deformities of vertebrae: bone adaptation and modeling in experimental scoliosis and kyphosis." *J Bone Jt Surg Am* 1962; 44:611-33.
[15]. Adams MA, McMillan DW, Green TP, Dolan P. "Sustained loading generates stress concentrations in lumbar intervertebral discs." *Spine* 1996; 21:434-8.
[16]. Fukuyama S, Nakamura I, Ikeda T, Takagi K. "The effect of mechanical stress on hypertrophy of the lumbar ligamentum flavum". *J Spinal Disord* 1995; 8:126-30.

Two concluding notes:

Firstly, we are all necessarily (and properly) destined to have to dance with the bitch goddess Evidence. Whilst we should reaffirm the eternal truth that absence of evidence is not evidence of absence, this affords nobody the licence to ignore good data.

As we enter the dance floor, we note that the Bitch is an apparently capricious creature, a hydra with several heads. She is not a good dancer, taking us at turns off the floor, banging into the furniture, and rarely keeping to the beat to which we have become accustomed. So, on occasion, when the music appears to have stopped, we have to rely on our own wit to keep on moving. Sometimes a chorus of dancettes seems to make us look like we are dead on the floor. What are we to do?

If we are evidence based, in the sense of interventions "validated" (whatever that means) being the only things we may offer those for whom we are privileged to care, we will do nothing. If we accept that, as we should, that clinical experience and calibrated biological plausibility are also evidence to inform diagnosis and clinical care, we will be both responsible and effective, and totally defensible in practice. Our job is not to be a fount of published randomised clinical trials of effectiveness, but to be aware, and to be reflective clinicians driven entirely by patient need.

Secondly, my reading of the Code as presently cast sees it as a coarse, poorly constructed (in parts) series of sticks. I know that we don't turn to Codes and legislative mandates for high literary experience, but I see no reason that the Board might not, beyond the obvious prohibitions, aspire to create a document of positive reinforcement

of best behaviours, supportive, encouraging and guiding. A living document full of possibility, vastly more carrots rather than sticks. I see no reason why the Code could not be cast in such terms, and better serve the Board's legislative mandate. At present, in too many parts, it's a brittle catalogue of unnecessary provocation, disrespect and disincentive.

I encourage the Board to consider a recasting of the mood of the Code that is more respectful, whilst in no way diluting its duties to the greater public good. I see no need for these perspectives to be mutually exclusive.

Concluding summary:

Again, I thank the CBA and its members for all their hard work and willingness to help the chiropractic profession in its goal to do the best it can for those whom it is privileged to serve. Further, I thank the CBA for allowing me to make this submission.

I do, however, respectfully protest at the lack of time to do a proper job of considering all the matters at hand, many of which are equally contentious and earnestly encourage the CBA to withdraw from implementation all sections of the various provisions until proper stakeholder consideration and input can be achieved. As I have said, surely process must serve purpose. If the reverse obtains, surely corruption of the purpose is a logical risk.

I respectfully suggest that the Board might consider whether it is suitably enough populated with clinician scientists to discharge some of its duties.

I respectfully suggest that the Board consider a recasting of the mood of the Code to reflect appropriate respect for the profession, and to include a trend of positivity, encouragement and guidance beyond the stick, better to discharge its duties under its legislative mandate. Better patient outcomes are what we all seek, whether one is a well person chiropractor, or a more pain focussed chiropractor.

I hope the CBA finds my submission helpful. I will do whatever I can to assist in bringing the best the chiropractic profession has to offer to the Australian individual, family, community and the greater public health good.

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