



## **Policy statement by Chiropractic Australia regarding the use of Diagnostic Radiology/Radiography in Chiropractic Practice**

**Adopted: April 2015**

Radiology may be a valuable diagnostic tool and its role in chiropractic practice has changed in keeping with advances in scientific research. Its use can serve several purposes in conjunction with a comprehensive history and physical examination findings, including: making a diagnosis; confirming the existence of pathology; determining the most appropriate method of care; and identifying contraindications or factors that would modify the type of care proposed.

Chiropractic Australia recommends that chiropractors use diagnostic radiography in patients with clinical indications based on the best available scientific evidence.<sup>1-4</sup>

Current evidence-based guidelines recommend that radiology now be used less frequently due to advances in other imaging technologies and the inherent limitations in plain film radiology. However, the decision to image patients must be evaluated on the specific circumstances of each case.<sup>5,6</sup> In patients with acute, non-specific spine pain, the best available scientific evidence supports limiting the use of diagnostic radiography to patients with so-called 'red flag' concerns, that may indicate the presence of potentially serious or life-threatening disorders.<sup>7-11</sup>

Chiropractic Australia considers it is inappropriate for clinicians to use diagnostic radiography solely for determining the need for manipulation, except in cases where it is important to eliminate the presence of a contra-indication for spinal manipulative therapy. The use of diagnostic radiography is not recommended for general biomechanical or postural analysis, either as a routine screening procedure, or as a serial or repeat procedure, except in the evaluation or the monitoring of progressive curvature of the spine (scoliosis).<sup>4,12</sup>

Adverse health risks accompany many diagnostic procedures including diagnostic radiography.<sup>13-18</sup> Where practitioners perform their own radiographic examinations, Chiropractic Australia supports and encourages the widely accepted principle of using exposure levels of ionizing radiation that are "as low as reasonably achievable" (ALARA). [http://www.arpansa.gov.au/pubs/rps/rps14\\_regreq.pdf](http://www.arpansa.gov.au/pubs/rps/rps14_regreq.pdf)

Chiropractic Australia advocates that practitioners must also comply with the provisions of the code of practice for radiation protection and the Application of Ionizing Radiation by Chiropractors (2009) or any subsequent version, as published by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA Code), and applicable commonwealth, state or territory laws in relation to best practice (see [www.arpansa.gov.au](http://www.arpansa.gov.au) under Publications).

When used appropriately, the small adverse health risks associated with radiography

are significantly outweighed by its positive benefits.<sup>19-29</sup>

\* This position paper refers only to the use of conventional diagnostic radiography (plain film radiographs), and does not address the use of other imaging methods such as CT, MRI, ultrasound or bone scan.

## References

1. Bussièrès AE, Peterson C, Taylor JAM. Diagnostic imaging practice guidelines for adult musculoskeletal complaints: An evidence-based approach: Introduction. *J Manip Phys Therap* 2007;30(9):617-83. PMID: 18082742
2. Bussièrès AE, Taylor JAM, Peterson C. Diagnostic imaging practice guidelines for adult musculoskeletal complaints: An evidence-based approach. Part 1: Lower Extremity Disorders. *J Manip Phys Therap* 2007;30(9):684-717. PMID: 18082743
3. Bussièrès AE, Peterson C, Taylor JAM. Diagnostic imaging practice guidelines for adult musculoskeletal complaints: An evidence-based approach. Part 2: Upper Extremity Disorders. *J Manip Phys Therap* 2008;31(1):2-32. PMID: 18308152
4. Bussièrès AE, Taylor JAM, Peterson C. Diagnostic imaging practice guidelines for musculoskeletal complaints: An evidence-based approach. Part 3: Spinal Disorders. *J Manip Phys Therap* 2008;31(1):33-88. PMID: 18308153
5. ACR-SPR practice guideline for general radiography. Revised 2008. Accessed at: <http://www.acr.org/Quality-Safety/Standards-Guidelines/Practice-Guidelines-by-Modality/Radiography>
6. ACR-ASSR-SPR-SSR practice guideline for the performance of spine radiography. Revised 2012. Accessed at: <http://www.acr.org/Quality-Safety/Standards-Guidelines/Practice-Guidelines-by-Modality/Radiography>
7. Shekelle P. Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society. What's New? What's Different? National Guideline Clearinghouse Expert Commentaries, Feb 11, 2008.
8. Chou R, Fu R, Carrino JA, Deyo RA. Imaging strategies for low back pain: systematic review and meta-analysis. *Lancet* 2009;373(9662):463-72.
9. Srinivas SV, Deyo RA, Berger ZD. Application of "less is more" to low back pain. *Arch Intern Med* (published online June 4, 2012).
10. Evidence-based management of acute musculoskeletal pain. Australian Acute Musculoskeletal Pain Guidelines Group, Australian Academic Press, Brisbane 2003.
11. Chou R et al. Diagnosis and treatment of low back pain: A joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Ann Intern Med*, 2007;147(7):478-491
12. Haas M, Taylor JAM, Gillette RG. Commentary: The routine use of radiographic displacement analysis: A dissent. *J Manip Phys Therap*, 1999; 22(4):254-259. PMID: 10367763
13. Health Risks from Exposure to Low Levels of Ionizing Radiation : BEIR VII – Phase 2. <http://books.nap.edu/catalog/11340.html> National Academy of Sciences 2005. <http://www.nap.edu>
14. Lin EC. Radiation risk from medical imaging. *Mayo Clin Proc*. 2010;85(12):1142-1146
15. Berrington de Gonzalez A, Darby S. Risk of cancer from diagnostic x-rays : estimates for the UK and 14 other countries. *Lancet* 2004; 363:345–51.
16. Bussièrès AE, Ammendolia C, Peterson C, Taylor JAM. Commentary: Ionizing radiation exposure – more good than harm? The preponderance of evidence does not support abandoning current standards and regulations. *J Can Chiropractic Assoc* 2006; 50(2):103-6.
17. Heyes GJ, Mill AJ, Charles MW. Enhanced biological effectiveness of low energy X-rays and implications for the UK breast screening programme. *Br J Radiol* 2006;79:195–200.

18. Reuben SH. Reducing environmental cancer risk – what we can do now. 2008-2009 Annual Report of the President's Cancer Panel, US Department of Health and Human Services, April 2010, Part 2, Ch 4.
19. Ammendolia C, Taylor JAM, Pennick V, Cote P, Hogg-Johnson S, Bombardier C. Adherence to guidelines for spine radiography: A survey of chiropractic schools world-wide. *J Manipulative PhysTherap* 2008;31(6):412-8
20. Taylor JAM, Resnick D. Imaging decisions in low back pain. In: Lawrence DL ed: *Advances in Chiropractic*, 1(1), Year Book Medical Publishers, 1994.
21. Thornbury JR. Clinical efficacy of diagnostic imaging: love it or leave it. *AJR* 1994; 162:1–8.
22. Kendrick D, Fielding K, Bentley E, Kerlake R, Miller P, Pringle M. Radiography of the lumbar spine in primary care patients with low back pain: randomised controlled trial. *BMJ* 2001;322:400–5.
23. Kerry S, Hilton S, Dundas D, Rink E, Oakeshott P. Radiography for low back pain: a randomised controlled trial and observational study in primary care. *Br J Gen Pract* 2002 Jun; 52(479):469–74.
24. Owens JP, Ruth G, Keir MJH, Richardson D, Richardson A et al. A survey of general practitioners opinions on the role of radiology in patients with low back pain. *Br J Gen Pract* 1990; 40:98–101.
25. Berrington de Gonzalez A. Estimates of the potential risk of radiation-related cancer from screening in the UK. *J Med Screen* 2011;18:163–164.
26. Ferriman A. UK rate of x-ray examination less than half the US rate. *BMJ* 2001; 322:384.
27. Russo R, Cook P. Diagnosis of Low Back Pain: Role of Imaging Studies. *Occupational Medicine: State of the Art Reviews*. 1998; 13(1):83–97.
28. Miller P, Kendrick D, Bentley E, Fielding K. Cost effectiveness of lumbar spine radiography in primary care patients with low back pain. *Spine* 2002; 27(20):2291–7.
29. Ammendolia C, Bombardier C, Hogg, Johnson S, Glazier R. Views on x-ray use in patients with acute low back pain among chiropractors in an Ontario community. *J Manipulative PhysiolTher* 2002;25:511-20, 2006:277-286.