

# Chiropractic x-ray rationale

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*The use of x-ray is important to the chiropractic profession. The reasons for this significance are enumerated and discussed. The relevance of roentgenology to present and future chiropractic practice is set forth.*

KEY WORDS: Chiropractic, roentgen diagnosis.

*An x-ray can therefore be regarded as a necessary adjunct to chiropractic treatment.*

B. D. Inglis, *Chiropractic in New Zealand - Report of the Commission of Inquiry*. Government Printer, Wellington, 1979.

## Introduction

Two recent articles in chiropractic journals<sup>1,2</sup> concerned with our profession's useage of clinical x-ray are responsible for this paper being written. Having been involved for several years with measures to enhance roentgen quality and curtail patient dosage, it was easy to assume that the positive reasons for chiropractic utilisation of x-ray had been chronicled. Not so - at least from my admittedly meagre search capabilities in the Antipodes. Following is a list of ten reasons why investigative roentgenology is an integral part of chiropractic.

- 1 Essential Component of Clinical Diagnosis
- 2 Biomechanical Information
- 3 Identify Anomalies
- 4 Contraindications Screen
- 5 Follow Degenerative Processes
- 6 Patient Understanding and Reassurance
- 7 Patient Convenience
- 8 Jurisdictional And/or Legal Considerations
- 9 "The Compleat Doctor"
- 10 Future Status of the Profession

All practitioners undoubtedly are aware of the lengthy involvement of the chiropractic profession in x-ray. Professor Roentgen discovered this "new kind of ray" in 1895 and by 1910 the Palmer School of Chiropractic had introduced "spino-graphy" into its curriculum. Through the years various chiropractic systems for measuring and analyzing radiographs have come and gone. The profession has grown past the strictly mechanistic approach, whereby all postural faults and misalignments could be appraised according to some numerical value on an x-ray film and this information could then be translated into a blue-print for adjustment. Today the chiropractic profession as we know it could not exist without recourse to diagnostic roentgenology. Here then is a more detailed review of the reasons for chiropractic roentgenology.

### 1 Essential component of clinical diagnosis

Technological advances have brought us to the age of CT Scans and Magnetic Resonance Imaging. New discoveries are oc-

*L'utilisation des rayons-X est importante dans la profession chiropractique. Les raisons significatives sont énumérés et discutées. La relevance de la génologie-roentgen dans la pratique chiropractique présente et future est avancée.*

MOTS CLÉS: Chiropractique, diagnostic roentgen.

curing so rapidly that it is difficult for professional journals to keep abreast of changes in the imaging world. Nevertheless, the garden variety x-ray examination conducted by the chiropractor, the dentist or the radiologist remains one of the most useful tools in each group's diagnostic realm. It is unthinkable that a clinician of any adjustive school would accept a patient with consistent pain, tormented at night and evidencing progressive weight loss, without performing a roentgen examination on that individual. It is a given fact in today's diagnostic world that x-ray is part of the early warning line of investigative procedures and it is only fit and proper that chiropractic play a prominent role in this protocol.

### 2 Biomechanical information

Identification of the chiropractic subluxation by roentgen inquiry began at least 75 years ago. What we are seeking today may not be the same static subluxation sought originally but, first and foremost, I believe we still attempt to gain biomechanical information from our roentgen spinal studies. No palpator can elicit the degree of information gleaned from flexion-extension views or from lateral bending studies. Even the traditional static study enjoys primacy in the routine but integral-to-chiropractic consideration, the ascertainment of leg length.

### 3 Identify anomalies

How many times have you seen an x-ray report from a radiologist which was essentially negative in its findings, only to review the films and discover that a lumbosacral transitional vertebrae with dissimilar facet facings was ignored by the radiologist? A reluctant conclusion drawn by this 25-year chiropractic veteran is unfortunate but true: that one must physically view the films. In certain instances this may even mean re-x-raying the patient. For the conscientious chiropractor who is up to date on those procedures which bring radiation dosages to the absolute minimum, re-examination is not necessarily a major problem. Clearly, clinical requisites outweigh lesser considerations in determining the necessity for a roentgen examination. No one wants to mistake block vertebrae for a functionally hypomobile area.

### 4 Contraindications screen

There are recognised contraindications to active adjustment of a human spine and pelvis. Without access to the benefits of roentgenology every chiropractor would be compromised on a daily basis.

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Mrs. Brown has been on steroid therapy for eight years while she has endured a long-standing polymyaglia rheumatica. This morning she presented at your office with a complaint of headaches, already physician reviewed and determined not to be temporal arteritis. Is chiropractic care contraindicated? Radiographs are necessary to determine the osteoporosity of the cervical spine.

You play tennis with Bill Green on Sunday mornings. Bill has not played for several weeks due to his nagging low back ache. His physician has been treating him with anti-inflammatory drugs. You examine Bill radiographically and discover secondary metastases in the lower lumbar spine and pelvis. Without radiographic evaluation the dynamic adjustive thrust could have caused irreparable harm, not to mention the increased suffering Bill would undergo. An investigation of "alternative medicine" by one state government in Australia - New South Wales - was largely an inquiry into chiropractic. In relation to our use of x-ray, the Webb Report<sup>3</sup> stated in a single sentence the relationship between x-ray and contraindications: "Radiographs are, of course, valuable in determining the presence or absence of lesions which would contraindicate manipulation, such as cancer or tuberculosis of the vertebrae." X-ray stands as one of the most important elements in our determination of adjustive contraindications.

### 5 Follow degenerative processes

It is oft times necessary to evaluate the condition of a patient on a continuing basis. The hyper-flexion, hyper-extension "whiplash" injury may cause the cervical spine to undergo a series of changes extending over a period of years. The scoliosis of a teenaged girl will have to be evaluated at certain intervals. The grade III spondylolisthesis of an overweight young man will have to be checked for possible slippage. The progress of various forms of arthritides must be appraised from time to time.

Yes, these patients could be referred out to have their films taken by an x-ray lab. But it is logical and reasonable that this function be fulfilled by the chiropractic physician who has been caring for the patients in an ongoing manner.

### 6 Patient understanding and reassurance

A major strength of chiropractic is the sound relationship we enjoy with our patients. One of the aspects that is so important in maintaining patient bonding is our approach to explaining health problems. X-ray films are paramount in illustrating to an individual just what is or is not involved in their particular condition. Once a patient understands his health problem, that person will be more likely to follow advice and instructions, making it plausible that positive results will be forthcoming at an earlier stage of treatment. Ultimately, a tool of diagnosis has indirectly become a tool of therapy.

Kelner, Hall and Coulter<sup>4</sup> found that management of cases by young chiropractors was facilitated by the inclusion of x-ray: "They use x-ray in diagnosing patients' health problems,

and also find them helpful as visual aids for explaining to patients the source of their problems and the basis for the recommended treatment plan."

The average patient is most definitely reassured by the doctor who utilizes roentgen evaluation. Over the years I have been asked so many times, "What are those black spots on my x-rays?", that I specifically refer to these (gas pockets) in my verbal report of findings before the patient asks the expected question. The sensational and morbid approaches of the lay press in regard to grave ailments has affected the collective public consciousness. Patients are often more apprehensive than we realise and an appropriate x-ray examination has the capacity to reassure the fearful patient.

### 7 Patient convenience

There is no better commentary on this factor than Rosenberg's statement in a recent Journal of the CCA.<sup>1</sup>

"And then there is the question of patient convenience. Today there are a few medical practitioners and physiotherapists who adjust with fair competence. There may be many more in the future. These professionals enjoy many market advantages over a chiropractor. One that they do not is the ability to perform their own x-ray examination and provide a patient in pain with prompt active therapy without the need for referral and delay."

### 8 Jurisdictional and/or legal considerations

If reports in the lay and professional press are to be believed it seems that "defensive medicine" is on the upswing. *Vis a vis* roentgenology, this means that clinicians are requesting x-ray examinations as a deterrent to malpractice claims. Hopefully, this path will be travelled but briefly. In any given set of circumstances the necessity for radiographic assessment should depend upon clinical need, not upon the vagaries of a litigious system of advocacy.

The requirement of the United States government that Medicare patients treated by chiropractors evidence subluxation(s) demonstrable by roentgenography simply shows the credence extended to x-ray as an essential element in clinical diagnosis. That chiropractors avail themselves of this tool is only natural.

Did Mr. Jones suffer one or more compression fractures when he toppled from the scaffolding at the building site? Did Mrs. Smith receive a "Bucket handle" fracture of the pelvic ring when she fell heavily leaving the restaurant last night? Clinical requisites and legal considerations combine, leading the astute chiropractic clinician to utilize x-ray for the benefit of all, including the good name of the chiropractic profession.

### 9 "The compleat doctor"

Chiropractors are primary health care practitioners. This recognition which has been extended to medicine and dentistry, for example, has also been bestowed upon our profession. In one sense, we have arrived. Whether we are discussing relationships with individual patients, regulatory and/or adminis-



trative bodies, or colleagues in other health professions, society – whole or segmented – has greater confidence in a doctor who utilizes x-ray than one who does not. Diagnostic x-ray is a tool of modern science; its validity is accepted by the public at large. By simple inference it can be seen that a professional group utilizing x-ray gains credibility with that same public. Not only will Mr. Brown have increased confidence in the chiropractor using x-ray, but should it be necessary to refer Mr. Brown to a medical practitioner the inclusion of pertinent, high quality radiographs will reassure the physician as to the thoroughness of the D.C. Finally in this respect, the opinion of the patient and of the physician towards chiropractic in general could be expected to be more benevolent as a result of competent x-ray examination. That this does not always occur is no invalidation of chiropractic roentgenology.

### 10 Future status of the profession

Again, Rosenberg is quoted<sup>1</sup>: "...the right to use x-ray is both clinically necessary and important to the future status of the chiropractic profession. It is a right that has been won and protected at great cost..." Undoubtedly, to forsake x-ray would lessen our standing in the community and remove from chiropractic an analytical modality which will be seen to be of inestimable value to the professions' posterity.

I am not providing a separate heading for the topic of "research purposes" but instead I am linking it to the future status of the profession. Some readers may quibble with this grouping. Nevertheless, it is my contention that to date chiropractic has ignored in-depth research possibilities that have long been available in the field of x-ray. As a young man I heard Dr. Earl Rich lecture at CMCC. Dr. Rich spoke forcefully about their cine studies and how they found that the key to lower back movement was in the fourth lumbar vertebrae. This came as astounding information to a youth who had been brought up on a diet of Dr. Illi and the sacro-iliac joints. The untimely passing of Dr. Rich stilled a professional debate that remains unsolved. It is a quarter century later and the definitive mechanics of the lower back are still unresolved. Could greater use of chiropractic x-ray have made significant input to the world's knowledge of lumbopelvic function? I believe that answer to be a definite yes. There are literally scores of biomechanically related, chiropractic-relevant investigations that could be undertaken via the roentgen ray. Beginning yesterday. Our learned colleagues possessing advanced qualifications in chiropractic radiology and our chiropractic colleges must lead the profession in establishing protocols for valid biomechanical research. Research in general is important to the future status of chiropractic; research through x-ray can play an important role in assuring our place in the health sciences.

While I have written at length on x-ray as it relates to chiropractic, I would like to conclude on a note of personal interest.

If one assumes the responsibility of utilizing clinical roentgen examination one must ensure that sound radiographic procedures are followed at all times. Up-to-date film-screen

combinations, high optimal kV, extended FFD, filtration and gonadal protection are a few of the factors involved in obtaining radiographs of superior standard.

Not only does this benefit the patient, it benefits the profession. Prudent x-ray work in the Australian state of New South Wales resulted in the Webb Report<sup>3</sup> disclosing that "The Committee's experience was that chiropractors were responsible in the use of x-ray and were not over-indulgent in ordering x-rays." Moreover, "the degree of patient exposure to x-radiation is not harmful and less than the level of background radiation. Experience has shown that chiropractors are conscientious in applying safety precautions."

The intelligent use of x-ray by chiropractors will provide our patients with a valuable service and at the same time it will yield support and advancement to our profession.

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