

VI. Review of X-ray Usage and Guidelines by Orthopedic Surgeons, Family Practice Physicians, American Chiropractic College of Radiology (ACCR), and Medical Radiologists (ACR)

RECOMMENDATIONS

By way of radiography guideline reviews, the PCCRP finds its' guidelines to be consistent with guidelines put forth and adopted by the American Academy of Family Physicians, the American Medical Association, the American Academy of Orthopedic Surgeons, the American College of Radiologists, and, to some extent, the American College of Chiropractic Radiologists and French Society of Orthopaedic and Osteopathic Manual Medicine. Thus, we recommend the adoption of the PCCRP Guidelines in Section II for current chiropractic clinical practice standards.

Supporting Evidence: Literature Surveys and Guideline Reviews.

Introduction

In our beginning sections, it has been pointed out that a subgroup of Chiropractic Radiologists (DACBRs) and some chiropractic academics are attempting to restrict the radiographic privileges of Chiropractors in a variety of countries. This attempt to restrict Chiropractic radiographic privileges is coinciding with a general attempt to limit radiographic analysis of the spine in the healthcare arena; this is likely driven by financial motives of 3rd party payers. To investigate this possibility, we will cite surveys, position statements, and protocols by other healthcare providers. The reader will note Managed Care Organizations (MCO's) and insurers are trying to cut costs and maximize profits by limiting x-ray, CT, and MRI exams in Chiropractic and other health care disciplines as well.^{27,31} In general, there is a movement in spinal health care to attempt to limit x-ray exams to "red flag" cases only.^{12,14,17-19,32-45}

First, we remind the reader of the information brought forth in Section III, IV, V, and Section X, where it was shown that the 'red flag' policy promoters have ignored the facts that this paradigm does not consider the difference in spinal analysis and treatment strategies used by Chiropractors compared to medical interventions for this population of patients and that a large body of evidence has been ignored by the 'red flag' camps. To begin, we will elucidate that the information a subgroup of DACBRs are publishing in the general chiropractic literature is contradicted by their own organizations guidelines (American College of Chiropractic Radiologists or ACCR).

By way of a literature review, it is apparent that the publishing subgroup of DACBR's is adamantly against the chiropractic use of radiography to evaluate spinal subluxations.^{5,6,8-11,13-19,22,23,25,26,32-38,52}

For example, even though Yochum and Rowe,²⁶ in their 1987 text, devote approximately 50 pages to line drawing analysis, the lines discussed are generally visualized orthopedic lines and, mostly, are not for measurement of spinal subluxation as delineated in Section X of this document. Yochum and Rowe²⁶ stated that there is "inherent, uncontrolled error" in: a) image un-sharpness, b) projectional geometric distortion, c) patient positioning, d) anatomic variation, e) locating standard reference points, and f) observer error.

It is this panel's experience and opinion that during chiropractic educational training a subgroup of DACBRs chastise clinicians who use a more traditional chiropractic approach to subluxation assessment and treatment. It has been observed that several chiropractic radiologists and academics, such as Hariman,^{9,10} Sigler and Howe,²² Schultz and Bassano,²³ Phillips,¹⁸ Bussieres et al,^{19,52} Taylor,²⁵ Harger et al,⁸ MacRae,¹³ Kettner and Guebert,¹¹ Peterson and Wei,¹⁵

Peterson et al,¹⁶ Peterson and Hsu,¹⁷ Mootz et al,¹⁴ Deltoff and Kogan,⁵ and Haas et al⁶ claim that Chiropractic Clinicians:

1. Are over-exposing the public,
2. Take unnecessary initial x-rays,
3. Are borderline criminal for taking post treatment x-rays,
4. Have no evidenced support for subluxation assessment via radiography,
5. Should only recommend spinal radiography in “Red Flag” cases, and
6. Use of x-rays is not supportive in deriving the sequence of care to be given to an individual patient.

Problematically, the radiography text book chapters (authored by DACBRs Phillips¹⁹ Peterson and Hsu,¹⁷ Yochum and Rowe,³⁵ and Taylor and Resnick^{37,38}) and journal publications (authored by a subgroup of DACBRs and group of chiropractic academics³²⁻²⁴) are used by MCO's (such as ACN and ASHN)³¹ to deny coverage for radiology services for patients seeking chiropractic care.

Now that we have outlined the position of a subgroup of DACBRs and chiropractic academics' opinions as to radiographic usage in Chiropractic practice (“Red Flags Only”), we will provide a review of different health care professional's and professional organizations radiographic guidelines. There are several health care provider organizations that have radiographic privileges, and who have published information on radiographic utilization and protocols of radiographic procedures:

1. American College of Chiropractic Radiologists (ACCR),^{29,30}
2. Chiropractic College of Radiologists of Canada (CCRC),^{51,52}
3. American Academy of Family Physicians (AAFP),²
4. American Medical Association (AMA),²⁰
5. American Academy of Orthopedic Surgeons (AAOS),³
6. American College of Radiologists (ACR),⁴
7. U.S. Agency for Health Care Policy and Research (AHCPR) Guidelines⁴⁶
8. Danish Institute for Health Technology Assessment (DIHTA),⁵⁴
9. Royal College of General Practitioners (RCGP) Acute Low Back Pain Guidelines,⁵³
10. The Reed Group Neck Pain Guidelines (RGNPG),⁵⁵
11. French Society of Orthopaedic and Osteopathic Manual Medicine (SOFMMOO),⁵⁶
12. Council on Chiropractic Practice Clinical Practice Guidelines (CCPCPG),⁵⁸
13. International Chiropractic Association (ICA) Diagnostic Imaging Guideline.⁵⁹

American College of Chiropractic Radiologists (ACCR)^{29,30}

Unlike attempts to restrict spinal radiographic procedures for practicing Chiropractic Physicians by a sub group of publishing DACBR's, the American College of Chiropractic Radiologists (ACCR) has put forth a more clinically supportive guideline for spine radiography use in clinical practice of chiropractic. We note that there are approximately 180 Chiropractic Radiologists that belong to the ACCR and most of the ‘publishing DACBR's’ are members of this organization. We reprint the first four of the ACCR position statements on general spine radiography and bending films for completeness:

1. *“Routine radiography of any patient should not be, performed without due regard for clinical need.*

2. *Any offer or advertising of free x-rays to actual or potential patients shall be accompanied by a statement that, to avoid needless health hazards associated with ionizing radiation, no such free x-ray will be given unless there is a prior observable clinical need for it.*
3. *Avoidance of split screen radiographic techniques or other mechanisms which compensate for tissue thickness by altering the screen or the light emission from the screens, such as the occluding of one of the screens of the cassette, is recommended.*
4. *Repeat radiographic evaluation of the patient should not be undertaken without significant observable clinical indication, as determined by, the treating chiropractic physician.*²⁹

ACCR Lateral Bending Stress Radiography Guidelines:³⁰

1. *“Are reserved additional views, not considered as part of the initial routine radiographic examination; unless specific trauma or biomechanical dysfunction is documented by history or clinical evaluation which suggests findings unattainable by other means.*
2. *Are performed initially only in those patients where prior treatment has been unsuccessful or where objective clinical findings or treatment resistive symptom expression suggests an as yet undiscovered occult pathology.*
3. *Are performed only of the cervical and lumbar spines.*
4. *Are to be performed sectionally only in the cervical and lumbar spine, unless used to demonstrate flexion of a scoliosis.*³⁰

It is interesting to note that in statements 1, 2, and 4, the ACCR clearly acknowledges the fact that radiographic utilization on a given patient should be solely determined by the treating chiropractic clinician based on clinical need. The clinical need is specific to the individual, but a very large volume of scientific literature supports the chiropractic clinicians’ use of radiography to evaluate the spine in all presenting patients that fit the guidelines as described in Section II (for the support of this, see sections X and XII).

In contrast, to the ACCR’s official guideline position statements, a subgroup of DACBR’s have chosen to ‘take the chiropractic clinician out of the decision making process’ and have elected to ignore the volume of evidence that points to the clinical utility, reliability, and validity of chiropractic radiography for subluxation analysis. Furthermore, based in large part on the published works of this sub group of DACBR’s, MCO’s (ASHN)³¹ have mandated that clinicians cannot ascertain appropriate radiography at all (as set forth in Section II) and thus, the treating chiropractic clinician’s role in patient care is eliminated.²⁷

Chiropractic College of Radiologists of Canada (CCRC)^{51,52}

The Chiropractic College of Radiologists of Canada (CCRC) can be considered a Canadian branch of the ACCR. However the CCRC is comprised of several non Canadian international members. There are only approximately 35 living members of the CCRC. Their⁵¹ guidelines are reflective of the ACCR’s with a few exceptions:

1. The CCRC emphatically denounces chiropractic's use of initial x-ray examinations as a routine procedure and from patient request,
2. Full Spine Radiography: *"The utility and effectiveness of the 14 x 36 radiograph has been well documented in chiropractic literature. It definitely has a place in the study of spinal curvature and many types of subluxation patterns."*⁵¹
3. Their⁵¹ Full Spine recommended series include: An A/P full spine and three neutral laterals (cervical, thoracic and lumbar),
4. CCRC Policy on Computer Assisted Analysis of X-rays was rated as *"investigational"*,⁵¹
5. Videoflourosocopy (VF): *"Videoflourosocopy is a useful imaging modality for the demonstration of spinal intersegmental joint dysfunction."* The minimum VF examination should include three repetitions and all VF exams should be videotaped. Lumbar views are not recommended but cervical VF's should include:

- Head nodding,
- Full range "forced" flexion and extension,
- Relaxed flexion and extension,
- Oblique right and left full range "forced" flexion and extension,
- Additional exams can include: right and left lateral flexion (open mouth and lower cervical),
- Additional exams can include: alar ligament assessment in lateral view, nodding, right and left lateral flexion open mouth, and passive stress views.⁵¹

The CCRC⁵¹ elaborates on the use of chiropractic radiology by offering their position statement that patient age groups should dictate the type of radiographic examination that is performed. They⁵¹ offer different recommendations based on the ages 0-10 years, 10-18 years, 18-40 years, and above 40 years of age. The CCRC⁵¹ provides no scientific literature supporting any of their position statements on chiropractic radiography recommendations. Second, the CCRC⁵¹ has contradicted the guidelines of their parent ACCR^{29,30} organization and have removed the Chiropractic Clinician from the decision making process for the attainment of initial spinal radiographs. Lastly, the CCRC position statement regarding computerized or computer assisted analysis of spinal radiographs is in complete opposition to the available scientific literature on this topic. For instance, in Section II and Section VIII of the PCCRP Guidelines, the reliability and validity of computer assisted radiography analysis was reviewed and found to be at least as good as 'traditional by hand' assessment methods.

Recently (2004-2006), CCRC⁵² has begun an 8 phase, standardized approach⁶⁰⁻⁶⁴ to validating an even more restrictive radiological guideline of "Red Flags" only. CCRC⁵³ has finished phases 1-3 (Literature review, Guideline development, First external review) and are working on phase 4 (Consensus panel of international experts).⁵² These new CCRC "Red Flags" only radiology guidelines are estimated to be finished by fall 2006.

American Academy of Family Physicians (AAFP)²

In 2006, the American Academy of Family Physicians published a Radiology Position Paper on their web site. They stated, "Most family physicians provide the majority of patient care in the outpatient setting. Diagnostic radiographs are an integral part of the evaluation and management of acute and chronic illnesses for patients seen in the office. Those practices that have radiology services on-site usually do not have a radiologist on staff, so the family physician

orders and interprets the radiographs, and then renders patient care based on the initial interpretation.”² The AAFP web site states:

1. *“A majority of family physicians is estimated to have radiography equipment in their offices at this time.*
2. *Patient care is improved when the family physician is able to fully integrate the patient's history and physical examination with contemporaneous interpretation of diagnostic imaging and other diagnostic studies.*
3. *Family physicians, like other physicians who use diagnostic radiography in their evaluation of patients, are entitled to appropriate compensation for their services.*
4. *Initial radiologic evaluation of a large variety of acute and chronic conditions is appropriately performed in the family physician's office, with referral to another facility for more extensive imaging, if necessary.”²*

The number of U.S. family physicians with radiology equipment in their offices has not been reported, but a 1988 survey of Minnesota family physicians found that 87.3 percent had on-site radiographic equipment.⁷ An unpublished study in 1996 found that 76 percent of Wisconsin family physicians have radiographic equipment in their office and 87 percent have this equipment in the same building.²⁴ Based on the distribution of non-radiologists' share of office radiology work broken down by state, Minnesota (43 percent) and Wisconsin (55 percent) were close to the average for the entire United States (46 percent). The limited data suggest that a majority of family physicians use radiographic equipment in their offices.

American Medical Association (AMA)²⁰

While the American Chiropractic Association allows fringe statements by the DACBRs^{5,6,8-11,13-19,22,23,25} to go unchallenged, reimbursement and legal privileges are reduced. In contrast, the American Medical Association (AMA) reaffirmed a policy regarding reimbursement for CT scans and other procedures for their members, stating that *“The AMA opposes denial of a physician's right to perform specific services or be compensated for such services solely on the basis of his specialty designation.”²⁰*

American Academy of Orthopedic Surgeons³

Chiropractors who are interested in spinal restoration through correction of spinal subluxation are structuralists, much in the manner that an orthopedic surgeon would be. The American Academy of Orthopedic Surgeons approved a position statement in December 1995 regarding office radiograph performance and interpretation which concludes that *“The American Academy of Orthopedic Surgeons believes that orthopedists are entitled to adequate compensation for the cost and work involved in providing musculoskeletal radiographic studies in their offices. Any policy which prohibits orthopedists from performing and interpreting radiographs in their offices interferes with the patient's ability to receive optimal care.”³*

American College of Radiologists (ACR)

Like the DACBR's ACCR, the Medical Radiologists have an organization called the American College of Radiologists (ACR). The ACR, however, has approximately 30,000 medical radiologists. The ACR has published guidelines that support Family Physicians, Surgeons, and Neurosurgeons' use of routine spinography. For example, effective on January 1,

2003, the American College of Radiology (ACR) published their updated “ACR Practice Guideline for the Performance of Spine Radiography in Children and Adults.”⁴

It is of interest to list the indications for spine radiographs in children and adults advocated by ACR. ACR stated that their “*Indications include, but are not limited to:*

A. *All anatomic regions*

1. *Trauma to, or potentially involving, the spine.*
2. *Pain or limitation of motion.*
3. *Planned or prior surgery on the spine.*
4. *Evaluation of suspected primary and secondary malignancy.*
5. *Arthritis.*
6. *Suspected congenital anomaly of the spine and syndromes associated with spinal abnormality.*
7. *Evaluation of spinal abnormality seen on other imaging studies.*
8. *Follow-up of previous spinal abnormality.*
9. *Suspected spinal instability.*

B. *Cervical spine*

1. *Shoulder or arm pain suspected to result from radiculopathy.*
2. *Occipital headache*

C. *Thoracic Spine*

1. *Pain radiating around the chest wall*
2. *Osteoporosis; compression fractures.*
3. *Evaluation of scoliosis and kyphosis*

D. *Lumbar spine*

1. *Pain radiating into the legs.*
2. *Osteoporosis; compression fractures.*
3. *Evaluation of scoliosis and kyphosis,*
4. *In children, limping or refusal to bare weight and in children with hip pain.”⁴*

In these ACR Consensus Guidelines for Spine Radiography for each of the areas listed (All anatomical regions, Cervical Spine, Thoracic Spine, and Lumbosacral Spine), ACR stated that four of their indications for Spine Radiography include, but are not limited to, pain or limitation of motion, arm pain, radiating pain around the chest wall, pain radiating into the legs.⁴ These are of interest to the Chiropractic Practitioner, since these four indications cover almost every patient that we collectively see on a yearly basis.

While the Panel of Clinical Chiropractic Experts named in this present document of Radiographic Protocols for Chiropractic Clinicians agrees with the above ACR statement for the minimum indications for Spine radiography as a consensus,⁴ some of these ACR minimum indications are for surgery and/or are “Red Flags” and thus are not of primary interest to the Chiropractor attempting to assess vertebral subluxations (defined in Section V) using a radiographic evaluation. In Sections X and XII of this document, we will provide the evidence-based support for Spinography as a requirement in the presence of any abnormal posture, axial pain, and/or radicular pain.

U.S. Agency for Health Care Policy and Research (AHCPR) Acute LBP Guidelines⁴⁶

According to the AHCPR Guidelines:⁴⁶ *"The use of lumbar x-rays to screen for spinal degenerative changes, congenital anomalies, spondylolysis, spondylolisthesis, or scoliosis very rarely adds useful clinical information. Only 1 of 2,500 x-rays detects something not suspected on history and physical examination that has an impact on patient care."* This position statement was based solely on the acute presentation of low back pain of less than 4-weeks duration. Three of the AHCPR's Chiropractic relevant position statements are reprinted here:

- *"Plain X-rays are not recommended for routine evaluation of patients with acute low back problems within the first month of symptoms unless a red flag is noted on clinical examination."*
- *Plain X-rays of the lumbar spine are recommended for ruling out fractures in patients with acute low back problems when any of the following red flags are present: recent significant trauma (any age), recent mild trauma (patient over age 50), history of prolonged steroid use, osteoporosis, or patient over age 70.*
- *The routine use of oblique views on plain lumbar X-rays is not recommended for adults in light of the increased radiation exposure."*⁴⁶

To reiterate, the AHCPR⁴⁶ position statements only apply to 'acute uncomplicated low back pain of less than 4 weeks duration'. Problematically, many chiropractic authors, such as Kato⁴⁷, have misrepresented the AHCPR guidelines in an attempt to apply them to multiple patient conditions.

A major contention with the AHCPR guidelines is the undertone that acute low back pain (LBP) is a self limiting condition. One of the original articles to which the self limiting nature of LBP can be traced comes from Dixon⁴⁸, where a "90% recovery" of acute LBP was found and was based on a record review in one general practice. However, the inference that a patient has completely recovered based on record review is clearly not supportable. In fact, there is **no** evidence supporting the claim that 80–90% of LBP patients become pain free within 1 month.⁴⁹ A minimum of 75% of patients with acute uncomplicated LBP will continue to have problems. At 3 and 12 months follow up, only 39/188 (21%) and 42/170 (25%) respectively will be recovered.⁵⁰ (See Section III for a more detailed review of natural history of LBP).

Royal College of General Practitioners (RCGP) Acute Low Back Pain Guidelines⁵³

The Royal College of General Practitioners (RCGP) has adopted the AHCPR⁴⁶ acute low back pain guidelines in their entirety.⁵³

Danish Institute for Health Technology Assessment (DIHTA) Low Back Pain Guidelines⁵⁴

The DIHTA⁵⁴ have presented guidelines for the utilization of spinal radiography in lower back conditions. These DIHTA⁵⁴ guidelines are very similar to the AHCPR⁴⁶. The DIHTA⁵⁴ panel contends that radiography "...does not provide any meaningful information for the majority of patients, as x-ray findings generally correlate poorly to symptomatology." In the acute case of LBP, the DIHTA recommendations state:

- *"Only in circumstances where the health professional suspects the presence of infection or other inflammatory conditions, fractures or cancer will x-rays provide information of importance regarding further examination procedures and treatment."*⁵³

However, the DIHTA also included information on the use of radiography in cases of chronic lower back pain; whereas the AHCPR⁴⁶ guidelines only discussed acute low back pain of less than 4 weeks duration. Regarding chronic low back pain, the DIHTA recommends:

- *“That x-rays should only be generally entertained if the low-back pain has been present for at least four weeks.”*⁵⁴

Reed Group Neck Pain Guidelines (RGNPG)⁵⁵

In 2005, the Reed Group offered an evidenced based return to work guideline of those suffering from neck pain. While the RGNPG’s focus was on treatment and early return to work, they offered a very short summary of their position on cervical spine radiography. According to the RGNPG:

*“Plain x-rays of the cervical spine may be indicated acutely if severe trauma has occurred and fracture or instability suspected. X-rays are ordered if the symptoms have persisted for 30 days or more.”*⁵⁵

The RGNPG’s are not specific to a given health care provider and do not offer any further information on cervical spine radiography.

French Society of Orthopaedic and Osteopathic Manual Medicine (SOFMMOO)⁵⁶

In 2003, the French Society of Orthopaedic and Osteopathic Manual Medicine (SOFMMOO) met to discuss and develop guidelines for spinal radiography that were specific to the intervention of “spinal manipulative therapy”. The SOFMMOO⁵⁶ noted that previous guidelines dealt solely with ‘diagnostic radiography’ for diseased conditions, primarily focused on acute low back pain, and ignored the difference in the treatment between traditional medical standard care versus spinal manipulative therapy provided by manual medicine physicians. The SOFMMOO recommendations for spinal radiography are provided:

1. **Lumbar spine and sacroiliac region:** The SOFMMOO⁵⁶ adopted the ‘Red Flag’ guideline for acute low back pain similar to the AHCPR⁴⁶. However, SOFMMOO⁵⁶ listed two exceptions:
 - A. *“Firstly, in subjects between 20 and 25 years of age, an aneurismal bone cyst may be present. Since, under these circumstances, manipulation carries a certain risk, subjects in this age group should be routinely X-rayed.”*⁵⁶
 - B. *“Secondly, a patient without any red flags may be anxious to have X-rays done. If manipulation is being considered, it would appear wise to comply with the patient’s wishes, so as to provide reassurance on the condition of his or her spine.”*⁵⁶
2. **Thoracic spine:** *“Thoracic pain is a red flag in some (especially the British) guidelines; patients with thoracic pain should be X-rayed. However, there are guidelines that do not recognize this red flag. X-rays should be performed only where there are red flags, or where the pain is chronic.”*⁵⁶
3. **Cervical spine:** *“Prior to any manipulation of the cervical spine, X-rays must be taken, regardless of the duration of the patient’s pain history.”* and *“This guideline applies even if the patient’s condition is not chronic.”*⁵⁶

Previously, the French National Agency for Accreditation and Evaluation in Health (ANAES)⁵⁷, in its guidelines for the use of imaging techniques in low-back pain cases, stated that “*outside the context of looking for evidence of symptomatic low-back pain, the use of imaging techniques is not indicated in the first seven weeks of the low-back pain, unless the envisaged therapeutic modalities (such as manipulation or infiltration) make it necessary formally to exclude any specific form of low-back pain.*”⁵⁷ (emphasis is ours).

Council on Chiropractic Practice Clinical Practice Guidelines (CCP)⁵⁸

In the year 1998 and 2003, the CCP⁵⁸ adopted a radiology guideline for Chiropractic Practice. This guideline included the reliability and utility of chiropractic radiography use for spinal subluxation. However, this guideline was not a comprehensive review of the individual radiographic views as used by practicing chiropractors. It brought forth preliminary reliability, validity and clinical outcome studies in terms of chiropractors’ radiological assessment of subluxation. The current PCCRP guidelines have utilized this CCP⁵⁸ document as a preliminary work to build upon. We list the CCP guideline’s relevant plain film radiography and Videoflourosocopy statements here:

1. Plain Film Radiography is indicated to provide:

- “...information concerning the structural integrity of the spine, skull and pelvis;
- “The misalignment component of the vertebral subluxation”;
- “The foraminal alteration component of the vertebral subluxation”;
- “The postural status of the spinal column”;
- “Imaging procedures, including post-adjustment radiography, should be performed only when clinically necessary”;
- Concerning radiographic line drawing procedures, “These procedures may be done by hand, or the chiropractor may utilize computerized radiographic digitization procedures.”⁵⁸

2. Videoflourosocopy (VF):

- VF “may be employed to provide motion views of the spine when abnormal motion patterns are clinically suspected.”
- VF “may be valuable in detecting and characterizing spinal kinesio pathology associated with vertebral subluxation.”
- “Observational and case studies support the use of Videoflourosocopy to evaluate vertebral motion when this information cannot be obtained by other means.”⁵⁸

International Chiropractors Association (ICA)⁵⁹

In the year 2000, the ICA adopted a radiology guideline for Chiropractic Practice. This guideline was a preliminary report attempting to document the reliability and utility of chiropractic radiography use for spinal subluxation. However, this guideline was incomplete in the radiographic views it listed, in the reliability and validity discussion, in the clinical utility discussion and in the review of the available chiropractic literature in general. The current PCCRP guidelines have utilized this ICA document as a preliminary work to build upon. We list the ICA 2000 relevant plain film radiography and Videoflourosocopy statements here:

A. Plain Film Radiography

1. “To provide information concerning the hard tissue components of the spine, skull and pelvis, or other skeletal structure.

2. *To provide information concerning the misalignment component of the vertebral subluxation, or other articulation.*
3. *To provide information concerning the foraminal alteration component of the vertebral subluxation.*
4. *To provide information concerning the dynamics of spinal motion.*
5. *To provide information concerning abnormal spinal contours.*
6. *To detect anomalous structures that may contribute to spinal distortions, sacral plateau abnormalities, etc.”*
7. *Postural studies: views may be obtained in various postural positions as clinically required. It is acknowledged and accepted that this may result in more than one view per projection with posture being the variable.*
8. *Repeat studies: Due to the dangers inherent in radiation exposure, repeat studies should only be used as clinically required.*
9. *Plain film radiography may be employed when clinical data indicates the likely presence of a condition which may affect patient care. This includes biomechanical assessment...”⁵⁹*

B. Videofluoroscopy (VF) Indications:

1. *“Flexion-extension injuries,*
2. *Direct injury,*
3. *Postoperative evaluation,*
4. *Assessment of Hypermobility associated with subluxation when such information cannot be obtained by other more cost-effective means,*
5. *Suspected ligamentous instability,*
6. *Presumed radicular compression,*
7. *Spinal stenosis,*
8. *Scoliosis, structural and functional curvature evaluation,*
9. *Videofluoroscopy should be used as an adjunctive procedure to plain film studies, and not as a replacement for those studies.”⁵⁹*

PCCRP Discussion of Previous Guidelines

In the above summaries, we have presented a comprehensive review of 13 groups/organizations guideline position statements regarding spinal radiography. These different guidelines provide an international feel for the current trend regarding spinal radiography utilization in spinal related conditions. Most of the non-chiropractic driven guidelines deal exclusively with acute low pain only, a few discuss chronic low back pain, 3 discuss thoracic disorders, and a few detail cervical spine disorders. Interestingly, the lack of evidence on a specific condition and the type of evidence on a specific topic that a given organization reviews creates considerable variability and gives rise to different view points and recommendations.

The ACR guidelines are the most comprehensive detailing all regions of the spine and pain conditions. The majority of the guidelines reviewed above are not specific to the type of treatment interventions (spinal adjustments) that Chiropractic Clinicians provide; there are three exceptions (SOFMMOO, CCP, ICA). The majority of the guidelines related to ‘diagnostic radiology’ do not consider the difference in the Chiropractic Clinician’s use of spinal radiology; which is to identify, quantify, and develop treatment strategies for the 6 types of structural subluxations detailed in Section V.

Of interest, the 3 organization's guideline recommendations that consider manual therapy⁵⁶ and the chiropractic adjustment^{58,59}, are somewhat different than the rest of the guidelines (except for the ACR's). Based on this information, it is the current PCCRP's position that subluxation analysis using spinal radiographs and the treatment approaches that relate to it, is a specialty that requires different spinal radiography guidelines for the practicing Chiropractic Clinicians utilizing this approach.

The PCCRP guidelines put forth in Section II of this document have built upon the two previous guidelines developed and recommended by the two organizations (CCP, ICA) specifically addressing spinal subluxation analysis via radiography. We believe the current PCCRP guidelines to be a significant improvement over these two previous guidelines in as much as it is more comprehensive and details the reliability, validity, clinical outcomes, and clinical utility of each separated spinal radiographic view that a Chiropractic Clinician might ascertain.

Summary

Through some publications in the literature and the consequent use of these publications by MCO's in their guidelines (ACN, ASHN, etc...),³¹ a subgroup of publishing DACBR's and chiropractic academics are attempting to restrict the clinical use of radiography in chiropractic practice. This attempt by this subgroup of publishing DACBR's and the MCO's (ACN, ASHN)³¹ is in direct opposition to the official radiological guidelines of the ACCR (i.e., the DACBR's own professional organization), which states that x-rays are to be used "...as determined by, the treating chiropractic physician."²⁹ Furthermore, this attempt to limit chiropractic clinician's x-ray privileges is in direct contrast to other health care groups with radiological privileges (AAFP, AMA, AAOS, ACR, and SOFMMOO). Lastly, most of the guidelines presented in this document are based on 'diagnostic radiology' which disregards the difference in treatment provided by Chiropractic Clinicians who definitively use the x-ray to determine patient treatment interventions and safety of such interventions; and this information cannot be ascertained by means other than radiography (see Sections IV, V, and X for evidence).

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