



AMERICAN CHIROPRACTIC ASSOCIATION



## AMERICAN CHIROPRACTIC COLLEGE OF RADIOLOGY

### ACCR GUIDELINE FOR THE USE OF LUMBAR SPINE OBLIQUE RADIOGRAPHS

The ACCR guidelines address issues common to clinical practice. They are not rules, but guidelines that attempt to define the principles of practice that should generally produce high quality radiologic care. Adherence to the ACCR Guidelines will not assure a successful outcome in every clinical situation. The Guidelines are not intended to establish a legal standard of care or conduct, and deviation from one of these guidelines does not, in and of itself, indicate or imply that such practice is below acceptable level of care. The ultimate judgment regarding any specific procedure or course of conduct must be made by the chiropractic physician/doctor of chiropractic in light of all circumstances presented by the individual clinical setting. The ACCR guidelines are a consensus of procedures and conduct taught in CCE accredited chiropractic institutions and the practice of radiology by professional members of the ACCR.

#### INTRODUCTION

The use of lumbar oblique X-rays has come under scrutiny, along with a number of other radiographic procedures. Specifically, the unique diagnostic utility of lumbar oblique radiographs has been called to question, especially in light of the predictive value of frontal and lateral views of the lumbar spine. While it is true that lumbar obliques are uniquely diagnostic only 2-12% of the time, this statistic should not be misinterpreted to mean that they are only useful 2-12% of the time. In certain instances, the presence of oblique lumbar radiographs serves to rule-out suspected pathology more confidently, thus averting excessive cost and additional burden to the patient. Prospectively determining when they are needed is not always easy in clinical practice.

#### GUIDELINES FOR THE USE OF LUMBAR OBLIQUE RADIOGRAPHS

There is literature to support that oblique X-rays of the lumbar spine can provide unique diagnostic information about many conditions, particularly those affecting the posterior arch of the lumbar spine. Below is a list of conditions which if suspected, should be imaged with plain film oblique X-rays before advanced imaging is considered:

1. Fracture of any aspect of the lumbar spine where the posterior elements or vertebral body involvement of the injury cannot be adequately evaluated from frontal and lateral views alone.
2. Neoplasm of the posterior arch or vertebral body not sufficiently seen on frontal and lateral views of the spine.
3. Degenerative spinal disease where the extent of the disease cannot be adequately evaluated from frontal and lateral views alone.
4. Suspected inflammatory arthritis (ankylosing spondylitis, infection, etc.) of the spine where the extent of disease is not adequately characterized by frontal and lateral views.
5. Complex or symptomatic anomaly involving the posterior arch of the spine (e.g.. agenesis of a lumbar facet, spina bifida vera, congenital absence of a pedicle, etc.).
6. Complex or severe spinal deformity where frontal and lateral views insufficiently demonstrate the morphologic elements of the spine.
7. Pediatric patients with low back pain requiring radiographs as a component of the evaluative regimen.
8. Patients with back pain and a history of surgical intervention to the region of symptomatology.

Ultimately, the need for radiographs of the spine remains the determination of the practitioner who examines the patient. The purpose of the radiographic exam is to reduce clinical uncertainty. If sufficient uncertainty

exists about the presence or absence of therapy-altering disease after frontal and lateral views are obtained, then the practitioner is obliged to acquire oblique views. This is particularly true if the results of the films could avert the need for more expensive and potentially invasive modalities such as MRI, CT or tomography.

## CONCLUSION

While there is evidence to suggest that routine acquisition of oblique radiographs of the lumbar spine is not warranted, there is additional evidence to support acquisition of these views if the frontal and lateral views fail to adequately demonstrate therapeutically significant pathology, which is clinically suspected, or where uncertainty exists about a reasonable potential for these diseases to be present. In other words, it is important to acquire oblique radiographs to **rule-in** certain pathologies just as it is important to take obliques where frontal and lateral views do not confidently **rule-out** significant pathology which is reasonably suspected based on clinical examination and history. To fail to perform obliques in these instances represents substandard chiropractic practice. In general, it is advisable that oblique radiographs of the lumbar spine be acquired after evaluation of frontal and lateral views demonstrate a need for additional views. Other imaging modalities should be considered as an alternative to oblique radiographs where their diagnostic performance is superior to oblique radiographs and where acceptable cost/benefit and risk/benefit ratios exist.

## REFERENCES

1. Aydog ST, Turbedar E, Demirel AH, Tetik O, Akin A, Doral MN. Cervical and lumbar spinal changes diagnosed in four-view radiographs of 732 military pilots. *Aviat Space Environ Med.* 2004 Feb;75(2):154-7.
2. Deyo R, Diehl R. Lumbar Spine Films in Primary Care. *Journal of General Internal Medicine* Jan. 1986; 1:20-25.
3. Gehwiler J, Daffner R. Low Back Pain: The Controversy of Radiologic Evaluation. *AJR* Jan. 1983; 140:109-112.
4. Hadley L. Subluxation of the Apophyseal Articulations with Bony Impingement as a Cause of Back Pain. *AJR* Feb. 1935; 33:209-213.
5. Hadley L. Constriction of the Intervertebral Foramen. *Journal of the American Medical Association* Jun. 1949; 140(5):473-476.
6. Hadley L. Intervertebral Joint Subluxation, Bony Impingement and Foramen Encroachment with Nerve Root Changes. *American Journal of Roentgenology and Radium Therapy* Mar. 1951; 65:377-402.
7. Hall F. Routine Oblique Projections of the Lumbosacral Spine in Evaluation of Chronic Low Back Pain (Letter). *Radiology* 1980; 137:209-210.
8. Hall L. Back Pain and the Radiologist. *AJR* Jul. 1983; 141:861-863.
9. Meter JJ, Polly DW Jr, Miller DW, Popovic NA, Ondra SL. A method for radiographic evaluation of pedicle screw violation of the vertebral endplate. *Technique. Spine.* 1996 Jul 1;21(13):1587-92.
10. Pathria M, Sartoris DJ, Resnick D. Osteoarthritis of the facet joints: accuracy of oblique radiographic assessment. *Radiology.* 1987 Jul;164(1):227-30.
11. Rhea J, Deluca S, Liewellyn H, Boyd R. The Oblique View: An Unnecessary Component of the Adult Lumbar Spine Examination. *Radiology* Jan. 1980; 134:45-47.
12. Rigler L. Is This Radiograph Really Necessary? *Radiology* Aug. 1976; 120:449-450.
13. Roberts F, Kinshore P, Cunningham M. Routine Oblique Radiography of the Pediatric Lumbar Spine: Is It Necessary? *AJR* 1978; 131:297-298.
14. Ralston S, Weir M. Suspecting lumbar spondylolysis in adolescent low back pain. *Clin Pediatr (Phila).* 1998 May;37(5):287-93.
15. Saifuddin A, White J, Tucker S, Taylor BA. Orientation of lumbar pars defects: implications for radiological detection and surgical management. *J Bone Joint Surg Br.* 1998 Mar;80(2):208-11.
16. Scavone J, Latshaw R, Werdner W. Antero-Posterior and Lateral Radiographs: An Adequate Lumbar Spine Examination. *AJR* 1981; 136:715-717.

17. Schultz G, Phillips R, Cooley J, Hall T, Hoyt T, Gendreau D, Knudsen T, Mitchell R, Taylor J. Diagnostic Imaging of the Spine in Chiropractic Practice: Recommendations for Utilization. *Chiropractic Journal of Australia* Dec. 1992; 22(4):141-152.
18. Schultz G, Phillips R, Howe J, Cherachanko D. Oblique Views: Useful or Useless? Published at the Proceedings of the Foundation of Chiropractic Education and Research, Washington D.C. April 1990.
19. Zdeblick TA. A prospective, randomized study of lumbar fusion. Preliminary results. *Spine*. 1993 Jun 15;18(8):983-91.

-Adopted at the ACCR Workshop, St. Louis, MO October, 1990.

-Updated, 2005.