

D) Hyper or hypo-lordosis of lumbar spine

1. Correlative analysis of lateral vertebral radiographic variables and medical outcomes study short-form health survey: a comparative study in asymptomatic volunteers versus patients with low back pain. Korovessis P Dimas A Iliopoulos P Lambiris E **J Spinal Disord Tech**. 2002 Oct;15(5):384-90. (H)
2. An analytical survey of structural aberrations observed in static radiographic examinations among acute low back cases. Reinert OC. **J Manipulative Physiol Ther**. 1988 Feb;11(1):24-30. (H)
3. Clinical findings as outcome predictors in rehabilitation of patients with sciatica. Nykvist F, et al. **International J of Rehabilitation Res** 1991;14:131-144. (H)
4. Radiographic analysis of lumbar spine for low-back pain in the general population. Inaoka M, et al. **Arch Orthop Trauma Surg** 2000;120:380-385. (H) (R)
5. Knee-spine syndrome: correlation between sacral inclination and patellofemoral joint pain. Tsuji T, Matsuyama Y, Goto M, Yimin Y, Sato K, Hasegawa H, Ishiguro N. **J Orthop Sci** 2002; 7:519-523. (H)
6. A comparative roentgenographic analysis of the lumbar spine in male army recruits with and without lower back pain. Steinberg EL, Luger E, Arbel R, Menachem A, Dekel S. **Clin Radiol**. 2003 Dec; 58(12): 985-9. (R) (H)
7. Lumbar lordosis in acute and chronic low back pain patients. Evcik D, Yucel A. **Rheumatol Int** 2003; 23(4):163-5. Epub 2003 Jan 18. (R) (H)
8. Elliptical modeling and sagittal lumbar radiographic alignment variables in normal vs. chronic low back pain subjects: does pelvic morphology explain group lordotic differences? Harrison DE, Harrison DD, Janik TJ, Cailliet R, Holland B. Proceedings of the 34th annual meeting of the **International Society for the Study of the Lumbar Spine (ISSLS)** 2007; June 10-14, Hong Kong, China:p149. (R) (H)
9. Pelvic morphology affects the sagittal plane alignment of the lumbo-pelvic spine normal subjects and low back pain patients. Harrison DE, Keller TS, Harrison DD, Janik TJ, Colloca CJ. Proceedings of the 34th annual meeting of the **International Society for the Study of the Lumbar Spine (ISSLS)** 2007; June 10-14, Hong Kong, China:p148. (R) (H)
10. Sagittal balance of the pelvis-spine complex and lumbar degenerative diseases. A comparative study about 85 cases. Barrey C, Jund J, Nosedo O, Roussouly P. **Eur**

Spine J 2007; 16:1459–1467. (H)

11. Flattening of sagittal curvature as a predictor of vertebral fracture. Kobayashi T. **Osteoporos Int** 2008;19:65–69. (H)
12. Personal risk factors for first time low back pain. Adams MA, et al. **Spine** 1999; 24:2497-2505. (H)
13. Epidemiology of low back pain in the elderly: correlation with lumbar lordosis. Tsuji T, Matsuyama Y, Sato Y, Hasegawa Y, Yimin Y, Iwata H. **J Orthop Sci** 2001; 6:307-311. (H)
14. "Spondylolisthesis: its cause and effect". Newman PH (1955). **Ann Coll Surg Engl** 16: 305. (H)
15. Elliptical modeling of the sagittal lumbar lordosis and segmental rotation angles as a method to discriminate between normal and low back pain subjects. Harrison DD, Cailliet R, Janik TJ, et al. **J Spinal Disorders**. 1998;11:430–439. (R) (H)
17. The Cellular Pathobiology of the Degenerate Intervertebral Disc and Discogenic Back Pain **Rheumatology** , 2009-01-01 (H)
18. Sustained loading generates stress concentrations in lumbar intervertebral discs. Adams MA, McMillan DW, Green TP, Dolan P. **Spine** 1996;21:434-8... (H)
19. Anterior thoracic posture increases thoracolumbar disc loading. Deed E. Harrison Christopher J. Colloca Donald D. Harrison Tadeusz J. Janik Jason W. Haas Tony S. Keller. **Eur Spine J** (2005) 14 : 234–242 (H) (R)
20. Intervertebral Disc Degeneration Reduces Vertebral Motion Responses Christopher J. Colloca, DC,* Tony S. Keller, PhD,† Robert J. Moore, PhD Robert Gunzburg, MD, PhD,§ and Deed E. Harrison, DC **Spine journal** 2002 Volume 32, Number 19, pp E544-50 (H)
21. Comparative roentgenographic study of the asymptomatic and symptomatic lumbar spine. Torgerson WR, Dotter WE. **J Bone Joint Surg Am** 1976;58:850-3. (R) (H)
22. Low-back pain in relation to lumbar disc degeneration. Luoma K, Riihimaki H, Luukkonen R, Raininko R, Viikari-Juntura E, Lamminen **Spine Journal** 2000;25:487-92 (H)
23. Lumbar posture--should it, and can it, be modified? A study of passive tissue

stiffness and lumbar position during activities of daily living. **Phys Ther** 2003 Oct;83(10):907-17.Scannell JP McGill SM “Lumbar passive tissue stiffness was measured during sitting, standing, and walking before and after a 12-week exercise program,” “Knowing that tissue failure can be related to passive tissue strain, the results of this study support the clinical practice of attempting to change individuals' posture-related lumbar spine positions during activities of daily living. Lumbar passive tissue strain, as estimated from the NZ and angular deformation during activities of daily living, can be decreased, but can also be increased, by an exercise program.” (T)

25. The significance of correlation of radiographic variables and MOS short-form health survey for clinical decision in symptomatic low back pain patients. **Stud Health Technol Inform.** 2002;91:325-31.Korovessis P Dimas A Lambiris E (H) (R)
25. Reciprocal angulation of vertebral bodies in the sagittal plane in an asymptomatic Greek population. **Spine Journal** (Phila Pa 1976). 1998 Mar 15;23(6):700-4; discussion 704-5. Korovessis PG Stamatakis MV Baikousis AG (R) (H)
26. Lumbopelvic lordosis and pelvic balance on repeated standing lateral radiographs of adult volunteers and untreated patients with constant low back pain. Jackson RP, Kanemura T, Kawakami N, Hales C. **Spine** 2000; 25: 575-586. (H) (R)
27. Lumbar lordosis in osteoporosis and in osteoarthritis Michael Papadakis, Georgios Papadokostakis, Konstantinos Stergiopoulos, Nikos Kampanis Æ Pavlos Katonis **Eur Spine J** (2009) 18:608–613 (R) (H)
28. Effectiveness of an Extension-Oriented Treatment Approach in a Subgroup of Subjects With Low Back Pain: A Randomized Clinical Trial. **J PHYS THER** Vol. 87, No. 12, December 2007, pp. 1608-1618David A Browder, John D Childs, Joshua A Cleland and Julie M Fritz (T)
30. Can the sagittal lumbar curvature be closely approximated by an ellipse? Janik TJ, Harrison DD, Cailliet R et al. **J.Orthop.Res.** 1998;16:766-70. (R)
31. Reliability of Lumbar Spine Radiograph Reading by Chiropractors Assendelft, Willem J. J. MD, PhD; Bouter, Lex M. PhD; Knipschild, Paul G. MD, PhD; Wilmink, Jan T. MD, PhD **Spine Journal**June 1997 - Volume 22 - Issue 11 - pp 1235-1241 (R)
32. Low back pain and the lumbar intervertebral disk: Clinical considerations for the doctor of chiropractic Stephan J. Troyanovich, Donald D. Harrison, Deed E. Harrison **Journal of Manipulative and Physiological Therapeutics** February 1999

(Vol. 22, Issue 2, Pages 96-104) (T)

33. Lumbar Degenerative Kyphosis: Radiologic Analysis and Classifications Jang, Jee-Soo MD, PhD; Lee, Sang-Ho MD, PhD; Min, Jun-Hong MD, PhD; Han, Kyoung-Mi RN **Spine Journal** 15 November 2007 - Volume 32 - Issue 24 - pp 2694-2699 (H) (R)
34. Changes in lumbar sagittal curve configuration with a new method of extension traction: A non-randomized clinical trial. Harrison DE, Harrison DD, Haas JW, Janik TK, Holland B. **Arch Phys Res Med Rehab** 2002;83(11)p1585-1591 (T)
35. Clinical findings as outcome predictors in rehabilitation of patients with sciatica. Nykvist F, et al. **International J of Rehabilitation Res** 1991;14:131-144. (T)
36. Lumbar posture--should it, and can it, be modified? A study of passive tissue stiffness and lumbar position during activities of daily living. **Phys Ther** 2003 Oct;83(10):907-17.Scannell JP McGill SM
37. A structural approach to the post-surgical laminectomy case. Berry RH, Oakley PA, Harrison DE. **J Chiropractic Education** 2005;19(1):44. (T)
38. Textbook for clinical chiropractic: a specific biomechanical approach. Plaughner G. Baltimore: Williams & Wilkins, 1993. (T)
39. Changes in sagittal lumbar configuration with a new method of extension traction: Nonrandomized clinical controlled trial Deed E. Harrison, Rene Cailliet, Donald D. Harrison, Tadeusz J. Janik, Burt Holland **Archives of Physical Medicine and Rehabilitation** November 2002 (Vol. 83, Issue 11, Pages 1585-1591) (T)
40. Core strengthening Venu Akuthota, Scott F Nadler **Archives of Physical Medicine and Rehabilitation** March 2004 (Vol. 85, Issue , Pages 86-92) (T)
41. Relationships between lumbar lordosis, pelvic tilt, and abdominal muscle performance. M L Walker, J M Rothstein, S D Finucane, R L Lamb **Phys Ther** April 1987 (Vol. 67, Issue 4, Pages 512-6) (T)
42. Physical therapy to treat spinal stenosis Wunschmann BW, Sigl T, Ewert T, Schwarzkoph SR, Stucki G, **Orthopade** 2003;32:865-8 (T)

43. Effect of back-strengthening exercise on posture in healthy women 49 to 65 years of age. E Itoi, M Sinaki **Mayo Clin Proc** November 1994 (Vol. 69, Issue 11, Pages 1054-9) (T)
44. Lumbar Spinal Stenosis: Conservative or Surgical Management? : A Prospective 10-Year Study Amundsen, Tom MD; Weber, Henrik MD, DrMed; Nordal, Helge J. MD, DrMed; Magnaes, Bjørn MD, DrMed; Abdelnoor, Michael MPH, PhD; Lilleås, Finn MD **Spine Journal**:1 June 2000 – Volume 25 - Issue 11 - pp 1424-1436 (T)
46. Radiological and clinical outcome of non surgical management for pediatric high grade spondylolisthesis Stud Health Technol Inform. 2010;158:177-81 Bourassa-Moreau E, Labelle H, Mac-Thiong JM. (T)
47. Effectiveness of an Extension-Oriented Treatment Approach in a Subgroup of Subjects With Low Back Pain: A Randomized Clinical Trial. **J PHYS THER** Vol. 87, No. 12, December 2007, pp. 1608-1618 David A Browder, John D Childs, Joshua A Cleland and Julie M Fritz (T)