

ABSTRAKTA - Lumbar: Studies into assessment procedures, tests techniques (v anglickém jazyce)

Abstract Title:	Responsiveness to Change of Three Disability Assessment Instruments for Back Pain Research.
Abstract Content:	Presented at International Society for the Study of the Lumbar Spine Meeting, Heidelberg
Abstract Author:	Williams MM, McKenzie R A, Reed R, Laslett M
Journal:	
Biblio:	May 12-16
Year Published:	1991
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Psychological distress in chronically disabled workers attending a McKenzie spinal therapy and rehabilitation programme.
Summary:	The Distress and Risk Assessment Method (DRAM) appears to have predictive value for treatment outcome in a chronically disabled low back pain population.
Abstract Content:	The New Zealand Pain Society. Annual Scientific Meeting. Conference proceedings (Abstract),
Abstract Author:	Williams M M, Wright D G R, Muggleston A A, Lynch G B, Spekreijse S A
Journal:	
Biblio:	
Year Published:	1993
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Interrater reliability of judgments of the centralization phenomenon and status change during movement testing in patients with low back pain.
Summary:	40 students and 40 physical therapists reviewed a composite videotape made during assessment of back pain patients and had to make judgements on changes in pain status with movement testing. Interrater reliability was excellent, kappa = 0.79.
Abstract Content:	OBJECTIVE: To determine the interrater reliability of judgments of status change, including the centralization phenomenon during examination of the lumbar spine, and to determine the effects of training and experience on reliability. DESIGN: A videotape study of judgments by physical therapists and physical therapy students of the results of movement testing during the examination of patients with low back pain. SETTING: Outpatient physical therapy clinic. PATIENTS: Patients receiving physical therapy treatment for low back pain. INTERVENTION: Patients with low back pain were videotaped while performing a variety of movement tests including single, repeated, and sustained movements. Forty licensed physical therapists and 40 physical therapy students were provided with operational definitions of the three potential judgments of status change with movement testing; centralization, peripheralization, status quo. All therapists and students viewed the videotape and made a judgment regarding the patient's status change in response to the test. MAIN OUTCOME MEASURE: Percentage agreement and kappa coefficient values for agreement. RESULTS: Interrater reliability was excellent for the total sample of examiners (kappa = .793), for the licensed physical therapists (kappa = .823), and for the students (kappa = .763). CONCLUSIONS: Judgments of status change are reliable when operational definitions are provided. Clinical experience does not appear to substantially improve reliability. Department of Physical Therapy, School of Health and Rehabilitation Sciences, University of Pittsburgh, PA, USA.
Abstract Author:	Fritz JM, Delitto A, Vignovic M, Busse RG
Journal:	Arch Phys Med Rehabil
Biblio:	Jan;81(1):57-61
Year Published:	2000
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Diagnosing painful sacroiliac joints: A validity study of a McKenzie evaluation and sacroiliac provocation tests.
Summary:	Using initial Mechanical evaluation to exclude mechanical responders and 3 or more positive pain provocation SIJ tests compared to a double intra-articular injection was more accurate in diagnosing SIJ problems (sensitivity 91%, specificity 87%) than SIJ pain provocation tests only (sensitivity 91%, specificity 78%).

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Abstract Content:	Research suggests that clinical examination of the lumbar spine and pelvis is unable to predict the results of diagnostic injections used as reference standards. The purpose of this study was to assess the diagnostic accuracy of a clinical examination in identifying symptomatic and asymptomatic sacroiliac joints using double diagnostic injections as the reference standard. In a blinded concurrent criterion-related validity design study, 48 patients with chronic lumbopelvic pain referred for diagnostic spinal injection procedures were examined using a specific clinical examination and received diagnostic intraarticular sacroiliac joint injections. The centralisation and peripheralisation phenomena were used to identify possible discogenic pain and the results from provocation sacroiliac joint tests were used as part of the clinical reasoning process. Eleven patients had sacroiliac joint pain confirmed by double diagnostic injection. Ten of the 11 sacroiliac joint patients met clinical examination criteria for having sacroiliac joint pain. In the primary subset analysis of 34 patients, sensitivity, specificity and positive likelihood ratio (95% confidence intervals) of the clinical evaluation were 91% (62 to 98), 83% (68 to 96) and 6.97(2.70 to 20.27) respectively. The diagnostic accuracy of the clinical examination and clinical reasoning process was superior to the sacroiliac joint pain provocation tests alone. A specific clinical examination and reasoning process can differentiate between symptomatic and asymptomatic sacroiliac joints
Abstract Author:	Laslett M, Young SB, Aprill CN, McDonald B.
Journal:	Aust J Physiother
Biblio:	49(2):89-97
Year Published:	2003
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Do within-session changes in pain intensity and range of motion predict between-session changes in patients with low back pain?
Summary:	Record of pain intensity and range of movement was taken before and after treatment session and at the beginning of next session in 53 back pain patients. Those who improved in first session significantly more likely to return with further improvements compared to those showing no within-session changes. 67% to 88% (depending on measure) could be correctly classified as improvers / non-improvers at second session by their within-session response to treatment.
Abstract Author:	Hahne AJ, Keating JL, Wilson SC
Journal:	Aust J Physiother
Biblio:	50:17-23
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Inter-tester reliability of a new diagnostic classification system for patients with non-specific low back pain.
Summary:	Reliability study of their classification system, which borrows many aspects from McKenzie system. Kappa values for mechanical syndromes (derangement, dysfunction, postural syndrome) mostly > 0.60.
Abstract Author:	Petersen T, Olsen S, Laslett M et al.
Journal:	Aust J Physiother
Biblio:	50:85-91
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Sitting and low back pain: the positive effect of rotatory dynamic stimuli during prolonged sitting
Summary:	120 back pain patients sitting for 1 hour – pain increased in 104; 2 had to stop; a few got better. Pain increase was less in those with dynamic stimuli.
Abstract Author:	Van Deursen LL, Patijn J, Durinck JR, Brouwer R, van Erven-Sommers JR, Vortman BJ
Journal:	Eur Spine J
Biblio:	8: 187-193
Year Published:	1999
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Reliability of detecting a relevant lateral shift in patients with lumbar derangement: a pilot study
Summary:	15 patients were examined by 6 therapists to determine reliability of determining if a lateral shift was present and if it was relevant; observed agreement was 73%, kappa 0.56
Abstract Author:	Seymour R, Walsh T, Blankenberg C, Pickens A, Rush H

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Journal:	J Man & Manip Ther
Biblio:	10(3):129-135
Year Published:	2003
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Toward an evidence-based model for chiropractic education and practice.
Summary:	This commentary outlines the steps of evidence-based health care – formulating a question; searching the literature; critically appraising the literature; managing the patient accordingly; evaluating one's own practice. As an example of critical appraisal they examine Donelson (1997, see below) and conclude that the McKenzie protocol is a useful, highly sensitive, and moderately specific diagnostic tool for discogenic pain and annular incompetency. accuracy of McKenzie assessment in diagnosis. Sensitivity and specificity for discogenic pain 94% and 82%; for incompetent annulus 100% and 86%. Compares favourably with most other established tests.
Abstract Author:	Delaney PM, Fernandez CE
Journal:	J Manip & Physio Thera
Biblio:	22;114-118
Year Published:	1999
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	The diagnostic utility of McKenzie clinical assessment for lower back pain.
Summary:	Re-analysis of Donelson (1997, see below) calculating accuracy of McKenzie assessment in diagnosis. Sensitivity and specificity for discogenic pain 94% and 82%; for incompetent annulus 100% and 86%. Compares favourably with most other established tests.
Abstract Author:	Delaney PM, Hubka MJ
Journal:	J Manip & Physio Therapeutics
Biblio:	22; 628-630
Year Published:	1999
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Can patient reactions to the first chiropractic treatment predict early favorable treatment outcome in persistent low back pain?
Summary:	Prospective study of 615 patients receiving chiropractic manipulation relating initial response to final outcome - identifies symptom response as a prognostic factor. 84% of those who reported reduced pain after first session had 'definitely improved by 4th visit, compared to 30% in those showing no initial reduction.

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Abstract Content:	<p>OBJECTIVE: To investigate whether 3 distinct patterns of reactions to chiropractic care predict early favorable treatment outcome in patients with persistent low back pain. DESIGN AND SETTING: Multicenter, clinic-based prospective outcome study with standardized interview questionnaires conducted in private chiropractic practices in Sweden. STUDY SUBJECTS: Previously compliant chiropractors were invited to participate in the study. A maximum of 20 consecutive patients (per chiropractor) who sought chiropractic care for low back pain with or without sciatica with a duration of more than 2 weeks at the time of consultation and for a minimum of 30 days total during the past year. INTERVENTION: Chiropractic management as decided by the treating chiropractor. OUTCOME AND PREDICTOR VARIABLES: Improvement was defined at the 4th visit as self-reported "definitely improved" (the best of 5 choices). The hypothesized most favorable prognostic group had immediate improvement reported on the 1st visit, reduced pain intensity reported on the 2nd visit, reduced disability reported on the 2nd visit, and a common reaction or no reaction reported on the 2nd visit. The hypothesized least favorable prognostic group had no immediate improvement on the 1st visit, no reduction of pain intensity on the 2nd visit, no reduced disability on the 2nd visit, and no reaction or an uncommon reaction reported on the 2nd visit. The hypothesized intermediate prognostic group included all patients who did not fit into the hypothesized most favorable or least favorable groups. COVARIABLES: Age, sex, pain intensity during past 24 hours, description of disability, duration and pattern of pain during present attack, duration and pattern of pain during past 12 months. ANALYSIS OF DATA: The 3 predictor-groups were cross-tabulated against the outcome variable and the other covariates. RESULTS: Of the 115 patients in the most favorable prognostic group, 84% (95% confidence interval, 77-91) reported to be "definitely improved" by the 4th visit versus 63% (59-67) of the 384 patients in the intermediate prognostic group, and 30% (22-38) of the 116 patients in the least favorable prognostic group. No major interactions from the covariates could explain these results. CONCLUSION: Among chiropractic patients with persistent low back pain, it is possible to predict which patients will report definite improvement early in the course of treatment.</p>
Abstract Author:	Axen I, Rosenbaum A, Robech R, Wren T, Leboeuf-Yde C.
Journal:	J Manipulative Physiol Ther
Biblio:	Sep;25(7):450-4
Year Published:	2002
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Interobserver reliability of the 24-hour schedule in patients with low back pain: a questionnaire measuring the daily use and loading of the spine
Summary:	Questionnaire to establish mechanical loading during normal activity in 40 subjects. Demonstrated high level of reliability. Flexed activities 8 times more common than extended ones.
Abstract Content:	<p>BACKGROUND: Low back pain is a major health problem in western industrialized countries. The 24-Hour Schedule (24HS) is an instrument which intends to obtain insight in the use (ie, posture and applied load) of the back. It consists of a questionnaire, a series of photos, and a registration form. OBJECTIVE: To assess the interexaminer reliability of the 24-Hour Schedule in patients with low back pain. Study design Reliability study. METHODS: People with low back pain were included in the study. Sample size calculation indicated that 40 participants would be sufficient to answer the research question. Participants were coded to remain anonymous, and after giving informed consent, they completed a questionnaire. Two trained examiners assessed each participant independently. In total, 5 examiners participated. RESULTS: Forty participants were analyzed. In our study population, the use of the back was approximately 10 times more in a flexed position compared to a lordotic position. Flexed activity was registered in all 80 assessments, but in 39 assessments, there was no registration of any activity in a lordotic posture. In only 1 participant (diagnosed with Bechterew's disease), the use of the back was more in a lordotic than in a flexed posture. The intraclass correlation coefficient of the assessment was 0.81 (95% confidence interval = 0.67-0.89), corresponding with a high level of agreement between the examiners. CONCLUSION: The interobserver reliability of the 24HS appeared to be high.</p>
Abstract Author:	Bakker EWP, Koning HJCMF, Verhagen AP, Koes BW
Journal:	J Manipulative Physiol Ther
Biblio:	26:226-232
Year Published:	2003
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Reliability of detection of lumbar lateral shift.

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Summary:	148 therapists (students, PTs, PTs with McKenzie training) viewed slides from 45 patients to determine presence, direction, and certainty of lateral shift or absence of shift. ICC values represented fair to good reliability for both intra and inter-tester reliability; kappa values were all < 0.4 (fair reliability).
Abstract Content:	BACKGROUND AND PURPOSE: The poor reliability of lateral shift detection has been attributed to lack of rater training, biologic variation, and test reactivity. This study aimed to remove the potential confounding arising from biological variation and test reactivity and control the level of rater experience/training in making judgments of lateral shift. SUBJECTS: One hundred forty-eight raters with 3 levels of clinical physical therapy experience and training in the McKenzie method participated. METHOD: The raters viewed photographic slides of 45 patients with low back pain. Slides were judged on a numerical scale for presence and direction of a shift. Intrarater reliability was evaluated using the intraclass correlation coefficient (ICC) and interrater reliability was evaluated using both the ICC and kappa statistic. RESULTS: Reliability of shift judgments was only moderate for all groups (eg, ICC [2,1] values ranged from 0.48 to 0.64). CONCLUSION: Lateral shift judgements have only moderate reliability, even when trained raters judge stable stimuli. We propose that the photo model employed can be used to explore the source of error in this process.
Abstract Author:	Clare HA, Adams R, Maher CG.
Journal:	J Manipulative Physiol Ther
Biblio:	Oct;26(8):476-80
Year Published:	2003
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Characteristics of a mechanical assessment for chronic lumbar facet joint pain.
Summary:	Results of diagnostic injections (SIJ, facet, and disc) compared to mechanical evaluation involving McKenzie assessment, SIJ and hip tests in 93 chronic patients. Characteristics from mechanical assessment were compared in the different diagnostic groups.
Abstract Author:	Young S, Aprill C
Journal:	J Manual & Manipulative Therapy
Biblio:	8.78-84
Year Published:	2000
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Kinematic analysis of the lumbar lateral flexion and lumbar lateral shift movement techniques
Summary:	Lateral shift technique (side gliding in standing) is found to produce movement with greater specificity to lower lumbar levels compared to lateral flexion. Above L4 either test movements can be used to examine movement abnormalities.
Abstract Author:	Mulvein K, Jull G
Journal:	J Manual Manip Ther
Biblio:	3:3;104-109
Year Published:	1995
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Are "Passive" Extension Exercises Really Passive?
Summary:	During EIL there is more EMG activity in the Erector Spinae muscles than during standing, EIS, or prone lying.
Abstract Content:	When rehabilitating patients with back dysfunction, extension exercises that are presumably "passive" for the erector spinae muscle are frequently used. The purpose of this study was to record electromyographic (EMG) activity from back extensor muscles to determine if these muscles are truly inactive during these maneuvers. Surface EMG was recorded bilaterally from lower lumbar muscles in 62 pain-free subjects. The root-mean-square EMG activity, recorded in uV, for the four positions tested was (X+/-SD): lying prone (1.268 +/- 0.902), extension in lying prone (6.713 +/- 6.976), standing neutral (4.760 +/- 3/282), and extension in standing (3.558 +/- 2.273). One-way ANOVA for repeated measures and Tukey's post hoc test were used to analyze the data. The results indicated that EMG activity was greater for extension in lying prone (p < .05), equivalent between the two standing positions (p > .05), and least when lying prone (p < .05). The results of this study demonstrated that "passive" extension exercises were not truly passive for lumbar back extensor muscles. From a clinical perspective, if the performance of passive back extension is important, extension in lying prone may not be the exercise of choice and having patients lying prone may be the most beneficial.

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Abstract Author:	Fiebert I, Keller CD
Journal:	J Orth & Sports Phys Ther
Biblio:	19(2):111-116
Year Published:	1994
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Intertester reliability of the McKenzie evaluation in assessing patients with mechanical low-back pain.
Summary:	Two physical therapists, one assessor, one observer, both experienced in McKenzie assessed 45 subjects and were analysed on agreements using Kappa statistics. Agreement on syndromes was good (93%), derangement sub-syndrome classification was excellent (97%), presence of lateral shift was moderate (78%), relevance of lateral shift and lateral component was very good/excellent (98%), deformity in sagittal plane was excellent (100%).
Abstract Content:	STUDY DESIGN: Prospective intertester reliability study investigating the ability of 2 therapists to agree on a low back pain diagnosis using examination techniques and the classification system described by McKenzie. OBJECTIVES: To investigate intertester agreement in determining McKenzie diagnostic syndromes, subsyndromes, presence, and relevance of the spinal deformities. BACKGROUND: Reliability of the McKenzie approach for determining diagnostic categories is unclear. Previous studies have been characterized by inconsistency of test protocols, criterion measures, and level of training of the examiners, which confounds the interpretation of results. METHODS: Patients were assessed simultaneously by 2 physical therapists trained in the McKenzie evaluation system. The therapists were randomly assigned as examiner and observer. Agreement was estimated by Kappa statistics. RESULTS: Forty-five subjects (47 +/- 14 years), composed of 25 women and 20 men with acute, subacute, or chronic low back pain were examined. The agreement between raters for selection of the McKenzie syndromes was kappa = 0.70, and for the derangement subsyndromes was kappa = 0.96. Interrater agreement for presence of lateral shift, relevance of lateral shift, relevance of lateral component, and deformity in sagittal plane was kappa = 0.52, 0.85, 0.95, and 1.00, respectively. Intertester agreement on syndrome categories in 17 patients under 55 years of age was excellent, with kappa = 1.00. CONCLUSIONS: A form of low back evaluation, using patterns of pain response to repeated end range spinal test movements, was highly reliable when performed by 2 properly trained physical therapists. Orthopaedic and Arthritic Institute, Sunny Brook & Women's College Health Sciences Centre, Toronto, Ontario, Canada. helen.razmjou@swchsc.on.ca
Abstract Author:	Razmjou H, Kramer JF, Yamada R
Journal:	J Orth & Sports Phys Ther
Biblio:	Jul;30(7):368-383
Year Published:	2000
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Variation on Robin McKenzie's technique for correction of lateral shift.
Summary:	Author presents his own version of correcting the lateral shift with patient hanging by arms from overhead bar.
Abstract Author:	Sallade J
Journal:	J Orth Sports Phys Ther
Biblio:	8:8,417-420
Year Published:	1987
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Assessment of lumbar spine kinematics using dynamic MRI: a proposed mechanism of sagittal plane motion induced by manual posterior-to-anterior mobilization.
Summary:	Effect of PA mobilisation on 20 volunteers as recorded by MRI – motion at target segment was always into extension. PA at L3-L5 caused extension at all segments; PA at L1-L2 caused extension upper lumbar, but flexion at lower lumbar.
Abstract Author:	Kulig K, Landel R, Powers CM
Journal:	J Orthop Sports Phys Ther
Biblio:	; 34:57-64
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques

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Abstract Title:	New episodes of back pain: how many patients can be classified into McKenzie syndromes?
Summary:	Of 522 new patients referred 307 (58%) were classified into McKenzie syndromes, while 215 (42%) were not. Significant differences were found between the groups in duration of episode, pain and disability scores, movement loss, and other variables.
Abstract Author:	Pinnington MA, Miller JS, Rose MJ, Stanely IM, Rose GM
Journal:	JBJS
Biblio:	82B.Supp III 211-212
Year Published:	2000
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Characteristics of patients with lower extremity symptoms treated with slump stretching: a case series
Summary:	Out of 88 consecutive back pain patients 6 were identified who were considered appropriate for treatment by slump stretching – 4/6 would appear to fit category of ANR.
Abstract Content:	<p>STUDY DESIGN: Prospective case series. OBJECTIVES: The purpose of this case series was to describe the criteria used to determine if patients were to receive slump stretch treatment within a treatment-based classification system and to describe selected symptom characteristics associated with these patients. BACKGROUND: Previous reports from the literature suggest that the slump test position may be a useful treatment and evaluation technique. However, little information has been presented regarding how to identify patients who are appropriate to treat with slump stretching and the symptom characteristics associated with these patients. METHODS AND MEASURES: Prior to recruitment, criteria were established to identify patients who would be considered appropriate to treat with slump stretching. Consecutive patients referred with low back diagnosis or low-back-related diagnoses were then evaluated using a treatment-based classification system. Selected symptom characteristics were collected from patients treated with slump stretching. RESULTS: Out of 88 consecutive patients with low back diagnoses or low-back-related diagnoses, 6 met the study's inclusion criteria and were treated with slump stretching. All pain diagrams were classified as "organic" or "possibly organic," and the most common symptom descriptor was "deep ache." At the discharge session of physical therapy, 5 of 6 patients had symptoms that were more proximally located and all patients reported a decrease in symptom intensity. CONCLUSION: Favorable changes in symptom intensity and location were observed for this case series, but definitive conclusions cannot be drawn from this study design. Additional research needs to be completed to determine if the slump test position is an effective evaluation and treatment technique.</p>
Abstract Author:	George
Journal:	JOSPT
Biblio:	32.391-398
Year Published:	2002
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Use of lumbar extension, slump test, physical and neurological examination in the evaluation of patients with suspected herniated nucleus pulposus. A prospective clinical study.
Summary:	105 patients were diagnosed by CT and/or MRI as having disc hernia (N=52), bulging discs (41), or without positive findings (12). A range of clinical and physical examination findings was generally unable to distinguish between these diagnoses. The only 3 variables that were of diagnostic value were ROM on flexion, side bending, and pain distribution on EIS. Neurological tests, EIL (not reported if single or repeated), and SLR were amongst the numerous variables that failed to be associated with any particular diagnosis.

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Abstract Content:	This prospective and consecutive study was designed to evaluate the validity of different clinical tests, e.g. lumbar extension in lying and slump test for patients with suspected herniated nucleus pulposus, in comparison with findings on computed tomography (CT) and/or magnetic resonance imaging (MRI) scan. There were 105 patients who were seen and examined by the senior author (for the sake of the study) at the Orthopaedic Physiotherapy Department, on an average of 5.5 days (range 0-21 days) before CT and/or MRI examination were carried out. There were 36 women and 69 men with an average age of 42.7 +/- 9.8 (range 19-64) years. According to the radiological findings on CT and/or MRI, the patients were divided into three groups: 52 patients with disc hernia, 41 patients with bulging discs and 12 patients without positive findings. The mean values with standard deviations of 25 variables of three diagnostic groups were studied. Multiple comparison adjustment according to Bonferroni showed significant differences for three variables that were of diagnostic value (lumbar range of motion for forward flexion, left side-bending in standing, and pain distribution during extension in standing). The agreement between clinical and radiological findings for type and level of diagnosis of disc herniation was accurate in 72 patients (69%). The diagnostic sensitivity for disc herniation was 82.6% and the specificity 54.7%.
Abstract Author:	Stankovic R, Johnell O, Maly P, Willner S.
Journal:	Man Ther
Biblio:	Feb;4(1):25-32
Year Published:	1999
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Intra- en interbeoordelaarsbetrouwbaarheid van de movement loss tests van McKenzie voor de lumbale wervelkolom
Summary:	10 therapists examined 39 volunteers to determine reliability of movement loss (major, moderate, minimal) of flexion, extension and side gliding. Intra-tester reliability was reasonable, but inter-tester was poor; group kappa < 0.32 (article in Dutch).
Abstract Author:	De Bruijn N, Doumen BM, de Mulder K
Journal:	Ned Tijdschr Fysiother
Biblio:	113:94-99
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Manual Correction of Sciatic Scoliosis
Summary:	McKenzie outlines the treatment procedure for manual correction of sciatic scoliosis.
Abstract Author:	McKenzie RA
Journal:	NZ MedJ
Biblio:	484,76:194-199
Year Published:	1972
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Classification and low back pain: a review of the literature and critical analysis of selected systems.
Summary:	Critical analysis of various classification systems used for LBP, including McKenzie's. Highlights strengths and weaknesses of them according to an established set of criteria for appraising classification systems.
Abstract Content:	Classification systems for patients with low back pain have become more abundant in the literature since the mid-1980s. Some classification systems are designed to determine the most appropriate treatment, some are designed to aid in prognosis, and others are designed to identify pathology. Still other classification systems categorize patients into homogeneous groups based on selected variables. The purpose of this review is to describe and critically evaluate low back pain classification systems. Several classification systems were summarized and examined. Four classification systems that were judged to be the most commonly cited and most relevant to physical therapists were critiqued using a more thorough systematic approach. The analysis suggests that future research should address the usefulness of existing classification systems as well as the development of new classification systems designed using commonly accepted measurement principles.
Abstract Author:	Riddle DL
Journal:	Phys Ther
Biblio:	Jul;78(7):708-37

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Year Published:	1998
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Intertester reliability of a modified version of McKenzie's lateral shift assessments obtained on patients with low back pain.
Summary:	Determination of a lateral shift by observation was found to be very unreliable. Determination of positive side-gliding test, based on alteration of patient's pain, was found to be of high reliability.
Abstract Content:	<p>BACKGROUND AND PURPOSE. McKenzie described a two-step process for assessing patients with low back pain for a lateral shift. The purpose of this study was to determine whether reliable judgments about lateral shifts could be obtained. SUBJECTS. Forty-nine patients with low back pain were each examined separately by two randomly paired physical therapists. METHODS. Assessments of the presence and direction of lateral shifts (step 1) were obtained by use of a simple instrument. The relevance of the lateral shifts to the patients' pain complaints (step 1) also was assessed by use of the side-glide test sequence. RESULTS. Generalized kappa coefficients were calculated to determine reliability. The kappa value for the two-step process of lateral shift assessment was .16. The percentage of agreement was 47%. CONCLUSION AND DISCUSSION. Each step in this two-step process was examined separately for possible sources of error. The kappa value for determinations of the presence and direction of lateral shifts was .00, indicating very poor reliability. The kappa value for the determination of the presence of a positive side-glide test sequence was .74, indicating high reliability. The role of lateral shift assessment in the McKenzie system should be reconsidered, given the strong research evidence for poor reliability of determinations of the presence and direction of lateral shifts.</p>
Abstract Author:	Donahue MS, Riddle DL, Sullivan MS.
Journal:	Phys Ther
Biblio:	Jul;76(7):706-16
Year Published:	1996
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Association between direction of lateral lumbar shift, movement tests, and side of symptoms in patients with low back pain syndrome.
Summary:	There was no significant relationship between the side of symptoms and the direction of the shift. Contralateral side bending was significantly more likely to provoke symptoms than ipsilateral. There was perfect agreement on judging presence and direction of shift.
Abstract Content:	<p>The purpose of this study was to determine the relationship between direction of lateral lumbar shift (LLS) and 1) the occurrence of symptoms during the side-bending movement test and 2) the location of symptoms in patients with low back pain syndrome (LBS). Twenty-four patients with LBS (17 male, 7 female) with an observable LLS were studied. Side-bending movement tests were performed bilaterally, and the results were recorded as positive if symptoms occurred during the movement. The location of symptoms (right side or left side) was obtained from the patient history. Use of the chi-square statistic revealed a statistically significant relationship between the direction of the LLS and the direction of the positive side-bending movement test. Seventeen tests (71%) were positive to the contralateral side of the LLS, and 5 (21%) were positive to the ipsilateral side. Two tests (8%) were negative in both directions. There was no significant relationship between the side of symptoms and the direction of the LLS. The determination of presence and direction of an LLS is necessary in certain physical therapy management approaches. Pain or restricted side-bending movement has been used to confirm the presence of an LLS. This study confirms the clinical usefulness of the side-bending movement test for determining the presence and direction of an LLS.</p>
Abstract Author:	Tenhula JA, Rose SJ, Delitto A.
Journal:	Phys Ther
Biblio:	Aug;70(8):480-6
Year Published:	1990
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Diagnostic classification of non-specific low back pain. A new system integrating patho-anatomic and clinical categories
Summary:	This classification system for LBP takes the mechanical syndromes of Mechanical Diagnosis and Therapy and adds in a few other categories, such as spinal stenosis, zygapophyseal or sacro-iliac joint pain. A lot of the literature used to demonstrate the validity and reliability of the system relates to studies of the McKenzie approach.
Abstract Author:	Petersen T, Laslett M, Thorsen H, Manniche C, Ekdahl C, Jacobsen S

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Journal:	Phys Ther Prac
Biblio:	19:213-237
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	The biopsychosocial classification of non-specific low back pain: a systematic review.
Summary:	Review of 32 classification systems of 4 types: patho-anatomical, clinical, psychological, health / work status. Out of total of 7 quality criteria only 7 systems scored 5 or more, including McKenzie system.
Abstract Author:	McCarthy CJ, Arnall FA, Strimpakos N, Freemont A, Oldham JA
Journal:	Phys Ther Rev
Biblio:	9:17-30
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Classification of non-specific low back pain: a review of the literature on classification systems relevant to physiotherapy
Summary:	A critical appraisal, using a systematic approach, of 8 classification systems for non-specific back pain. Various types of validity are examined, and despite having weaknesses in reliability and content validity, the McKenzie system is rated as one of the most promising.
Abstract Author:	Petersen T, Thorsen H, Manniche C, Ekdahl C
Journal:	Phys Ther Reviews
Biblio:	4:265-281
Year Published:	1999
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Test-retest reliability of a low back pain questionnaire.
Summary:	Patient reports concerning leg pain were generally more reliable than back pain. Reports of back and leg pain, with one exception, had good reliability as examined using the Kappa coefficient.
Abstract Author:	Roach KE, Brown M, Dumigan KM, Kusek CL, Walas M
Journal:	Physical Therapy
Biblio:	74:5,S56
Year Published:	1994
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	The Reliability of Back Pain Assessment by Physiotherapists, Using a 'McKenzie Algorithm'.
Summary:	Kilby presents a McKenzie algorithm which was found to be intertester reliable, except with regard to identifying the presence of a lateral shift or a kyphotic lumbar spine.
Abstract Author:	Kilby J, Stigant M, Roberts A
Journal:	Physiotherapy
Biblio:	76:9;579-583
Year Published:	1990
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Reliability of the McKenzie spinal pain classification using patient assessment forms.
Summary:	50 completed neck and back assessment forms were sent to 50 credentialed McKenzie therapists to classify - kappa values of 0.56 were recorded for syndromes and 0.68 for sub-syndromes.
Abstract Author:	Clare HA, Adams R, Maher CG
Journal:	Physiotherapy
Biblio:	90:114-119
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	The reliability of selected pain provocation tests for sacroiliac joint pathology
Summary:	Five of the seven tests were shown to be reliable, and may be used to detect a sacroiliac cause of low back pain. They were the distraction (or gapping) test, compression test, posterior shear (or thigh thrust) test, left and right pelvic torsion (or Gaenslen's) test.

ABSTRAKTA - Lumbar: Studies into assessment procedures, tests techniques (v anglickém jazyce)

Abstract Content:	To assess the inter-rater reliability of seven pain provocation tests for pain of sacroiliac origin in low back pain patients. Previous studies on the reliability of such tests have produced inconclusive and conflicting results. Fifty-one patients with low back pain, with or without radiation into the lower limb, were assessed by one examiner and another drawn from a pool of five. Percent agreement and the Kappa statistic were used to evaluate the reliability of the seven tests. Percent agreement and the Kappa statistic ranged in value from 78% and 0.52 ($P < 0.001$) to 94% and 0.88 ($P < 0.001$), respectively, when results for all examiner pairs were pooled. However, two tests demonstrated only marginal reliability when performed by one pair of assessors that examined 43% of the patients. Five of seven tests employed in this study were reliable, the other two were potentially reliable. These tests may be used to detect a sacroiliac source of low back pain, although sensitivity and specificity studies are needed to determine their diagnostic power.
Abstract Author:	Laslett M, Williams M
Journal:	Spine
Biblio:	19(11):1243-1249
Year Published:	1994
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	A prospective study of centralization of lumbar and referred pain. A predictor of symptomatic discs and annular competence.
Summary:	63 chronic patients received a mechanical evaluation and discography, with clinicians blind to the findings of the other assessment. Centralisation (74%) and peripheralisation (69%) were strongly associated with discogenic pain, compared to no change in symptoms (12%). Centralisation (91%) was strongly associated with a competent annulus compared to peripheralisation (54%).
Abstract Content:	STUDY DESIGN: The presence or absence of rapidly centralizing, peripheralizing, or abolishing low back and radiating pain, as identified during a McKenzie mechanical lumbar assessment of patients with chronic lumbar pain, was compared prospectively with discographic pain provocation and annular competency. OBJECTIVES: To evaluate any relation between the responses of centralization and peripheralization with discographic findings. SUMMARY OF BACKGROUND DATA: Centralization of referred pain has been reported as a very common occurrence during McKenzie assessment and treatment. Patients whose pain centralizes have been shown to achieve superior treatment outcomes. A dynamic internal disc model has been hypothesized as an underlying mechanism for centralization that has not been studied previously. METHODS: Patients with chronically disabling low back pain who were referred for discography underwent preliminary blinded McKenzie clinical assessment and were categorized into three groups by their pain response. Patterns, or lack thereof, of pain response were then compared with blinded discographic pain provocation and annular findings. RESULTS: During the McKenzie assessment, the referred pain of 50% centralized with 74% having positive discograms, of which 91% had an intact annulus. The pain of 25% peripheralized only (would not centralize); 69% of these had positive discograms, but only 54% had an intact annulus. The distal pain of 25% did not respond at all, and only 12.5% of these had positive discograms. CONCLUSION: The McKenzie assessment process reliably differentiated discogenic from nondiscogenic pain ($P < 0.001$) as well as competent from an incompetent annulus ($P < 0.042$) in symptomatic discs and was superior to magnetic resonance imaging in distinguishing painful from nonpainful discs.
Abstract Author:	Donelson R, Aprill C, Medcalf R, Grant W.
Journal:	Spine
Biblio:	May 15;22(10):1115-22
Year Published:	1997
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	A comparison of methods for measuring trunk list. A simple plumblin is the best.
Summary:	Of 3 methods evaluated plumblin was the best, being reliable, simple to use, and accurate to within 4mm.

ABSTRAKTA - Lumbar: Studies into assessment procedures, tests techniques (v anglickém jazyce)

Abstract Content:	<p>STUDY DESIGN: Trunk list was measured using three different techniques to compare accuracy, precision, and ease of use. OBJECTIVE: To obtain a reproducible technique for further studies of the nature, cause, and clinical relevance of trunk list. SUMMARY OF BACKGROUND DATA: Gravity-induced trunk list is a clinical sign that is frequently observed in patients with low back pain and has been associated with intervertebral disc lesions. METHODS: Patients with trunk list participated in a comparison of three techniques to determine list magnitude and direction. Paired measurements of trunk list were obtained from each patient using three techniques: a plumbline, a projected shadow, and the 3SPACE Isotrak (McDonnell Douglas Electronics Company, Colchester, VT). In addition, intra- and interobserver reliability of list measurement was assessed by comparison of paired measurements by each of two observers. RESULTS: List measurements assessed by the plumbline and the projected shadow techniques were not significantly different, but the Isotrak produced data that differed significantly ($P < 0.05$) from both of these techniques. Comparison of intra- and interobserver repeatability of list measurement using the plumbline technique indicated no significant difference between repeated measures by each observer or between two observers. CONCLUSIONS: A plumbline is the most useful instrument for measuring static trunk list, but its limitations and the need for standardization of measurement technique must be recognized.</p>
Abstract Author:	McLean IP, Gillan MG, Ross JC, Aspden RM, Porter RW.
Journal:	Spine
Biblio:	Jul 15;21(14):1667-70
Year Published:	1996
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Intertester reliability of McKenzie's classifications of the syndrome types present in patients with low back pain.
Summary:	369 patients assessed by 49 therapists with no or minimal training in McKenzie. Intertester reliability using author's version of the system was poor, agreement on classification was 39%.
Abstract Content:	<p>The McKenzie system for examining and treating patients with low back pain is frequently used by clinicians. The primary purpose of this multicenter study was to determine the intertester reliability of assessments of patients with low back pain when physical therapists used the McKenzie method. A second purpose was to determine if previous postgraduate training in the McKenzie system affects reliability. Some therapists had previously undertaken postgraduate training in the McKenzie system. All therapists were given written descriptions of the McKenzie method and the criteria used to classify patients. Classifications were made on 363 patients with low back pain by randomly paired physical therapists in eight clinics. The Kappa value on agreement of patient classification was 0.26, which suggests poor reliability. Therapists agreed on which syndrome was present 39% of the time. Previous postgraduate training did not improve reliability. The results suggest that assessments of the syndrome present in patients with low back pain appear to be unreliable when using the McKenzie system.</p>
Abstract Author:	Riddle DL, Rothstein JM.
Journal:	Spine
Biblio:	Aug;18(10):1333-44
Year Published:	1993
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	A new approach to the low-back physical examination. Behavioral assessment of mechanical signs.
Summary:	The presence of various behavioural responses to pain during physical examination may help to determine outcome of treatment, endorse physical signs and confirm diagnosis. Used repeated movements for some tests. Intertester agreement for patient reported pain status was nearly perfect.

ABSTRAKTA - Lumbar: Studies into assessment procedures, tests techniques (v anglickém jazyce)

Abstract Content:	A rationale for a new approach to the low-back physical examination was developed. A set of 21 tests, 17 assessing organic and four assessing nonorganic signs, were organized into an examination according to specified criteria, and the reliability of the patient-reported and examiner-observed measures within the examination assessed. Primary outcome measures included patient reports of their pain location, aggravation and examiner-observed pain behaviors resulting from the maneuvers. Two pain behavior composites, conceptualized as outcome measures, were developed, one based on the 17 organic tests and one based on the four nonorganic tests. Design: The reliability of the physical examination was assessed using a short-term test-retest paradigm. Three raters, two experienced orthopaedic surgeons and an RN with no previous experience in administering physical examinations were trained in the examination methods. Patients were assigned to one of three rater pairs and examined twice within a single day. During each examination both raters evaluated each patient; however, rater role as examiner or observer was reversed across examination. Results: Forty-two patients were examined. Average times of 13.9 and 11.6 minutes were required to complete examinations 1 and 2, respectively. In addition, the time required to complete the examination decreased as the examiners became more familiar with the procedure, suggesting that an experienced examiner would usually be able to complete the examination in approximately 10 minutes. Within-examination reliabilities for the patient-reported measures (pain location and aggravation) were universally high, as expected, since these rating required the rater only to correctly hear and code patient responses.
Abstract Author:	Spratt KF, Lehmann TR, Weinstein JN, Sayre HA.
Journal:	Spine
Biblio:	Feb;15(2):96-102
Year Published:	1990
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	The lateral bending sign.
Summary:	Study using dynamic lateral bending radiographs to localise disc lesions associated with a shift or reduced lateral bending.
Abstract Content:	In lumbar disc herniations, musculoskeletal findings usually predominate at the outset. There is often an acute list or impaired lateral mobility to one side or the other. This finding represents a protective mechanism to splint the affected disc space in the position where the disc prolapse exerts the least possible pressure on the affected nerve root. An attempt was therefore made to determine whether the relationship of the disc herniation to the nerve root could be delineated by having the patient bend maximally to each side. Three hundred patients who would normally be candidates for routine (static) x-ray study of the lumbar spine had lateral bending (dynamic) films instead. These were then correlated with myelograms and/or surgery, when performed. Lateral bending roentgenograms can often pinpoint the level of lumbar disc herniation.
Abstract Author:	Weitz EM.
Journal:	Spine
Biblio:	Jul-Aug;6(4):388-97
Year Published:	1981
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Interexaminer reliability of low back pain assessment using the McKenzie method.
Summary:	39 patients with back pain were assessed by 2 therapists in turn, clinical and classification decisions were compared using Kappa statistics. Agreement was poorer for presence of lateral shift than relevance of shift or lateral component. Agreement on centralisation, directional preference, and mechanical classification was good to excellent.

ABSTRAKTA - Lumbar: Studies into assessment procedures, tests techniques (v anglickém jazyce)

Abstract Content:	<p>STUDY DESIGN: A test-retest design was used. OBJECTIVE: To assess interexaminer reliability of the McKenzie method for performing clinical tests and classifying patients with low back pain. SUMMARY OF BACKGROUND DATA: Clinical methods and tests classifying patients with nonspecific low back pain have been based mainly on symptom duration or extent of pain referral. The McKenzie mechanical diagnostic and classification approach is a widely used noninvasive, low-technology method of assessing patients with low back pain. However, little is known about the interexaminer reliability of the method, previous studies having yielded conflicting results. METHODS: For this study, 39 volunteers with low back pain, mean age 40 years (range, 24-55 years), were blindly assessed by two physical therapists trained in the McKenzie method. The variability of two examiners for binary decisions was expressed by the kappa coefficient, and by the proportion of observed agreement, as calculated from a 2 x 2 contingency table of concordance. RESULTS: On the basis of pure observation alone, agreement among clinical tests on the presence and direction of lateral shift was 77% (kappa = 0.2; P < 0.248) and 79% (kappa = 0.4; P < 0.003), respectively. Agreement on the relevance of lateral shift and the lateral component according to symptom responses was 85% (kappa = 0.7; P < 0.000) and 92% (kappa = 0.4; P < 0.021), respectively. Using the repeated movements and static end-range loading strategy to define the centralization phenomenon and directional preference, agreement was 95% (kappa = 0.7; P < 0.002) and 90% (kappa = 0.9; P < 0.000), respectively. When patients with low back pain were classified into the McKenzie main syndromes and into specific subgroups, agreement was 95% (kappa = 0.6; P < 0.000) and 74% (kappa = 0.7; P < 0.000), respectively. CONCLUSIONS: Interexaminer reliability of the McKenzie lumbar spine assessment in performing clinical tests and classifying patients with low back pain into syndromes were good and statistically significant when the examiners had been trained in the McKenzie method.</p>
Abstract Author:	Kilpikoski S, Airaksinen O, Kankaanpaa M, Leminen P, Videman T, Alen M.
Journal:	Spine
Biblio:	Apr 15;27(8):E207-14
Year Published:	2002
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Ultrasound imaging of the intervertebral disc.
Abstract Content:	<p>STUDY DESIGN: In vitro ultrasound imaging of dog intervertebral discs was performed. OBJECTIVE: To determine the reliability of ultrasound imaging in the detection of structural changes associated with disc pathology. SUMMARY OF BACKGROUND DATA: Little work has been done to evaluate the potential applications of ultrasound in the imaging of intervertebral discs. Initial in vitro studies, however, have indicated that ultrasound imaging is capable of producing images of the disc that contain a high degree of structural information. METHODS: Explanted lumbosacral discs from 13 nonchondrodystrophic dogs, mean age 5 years and 8 months, were stripped of all surrounding tissues and scanned using ultrasound before being sectioned and photographed. The ultrasound images were graded according to criteria chosen to reflect progressive stages of disc degeneration, allowing correlation with the grading scale used to assess the photographic images of the discs. Grades assigned to each disc were compared using Cronbach's alpha to determine the reliability of the images obtained using ultrasound. RESULTS: The results for the anterior annulus fibrosus produced an alpha value of 0.924; those for the nucleus pulposus produced a value of 0.821; whereas those for the posterior annulus fibrosus produced a value of 0.882. Where the grade given to the ultrasound image did not match those given in visual assessment, the disparity was never greater than one grade. Ultrasound images of several discs demonstrated echo patterns that matched, in both location and appearance, real structural defects identifiable on the sectioned discs. CONCLUSIONS: Ultrasound images of intervertebral discs relate well to their pathologic condition. In addition, ultrasound is able to locate specific pathologic defects.</p>
Abstract Author:	Naish C, Mitchell R, Innes J, Halliwell M, McNally D.
Journal:	Spine
Biblio:	Jan 15;28(2):107-13
Year Published:	2003
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Reliability of the visual assessment of cervical and lumbar lordosis: how good are we
Summary:	28 mixed group of clinicians evaluated photos of 36 individuals to rate cervical and lumbar lordosis as normal, increased, or decreased. Intrarater reliability moderate (kappa 0.5), interrater reliability poor (kappa 0.16).

ABSTRAKTA - Lumbar: Studies into assessment procedures, tests techniques (v anglickém jazyce)

Abstract Content:	STUDY DESIGN Blinded test-retest design.OBJECTIVE To measure the intrarater and interrater reliability of the visual assessment of cervical and lumbar lordosis.SUMMARY OF BACKGROUND DATA Cervical and lumbar lordoses are frequently evaluated using visual assessment, but little attempt has previously been made to measure the reliability of visual assessment.METHODS Twenty-eight chiropractors, physical therapists, physiatrists, rheumatologists, and orthopedic surgeons were recruited to evaluate the posture of photographed subjects (with and without back pain). Each clinician rated the lordosis of the cervical and lumbar spines as normal, increased, or decreased. Kappa coefficients (kappa) were calculated to determine intrarater and interrater reliability.RESULTS Twenty-eight clinicians evaluated photographs of 36 individuals (17 with back pain, 19 without). Mean intrarater reliability was kappa = 0.50 (95% confidence interval 0.02-0.98) and mean interrater reliability was kappa = 0.16 (95% confidence interval 0.00-0.48). No statistically significant difference existed among the five groups of clinicians or between the evaluation of the subjects with and without back pain.CONCLUSION Intrarater reliability of the visual assessment of cervical and lumbar lordosis was statistically fair, whereas interrater reliability was poor
Abstract Author:	Fedorak C, Ashworth N, Marshall J, Paull H.
Journal:	Spine
Biblio:	Aug 15; 28(16): 1857-9
Year Published:	2003
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Do primary-care clinicians think that non-specific low back pain is one condition?
Summary:	Survey of > 600 physiotherapists, chiropractors, osteopaths and medical practitioners in Australia (60% response rate) regarding beliefs about existence of sub-groups in non-specific back pain population. 93% do not think non-specific back pain is one group and 93% treat patients differently depending on signs and symptoms.
Abstract Author:	Kent P, Keating J
Journal:	Spine
Biblio:	29:1022-1031
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Responsiveness of pain, disability, and physical impairment outcomes in patients with low back pain.
Summary:	A comparison of the responsiveness to change of different outcome measures in 155 back pain patients: Roland Morris, pain scale, physical impairment measures, and patient specific functional scale, in which patients nominate problem activities. Most responsive measures as judged by global perceived effect were patient specific scale and pain scale, then Roland Morris, then changes in extension. Other measures of physical impairment were less responsive to change. Of 325 activities nominated by patients > 275 involved sitting / bending / lifting.
Abstract Author:	Pengel LHM, Refshauge KM, Maher CG
Journal:	Spine
Biblio:	29:879-883
Year Published:	2004
Category:	Lumbar: Studies into assessment procedures, tests & techniques
Abstract Title:	Correlation of clinical examination characteristics with three sources of chronic low back pain
Summary:	In 81 chronic back pain patients 51 had positive response to diagnostic injection into disc, zygapophyseal or sacro-iliac joints. Centralisation, midline pain, and pain on rising from sitting were significantly associated with a positive discogram. Sacro-iliac joint pain was strongly associated with 3 or more positive pain provocation tests, pain on rising from sitting, unilateral pain and absence of mid-line or lumbar pain. Zygapophyseal pain was associated with absence of pain on rising from sitting.
Abstract Author:	Young S, Aprill C, Laslett M
Journal:	Spine
Biblio:	3:460-465
Year Published:	2003
Category:	Lumbar: Studies into assessment procedures, tests & techniques