

CLINICAL PRACTICE GUIDELINES for LOW BACK PAIN

Examination & Interventions



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WELCOME: WHY THIS TOPIC?

- ▶ Clinicians lack knowledge in using the APTA's Clinical Practice Guidelines and clinical reasoning to diagnose and manage low back pain. (Showalter, CR, 2014)
- ▶ After completing this webinar, the participant will be able to utilize clinical practice guidelines together with clinical reasoning to design a plan of care for managing low back pain.

OBJECTIVES

- ▶ 1. Discuss the current clinical practice guidelines (CPG) for patients with low back pain (LBP) as developed by the Orthopedic Section of The American Physical Therapy Association (APTA)
- ▶ 2. Conduct an examination for patients with low back pain and interpret the results to diagnose anatomical and functional impairments and classify people into the associated impairment-based category

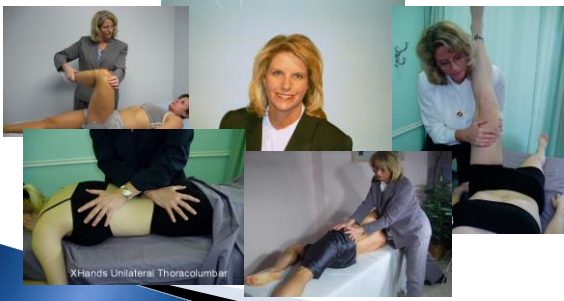
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OBJECTIVES

- ▶ 3. Describe intervention strategies to address activity restriction/limitations and functional mobility impairments based on the CPG classification of impairments.
- ▶ ***Do we rely strictly on guidelines? No!***
- ▶ Your clinical experience and individual patient needs add an important dimension to determine your approach.

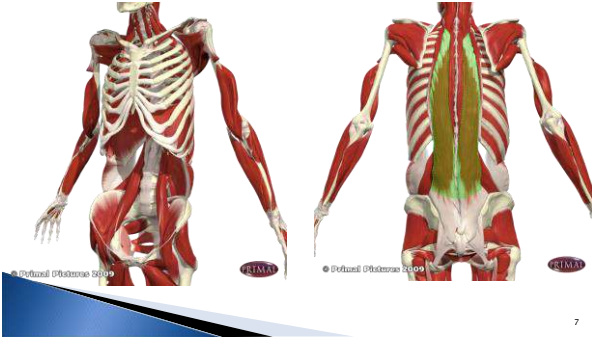
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Introduction
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LOW BACK PAIN



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WHAT IS LOW BACK PAIN?

- ▶ "Acute or chronic pain in the lumbar or sacral regions, which may be associated with musculo-ligamentous sprains and strains; intervertebral disk displacement; and other conditions."
- ▶ Includes loin pain and lumbago NOS

(From: <http://www.icd10data.com/icd10cm/codes/M00-M99/M50-M54/M54-/M54.5>)

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LBP AFFECTS MANY PEOPLE



- ▶ Back pain is the second most common symptom-related reason for clinician visits in the United States (Deyo, 1987)
- ▶ Up to 84 percent of adults have low back pain at some time in their lives (Cassidy, 1998)

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LOST WORK DAYS

"Back pain is the number one cause of lost work days in the U.S," said Dr. Anders Cohen, chief of neurosurgery and spine surgery at the Brooklyn Hospital Center, in New York City.



(From: <http://health.usnews.com/health-news/articles/2014/03/25/low-back-pain-leading-cause-of-disability-worldwide-study>)

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PREVALENCE OF LBP

- ▶ "A global review of the prevalence of low back pain in the adult general population has shown its point prevalence to be approximately 12%, with a one-month prevalence of 23%, a one-year prevalence of 38%, and a lifetime prevalence of approximately 40%."

(Manchikanti, 2014)

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SCHOOLS OF THOUGHT ON LBP

- ▶ **Patho-anatomical model**– traditional medical diagnoses based on **structure** (facet joints, HNP)
- ▶ **Disablement model**– ICF model based on **function**, activity impairments and participation limitations,
- ▶ **assess based on**
 - pain provocation exam and
 - response to treatment interventions
- ▶ Include biomechanical– patho–mechanical model: structures out of alignment contribute to disablement

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THE REAL ISSUES:

How do YOU categorize patients presenting with positive signs and symptoms related to LBP?

- › Do you do the same tests on everyone?
- › How do you select exam tools to use?
- › What determines your management plan?
- › What does it mean for your practice?



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TERMINOLOGY UPDATES



What do we call it for diagnosis and billing purposes?

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LOW BACK PAIN DIAGNOSIS CODES

- › Before 2015
- › **Lumbago** NOS: ICD-9 diagnosis: code 724.2
- › After 2015
- › **Dorsalgia**: ICD-10 diagnosis :code M54.5

(From: <http://www.icd10data.com/icd10cm/codes/M00-M99/M50-M54/M54-/M54.5>)

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ICD-10 code: M54.5

- ▶ Acute LBP under 3 months (ALBP)
- ▶ Chronic LBP over 3 months (CLBP)
- ▶ LBP in pregnancy
- ▶ LBP with or without radiculopathy
- ▶ Mechanical LBP
- ▶ Lumbago

(Ibid.)



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QUESTIONS

- ▶ What is the recommended way to classify types of LBP?
- ▶ How do we examine and manage the condition?
- ▶ Is there a clinical practice protocol, set of rules or guideline?
- ▶ Is there a way to match patients with specific clinical presentations to potentially successful interventions to promote successful outcomes?

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WHAT ARE CLINICAL PRACTICE GUIDELINES? (CPG)

- ▶ "systematically developed statements to **assist** practitioner and patient decisions about appropriate health care for specific clinical circumstances."



(Field, 1990.)

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WHAT IS THE GOAL?

- ▶ CPGs aim to promote best practice in light of systematic reviews of current evidence-based research, and provide recommendations for examination and management



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WHY DO WE NEED A CPG?

- ▶ Research places patients into a group labeled “LBP” when they have any one of multiple conditions, sometimes even including LBP!
- ▶ Uncertainty & heterogeneity prevailed in studies on LBP!
- ▶ LBP is *not* a homogenous condition
- ▶ We needed a more accurate description of the various conditions contributing to LBP

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THINK OF YOUR PATIENTS

- ▶ Not all patients have the same etiology or clinical presentation, but they may have the same diagnosis: **LBP**
- ▶ What does LBP result in? Inability to perform specific actions, (poor ROM, strength) activity participation is restricted and participation is limited (inability to work or play)
- ▶ The new classification system categorizes it according to the ***impairment, activity restriction or participation limitations***

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WE DON'T TREAT A DIAGNOSIS, WE TREAT THE PROBLEMS A PERSON PRESENTS THAT CREATE LIMITATIONS/ IMPAIRMENTS



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VALUE OF CPG

The CPG offers a way to classify patients according to our exam findings into impairment categories, which is something we already do as PTs, we detail impairments, then we can design intervention plans based on evidence-

We can use this to assist us in matching patients with specific impairments to treatments which may be beneficial based on systematic reviews

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WHAT IS A CLINICAL PREDICTION RULE? (CPR)

- ▶ A CPR is a "clinical tool that quantifies individual contributions that various components of the history as well as the physical examination results make towards the diagnosis, prognosis, or likely response to treatment in an individual patient."



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WHY USE A CPR?

If you have a patient with LBP, and you are trained in manipulation, how do you decide who will benefit from manipulation vs. just giving an exercise program?

The CPR gives you an idea of what interventions to select based on the research.

(Childs, 2004)

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HOW WERE THE CPG DEVELOPED?

- ▶ Considering the
- ▶ prevalence, range of risk factors,
- ▶ heterogeneity, and
- ▶ recurrent nature of LBP,
- ▶ Orthopaedic Section of APTA identified the need for a **standard of care**, a set of **recommendations** to consider when addressing low back pain. (Cutrone)
- ▶ ***NOT REGULATIONS, NOT PROTOCOLS***

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THE 2012 PUBLICATION

**Low Back Pain:
Clinical Practice / Guidelines Linked to
the International Classification of
Functioning, Disability and Health**
from the Orthopaedic Section of the
American Physical Therapy Association
*Journal of Orthopedic and Sports Physical
Therapy*. 2012 Apr;42(4):A1-A57.

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Evidence Analysis: SYSTEMATIC REVIEW

- ▶ Content experts conducted systematic review including CINAHL, MEDLINE, Cochrane Database (1966-2010)
- ▶ Selected high evidence level articles
- ▶ for development of the CPG, based on classification, examination and intervention categories for LBP
- ▶ Search was limited by current terminology

(From: <http://www.guideline.gov/popups/printview.aspx?id=36828>, accessed Feb. 24, 2015)

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EVIDENCE LEVELS



- ▶ Studies were rated from I-V
- ▶ according to Center for Evidence-based Medicine criteria
- ▶ Ranged from high-quality studies (I) to expert opinion (V)
- ▶ Recommendations were based on content expert consensus chosen by Ortho section APTA (*8 authors, 14 reviewers*)
- ▶ Validated by internal and external peer review

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WHAT DO CPGs LOOK AT?

- ▶ Examination- impairment measures
- ▶ Interventions
- ▶ Bodily function and structure
- ▶ Individual activity and participation limitations
- ▶ Outcome measures



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WHAT'S THE DIFFERENCE?

CPG is a *treatment-based* classification, related to impairments, not the old fashioned *diagnosis-based* classification, using structural or mechanical-based categories for therapy



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WHO USES THEM?

- ▶ Not just physical therapists
- ▶ Insurance adjusters, claims agents
- ▶ Physicians, physician extenders, nurses
- ▶ Rehabilitation professionals
- ▶ Patients link at Jnl. Ortho Spts PT website

(DeLitto, 2012)

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HOW TO PREVENT LBP?

- ▶ The Guidelines' authors, DeLitto, et al, found:

The literature does not provide evidence for the initial cause of LBP (DeLitto, 2012)

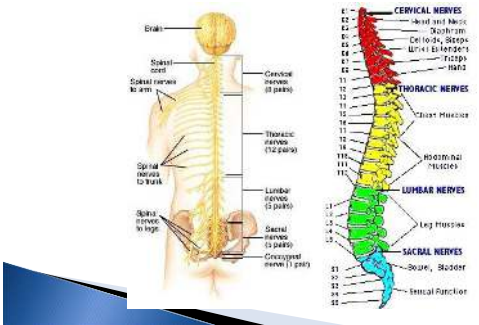
So how do we prevent it when we are not certain of a specific cause?

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PT DIAGNOSIS & PATIENT CLASSIFICATION



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CPG EVIDENCE GRADES

- ▶ **Authors rated strength of recommendations**
- ▶ A= Strong evidence (L1I-II studies)
- ▶ B= Moderate (Mostly LII, 1 RCT minimum)
- ▶ C= Weak (1 LII or mostly LIII-IV with expert agreement)
- ▶ D= Conflicting (Differing conclusions by hi-quality studies)
- ▶ E=Theoretical (basic sci, conceptual models, animal/cadaver studies)
- ▶ F= Expert opinion of team= experience

(National Guideline Clearinghouse, p. 3)



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RECOMMENDATIONS OF CPG

- ▶ Risk factors for LBP
- ▶ Clinical course of LBP
- ▶ Classification & diagnosis: ICD, ICF
- ▶ Differential Diagnosis
- ▶ Examination, outcome measures
- ▶ Interventions
- ▶ Qualifying statements

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RISK FACTORS for LBP

- ▶ For **initial** cases of LBP they identified **no definitive cause**, based on research
- ▶ **Population specific**
- ▶ **Multifactorial**
- ▶ Weak association between the risk factors cited in some studies and the occurrence of LBP

(National Guideline Clearinghouse, p. 4)

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CLINICAL COURSE

- ▶ Acute (ALBP)
- ▶ Subacute (SALBP)
- ▶ **Recurrent* (RLBP)**
- ▶ **Chronic* (CLBP)**

*highly prevalent



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ICD DIAGNOSIS CATEGORIES

- ▶ Low back pain (ICF: back, buttock, groin, thigh pain)
- ▶ Lumbosacral somatic dysfunction
- ▶ Lumbago
- ▶ Low back strain
- ▶ Flatback syndrome
- ▶ Instability
- ▶ Lumbago with sciatica
- ▶ Lumbago with disk displacement

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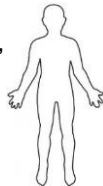
ABBREVIATIONS

- ▶ **LSSD**= lumbosacral somatic/mechanical dysfunction
- ▶ **ALBP**= acute low back pain
- ▶ **SALBP**= subacute LBP
- ▶ **CLBP**= chronic low back pain
- ▶ **IVD**= intervertebral disc
- ▶ **LE**= lower extremity
- ▶ **DX**= diagnosis
- ▶ **TX**= traction

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ICF CLASSIFICATION- next slides

- ▶ **Low back pain**, Pain in back = b28013
- ▶ Pain in body part, such as groin, thigh, buttock = b28018
- ▶ Acute, subacute or chronic back pain,



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Nonspecific LBP DIAGNOSIS– ICD CLASSIFICATION– ICF:

- ▶ Excluding serious medical or psychological signs/symptoms, associated with:
- ▶ “(1) Mobility impairment in the thoracic, lumbar, or sacroiliac regions,
- ▶ (2) Referred or radiating pain into the lower extremity, and
- ▶ (3) generalized pain”
- ▶ Associated with impairments of body function

(National Guideline Clearinghouse, p. 4)

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DX CLASSIFICATIONS



- ▶ Old ICD
- ▶ New ICF
- ▶ Base your classification on the *clinical picture* and match them to *interventions* according to the CPG and measure outcomes



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ICD: LSSD– lumbosacral segmental somatic dysfunction=
ICF: Acute LBP with mobility deficits

- ▶ ALBP or buttock, groin or thigh pain
- ▶ Limited lumbar ROM, segmental mobility
- ▶ LE symptoms provoked by testing of lower thoracic, lumbar or SI joint segments, associated with LBP

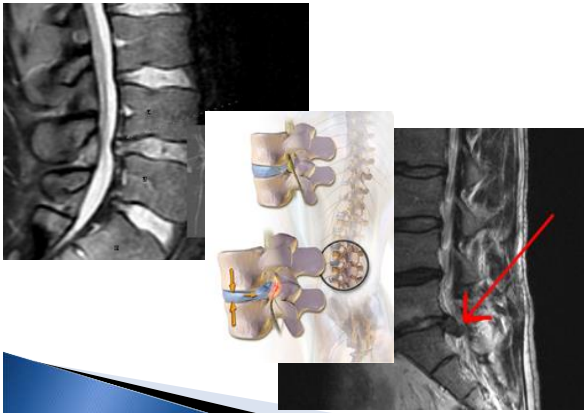
(From: <http://www.guideline.gov/content.aspx?id+36828>. Accessed Feb. 1, 2015)

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ICD: LSSD- lumbosacral segmental somatic dysfunction=
ICF: Subacute LBP with mobility deficits

- ▶ SLBP, pain in unilateral lumbar, buttock or thigh
- ▶ Symptoms provoked by testing of of lower thoracic, lumbar or SI joint segments, and end-range spinal motions
- ▶ Active, segmental or accessory mobility deficits in thoracic. lumbar, pelvis, or hip

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ICD: Spinal instabilities
ICF: ALBP with movement coordination impairments

- ▶ Recurrent LBP in acute exacerbation and referred LE pain
- ▶ Symptoms provoked by testing involved lumbar segments and beginning to mid-range spinal movements
- ▶ Lumbar flexion and extension motions associated with lumbopelvic movement coordination impairments

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ICD: Spinal instabilities ICF: Subacute LBP with movement coordination impairments

- ▶ Recurrent LBP in subacute exacerbation and referred LE pain
- ▶ Symptoms provoked by testing involved lumbar segments and produced during movement toward midrange, worsening during end-range spinal movements or positions



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Continued SALBP/ movt coord

- ▶ Segmental hypermobility in lumbar region
- ▶ Thoracic and hip/pelvic mobility deficits
- ▶ Decreased strength and endurance of trunk or pelvis
- ▶ Impairments in movement coordination during home management or self-care activities



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ICD: Spinal instabilities ICF: Chronic LBP with movement coordination impairments

- ▶ Chronic, recurrent LBP with referred LE pain and at least 1 or more of:
 - ▶ LBP +/- LE related pain aggravated by sustained end-range positions or movements
 - ▶ Segmental mobility testing shows lumbar hypermobility

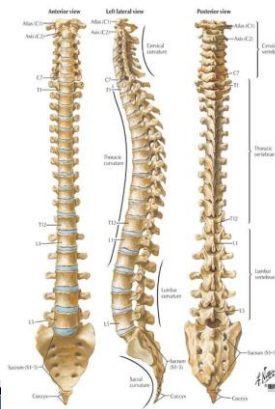


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Continued ICD: Spinal instabilities ICF: CLBP movt coord

- ▶ Chronic, recurrent LBP with referred LE pain and at least 1 or more of:
- ▶ LBP +/- LE related pain aggravated by sustained end-range positions or movements
- ▶ Segmental mobility testing shows lumbar hypermobility
- ▶ Diminished mobility, strength and endurance of lumbopelvic/hip and thorax areas
- ▶ Impairments in movement coordination during home management or self-care activities

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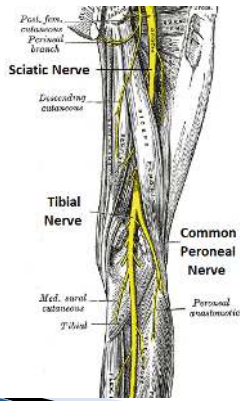


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ICD: Flatback syndrome Lumbago 2° displaced IV disc ICF: Acute LBP with referred LE Pain

- ▶ LBP with related buttock, thigh, or leg pain worse with sitting or flexion
- ▶ LBP/LE pain centralized by repeated movements, positioning or manual procedures
- ▶ Reduced lordosis, lateral trunk shift, limited extension, and movement coordination impairments associated with chronic or subacute LBP

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ICD: Lumbago with sciatica
ICF: Acute LBP with radiating pain

- ▶ ALBP with radiating pain into LE
- ▶ LE paraesthesias, weakness or numbness
- ▶ Symptoms provoked by beginning to mid-range spinal movements, straight leg raise, slump test or LE tension test,
- ▶ Nerve signs present: reflex, sensory or strength deficits
- ▶ Symptoms similar to ALBP with referred pain, above.

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ICD: Lumbago with sciatica
ICF: Subacute LBP with radiating pain

- ▶ Recurring subacute mid-low back pain radiating pain into LE with reflex, sensory or strength deficits
- ▶ Symptoms provoked by mid-range spinal movements, worse in end-range of straight leg raise, slump test or LE tension testing

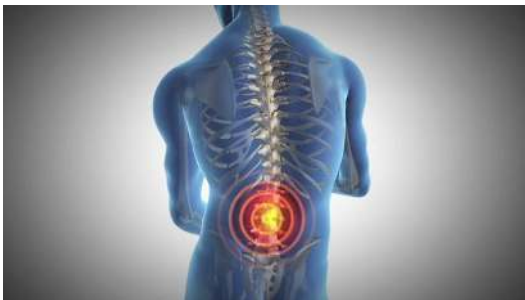
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ICD: Lumbago with sciatica
ICF: Chronic LBP with radiating pain

- ▶ Recurring chronic mid to low back pain radiating pain into LE with reflex, sensory or strength deficits
- ▶ Symptoms provoked by sustained end-range straight leg raise, slump test or LE tension testing



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ICD: LBP, LB strain, lumbago
ICF: ALBP/SALBP with related cognitive or affective tendencies

- ▶ ALBP/SALBP/ LBP with referred LE pain +
- ▶ 2 positive depressive symptom responses on Primary Care Evaluation of Mental Disorders
- ▶ Excess fear/anxiety behaviors and high score on Fear Avoidance Beliefs Questionnaire
- ▶ High score on Pain Catastrophizing Scale and cognitive processes indicating high pessimism/helplessness/rumination



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ICD: LBP, LB strain, lumbago
ICF: Chronic LBP with related
generalized pain

- ▶ Low back +/- associated referred LE pain
- ▶ Over 3 months
- ▶ Generalized pain (inconsistent with these criteria)
- ▶ Pain catastrophizing, fear-avoidance beliefs, or depression present



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DIFFERENTIAL DIAGNOSIS

Medical referral is recommended for

1. Serious medical pathology or psychosocial factors may be present
2. Reported impairments of body function or reported activity limitations inconsistent with guidelines classification
3. Symptoms fail to resolve with interventions



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EXAMINATION

- ▶ Outcome measures
- ▶ Activity limitation and participation restriction measures
- ▶ Remember, *not all patients* can be classified into these specific groups



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Outcome Measures

Identify baseline status with validated self-reporting questionnaires:

- ▶ Roland-Morris Disability Q
- ▶ Oswestry Disability Index Q

Measure change of status/progress for:

- ▶ pain, disability, function, impairments

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ROWLAND MORRIS DISABILITY Q

- ▶ [This questionnaire is recommended by the CPG for use with patients who present with low back pain.](#)
- ▶ [The following slides are questions quoted from the Rowland Morris.](#)

▶ (From: <http://www.asjpp.org/reference/34Roland.pdf>, Page 3122, Accessed Mar. 2, 2015)

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- ▶ "1. I stay at home most of the time because of my back.
- ▶ 2. I change position frequently to try and get my back comfortable.
- ▶ 3. I walk more slowly than usual because of my back.
- ▶ 4. Because of my back I am not doing any of the jobs that I usually do around the house.
- ▶ 5. Because of my back, I use a handrail to get upstairs.
- ▶ 6. Because of my back, I lie down to rest more often.
- ▶ 7. Because of my back, I have to hold on to something to get out of an easy chair.
- ▶ 8. Because of my back, I try to get other people to do things for me.

▶ (From: <http://www.asjpp.org/reference/34Roland.pdf>, Page 3122, Accessed Mar. 2, 2015)

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- ▶ 9. I get dressed more slowly than usual because of my back.
- ▶ 10. I only stand for short periods of time because of my back.
- ▶ 11. Because of my back, I try not to bend or kneel down.
- ▶ 12. I find it difficult to get out of a chair because of my back.
- ▶ 13. My back is painful almost all the time.
- ▶ 14. I find it difficult to turn over in bed because of my back.
- ▶ 15. My appetite is not very good because of my back pain.
- ▶ 16. I have trouble putting on my socks (or stockings) because of the pain in my back.
- ▶ 17. I only walk short distances because of my back.

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- ▶ 18. I sleep less well on my back.
- ▶ 19. Because of my back pain, I get dressed with help from someone else.
- ▶ 20. I sit down for most of the day because of my back.
- ▶ 21. I avoid heavy jobs around the house because of my back.
- ▶ 22. Because of my back pain, I am more irritable and bad tempered with people than usual.
- ▶ 23. Because of my back, I go upstairs more slowly than usual.
- ▶ 24. I stay in bed most of the time because of my back.
- ▶ The score is the total number of items checked—i.e., from a minimum of 0 to a maximum of 24."

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Instructions for RMDQ

"When your back hurts, you may find it difficult to do some things you normally do.

This list contains sentences that people have used to describe themselves when they have back pain.

When you read them, you may find that some stand out because they describe you today.

As you read the list, think of yourself today. When you read a sentence that describes you today, put a tick against it.

If the sentence does not describe you, then leave the space blank and go on to the next one. Remember, only tick the sentence if you are sure it describes you today."

From: <http://www.asjpp.org/reference/34Roland.pdf>. Page 3122, Accessed Mar. 2, 2015)

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Rowland-Morris Disability Questionnaire (RMDQ)

- ▶ Used as self-reported physical disability outcome measure for patients with A/SA/C LBP.
- ▶ Use for min-mod level of disability
- ▶ For severe disability the [Oswestry disability questionnaire](#)

(From: http://www.physio-pedia.com/Roland%20%80%90Morris_Disability_Questionnaire. Accessed March 1, 2015)

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Reliability of Rowland Morris

- ▶ **Test-retest Reliability:** 24-, 18- and 11-item tests:
 - 24-item: ICC from 0.42 - 0.91
 - 18-item: Stratford: ICC from 0.68 - 0.75
 - 11-item: ICC ranges from 0.89



(Macedo, 2011)

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Quebec Back Pain Disability Scale

- ▶ The next two slides are from the Physical Therapy Journal; to view a copy of the disability questionnaires, visit:

(From: <http://ptjournal.apta.org/content/81/2/776.full>. Accessed Feb. 1, 2015)

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Oswestry Disability Questionnaire

This is a quote from the actual questionnaire:

- ▶ "This questionnaire has been designed to give us information as to how your **back or leg pain** is affecting your ability to manage in everyday life. Please answer by checking **one box in each section** for the statement which best applies to you. We realize you may consider that two or more statements in any one section apply, but please just shade out the spot that indicates the statement which **most clearly describes your problem**.

▶ (From: <http://thepainsource.com/oswestry-disability-index/>. Accessed March 1, 2015)

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Section 1: Pain Intensity

- 0-I have no pain at the moment
- 1-The pain is very mild at the moment
- 2-The pain is moderate at the moment
- 3-The pain is fairly severe at the moment
- 4-The pain is very severe at the moment
- 5-The pain is the worst imaginable at the moment



Section 2: Personal Care (eg. washing, dressing)

- 0-I can look after myself normally without causing extra pain
- 1-I can look after myself normally but it causes extra pain
- 2-It is painful to look after myself and I am slow and careful
- 3-I need some help but can manage most of my personal care
- 4-I need help every day in most aspects of self-care
- 5-I do not get dressed, wash with difficulty and stay in bed

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Section 3: Lifting

- 0-I can lift heavy weights without extra pain
- 1-I can lift heavy weights but it gives me extra pain
- 2-Pain prevents me lifting heavy weights off the floor but I can manage if they are conveniently placed (eg. on a table)
- 3-Pain prevents me lifting heavy weights but I can manage light to medium weights if they are conveniently positioned
- 4-I can only lift very light weights
- 5-I cannot lift or carry anything

Section 4: Walking*

- 0-Pain does not prevent me walking any distance
- 1-Pain prevents me from walking more than 1 mile
- 2-Pain prevents me from walking more than ½ mile
- 3-Pain prevents me from walking more than 100 yards
- 4-I can only walk using a stick or crutches
- 5-I am in bed most of the time

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Section 5: Sitting

- 0-I can sit in any chair as long as I like
- 1-I can only sit in my favorite chair as long as I like
- 2-Pain prevents me sitting more than one hour
- 3-Pain prevents me from sitting more than 30 minutes
- 4-Pain prevents me from sitting more than 10 minutes
- 5-Pain prevents me from sitting at all

Section 6: Standing

- 0-I can stand as long as I want without extra pain
- 1-I can stand as long as I want but it gives me extra pain
- 2-Pain prevents me from standing for more than 1 hour
- 3-Pain prevents me from standing for more than 30 minutes
- 4-Pain prevents me from standing for more than 10 minutes
- 5-Pain prevents me from standing at all

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Section 9: Social Life

- 0-My social life is normal and gives me no extra pain
- 1-My social life is normal but increases the degree of pain
- 2-Pain has no significant effect on my social life apart from limiting my more energetic interests e.g. sport
- 3-Pain has restricted my social life and I do not go out as often
- 4-Pain has restricted my social life to my home
- 5-I have no social life because of pain

Section 10: Traveling

- 0-I can travel anywhere without pain
- 1-I can travel anywhere but it gives me extra pain
- 2-Pain is bad but I manage journeys over two hours
- 3-Pain restricts me to journeys of less than one hour
- 4-Pain restricts me to short necessary journeys under 30 minutes
- 5-Pain prevents me from travelling except to receive treatment

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Scoring the Oswestry

Scoring = (raw score / total possible) x 100

- ▶ Each question total possible is 5
- ▶ If all ten sections are completed the score is calculated as followed:

◦ **Example:**

- 30 (total patient score)
- Out of 50 (total possible score)
- $30/50 \times 100 = 60\%$



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Oswestry Interpretation

"The following interpretation of disability scores is excerpted from the developers of the Oswestry system:

- ▶ **0%–20%: Minimal disability**
 - This group can cope with most living activities. Usually no treatment is indicated, apart from advice on lifting, sitting posture, physical fitness, and diet. In this group some patients have particular difficulty with sitting, and this may be important if their occupation is sedentary, e.g., a typist or truck driver.
- ▶ **20%–40% Moderate disability**
 - This group experiences more pain and problems with sitting, lifting, and standing. Travel and social life are more difficult and they may well be off work. Personal care, sexual activity, and sleeping are not grossly affected, and the back condition can usually be managed by conservative means.

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ODQ Minimum Detectable Change

- ▶ **10% points**
- ▶ If it is under 10 % points difference, it may be due to error (90% confidence)



(Fairbank, 2000, and Davidson, 2002, from : <http://thepainsource.com/oswestry-disability-index/>. Accessed March 1, 2015)

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**Be Social!
Learn more**



Share what you do to
manage back pain with us:

[facebook.com/educiseresources](https://www.facebook.com/educiseresources)

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Activity Limitation & Participation Restriction Measures

For the Rowland and Oswestry, as well as other indices:

- ▶ Monitor changes with validated performance-based measures **at baseline** and
- ▶ to **document progress** during treatment



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INTERVENTIONS:

Match Classification to Treatment

- ▶ Manual therapy
- ▶ Trunk coordination, strengthening endurance exercises
- ▶ Centralization and directional preference exercises and procedures
- ▶ Flexion exercises
- ▶ Lower quarter mobilization procedures
- ▶ Traction
- ▶ Patient education and counseling
- ▶ Progressive endurance exercise and fitness activities

88

When to Use Manual Therapy

- ▶ Thrust manipulation is recommended:

For patients with:

- ▶ **ALBP, buttock or thigh pain,**
- ▶ pain, disability, hypomobility deficits



89

When to use Manual Therapy

- ▶ Use thrust and non-thrust mobilization

- To improve mobility in spine and hip
- Reduce pain and disability

▶ For patients with:

- SALBP, CLBP**
- **Back-Referred LE pain**



90

(Whatever happened to myofascial, massage?)

When to use trunk coordination, strengthening endurance exercises

To decrease LBP & disability for



–**SALBP** and **CLBP** patient with movement coordination impairments & post-lumbar microdiscectomy

91

When to use Centralization & Directional Preference Exercises & Procedures

- ▶ Use repeated exercises, movements, or procedures to promote centralization to decrease **ALBP** with **LE pain**
- ▶ Use repeated directional exercises to improve mobility and reduce symptoms of **ALBP, SALBP, CLBP** with mobility deficits

92

When to use Flexion Exercises

Use flexion exercises with

- ▶ manual therapy,
- ▶ strengthening,
- ▶ nerve mobilization
- ▶ progressive walking



in older patients with **CLBP** with **radiating pain** to decrease pain and disability

93

When to use LE Nerve Mobilization



- ▶ For patients with **SALBP** and **CLBP** with **radiating pain**,
- ▶ To reduce pain and disability

94

Intermittent Lumbar Traction

LBP: Conflicting evidence

Some evidence for efficacy in patients with **positive crossed straight leg raise**

- ▶ signs of nerve root compression along with symptom **peripheralization**
- ▶ Using *prone* traction



Traction not recommended for managing **ALBP**, **SALBP**, or **non-radicular LBP** or **CLBP**



95

Patient Education & Counseling

Avoid if counseling may increase perceived fear associated with LBP, **avoid:**

- ▶ extended bed-rest
- ▶ in-depth, pathoanatomical explanations for the specific cause of the patient's low back pain.



96

When to use Patient Education

- ▶ Understanding of the anatomical strength of the spine
- ▶ Pain perception explaining neuroscience of pain
- ▶ Generally favorable prognosis of LBP
- ▶ Teach active pain coping strategies to reduce fear and catastrophizing
- ▶ Early return to activities despite pain
- ▶ Significance of improved activity levels, not strictly focusing on pain relief



97

When to use Progressive Endurance Exercise & Fitness Activities

Recommend:

- ▶ moderate- to high-intensity exercise for patients with **CLBP without generalized** pain
- ▶ progressive, submaximal low-intensity fitness and endurance activities for patients with **CLBP with generalized** pain



98

Summary : When to use Interventions Based on Classification

Put patients into categories to guide selection of interventions; match classification to intervention based on:

- ▶ **Acuity/Chronicity (A/SA/C LBP)**
- ▶ **Mobility: hyper or hypo**
- ▶ **Pain location: Radicular or not**
- ▶ **Pain symptoms: Centralized or peripheralized**
- ▶ **Age**



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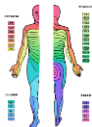
WHERE TO FIND THE CPG

- ▶ **Print copies:**
Orthopaedic Section APTA, Inc,
2920 East Avenue South, Suite 200,
La Crosse, WI 54601
- ▶ **E-mail:** icf@orthopt.org
- ▶ **Website:** <http://www.jospt.org/>

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PRACTICE!

- ▶ Examine your patient
- ▶ Use functional outcome measures
- ▶ Diagnose & classify them according to ICF impairments, participation restrictions and activity limitations
- ▶ Identify interventions to manage impairments based on evidence using 8 interventions: manual therapy, trunk coordination, strength, & endurance exercises



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PRACTICE!

- ▶ Centralization exercise & procedures, flexion exercises, nerve mobilization, traction, patient education/counseling, progressive fitness & endurance activities
- ▶ Implement program, measure progress and modify according to outcomes
- ▶ (Was classification/dx accurate? Changes in pain, disability level, function, quality of life, mobility, general health, back-specific function, patient satisfaction)

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Home Practice: SAMPLE MATCHING

- | | |
|---|---|
| <ul style="list-style-type: none">▶ ICD: Spinal instability▶ ICF: ALBP/ MOVEMENT COORDINATION IMPAIRMENTS▶ Acute LBP Flareup + LE pain provoked by initial to midrange motions▶ Lumbo-pelvic movement incoordination with flex/ext motions | <ul style="list-style-type: none">▶ Manual therapy▶ Trunk coordination, endurance and strengthening exercises▶ Repeated centralization and directional preference exercise, procedures▶ Patient education▶ Activity limit/participation restriction as needed |
|---|---|

ICF CLASSIFICATION

INTERVENTION

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PT saves \$\$

LBP Retrospective Review

- ▶ Fritz et al: Utilization and Fees of EMR data
- ▶ LBP Pts. 1st consult to primary care
- ▶ Compared referral to PT vs. advanced imaging
- ▶ “higher health care utilization and charges than physical therapy”
- ▶ N=406
- ▶ Mean difference of \$4793

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Multidisciplinary biopsychosocial rehab for LBP

Kamper et al: assess long term effects

Systematic review 6858 pts

- ▶ LBP > 3 mo. three months; multidisciplinary rehab:
- ▶ physical component + psych/social/ or work targeted component;

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Conclusion: Chronic LBP

Multidiscip. biopsychosocial rehab lessens long term LBP & disability

- ▶ Greater effectiveness than usual care (mod. evidence)
- ▶ and physical treatments (low evidence)
- ▶ Work related results: multidiscip effectiveness > physical intervention effectiveness
- ▶ but not more effective than usual care.

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Does PTs use of CPG for LBP affect outcomes?

- ▶ Rutten, et al, Netherlands study 145 pts., 61 PTs
- ▶ Observ. prospective cohort study
- ▶ VAS pain,
- ▶ Quebec Back Pain and Disability Scale,
- ▶ Better functioning and
- ▶ less care utilization related to high % age adherence to CPGs

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ACP CPG for LBP (2017)

- ▶ Systematic rev. RCTs of noninvasive tx. LBP:
- ▶ Elimination or reduction of LBP
- ▶ Global improvement
- ▶ # episodes and time between
- ▶ Reduced work related disability
- ▶ Improved function and HRQOL
- ▶ Pts. Satisfaction
- ▶ Adverse effects

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ACP Study definitions for LBP

- ▶ ALBP = acute (<4 weeks),
- ▶ SALBP = subacute (4 to 12 weeks),
- ▶ CLBP = chronic (>12 weeks)

- ▶ nonradicular or
- ▶ radicular low back pain, or
- ▶ symptomatic spinal stenosis

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ACP Recommendations ALBP/SALBP

- ▶ superficial heat (moderate-quality evidence),
- ▶ massage,
- ▶ acupuncture, or
- ▶ spinal manipulation (low-quality evidence).
- ▶ NSAIDs and muscle relaxants (strong)

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ACP Recs.: chronic LBP Grade: strong recommendation

- ▶ multidisciplinary rehabilitation,
- ▶ exercise,
- ▶ acupuncture,
- ▶ mindfulness-based stress reduction (mod. evidence),
- ▶ tai chi, yoga, motor control exercise,
- ▶ laser, progressive relaxation, EMG BFB,
- ▶ operant therapy, cognitive behavioral therapy,
- ▶ or spinal manipulation (low-evidence).

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ACP Recs: CLBP poor response to non pharm therapy

- ▶ NSAIDS
- ▶ tramadol or duloxetine
- ▶ Opioids
- ▶ weak recommendation, mod. evidence

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CONCLUSION

- ▶ CPG ARE *NOT*A SUBSTITUTE FOR EXCELLENT CLINICAL REASONING, EXPERIENCE
- ▶ CPG PREP *WAS LIMITED* BY TERMINOLOGY ISSUES: new and old terminology do not match, new terms were not found in the literature



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QUESTIONS?

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THANK YOU!



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Reflection for home study: My interpretation of the CPG

- › ICD: LS somatic dysfunction
- › ICF: ALBP mobility deficits (B7101 mobility several joints)
- › ALBP or butt, groin, thigh pain
- › Limited ROM, LE symptoms assoc with LBP
- › Manual therapy- thrust mobilization
- › Centralization exercise and procedures
- › Patient Education and counseling

ICF CLASSIFICATION

INTERVENTION

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7

CPG INTERPRETATION

- › ICD: LS somatic dysfnctn
- › ICF: SALBP, unilat back, butt thigh pain
- › Endrange motions & testing spinal segments provoke symptoms
- › Active, segmental, or accessory mobility deficits in spine pelvis, or hip (b7101)
- › Manual therapy, thrust and nonthrust
- › Centralization exercise and procedures
- › LE nerve mobilization
- › Patient Education and counseling

ICF CLASSIFICATION

INTERVENTION

11
8

CPG INTERPRETATION

- › ICD: Spinal instability
- › ICF: ALBP with coordination impairments
- › Acute exacerbation of recurrent LBP
- › Beginning to midrange movements and testing involved segments provoke symptoms
- › Lumbar flex/ext motions associated with lumbopelvic movement coordination impairments (b7601)
- › Trunk coordination, strengthening and endurance exercises
- › Patient Education and counseling

ICF CLASSIFICATION

INTERVENTION

11
9

CPG INTERPRETATION

- › ICD: spinal instability,
- › ICF: SALBP with movement coordination impairment & referred LE pain
- › Provoked by testing involved segments and moving toward midrange, worse at endrange movements or positions
- › Segmental hypermobility
- › Thor/hip mobility deficits
- › Strength endurance deficit-trunk/pelvis
- › Impaired coord ADL
- › Trunk coordination, strengthening and endurance exercises
- › Patient Education and counseling

ICF CLASSIFICATION

INTERVENTION

12
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CPG INTERPRETATION

- › ICD: Spinal instability
 - › ICF: CLBP with movmt coord impairments
 - › CLBP with LE pain and one or more of
 - › LBP +/- LE pain worse in sustained endrange motions
 - › Lumbar hypermobility
 - › Decr. Mob, strength, endurance lumbopelvic/hip/thorax
 - › Movement coord impaired ADL
- › Trunk coordination, strengthening and endurance exercises
 - › Patient Education and counseling

ICF CLASSIFICATION

INTERVENTION

12
1

CPG INTERPRETATION

- › ICD: Flatback syndrome Lumbago/ displaced disc
 - › ICF: ALBP with LE pain
 - › LBP + butt/thigh/leg pain worse in sitting or flexion
 - › Centralized by repeated motions or positions or manual therapy
 - › Decr. Lordosis, lat. Shift, limited ext., movmt coord deficits assoc with C/SALBP
- › Manual therapy, thrust and nonthrust
 - › Centralization and directional preference procedures exercises
 - › Patient Education and counseling

ICF CLASSIFICATION

INTERVENTION

12
2

INTERPRETATION

- › ICD: Lumbago with sciatica
 - › ICF: ALBP with radiating pain
 - › ALBP+ LE pain, (b2805) parasthesia, numbness, weakness provoked by beginning to midrange movement, SLR, slump test or LE tension test
 - › Nerve signs, like ALBP with referred pain
- › Manual therapy, thrust and nonthrust
 - › Centralization and directional preference procedures exercises
 - › Patient Education and counseling

ICF CLASSIFICATION

INTERVENTION

12
3

CPG INTERPRETATION

- › ICD: Lumbago with sciatica
- › ICF: SALBP + radiating pain + reflex, sensory or strength deficits
- › provoked by midrange spinal movement, worse in endrange of SLR, slump test or LE tension test
- › (b2804- radiating pain in a segment or region)
- › Manual therapy, thrust and nonthrust
- › Centralization and directional preference procedures exercises
- › LE nerve mobilization
- › Patient Education and counseling
- › Traction if they have peripheralization or +SLR

ICF CLASSIFICATION

INTERVENTION

12
4

CPG INTERPRETATION

- › ICD: Lumbago with sciatica
- › ICF: Chronic mid to LBP + radiating pain + reflex, sensory, strength deficits
- › provoked by sustained endrange SLR, slump test or LE tension test
- › Manual therapy, thrust and nonthrust
- › Centralization and directional preference procedures exercises
- › Flexion exercise on older adults
- › LE nerve mobilization
- › Patient Education and counseling

ICF CLASSIFICATION

INTERVENTION

12
5

CPG INTERPRETATION

- › ICD: LPB, LB strain, lumbago
- › ICF: ALBP/SALBP **with** related cognitive or affective tendencies
- › ALBP/SALBP + 2 + depressive symptom replies on Primary Care Eval of Mental Disorders
- › Excess fear/anxiety behaviors, high score on Fear Avoidance Beliefs Q., & Pain Catastrophizing Scale and cognitive processes high pessimism, helplessness, rumination (b2703, 1522, 1608, 1528)
- › Patient Education and counseling
- › Referral
- › Progressive Endurance exercise & fitness at moderate to high intensity when WITHOUT generalized pain,
- › submaximal and low intensity activities for CLBP WITH generalized pain

ICF CLASSIFICATION

INTERVENTION

12
6

CPG INTERPRETATION

- ▶ ICD: LBP, LB strain, lumbago
- ▶ ICF: CLBP **with** related generalized pain
- ▶ LBP+/- LE pain
- ▶ Over 3 months
- ▶ Generalized pain
- ▶ depression, pain catastrophizing, fear avoidance beliefs
- ▶ (b2800 generalized pain, b1520 appropriate emotion, b1602 content of thought)
- ▶ Progressive Endurance exercise & fitness at moderate to high intensity when **WITHOUT** generalized pain,
- ▶ submaximal and low intensity activities for CLBP **WITH** generalized pain

ICF CLASSIFICATION

INTERVENTION

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