

LOWER BACK PAIN

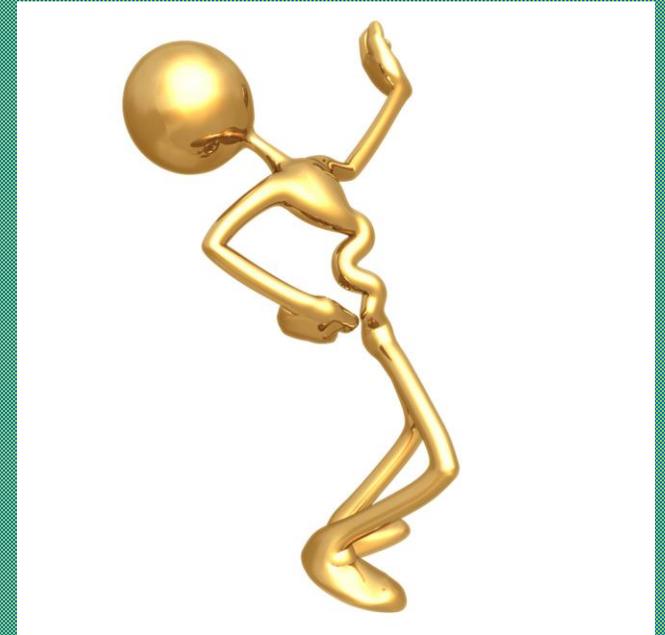
Multiple Disciplines for Optimal Outcomes

Jonathan Kost, MD

Medical Director

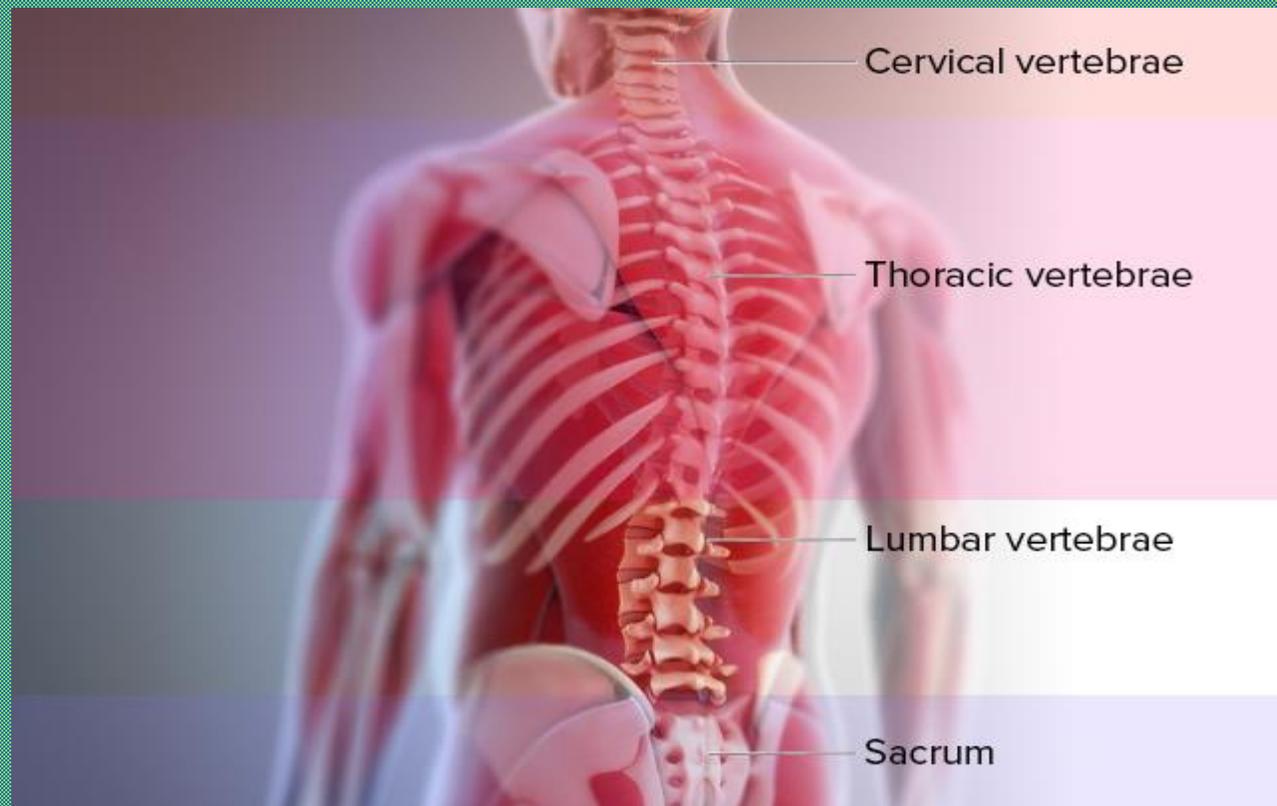
Hartford Hospital Pain Treatment Center

The Spine and Pain Institute at Midstate



DISCLOSURE

- THE SPEAKER HAS NO FINANCIAL OR OTHER CONFLICTS OF INTEREST TO REPORT
- THE EMPHASIS OF TODAY'S TALK IS ON EVIDENCE BASED MEDICINE



Back pain—in particular, low back pain—is a cause of many visits to the emergency department (ED). Between 70% and 85% of the population will suffer from back pain at some point in their lives.

- It is the primary cause of disability in individuals younger than 50 years.
- What poses an interesting challenge to physicians is determining the cause of this back pain.
- The sources can include intervertebral disks, facet joints, vertebrae, neural structures, muscles, ligaments, and fascia.

Image courtesy of Science Photo Library.

LOWER BACK PAIN STATS

- A specific event is associated w/ the onset of LBP in 1/3 of cases
- Recurrence of LBP is 30-60%
- 2nd most common cause of disability under the age of 45
- 5th most common reason for an office visit to all clinicians

AIMS

- Improve evaluation & reevaluation process
- Reduce / eliminate imaging for non- specific acute LBP (<6 wks)
- Increase usage of Core Treatment Plan as 1st line treatment (activity, heat, education, exercise & analgesics)
- Caution & reasonable use of Opioids
- Increase utilization of validated Pain & Functional scales (Oswestry)



Initial Evaluation

- No imaging for non- specific LBP
- Address potential for Radiculopathy
- Identify potential of **RED FLAGS**
- **VAS & Oswestry** to assess disability



Cauda Equina Syndrome < 1 in 10,000 if no urinary retention issues

PAIN with RADICULOPATHY

- Of concern if pain radiates past knee, however many non-nerve spinal structures refer below the knee
- Radiculopathy = pain that is dermatomal, it may or may not possess sensory, strength or reflexive abnormalities
- Diffuse or non-organic sensory or strength changes are not considered Radicular. Referring paraesthesias/dysesthesias or rarely myelopathy or higher cord lesion



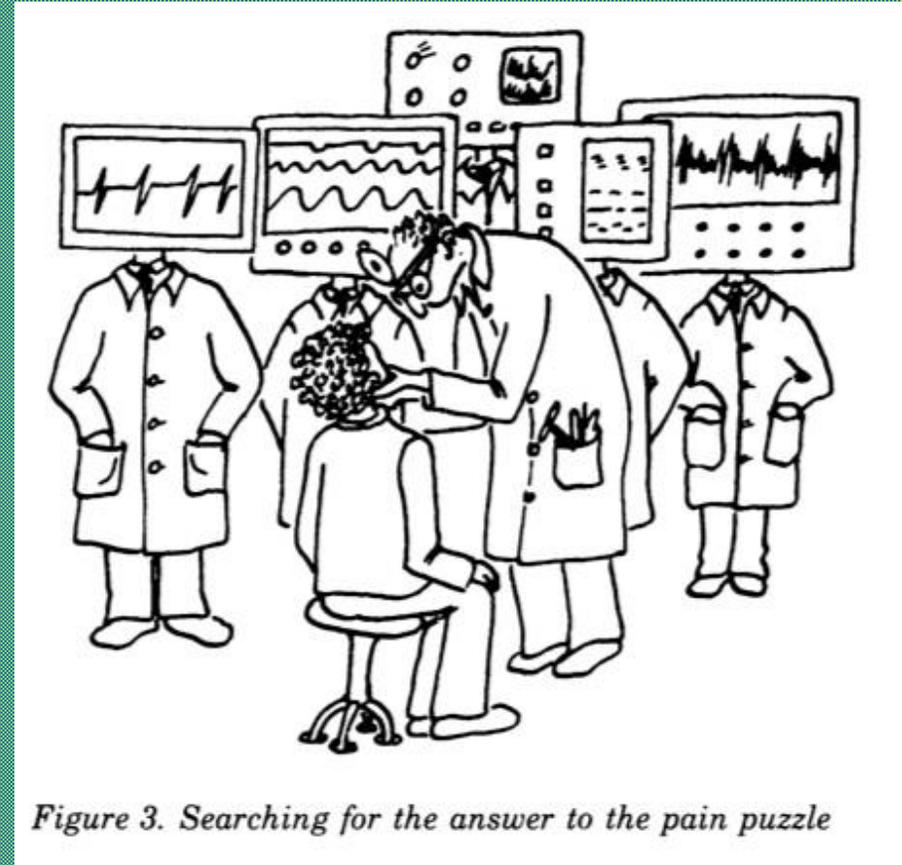
RED FLAGS



- Clinical features in Hx & PE that may indicate a serious spinal pathology
- Sx's of Cauda Equina, risk of Cancer (>50, prev Hx, Wt loss, no improvement after 4-6 wks), Spinal Infection, Fragility Fx

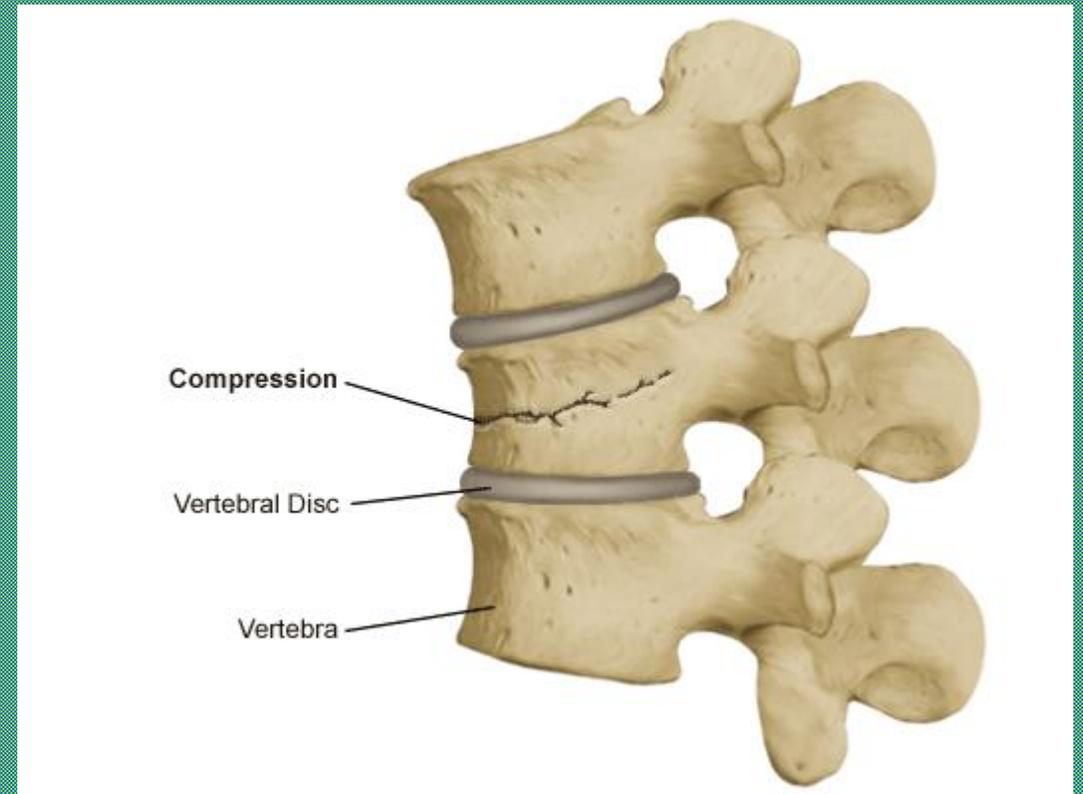
EXAM COMPONENTS

- Movement inconsistencies & asymmetry
- Palpation for localized tenderness
- ROM testing
- Neurological Exam
- Neural Tension testing
- Waddell's Signs to document possible non-physiologic component



Risk Factors for Fragility Fx's

- Osteoporosis
- H/O Steroid use
- Immunosuppression
- Serious Accident or injury



Oswestry Disability Questionnaire

- Measures pt`s perceived functional disability
- Designed to give information about how the LBP affects their ability to manage everyday life
- The higher the score the greater the perceived disability
- Higher scores need more intensive Tx (PT, Spinal Manipulative Therapy & Education)
- Education helps to prevent the fear of disability from becoming a barrier to improvement

CLINICAL HIGHLIGHTS

LBP ASSESSMENT SHOULD INCLUDE :

- 1- Pain Rating & Functional Status
- 2- Pt Hx
- 3- Red Flags
- 4- Psychosocial Indicators
- 5- Prior Tx & Response
- 6- Employment Status
- 7- Clinical Objective Assessment



Exercise for prevention	Moderate	Exercise should be recommended to reduce the recurrence of low back pain. However, no specific exercise is preferred.
Exercise for treatment	Moderate	Exercise is recommended in the treatment of subacute low back pain.
Heat	Moderate	Heat should be used for pain relief.
Imaging for non-specific low back pain	Moderate	Clinicians should not recommend imaging (including computed tomography [CT], magnetic resonance imaging [MRI] and x-ray) for patients with non-specific low back pain.
Imaging to rule out underlying pathology	Moderate	Imaging should be done to rule out underlying pathology or for those who are considering surgery, including epidural steroid injections.
Muscle relaxants	Moderate	Muscle relaxants may be used as an option in treating acute low back pain. However, possible side effects should be considered.
NSAIDs	Moderate	NSAIDs may be used for short-term pain relief in patients with acute and subacute low back pain.
Opioids	Low	Cautious and responsible use of opioids may be considered for those carefully selected patients with severe acute pain not controlled with acetaminophen and NSAIDs, at a minimum effective dose for a limited period of time, usually less than one to two weeks.
Spinal manipulative therapy	Moderate	Spinal manipulative therapy should be considered in the early intervention of low back pain.
Traction	Low	Clinicians should not prescribe or recommend traction for the treatment of acute low back pain.

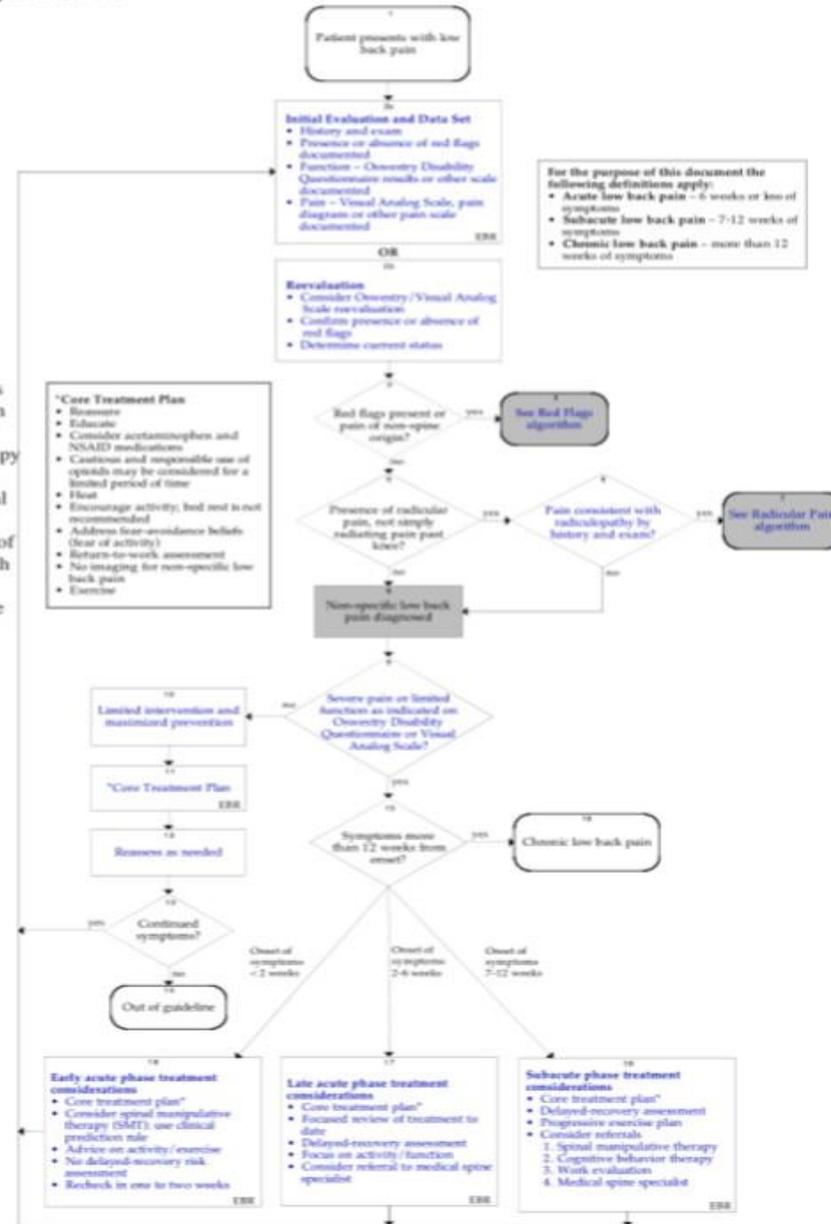
Health Care Guideline:
Adult Acute and Subacute Low Back Pain
Core Treatment of Non-Specific Low Back Pain
Algorithm

Fifteenth Edition
November 2012

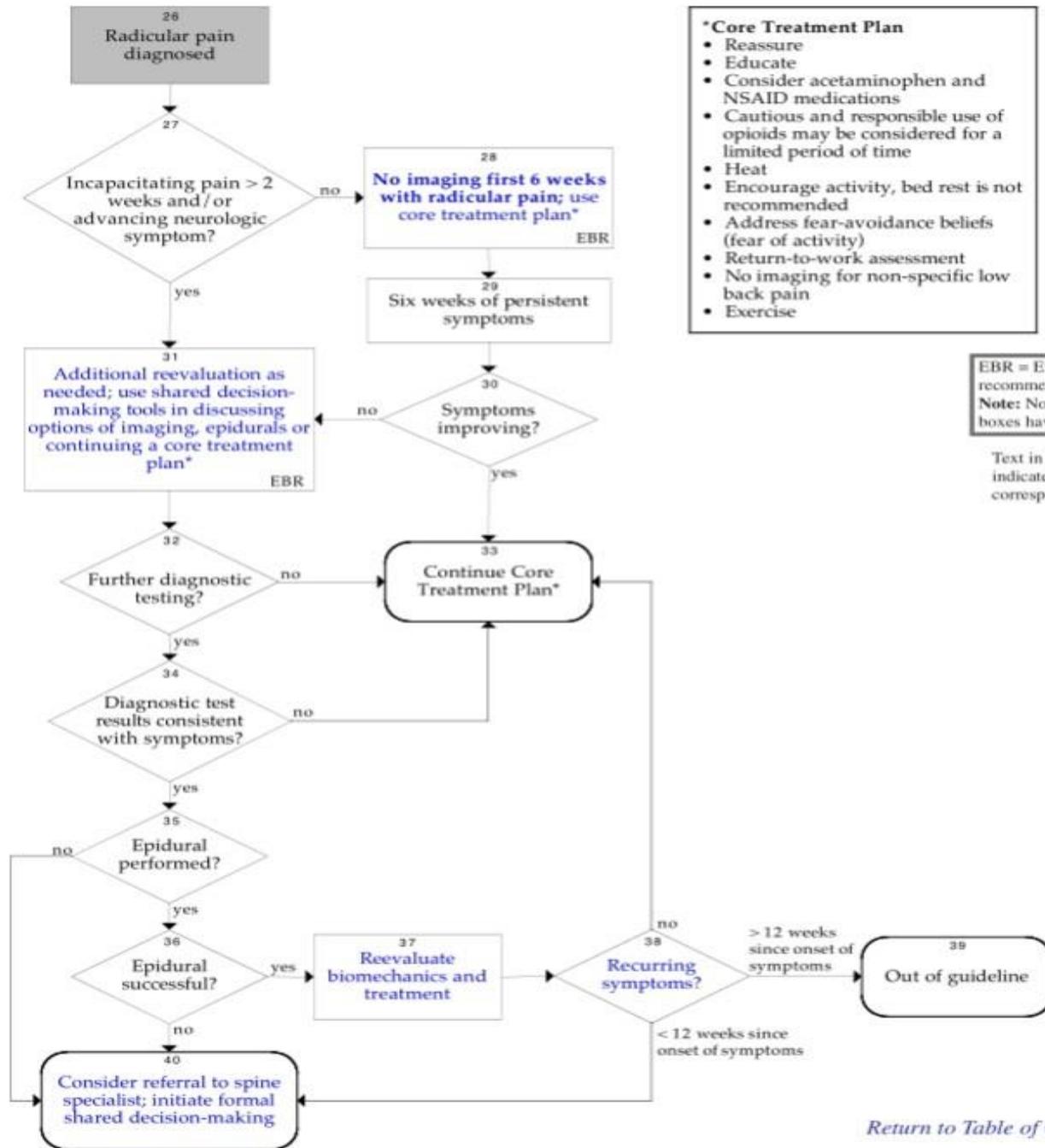
EBR = Evidence-based
recommendation included.
Note: Not all numbered
boxes have annotated content.

Text in blue in this algorithm
indicates a linked
corresponding annotation.

Note: Ankylosing Spondylitis (AS) is an uncommon cause of low back pain whose diagnosis is often delayed but for which specific and effective therapy exists. Ankylosing spondylitis may be suggested by the following clinical features: insidious onset of chronic (> three months) low back pain; age of onset less than 40; pain improves with activity but worsens with rest and at night. Consideration of this should be noted.



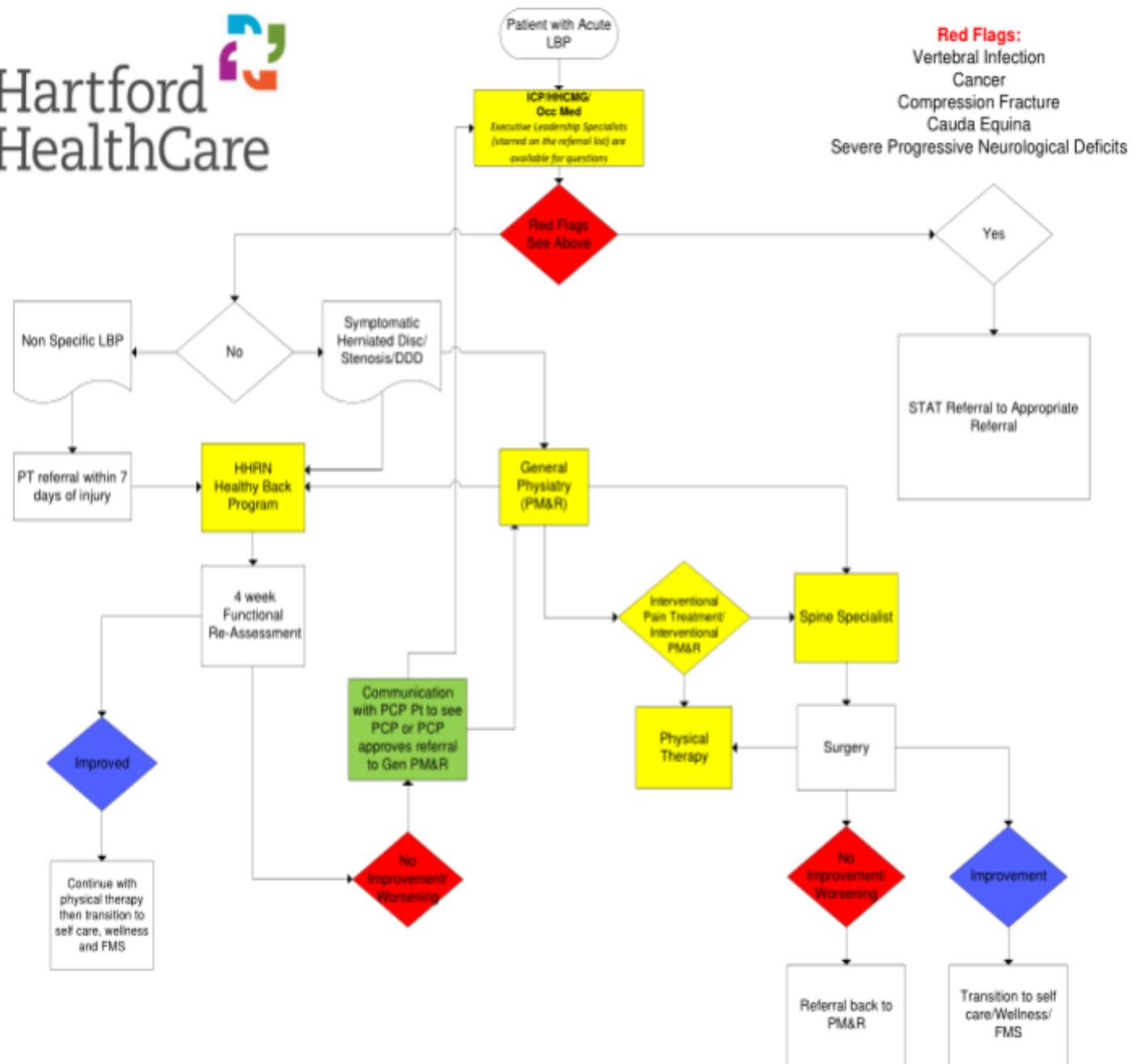
Radicular Pain Algorithm



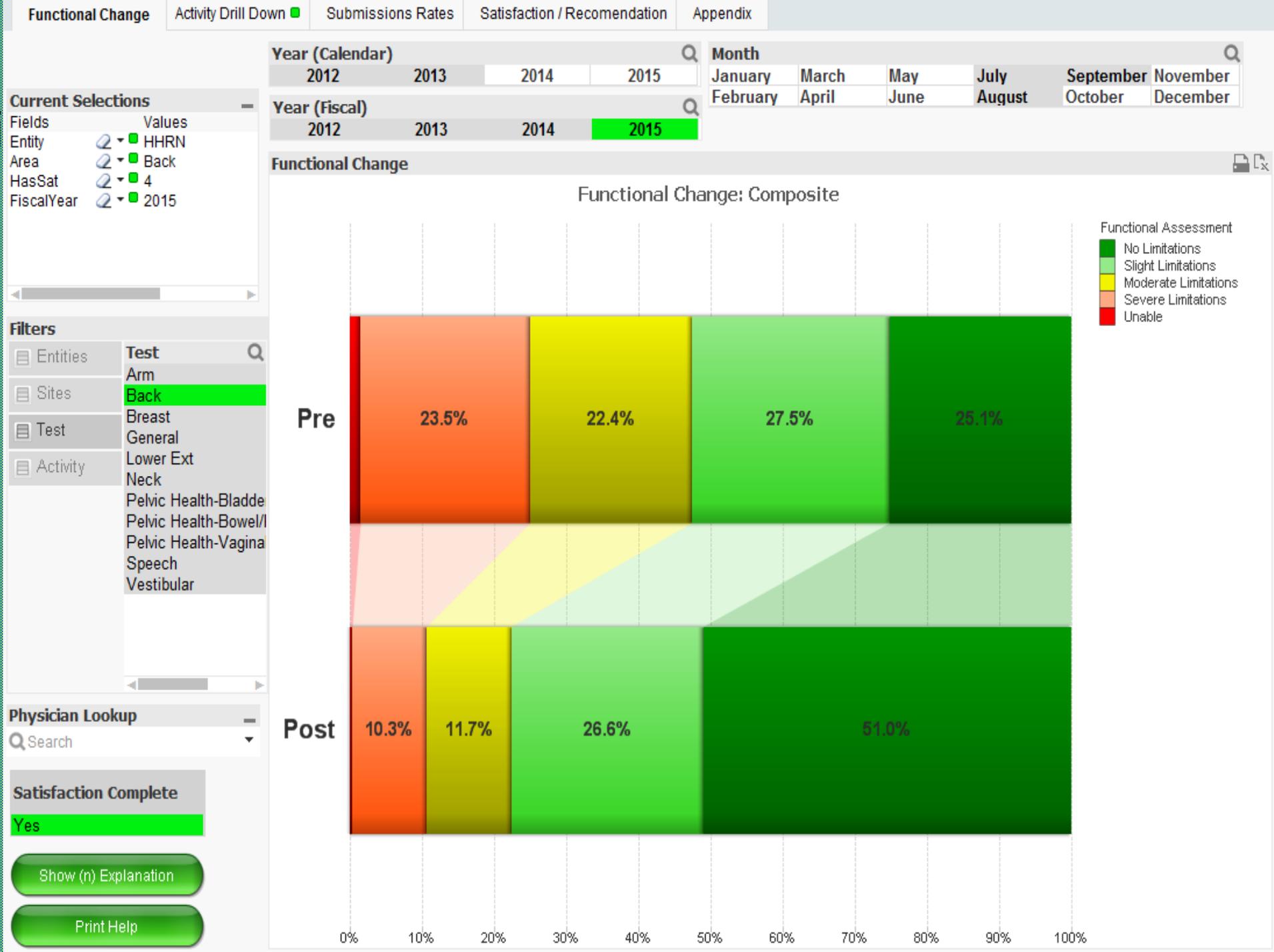
- *Core Treatment Plan**
- Reassure
 - Educate
 - Consider acetaminophen and NSAID medications
 - Cautious and responsible use of opioids may be considered for a limited period of time
 - Heat
 - Encourage activity, bed rest is not recommended
 - Address fear-avoidance beliefs (fear of activity)
 - Return-to-work assessment
 - No imaging for non-specific low back pain
 - Exercise

EBR = Evidence-based recommendation included.
Note: Not all numbered boxes have annotated content.

Text in blue in this algorithm indicates a linked corresponding annotation.



HHRN Functioni





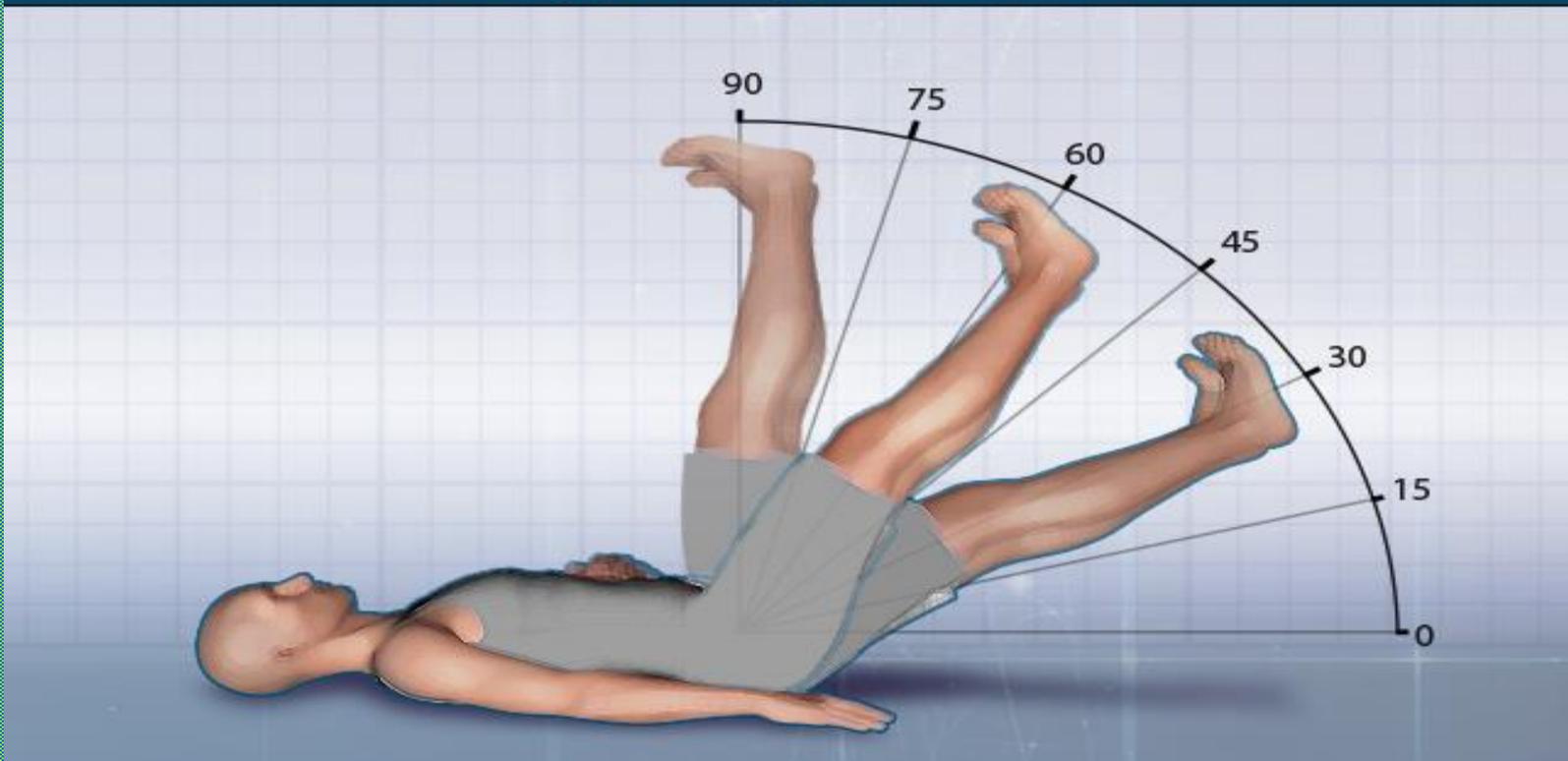
A 45-year-old male construction worker presents to his primary care physician's office with a 3-year history of chronic back pain and asks if he can be referred for surgery to "finally" fix the problem. During the history and physical examination, the physician performs a straight leg raise test.

Of all of the following provocative maneuvers and physical findings, which is the most important and accurate predictor for identifying a patient who is a good candidate for surgery?

- A. Spinous process palpation
- B. Pain reproduced with neck flexion, hip flexion, and leg extension
- C. Pain reproduced with straight leg elevation for 30 seconds in the supine position
- D. Straight leg raise reproduces pain and paresthesia in the leg at 30-70° of hip flexion

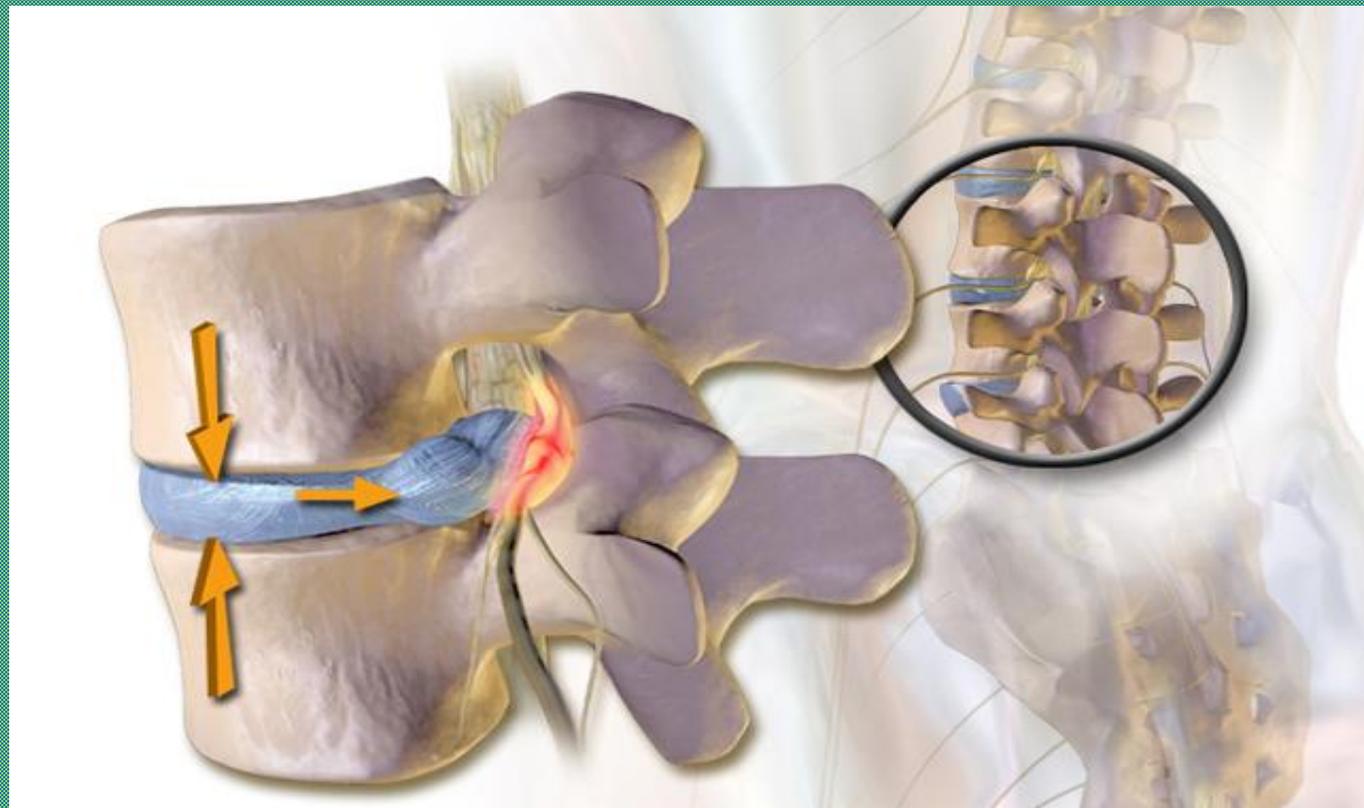
Image courtesy of Wikimedia Commons | DJFryzy.

Straight Leg Raise Test



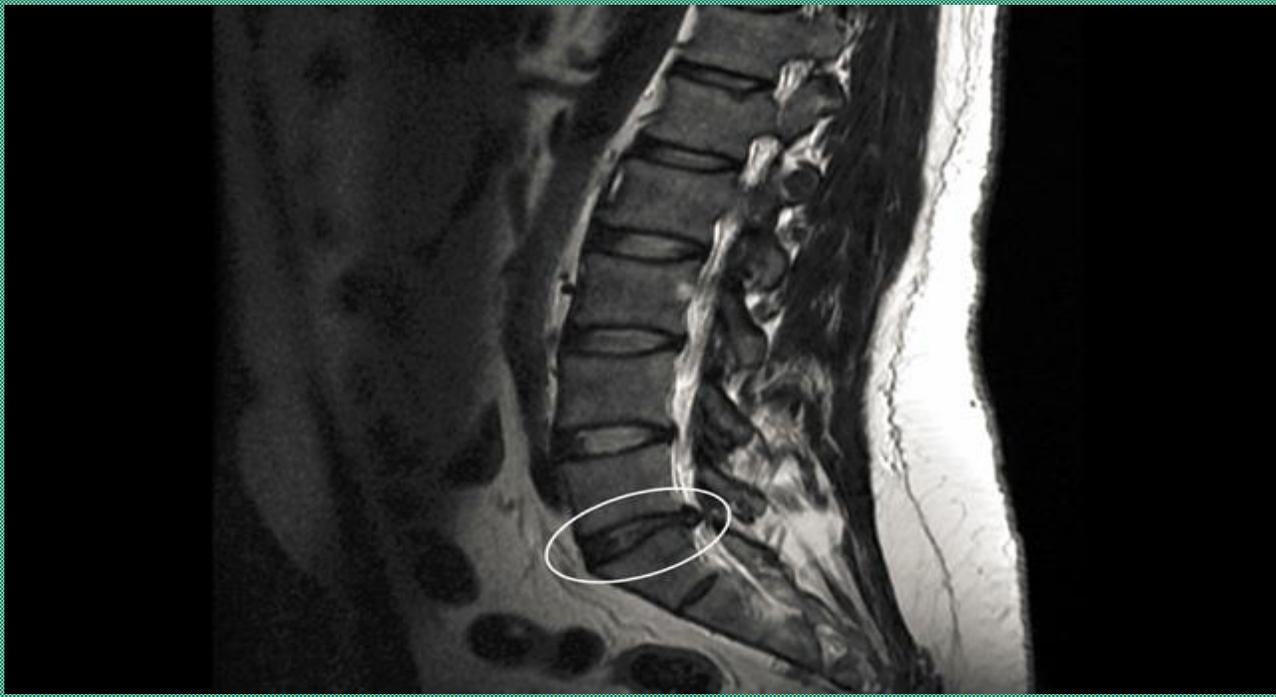
- Answer: D. **Straight leg raise** reproduces pain and paresthesia in the leg at 30-70° of hip flexion.
- A positive straight leg raise test (raising an extended leg to evaluate for pain from 30° to 70° of elevation) is a provocative test for tension on the L5-S1 nerve root. The straight leg raise test can be done with the patient either sitting or supine. This is one of the most important and predictive physical findings for identifying patients who are good candidates for surgery.

Image courtesy of Medscape | Sam Shlomo Spaeth.



The goals of managing chronic low back pain ultimately shift from achieving cure to alleviating pain and improving function by pharmacologic and nonpharmacologic means. It is important that the patient's expectations be appropriately managed. Unrealistic expectations, including complete resolution of pain and return to full previous activity, must be addressed. Treatment should begin with acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs); the latter must be used with caution because they can have significant gastrointestinal (GI) and renal effects. Opioids and other adjunctive medications may benefit patients whose pain is not relieved by NSAIDs. Muscle relaxants may provide short-term relief of pain with return of function; however, sedation is a common side effect.

Image courtesy of Wikimedia Commons | Blausen.com ^{staff.}



A 73-year-old man is admitted to the hospital for severe bilateral buttock and leg pain with ambulation, which has not improved with nonoperative management. MRI is performed, with the result shown in the slide. A surgical lumbar decompression is planned.

Which of the following is the most powerful preoperative factor for predicting clinical outcomes with surgical treatment of this condition?

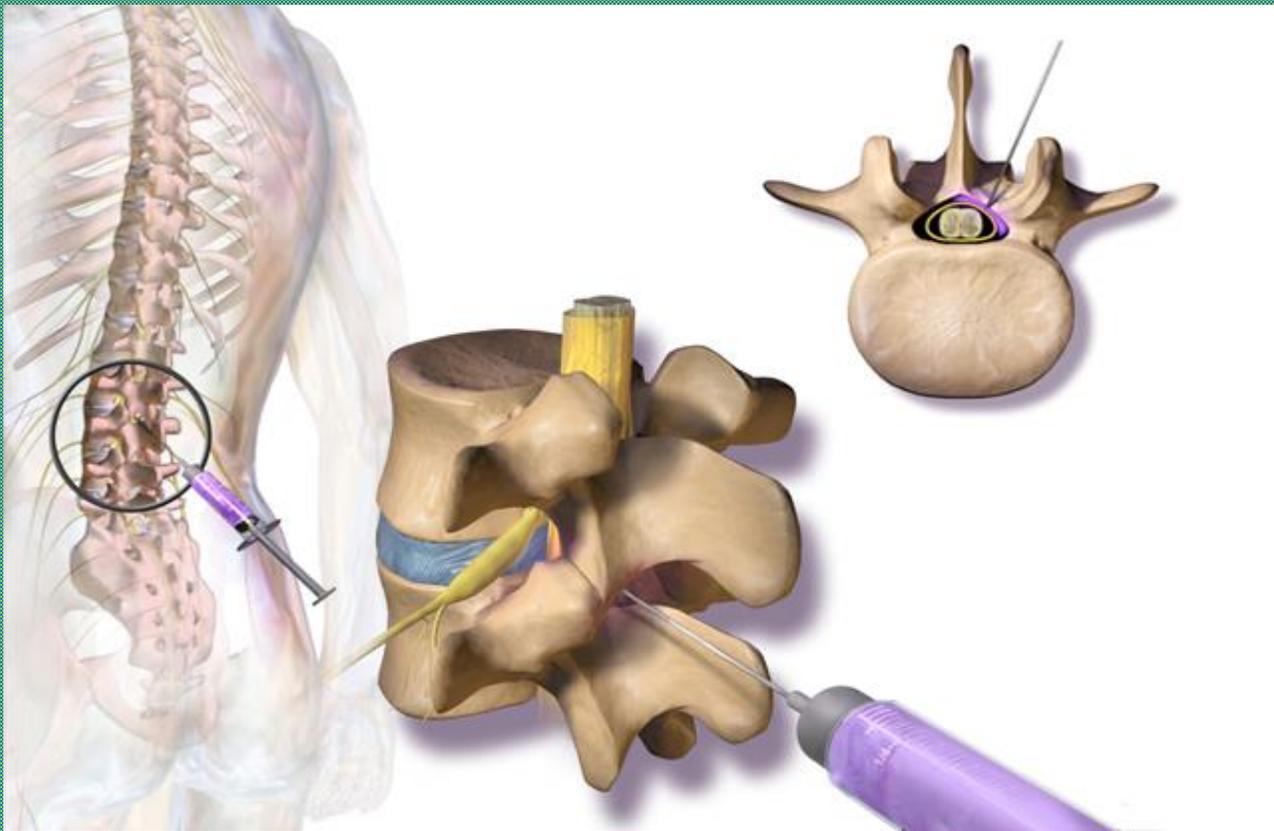
- A. Smoking
- B. Multilevel spinal stenosis
- C. Comorbid medical conditions *****
- D. Household income

Evidence for specific Tx's

- Multiple trials of patients with various non-cancer pain conditions consistently found opioids moderately superior to placebo for pain relief in primarily short-term trials (level of evidence: good), though effects on functional outcomes appear small and evidence on long-term effects is sparse.
- For chronic low back pain, the combination of spinal manipulation plus exercise and a brief educational intervention (physician consultation) was slightly superior for long-term pain but not function compared to physician consultation alone in one higher-quality trial (level of evidence: fair).
- For failed back surgery syndrome, one small, higher-quality trial found spinal cord stimulation associated with a higher likelihood of pain relief, lower likelihood of increase in opioid use, and lower likelihood of crossing over to reoperation (versus crossing over to spinal cord stimulation) compared to initial reoperation through 3 years and one small, higher-quality trial found spinal cord stimulation associated with moderately superior pain and functional outcomes compared to conventional medical management through 6 months (level of evidence: fair).

Evidence for Pregnancy LBP

- For back pain during pregnancy, water gymnastics was superior to usual care in one higher-quality trial (level of evidence: fair).
- For back pain during pregnancy, individualized physiotherapy was superior to usual care in two lower-quality trials (level of evidence: fair).
- For back pain during pregnancy, evidence on efficacy of group education and exercise was mixed, with group education and exercise superior to usual care in one of three lower-quality trials (level of evidence: poor).
- For back pain during pregnancy, a pelvic tilt exercise was associated with decreased pain in one lower-quality trial, but also with lower birth weight and earlier (though full-term) onset of labor (level of evidence: poor)



- For patients who have persistent pain or those in whom other treatment options are no longer bringing about any progress, referral to a pain management specialist is appropriate.
- Facet jt, sacroiliac jt nerve root, epidural or TPI, may be extremely helpful diagnostically and therapeutically in addressing the specific pain generator.

Image courtesy of Wikimedia Commons | Blausen.com staff.

Thank You!

