

CLINICAL GUIDELINES

Primary Care Guideline Summary – Lumbar Spine

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TRIAGE

At the initial visit, a focused history and physical examination is performed to assign patients into one of several clinical categories. The examiner should determine the severity and urgency of the disorder, the chronicity of the disorder, the likelihood of a specific diagnosis and the level of neurologic dysfunction.

Screen for Emergent Conditions:

- **Cauda Equina Syndrome**
 - Sudden onset of or unexplained loss of bowel or bladder function (90% of patients present with urinary incontinence)
 - Sudden onset of or unexplained bilateral leg weakness
 - Saddle numbness
 - Loss of perianal reflexes
- **Major or Progressive Neurologic Loss**
 - New foot drop or other major neurologic dysfunction
 - Progressive neurologic deficit
 - Neurologic dysfunction impeding the ability to perform the activities of daily living or an occupation
- **Uncontrolled Pain**
 - Pain not controlled by narcotic medications
 - Patient admitted to the hospital for pain control
 - Patient bedridden or unable to perform the ADL because of pain

After complete history, neurologic examination, and functional assessment, the patient is referred for cross-sectional imaging (MRI or CT if MRI is contraindicated).

Evaluate for Red Flags/Serious Underlying Conditions:

- **Malignancy** suspected on clinical, laboratory or radiological exam.
 - History of cancer;
 - Unexplained weight loss;
 - Elevated sedimentation rate or CRP;
 - Osteolytic lesion noted on plain radiographs; or
 - Unrelenting night pain or pain at rest.

- **Infection** suspected on clinical, laboratory or radiological exam.
 - History of IV drug use;
 - Immunocompromised status;
 - Elevated sedimentation rate or CRP;
 - History of night sweats or fever; or
 - Destructive bone lesion or rapid collapse of a disc with erosive endplate changes on plain radiographs.
- **Fracture** suspected by history or on radiological exam.
 - Age over 50;
 - History of osteoporosis;
 - History of chronic steroid use; or
 - History of previous fragility fracture.
- History of **recent spine surgery**
- Suspected **Spondyloarthropathy**

After a complete history and neurologic examination, patient may be referred for plain radiographs or cross-sectional imaging as clinically indicated for the evaluation of neoplasm, infection or fracture. Subspecialist referral is predicated on history, clinical exam and imaging findings. For example, if the patient has undergone recent surgery they are referred back to their spine surgeon. If spondyloarthropathy is suspected clinically or on imaging, the patient may be referred to a rheumatologist.

Clinical Categories:

- **Nonspecific low back pain**
- **Radiculopathy**
- **Lumbar Spinal Stenosis**

Patients with nonspecific back pain, radiculopathy and suspected spinal stenosis should receive nonspecific therapy directed to the clinical diagnosis.

Components of the History and PE:

History

- Age
- History of injury
- Chronicity of symptoms
- Pain profile, location and severity (VAS), worst position, best position, mechanical.
- Functional limitations, (OWS or abbreviated assessment) (Appendix A)
- Functional demands, work profile, home profile

PE

- Palpation for spinal tenderness
- Strength
- Sensory
- Reflexes
- Provocative tests, (i.e., straight leg raising test, extension test)
- Romberg (patients with LSS have an abnormal Romberg)
- Gait (patients with LSS have a wide based gait and an increased risk of falling)

PMH - (Previous spine surgery, history of major trauma, history of fragility fractures, immunocompromised status, spondyloarthropathy, cancer)

ROS - (Unexplained weight loss, chronic steroid use, IV drug use, urinary and rectal dysfunction)

Assessment of Psychosocial Factors – These can be barriers to recovery and can predispose patient to prolonged disability.

- Belief that pain and activity are harmful
- “Sickness behaviors” such as extended rest
- Depressed or negative moods, social withdrawal - Depression screen (PHQ-2 screen, Appendix B)
- Worker’s Compensation or auto injury, history of previous claims
- Treatment that does not fit best practice
- Problems with work or low job satisfaction
- Overprotective family or lack of support

Imaging - Plain Radiography

Plain radiographs are not indicated at initial evaluation or in the acute setting unless specific indications are present:

- History or suspicion of cancer, e.g., rule/out metastatic disease.
- Clinical or laboratory suspicion of infection - history of immunosuppression, chronic steroid use, fever or night sweats
- Clinical suspicion for fragility fracture, minor injury with history of age over 50, history of osteoporosis, chronic steroid use
- Serious accident or injury (e.g. fall from a height, MVA)
- Clinical suspicion of spondyloarthropathy
- Age over 50
- Failure to respond to conservative therapy for 4-6 weeks
- Drug or alcohol abuse

Oblique radiographs have not been shown to add significant information and are not recommended for routine imaging. Lateral flexion extension radiographs are not recommended for initial evaluation, and are generally reserved for evaluation of stenosis on follow-up examinations or for evaluation for surgery.

Imaging - MRI, CT or CT Myelography

MRI is the procedure of choice as it allows direct visualization of neurologic structures, has high sensitivity for infection and neoplasm, and does not utilize ionizing radiation. (Appendix C) CT and CT myelography is generally reserved for patients with a contraindication to MRI, who cannot cooperate for MRI, who cannot fit in an MRI, who have a history of fusion, or who have specific indications. (Appendix D)

Immediate evaluation with MRI, CT or CT myelography is indicated if the patient is suspected of having an emergent or potentially serious underlying condition such as cauda equina syndrome, fracture, neoplasm, or infection.

Immediate evaluation with MRI, CT or CT myelography is indicated in patients with uncontrolled pain, pain requiring narcotic analgesics for more than 1-2 weeks, pain with increases with conservative therapy, major neurologic deficits, or progressive neurologic deficits.

Routine cross sectional imaging in the acute setting has otherwise not been shown to lead to improved outcomes in patients with nonspecific low back pain or new onset radiculopathy. For the purposes of imaging, acute is defined as new or recurrent pain lasting <6 weeks, or pain in patients who have received no controlled course of conservative care.

MRI, CT or CT myelography is indicated in patients with moderate or severe pain, who have not responded to an appropriate course of conservative therapy, and are candidates for either injection therapy and/or surgery.

Primary Spine Care

The initial treatment for acute low back pain and radiculopathy is nonspecific, and depending on comorbidities and the severity of the patient's symptoms, may consist of the following:

Patient Education –

- Expected course – favorable prognosis and high likelihood of improvement over the first month of care
- Advise patients to remain active
- Advise against prolonged bed rest
- Provide information about effective self-care options, such as heating pads and over the counter medications. (Consider educational materials such as The Back Book.)
- Inform the patient that imaging during the acute phase of care is unlikely to identify a precise cause of pain, to change the initial course of therapy or to change the outcome.
- Review indications for reassessment with the patient: e.g., major or progressive neurologic deficit, loss of bowel or bladder control, persistent or increasingly severe pain.

Medications –

- NSAIDS, with specific choice tailored to each specific patient's reward risk profile
- Short course of opioid medications for control of severe pain. Patients who fail to respond to a short course, 1-2 weeks, of opioid analgesics are candidates for reassessment

- Oral corticosteroids are an option for patients who have severe pain or who are unable to receive NSAIDs
- Other medications which might be considered include muscle relaxants, tricyclic antidepressants, or gabapentin

Spinal Manipulation –

- Shown to be effective for acute onset low back pain
- Therapeutic trial of up to 12 visits within 4 weeks
- Reassess at 2 weeks with modification of techniques or co-management as indicated

Exercise Therapy – Incorporating stretching and core strengthening is generally recommended after acute symptoms have resolved or are resolving.

Reassessment

Indicated at 4-6 weeks in patients who do not improve or progress despite conservative therapy.

The purpose of the reassessment is to develop:

- More specific and targeted care directed to patients who do not improve with general measures;
- Improved diagnosis by correlating the history and findings on physical exam with findings on MRI and CT;
- Improved diagnosis by using selective injections targeted to potential pain generators identified above; and
- Advanced pain management directed to the more specific diagnosis generated above, including but not limited to therapeutic injections, manipulation, and physical therapy.

The interval may vary depending on the severity of pain, the ability of medications and manipulation to control the patient's symptoms, the patient's tolerance to pain, and the patient's functional limitations relative to their demands. An inability to perform the activities of daily living is an indication for more immediate reassessment. Significant work limitations or other functional demands may also predicate more immediate re-evaluation.

Reassessment should generally include complete re-evaluation as outlined above.

Plain radiographs may be indicated for the evaluation of nonspecific low back pain at this stage, since occult malignancy, infection or compression fracture can lead to delayed recovery or failure to respond to conservative therapy. Plain radiographs may also be useful to develop a more specific working diagnosis to direct more specific conservative measures.

MRI, CT or CT myelography may be indicated for evaluation at this stage if a therapeutic injection or surgery is being considered.

Monitor Patient Self-Reported Outcomes

Record pain level (VAS) and functional measures (Oswestry Disability Index or abbreviated survey) at each transition point:

- Triage,
- Initiation of Primary Care,
- Reassessment,
- Referral for MRI or CT,
- Referral for Injection Therapy,
- Response to Injections,
- Final disposition.

This is a guideline, not a policy. It is a summary and distillation of relevant literature and subspecialty guidelines. The purpose of the CDI Quality Institute guidelines is to promote quality and continuity, where appropriate for medical practices within the CDI/Insight enterprise, and to provide relevant and up to date background information to support the development of policies within each individual practice. Guidelines should be adjusted for local standards of care, associated hospital or network policies, hospital versus outpatient settings, different patient populations and your own risk tolerance. Guidelines should also be modified to account for new information or publications that become available between revisions.

Appendix A - Abbreviated functional screen:

- Ability to exercise
 - o Never exercises
 - o Ability limited
 - o Not able to exercise
- Ability to work
 - o Was not been employed prior to the injury
 - o At work with restrictions or change in job
 - o Unable to work
 - o Workman's Compensation injury
- Social
 - o No limitations
 - o Limited
- ADL
 - o Unable to go grocery shopping
 - o Unable to cook for themselves
 - o Unable to dress and bathe without assistance
 - o Bedridden

Appendix B – PHQ-2 Screen

Over the last 2 weeks, how often have you been bothered by any of the following problems:

- 1 - Little interest or pleasure in doing things, and
- 2 - Feeling down, depressed or hopeless.

Each question is scored: not at all (0), several days (1), more than half the days (2), or nearly every day (3).

A score of greater than or equal to 3 has a sensitivity of 83% and specificity of 92% for depression.

(Kroenke K, Spitzer RL, and Williams JBW. The Patient Health Questionnaire-2: Validity of a Two-Item Depression Screener. Medical Care 2003;41:1284-1292.)

Appendix C – Indications for MRI of the lumbar spine

- **Clinical or Radiologic suspicion of malignancy.**
- **Clinical or Radiologic suspicion of infection.**
- **Major trauma to evaluate for associated ligamentous injury or to evaluate patients with secondary neurologic symptoms.** Plain radiographs and/or CT are typically the procedures of choice to detect and evaluate a fracture. MRI may be obtained in addition to CT to evaluate for ligamentous injuries and/or for associated neurologic injury.
- **Fragility fracture** with
 - Equivocal findings on x-ray,
 - To characterize the chronicity of an abnormality on x-ray, or
 - To evaluate for underlying malignancy.
- **Uncontrolled back or radicular pain.**
 - Hospitalized for pain control.
 - Pain prevents the performance of the activities of daily living.
- **Moderate or severe back or radicular pain not responding to course of conservative therapy:**
 - At 6 weeks following a course of conservative therapy with oral medications, manipulation and/or physical therapy,
 - At 1-2 weeks, if narcotics required for pain control,
 - Pain increasing during the course of conservative therapy,
 - Uncontrolled pain,
 - In patients who cannot tolerate noninvasive therapy,
 - In anticipation of a therapeutic injection,
 - For evaluation and planning for surgical therapy
- **As a component of or to facilitate a comprehensive conservative therapy program.**
- **Major or progressive neurologic deficit.**
- **Cauda Equina Syndrome** (90% of patients have urinary incontinence).
- **Suspected spondylolysis** in children or young adults (≤ 18 years of age) with activity related back pain.

Appendix D – Indications for CT or CT myelography of the lumbar spine

- **Contraindication to MRI.** CT or CT myelography can be used for each of the above indications in lieu of MRI in patients with contraindications to MRI, patients with severe claustrophobia who have failed MRI with sedation, patients who cannot fit into an MRI or patients who cannot cooperate for an MRI.
- **Fracture detection and characterization** following major trauma.
- **Fragility fracture evaluation.**
 - To evaluate for potential vertebroplasty
 - To evaluate for underlying malignancy in patients with an indeterminate MRI
- **Fracture healing** in patients with persistent pain and suspicion of nonunion or AVN on plain x-ray or MRI.
- **Recent or previous fusion** with back pain, radicular pain, or neurologic loss, or with suspected iatrogenic fracture.
- **Fusion healing.**
- **Spondylolysis.** To characterize or to evaluate for healing following bracing, or in patients with persistent pain.
- **Tumor evaluation.** To evaluate for suspected osteoid osteoma with MRI or bone scan abnormality, or to characterize and stage any primary bone lesion.

Appendix E - Sources

ICSI Health Care Guidelines: Adult Low Back Pain, 14th edition
(November 2010 in press)

Chou R, Qaseem A, Snow V, et al. Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society. *Annals of Internal Medicine* 2007;147:478-491.

Notes from Minnesota Basket of Care: Acute Episode of Low Back Pain work group. (Published for public comment)

New Zealand Acute Low Back Pain Guideline, October 2004 Edition.