CLINICAL PATHWAY

Musculoskeletal Health

Low Back Pain Pathway

CHRISTIANA CARE HEALTH SYSTEM
# Low Back Pain Pathway

## Table of Contents

- **INTRODUCTION**
  - Scope of this Pathway
  - Pathway Contacts
- **CLINICAL PATHWAY**
- **PATHWAY ALGORITHMS**
- **URGENT REFERRAL PROVIDERS**
- **CLINICAN EDUCATION MATERIALS**
- **REFERENCES**
- **ACKNOWLEDGEMENTS**

## INTRODUCTION

1. Scope of this Pathway
2. Pathway Contacts

## CLINICAL PATHWAY

3.

## PATHWAY ALGORITHMS

5.

## URGENT REFERRAL PROVIDERS

6.

## CLINICAN EDUCATION MATERIALS

8.

## REFERENCES

9.

## ACKNOWLEDGEMENTS

11.
INTRODUCTION

Low back pain causes more global disability than any other condition. Over $100,000,000,000 is spent on spine care in our country annually. Unfortunately, this cost is not matched by a decrease in disease burden or by excellent clinical outcomes. There are myriad reasons for this: large variations in clinical care; poor outcome measures and quality indicators for many treatments; excessive and inappropriate use of many diagnostic and therapeutic modalities.

In an effort to decrease unnecessary variation in clinical care, to improve the quality of care, and to reduce the cost of care, the Christiana Care Musculoskeletal Health service line engaged a multidisciplinary spine work group to develop an evidence-based pathway for low back pain.

Scope of this Pathway

This pathway is for patients who present to their primary care provider or medical aid unit with a complaint of low back pain.

Pathway Contacts

The content of this pathway is developed and maintained by the Musculoskeletal Health service line of Christiana Care Health System. Questions or feedback about the content may be directed to:
Administrative Lead: Lori Czajkowski, Executive Assistant for Musculoskeletal Service Line  
phone: 302-733-5967  
e-mail: LoCzajkowski@christianacare.org

Physician Lead: Scott T. Roberts, MD  
phone: 302-623-4144  
e-mail: Scott.T.Roberts@christianacare.org
Please see the clinical pathway diagram below for a visual depiction of the pathway.

Patient presents with low back pain.

1) The first consideration is to rule out cauda equina syndrome. This is a very rare condition where acute, severe compression of the lumbar nerve roots results in significant acute neurologic loss, including acute bowel and bladder changes (inability to urinate, loss of bowel control), saddle anesthesia and bilateral lower extremity weakness and numbness. This does not include patients who present with a localized motor deficit, such as weakness with ankle dorsiflexion, great toe extension or ankle plantar flexion. If there is concern for cauda equina syndrome, the patient should be sent immediately to the emergency department to arrange for urgent surgical decompression.

2) The second consideration is to evaluate for any "red flag" signs or symptoms. These help to evaluate for the concerning causes of low back pain, including malignancy, infection and fracture:
   a) history of cancer, unintentional weight loss (malignancy)
   b) fevers, immunosuppression, IV drug abuse (infection)
   c) significant trauma, osteoporosis, chronic corticosteroid use (fracture)
   d) severe pain, unrelated to position (can be seen with cancer, infection or fracture)

   If a red flag is identified, imaging should be ordered:
   - Lumbar MRI without contrast is the preferred modality (consider ordering with contrast if the patient has had prior lumbar surgery in the region being investigated).
- A lumbar CT can be ordered if MRI is contraindicated.
- Plain x-ray has limited utility, but it can be used to screen for a compression fracture.

3) The next consideration is the patient's neurologic status. If there is a progressive or significant focal neurologic deficit, an MRI should be ordered and the patient should be referred to a spine surgeon. This deficit would be worsening weakness or a motor exam with focal weakness <4/5.

    *****Utilize the Urgent Referral Network for lumbar radiculopathy (attached below)

4) If there is severe radicular pain (aka sciatica), an MRI should be ordered and the patient should be referred to a non-surgical spine specialist (PM&R, Anesthesiology, or Interventional Radiology) for an epidural steroid injection. Radicular pain is considered severe if the pain level is high (5-10) and this is causing a significant limitation in activities of daily living.

    *****Utilize the Urgent Referral Network for lumbar radiculopathy (attached below)

5) If there is no concern for cauda equina, no red flags, no notable neurologic deficit and no severe radicular pain, the patient should be treated with conservative care. See pathway below.

6) The patient should be re-evaluated after 6 weeks of conservative care. If relief is adequate, they can be discharged with advice on a home exercise program. If relief is not adequate, considerate ordering an MRI and referring to a spine specialist for injections or surgical consultation.
LOW BACK PAIN PATHWAY

Christiana Care Low Back Pain Pathway

Quality of evidence for treatment recommendations:
- High (Good)
- Moderate (Fair)
- Low (Poor)

ACP Guideline for Low Back Pain
(NASS Guidelines for Disc Herniation/Radiculopathy)

Grades of Severity:
- Mild: Pain 0-4 AND limited effect on ADLs
- Moderate: Pain 5-10 AND limited effect on ADLs
- Severe: Pain 5-10 AND significant effect on ADLs

Conservative Care:
- Education
- Activity Modification: normal activities as tolerated, no bed rest >48 hours

Mild (0-4):
- Self Care (Heat/Ice, Home exercises, OTC NSAIDs)
- Consider referral for a short course of physical therapy (D)

Moderate (5-10):
- Self care, plus:
  - Consider referral to physical therapy (D)
  - Consider alternative treatments, especially for chronic pain (E)
  - Consider medication management (F)
  - Consider referral to a non-surgical spine specialist (PM&R, Anesthesiology, IR) (C)

A. Red flags to rule out malignancy, infection, and fracture:
- History of Cancer
- Unintentional weight loss
- Fevers
- Immunosuppression
- IV drug abuse
- Significant trauma
- Chronic corticosteroid use
- Osteoporosis
- Severe pain, unrelated to position

B. Imaging:
- Lumbar MRI without contrast is the preferred modality (consider ordering with contrast if recent spine surgery in the area in question)
- CT if MRI contraindicated
- Plain x-ray has limited utility, but can be used to screen for compression fracture

C. Referral to spine specialists:
- Surgical referral: If there is progressive or significant focal neurologic deficit, or severe pain persists despite conservative care, refer to a spine surgeon (Orthopedic or Neurosurgical spine surgeon)
- Non-surgical referral: If the primary issue is pain, with minimal or no motor deficit, refer to a non-surgical spine specialist: Physical Medicine and Rehabilitation, Anesthesiology, or Interventional Radiology. These providers will work to identify the pain generator, refer to ancillary providers and surgeons as indicated, perform appropriate injections and/or medication management, and coordinate care with all involved providers.
- Acute lumbar radiculopathy — Patients with an acute radiculopathy can be seen within one week of referral by providers in the Urgent Referral Network. This can be found in the Lumbar Disc Herniation and Radiculopathy Pathway. (Please note, the one week time frame is for acute radiculopathy, not low back pain)

D. Physical Therapy:
- Start with limited prescription for evaluation, treatment, education and direction on an appropriate home exercise program
- Mild: 1-3x/week for up to 6 sessions
- Moderate-Severe: 1-3x/week for up to 12 sessions

E. Alternative care options: exercise, acupuncture, mindfulness-based stress reduction, massage, spinal manipulation, psychological therapies, tai chi, yoga

F. Medication Management:
- Utilize the lowest effective dose for the shortest possible period of time.
- Start with non-opiates. Evidence for oral medications is extremely limited. These are spine work group recommendations. Medication management needs to be tailored to the patient with careful consideration of comorbidities and risks/side effects of medication use:
  - NSAIDs: take risk factors into account (GI, renal, cardiovascular, and cerebrovascular history; age), consider gastroprotective agent
  - Consider neuropeptide agent (such as gabapentin) for radicular pain
  - Consider short course of oral corticosteroids for severe pain (caution with diabetics)
- Muscle Relaxants: warn of sedation
- Weak opioids or tramadol:
  - only if non-opiates are contraindicated or ineffective
  - avoid routine use
  - avoid tramadol if SSR/SSRI (serotonin syndrome)
  - be aware of CDC and DE controlled substance regulations

Back to Table of Contents
URGENT REFERRAL NETWORK FOR LUMBAR RADICULOPATHY

Urgent lumbar radiculopathy patients (those with severe radicular pain or progressive neurologic deficit) will be seen within one week of referral. The patient or provider requesting the appointment should identify the patient as an acute radiculopathy pathway patient (or "pathway patient").

Please contact Lori Czajkowski if you have any difficulty with getting an appointment at 302-733-5967 / loczajkowski@christianacare.org.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Contact Number for urgent referral</th>
<th>Providers</th>
</tr>
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<tbody>
<tr>
<td>AdvanceXing Pain and Rehabilitation</td>
<td>302-384-7439</td>
<td>Selina Xing, MD (PM&amp;R-Pain)</td>
</tr>
<tr>
<td>Center for Interventional Pain and Spine</td>
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<td>Philip Kim, MD; Chee Woo, MD (Anesthesiology-Pain)</td>
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<td>Christiana Spine</td>
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<td>Rush Fisher, MD (Orthopedics-Spine)</td>
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<td>Comprehensive Spine Center</td>
<td>302-734-7246</td>
<td>Ganesh Balu, MD (PM&amp;R-Pain)</td>
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<td>Delaware Back Pain and Sports</td>
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<td>Barry Bakst, DO; Stephen Beneck, MD; Arnold Glassman, DO; Rachel Smith, DO; Craig Sternberg, MD (PM&amp;R-Spine/Pain)</td>
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<tr>
<td>Delaware Neurosurgical</td>
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<td>Leif-Erik Bohman, MD; Paul</td>
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<td>Group</td>
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<td>Contact Information</td>
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<tr>
<td>Delaware Orthopaedic Specialists</td>
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<td>Mark Eskander, MD (Orthopedics-Spine)</td>
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<td>Delmarva Pain and Spine Center</td>
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<td>Shachi Patel, MD (Anesthesiology-Pain)</td>
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<td>First State Orthopaedics</td>
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<td>Bruce Rudin, MD; James Zavlasky, DO (Orthopedics-Spine)</td>
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CLINICAN EDUCATION MATERIALS

- Algorithm/Referral Network reference sheet
REFERENCES

Work Group Consensus from the Christiana Care Spine Work Group, utilizing the following evidence and guidelines:


3. Choosing Wisely Recommendations:
   North American Spine Society: Don’t recommend bed rest for more than 48 hours when treating low back pain. 2013
   North American Spine Society: Don’t recommend advanced imaging (e.g., MRI) of the spine within the first six weeks in patients with non-specific acute low back pain in the absence of red flags. 2013
   American Academy of Family Physicians recommendation for imaging for low back pain 2012


14. Jarvik JG et. al. Association of Early Imaging for Back Pain With Clinical Outcomes in Older Adults Jama 2015


ACKNOWLEDGEMENTS

This pathway was developed by the Christiana Care Spine Work Group:
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THE CHRISTIANA CARE WAY

We serve our neighbors as respectful, expert, caring partners in their health. We do this by creating innovative, effective, affordable systems of care that our neighbors value.