This course was developed for primary care providers including physicians, nurses, physical therapists and chiropractors. The course is designed to build on providers’ assessment and management skills when working with patients with low back pain. Participants will gain an understanding of how to use Spine Pathway tools and processes in clinical practice to improve patient outcomes.
**Saskatchewan Spine Pathway**

**Low Back Pain Assessment and Management**

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- Pattern 3: Constant Leg Dominant Pain
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- Pattern 5: Pain Disorder (no patient hand-out)
- General Recommendations for Maintaining a Health Back

Additional resources:
- **Low Back Pain Assessment & Management On-line Course** (no charge) [www.spinepathwaysk.ca](http://www.spinepathwaysk.ca)
- **Spine Pathway** provider web pages [www.sasksurgery.ca/provider/spine.html](http://www.sasksurgery.ca/provider/spine.html)
- A list of helpful resources for managing chronic pain, compiled by the Saskatchewan Pain Society (SaskPain) [http://www.saskpain.ca/index.php/resources](http://www.saskpain.ca/index.php/resources)
- **LiveWell with Chronic Pain** (LWCP) [www.saskatchewan.ca/residents/health/diseases-and-conditions/chronic-pain](http://www.saskatchewan.ca/residents/health/diseases-and-conditions/chronic-pain) peer-led, community based self-management program
- **Online Therapy Unit** - [www.onlinetherapyuser.ca](http://www.onlinetherapyuser.ca) free online cognitive behavior therapy teaches people with chronic pain how to better manage pain, anxiety and depression.
PART 1: LIVE PRESENTATION

- Presentation slides
- Patient scenarios for discussion
Live Training Course:
Assessment and Management of
Lower Back and Leg Pain

Acknowledgements

To the Spine Training Implementation Team (consisting of Dr. Daryl Fourney, Dr. Joseph Buwembo, Dr. Allan Woo, Dr. Martin Heroux, Lee Gallais, John Berzolla, John Murphy, Daniel Myers, Lilyans Zelada, Terra Hayes, Barbara Neumann, Darlene Newton, Terry Blackmore and Vance Sanderson for their ongoing commitment to the development and support of the Saskatchewan Spine Pathway

The Saskatchewan Spine Pathway would also like to acknowledge Dr. Daryl Fourney and Dr. Hamilton Hall for developing the live presentation materials used in today’s session
Case History

A 49 year-old psychiatrist gives a two month history of low back pain. There was a gradual onset following a slip and fall outside his office. His pain is most intense in the right buttock and over the right greater trochanter. When severe it can radiate down the right leg into the right foot. The pain is constant. Symptoms are sufficient to interfere with his work and he is considering initiating a disability plan so that he can stay home. The pain is aggravated by sitting and any attempt at lifting. There is slight improvement with short periods of walking. When it is present, the right leg pain disturbs his sleep. He complains of constipation. He has already had a course of lumbar facet injections, which produced no improvement.

Physical Examination

Reduced ranges of lumbar flexion and lumbar extension. Extension is more painful than bending forward both when standing and when lying down. Straight leg raising on the right is limited to 60 degrees by the buttock pain. It does not reproduce the right leg pain. Straight leg raising on the left past 80 degrees produces right-sided back pain. There is an absent left ankle reflex. Power testing is normal except for standing plantar flexion which is limited by increasing back pain. The plantar responses are down-going and there is no change in saddle sensation.
Current Practice Pre-test

Suggestions?

Introduction to the Saskatchewan Spine Pathway

PART ONE: INTRODUCTION
PART TWO: HISTORY TAKING
PART THREE: THE PHYSICAL EXAM
PART FOUR: MECHANICAL PATTERNS OF PAIN
PART FIVE: PAIN CONTROL STRATEGIES AND TREATMENT FOR LOWER BACK PAIN
PART SIX: RED FLAGS
CONCLUSION
Course Objectives:

Following completion of the course you will be able to:

• Obtain a relevant history and physical exam
• Recognize patterns of low back and leg pain
• Identify serious pathology
• Initiate appropriate primary care
• Identify patients for surgical referral
• Determine the appropriate use of medical imaging
• Understand your role in the provincial spine pathway

PART ONE: INTRODUCTION

In this section of the course, you will learn about the development of the Saskatchewan Spine Pathway, including:

• how you can improve the patient and care provider experience,
• the clinical basis for the pathway, and
• the purpose and organization of the Saskatchewan Spine Care Assessment Clinic
What were the issues?

- Wait times for Spine Surgeon Consultation
- Wait times and overutilization of MRI
- Lack of adherence to Clinical Practice Guidelines

Referral to Spine Surgeon

- 75-85% of patients referred to surgeons for LBP not candidates for surgery

Wait times: In Canada, the wait time to see the spine surgeon may be longer than the wait for spine surgery

Average wait to see spine surgeon (excluding Quebec): 6.5 months
Saskatchewan: 8.5 months

Reality is probably far worse as some refuse new referrals or consider referrals “inappropriate” and are never seen
Over-Utilization of MRI

- Lumbar spine MRI accounts for about 1/3 of total MRI utilization
- 44.3% appropriate; 27.2% uncertain value; 28.5% inappropriate
- Appropriate MRI Lumbar Spine
  - Neurosurgeons 75.7%
  - Other specialties 58.1%
  - Family physician 33.9%


“Inappropriate” focus on the imaging study

- Many spine surgeons require an MRI or CT scan to be completed before a referral is considered
- Problem: Up to 90% false positive rate of these studies
- “Abnormalities” found may increase patient demand to seek a surgical “fix”


In over 80% of cases, MRI will not establish the cause of pain
Clinical Practice Guidelines

Although evidence-based guidelines for the management of back and leg pain have been developed and promoted, they have had little effect on practice patterns.


MRI and CT Appropriateness Checklists

- MRI and CT L-spine Checklists further address the inappropriate use of medical imaging for low back pain
- The checklist is based on literature, best practice guidelines and expert consensus

When utilizing the spine pathway algorithm there is no need to refer for imaging
Saskatchewan Spine Pathway

• Launched in 2011 as part of Saskatchewan Surgical Initiative
• Improves the assessment and management of patients with lower back pain and ensures timely access to appropriate care
• Developed over 3 years by a multidisciplinary team of Neurosurgeons, Orthopaedic Surgeons, Family Physicians and Physiotherapists
• Developed a simple, consistent process for the diagnosis and treatment of lower back pain

Over 80% of back pain is mechanical and can be managed effectively at the primary care level without referral for diagnostics or surgical consult.

Pathway includes:
• Online and live training sessions for primary care providers
• Provider and patient education materials
• Standardized referral forms
• Algorithm for categorizing conditions with associated treatment protocols
• Rapid and thorough process of diagnosis and treatment for patients
• Expedited referral to advanced diagnostics and surgical consultation when required
If a patient has **RED FLAGS**, emergency referral to a spine surgeon may be necessary.
Methods shown to improve appropriateness of referrals

- Educational programs targeting primary care
- Standardized referral forms
- Screening clinics


Spine Pathway Live Training

- Medical education has been offered by the Saskatchewan Spine Pathway since 2010
- From 2010 to Sept 2017 over 800 health care providers attended live spine training sessions.

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Spine Pathway On-line Training

• From 2010 – February 2018 over 1600 health care providers registered for the on-line spine training sessions and over 700 completed the course.

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PART TWO: HISTORY TAKING

In this section of the course, you will learn how to:
• take an appropriate patient history
• establish a pain pattern
• what essential questions to ask
• how to obtain accurate answers from patients
**Important questions in the mechanical back pain history:**

- Where do you hurt?
- Where is your pain the worst?
- Where does your pain go?
- How are you feeling?
- What brought you here today?
The most important question in the mechanical back pain history:

- Where do you hurt?
- Is it back or leg dominant?
- Where does your pain go?
- How are you feeling?
- What brought you here today?

The other most important question in the mechanical back pain history:

- Is your pain constant or intermittent?

This question must be asked in several parts.
Part A

Is there ever a time when you are in your best position or at the best time of your day when your pain stops -- and I know it comes right back but is there a moment or two when the pain is gone?

Part B

When your pain stops does it stop completely? Is it all gone? Are you completely without your pain?
When the pain is **constant** consider:

- Malignancy
- Systemic conditions
- Pain disorder
- **Constant mechanical pain**

Other questions

- Where is your pain the worst?
- Is your pain constant or intermittent?
- Aggravating movements/positions?
- Relieving movements/positions?
- Have you had this same pain before?
- Have you had treatment before?
- Have you ever had spine surgery?
- What can’t you do now that you could do before you got the pain?
• History takes precedence over physical examination
• but the physical examination must support the history.

PART THREE: THE PHYSICAL EXAM
In this section of the course, you will learn how to conduct the physical examination for back pain patients, including:
• the standard physical examination
• important elements of spinal movement
• proper interpretation of the straight leg raise
• appropriate neurological testing
Physical Examination

- Observation
- Movement
  - Flexion
  - Extension
- Nerve root irritation tests
  - Straight leg raising
  - Femoral stretch test

Straight Leg Raising

- Reproduction of typical leg pain
- Back pain is not relevant
- At any degree of leg elevation
Physical Examination

• Nerve root conduction tests
  – L5  Ankle dorsiflexion
        Great toe extension
  – S1  Great toe flexion
        Ankle reflex

• Plantar reflex
• Saddle sensation

Back pain patterns: The axioms

• History takes precedence.
• Back dominant patterns are mutually exclusive.
• Leg dominant patterns can co-exist.
• Leg pain takes precedence over back pain.
• Mechanical pain takes precedence over pain disorder.
PART FOUR: MECHANICAL PATTERNS OF PAIN

In this section of the course, you will:

• Learn the difference between a syndrome and a disease
• Recognize the four mechanical patterns of back pain
• Learn to identify the characteristics of the two patterns of back dominant and leg dominant pain
• Learn to identify patients at risk of developing a pain disorder syndrome.
Pattern 1: Back Dominant Pain Aggravated by Flexion

History
- Back dominant pain
  - Back
  - Buttock
  - Greater trochanter
  - Groin
- Worse with flexion
- Constant or Intermittent

Physical Examination
- Back dominant pain
- Worse on flexion
- Better with unloaded extension
  = Pattern 1 Fast Responder
- Back dominant pain
- Worse on flexion
  - Worse with extension loaded/unloaded
  = Pattern 1 Slow Responder
Pattern 2: Back Dominant Pain Aggravated by Extension

History:
• Back dominant pain
• Worse with extension
• Never worse with flexion
• Always intermittent

Physical Examination
• Back dominant pain
• Worse with extension
• No effect or better with flexion
• Neurological examination normal or non-contributory
Pattern 3: Constant Leg Dominant Pain

History:
- Leg dominant pain -- below the gluteal fold
- Affected by back movement/position
- Constant

Physical Examination:
- Positive irritative test
  - and/or conduction loss

Pattern 4: Intermittent Leg Dominant Pain

History:
- Leg dominant pain
- Worse with activity in extension
- Better with rest and flexion
- Always intermittent

Physical Examination:
- Negative irritative tests
- Possible conduction loss
Vascular vs. Neurogenic claudication

**Vascular**
- Reliably produced with same amount of exercise (decreases as disease progresses)
- Relief almost immediate at rest—not dependent on posture
- Foot pallor on elevation, reduced pulses, cool skin temp

**Neurogenic (AKA “pseudoclaudication”)**
- May also have radicular pain or numbness (dermatomal distribution)
- Somewhat more variable symptoms day to day
- Relief slower, characteristically with flexion L-spine (e.g. pushing grocery cart). Standing at rest usually not sufficient.
- Normal pulses / skin temp

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**Case 1: History**

A 49 year-old psychiatrist gives a two month history of low back pain. There was a gradual onset following a slip and fall outside his office. His pain is most intense in the right buttock and over the right greater trochanter. When severe it can radiate down the right leg into the right foot. The pain is constant. Symptoms are sufficient to interfere with his work and he is considering initiating a disability plan so that he can stay home. The pain is aggravated by sitting and any attempt at lifting. There is slight improvement with short periods of walking. When it is present, the right leg pain disturbs his sleep. He complains of constipation. He has already had a course of lumbar facet injections, which produced no improvement. He is scheduled for an MRI and has already arranged to see a spine surgeon as soon as the results are available.
Case 1: Physical Examination

Reduced ranges of lumbar flexion and lumbar extension. Extension is more painful than bending forward both when standing and when lying down. Straight leg raising on the right is limited to 60 degrees by the buttock pain. It does not reproduce the right leg pain. Straight leg raising on the left past 80 degrees produces right-sided back pain. There is an absent left ankle reflex. Power testing is normal except for standing plantar flexion which is limited by increasing back pain. The plantar responses are down-going and there is no change in saddle sensation.

Case 2: History

A 60 year-old chef has a chief complaint of left posterior thigh pain after walking for more than 15 minutes. This is making it difficult for her to continue to work in the kitchen of an exclusive Italian restaurant. She has suffered constant low back pain for about ten years which has not responded to chiropractic manipulation, physiotherapy modalities or massage therapy. The leg pain began three years ago after she was involved in a rear end collision and is getting progressively worse. To continue working she must sit down frequently and draw up her left knee, which gives total but only short term relief from her leg complaints.
Case 2: Physical Examination

Repetitive flexion in standing increases the back pain but does not produce pain in the thigh. Her symptoms don’t change with repeated standing extensions. Straight leg raising on the left at 90 degrees causes back pain only. Motor power is 4/5 in the left ankle dorsiflexors and left EHL. The remaining motor, reflex and sensory tests are unremarkable. There are no upper motor findings.

Case 3: History

A 48-year-old contractor reports four months of pain across the low back at the top of the pelvis, more severe on the right side. His symptoms began while he was installing ceiling tile and were severe enough to make him stop. He describes his pain as constant but is aware that there are brief periods of complete pain relief when he lies in a fetal position. The pain returns as soon as he moves. He prefers to sit slumped forward rather than to stand. There is occasional pain radiation into the right leg to just below the knee.
Case 3: Physical Examination

On examination in standing there is no change in the back pain with repeated flexion while a single extension reproduces it immediately. Both passive prone lumbar extension and supine passive right straight leg raising produce the typical back pain. The remaining neurological examination is normal.

Case 4: History

A 28 year-old construction worker presents three weeks post injury. He describes the sudden onset of back and right knee pain while walking up a ramp carrying a bag of cement. There was a sharp jab of back pain but he did not lose his balance. The pain intensified and by the following day it was bad enough to prevent him from going to work. He has been off the job since. He reports that the back pain is constant. The pain in the knee has diminished and become intermittent. Sleeping is not a problem once he can find a fairly comfortable position although his symptoms are worse in the morning when he first gets out of bed. They increase in severity again in the evening. He has difficulty sitting and bending to put on his shoes. Using a lumbar roll offers some relief. Bowel and bladder function are normal.
Case 4: Physical Examination

During the physical examination the patient reports increased back pain with repeated flexion in standing. He notes no change with standing extension but records a decrease in back pain following five prone passive extensions. Straight leg raising is normal bilaterally. Power, reflexes and sensation are unremarkable. The plantar responses are down-going. Examination of the right knee reveals no abnormalities. There are two non-organic findings, acetabular rotation and cogwheel release of the right ankle dorsiflexors.

Case 5: History

A 41 year-old airline pilot has a five month history of left low back pain radiating from the top of the left buttock into the left flank. He first noticed the pain after finishing a trans-Atlantic flight and it has gradually gotten worse. Although the symptoms do vary in intensity he has not been completely pain free at any time in the past few months. His pain has stopped him from coaching his son’s hockey team and has limited his activities around the house. He has started using a laxative to combat increasing constipation.
Case 5: Physical Examination

All back movements are significantly restricted. Both flexion and extension while standing reproduce his left sided back pain. The pain prevents him from performing a single passive prone extension. Lying in a supine knees-to-chest position with his legs up on a chair gives some relief. Straight leg raising is about 70 degrees bilaterally with the production of typical pain. Motor testing is hampered by the spinal stiffness and back pain. There seems to be a generalized weakness in both lower limbs. Reflexes are brisk and symmetrical. The plantar reflex is down-going. Sensation, including the saddle area, is normal.

PART FIVE: PAIN CONTROL STRATEGIES AND TREATMENT FOR LOWER BACK PAIN
Self-treatment for mechanical low back pain

- Patient education
- Postural correction
- Direction-specific exercise

Pattern 1: General self treatment principles

Postural correction
- Lumbar roll and night roll

Direction-specific repetitive movement
- Unloaded prone passive extensions
Spine Pathway
Pattern 1
Treatment Algorithm

Pattern 1: Back Dominant Pain Aggravated by Flexion

Description
- Back pain predominant. Pain must be increased in the back, buttock, or leg.
- Pain may be associated with sciatica.
- No relevant neurological symptoms.

Findings on Objective Assessment
- Back pain exacerbated in flexion and reduced in extension.
- Sciatica symptoms.
- No relevant neurological symptoms.

Initial Treatment
- Provide pain with Back Pain Patient Information and Pattern 1 Pain Handout.
- Instruct patients to follow appropriate treatment schedule.

Positioning
- Supine: Constant Pain - Lumbosacral pain.
- Kneeling or sitting: Lumbar pain.
- Supine: Intermittent Pain - Lumbar pain.
- Standing: Intermittent Pain - Lumbosacral pain.
- Supine: Progressive to Limping - Hamstring tightness.

Movement
- Supine: Constant Pain - Posterior tilted.
- Supine: Intermittent Pain - Anterior tilted.
- Supine: Progression to Stilting - Hip flexion.
- Supine: Progression to Stilting - Knee flexion.
- Supine: Progression to Stilting - Ankle dorsiflexion.

Tactile Therapy Options
- Aerobic Therapy
- T'ai Chi
- Yoga
- Progressive Relaxation

Schedule 1: Follow-up
- One to two days after initial therapy
- Assess pain resolution.
- Assess patient's readiness to return to work.
- Review side effects of medications.
- Discuss long-term management of pain.

Significant Improvement
- Patients experiencing improved pain of reassessment continue as in Pattern 1.
- Patients with improved pain or radiation of pain into the legs should be referred to the Multidisciplinary Clinic.

Pattern #1 - Patient Education

Symptoms
- Pain in the back, buttocks, or leg.
- Pain may be constant or intermittent.
- Pain is worse when sitting or bending forward.

Positions and Exercises
- Supine: Lie in bed with knees bent and feet flat on the bed.
- Supine: Lie on the back and have someone position the mattress to support your back.

Lumbar Roll
- Lie on your bed and roll up to a sitting position.
- Lie on your stomach and roll up to a sitting position.

Other Care Information
- Use heat or ice pack.
- Use a supportive belt.
- Use a supportive pillow.

Comments
- Encourage patients to consult a physician.
- Refer patients to a physical therapist.
Pattern 2: General self treatment principles

**Postural correction**
- Seated flexion

**Direction-specific repetitive movement**
- Trunk flexion stretch (sustained flexion)

Spine Pathway
Pattern 2 Treatment Algorithm
Pattern 3 AND Pattern 1 Slow Responder

General self treatment principles

Scheduled rest

• P1...Knees to chest
• P3...Z-lie
• P1, P3...Prone over pillows

Gradually progress towards regaining extension

Harte, Arch Phys Med, 2003
Spine Pathway Pattern 3 Treatment Algorithm

Pattern 3: Constant Leg Dominant Pain

- Descriptors: Symptoms
  - Leg dominant pain: felt most intensely below the gluteal fold above or below the knee.
  - Pain is always constant.
  - Neurological symptoms must be present.
  - Neurological examination must be positive for either an irritative test or a newly acquired focal conduction deficit.

Initial Treatment

2. Instruct patient to follow appropriate treatment schedule: position, pharmacology and adjunct therapies.

- Positioning:
  - Bed: Prone lying on pillows
  - Pillow on abdomen
  - Rest on hands and knees
  - Lumbar support
  - Neck roll

- Typical Therapy Options:
  - Pharmacologic therapy: Antidepressants, Narcotics, Tranquilizers
  - Non-Pharmacologic / Adjunct Therapy: Massage, Acupuncture, Progressive Relaxation, Professional mental health services

Follow Up: One to two weeks after beginning therapy

1. Assess treatment response:
   - Assess pain medication and treatment modalities.
   - Assess improvements.
   - Better = decreased leg pain
   - Worse = increased leg pain

2. Has there been clinical improvement?

- Significant improvement:
  - Focus on symptom reduction for up to six weeks.
  - Pain should begin to resolve within four weeks.
  - Once leg symptoms become intermittent or pain becomes back dominant continue treatment as per Pattern 1.

- No improvement:
  - If patient has no improvement, refer to the Multi-Disciplinary Clinic.

Pattern #3 - Patient Education

Symptoms
- Pain is feel in the leg due to back pain
- Pain is constant.
- Pain is often worse when sitting or bending.
- The best position is the one that most reduces the leg pain.
- There is no place the exercise or exercise.

Positions and Exercises

- The best treatment is so provided for throughout the day.
- You will be shown how to do the exercises that are safe for your condition.
- You should consult your physiotherapist for further advice.
- You should also consult your doctor for advice on the exercises recommended for your condition.

- Pillow
  - Lie on back on three pillows to support hips.
  - Get up, sit up, and walk slowly.

- Floor
  - Lie on back on three pillows to support hips.
  - Get up, sit up, and walk slowly.

- Lumbar Night Ball
  - Place a small, round, hard ball under your back while sleeping to support spine.

- Lumbar Pillow Use
  - Use a small, round, hard ball under your back while sleeping to support spine.

- Relaxation
  - Use a small, round, hard ball under your back while sleeping to support spine.

- Exercise
  - Use a small, round, hard ball under your back while sleeping to support spine.

- Bracing
  - Use a small, round, hard ball under your back while sleeping to support spine.

- Stretching
  - Use a small, round, hard ball under your back while sleeping to support spine.

- Yoga
  - Use a small, round, hard ball under your back while sleeping to support spine.

- Tai Chi
  - Use a small, round, hard ball under your back while sleeping to support spine.
Pattern 2 AND Pattern 4
General self treatment principles

They achieve pain control quickly.

• Flexion in supine lying
• Flexion in sitting
• Flexion in standing (step)

Pattern 4 General self treatment principles

Improved postural control
• Abdominal strengthening
• Core strengthening
• Pelvic tilt

Gradual improvement
Long term commitment
### Pattern 4: Intermittent Leg Dominant Pain

**Descriptive Symptoms:**
- Pain is more intense below the gluteal fold and can be described as burning.
- Pain is related to activity and relieved with rest and flexion.
- Pain may be non-speculative.
- Pain is usually intermittent.
- Pain is often associated with degenerative changes in the spine.

**Findings on Objective Assessment:**
- There are no acute findings.
- Neurological examination at rest is normal or identifies an established neural deficit.

**Initial Treatment:**
1. Evaluate patient.
   - Provide patient with Back Pain Patient Information and Pattern 4: Patient Handout.
   - Instruct patient to follow appropriate treatment schedule: position, movement, pharmacology, and adjunct therapies.

**Positional Options:**
- Generally related rapidly with rest and flexion.
- Pain on bending.
- Correct sitting and standing postures.

**Movement:**
- Modification of daily routine.
- Regular, contractile flexion-strengthening exercises are the most effective.
- Increase flexion strength in the abdominal oblique and paraspinal muscles.

**Typical Therapy Options:**
- Pharmacological Therapy
- Physical Therapy
- Acupuncture
- TENS

**Follow-up:**
- Time for one to two months before follow-up.

#### 1. Assess treatment response
- Assess pain modification and treatment modalities.
- Assess improvement.
- Patient is not improved or has increased walking distance.
- Home = Decreased walking distance.

#### 2. Has there been clinical improvement?
- Significant improvement:
  - Treatment requires an extended period of increasing strength and range of motion.
  - Patient should have a quick return to work with no modification or review.

- Limited improvement:
  - Continue with treatment.
  - Improve exercise technique.
  - Stationary cycling in flexion.
  - Increase frequency of rest and exercise cycles.

- No improvement:
  - If patient has no improvement, refer to the Multi-Disciplinary Clinic.

---

### Pattern 4 - Patient Education

**Symptoms**
- Pain is more intense below the gluteal fold, can be described as burning.
- Pain is related to activity and relieved with rest and flexion.

**Positions and Exercises**
This should be obtained quickly with proper care and follow-up. When patients return to normal activity, the provider can work with them to prevent recurrence.

**Single Leg Aided Lunge**
- Lie on back with knee bent.
- Keep back in neutral posture and straight.
- Try to lift leg up and hold it for a 30° angle.
- Repeat three to four times on each leg.
- Hold for seconds. Repeat in same position and isometric with opposite leg.

**Seated Lunge**
- Sit on floor, feet flat, toes on floor.
- Hold for seconds. Repeat.

**Other Care Information**
The most effective treatment of your condition is a long-term, regular exercise program. It is recommended that you engage in regular exercise and rest, as outlined in your treatment plan. For additional information on back pain, visit www.sasksurgery.ca.
General self treatment principles

• Mechanical pain responds quickly
• Early recheck
  o Location of the pain
  o Intensity of the pain
  o Frequency of the pain-free periods
  o Effect of the recommended treatment
• Avoid information overload
• One activity done well is better than two activities done poorly
• The goal is control (not cure)

Why do they fail?
• Didn’t do it
• Did it wrong
• Did something else
• You got the wrong pattern

Should respond predictably
“If it is not a pattern, it is a disease.”
PART SIX: RED FLAGS

When is the surgeon interested in seeing a patient with back pain? In this section of the course, you will learn:
• How to identify red flags that require urgent referral to a specialist
• How to identify patients that can benefit from spine surgery

Red flags in any patient with back pain

• Cancer or infection
  – Young patient (<20) with back pain
  – Any history of cancer (even distant)
  – Unexplained weight loss
  – Immunosuppression (steroids, transplant, HIV)
  – IV drug use
  – Fever / chills
• Fracture
  – History of significant trauma
  – Mild trauma in patient with osteoporosis or chronic steroid use
• Neurological
  – Acute urinary retention or overflow incontinence
  – Fecal incontinence or loss of anal sphincter tone
  – Saddle anesthesia
Prevalence of and screening for serious spinal pathology in patients presenting to primary care settings with acute low back pain

In patients presenting to a primary care provider with back pain, previously undiagnosed serious pathology is rare. The most common serious pathology observed was vertebral fracture. Approximately half of the cases of serious pathology were identified at the initial consultation. Some red flags have very high false-positive rates, indicating that, when used in isolation, they have little diagnostic value in the primary care setting.

Arthritis & Rheumatism 2009

Every patient with new onset back pain

- PMHx:
  - “Have you ever had any cancers or tumors?”
- SHx:
  - IV drug use?
- ROS:
  - Unexplained weight loss
  - Fever/chills
  - Change in bowel or bladder function
Best safety check: Start with patterns!

- If there is a pattern and it responds as it should, you have your solution.
- If there is no pattern or it doesn’t respond, that is the time to start looking.

Red Flags in the Spine Pathway

www.sasksurgery.ca
Back (+/- Leg) Pain
Who needs to see the surgeon?

- Anybody with “red flags”
- Pattern 4
- Pattern 3 that has failed conservative management

What about back-dominant pain?

- In the absence of “red flags,” most back-dominant pain is mechanical and treatment is nonsurgical

Confounders for surgical indications (examples)

- Illness behavior (chronic pain patient)
- Medically inappropriate (frail, elderly)
- Secondary gain issues (ongoing litigation, unsettled insurance claim)
- Pain just isn’t that bad
Surgery rationale: Pattern 4

What is Lumbar Stenosis?

- Not a disease, but a radiologic finding (often asymptomatic)
- Caused by facet hypertrophy, thickening of ligamentum flavum
- May be exacerbated by disc bulging or spondylolisthesis
- Can be superimposed on congenital narrowing of spinal canal
- Most common level L4/5

Natural history of neurogenic claudication

- If untreated, symptoms progress in 20-40%, remain the same in 40%, improve somewhat in 20%
- Main components of non-operative treatment are:
  - mechanical self-treatment,
  - NSAIDs +/- epidural corticosteroid injections
- Most patients treated with decompressive surgery. Why?
Surgery is superior for neurogenic claudication

“...patients who underwent surgery showed significantly more improvement in all primary outcomes than did patients who were treated non-surgically.”


“Improvement in self-reported quality of life (SF-36 PCS and MCS scores) was comparable after surgery for spinal stenosis vs hip and knee arthroplasty at 1 and 2-years postop.”

Techniques – lumbar decompressive laminectomy / laminotomy

Fusion sometimes necessary too if spondylolisthesis plus stenosis: this is where there is some disagreement

Surgical rationale: Pattern 3
Sciatica due to lumbar disc herniation

- 80-90% of patients get better on their own
- Standard therapy =
  - Education, self-treatment for Pattern 3
  - NSAIDs +/- muscle relaxants
When to consult a surgeon for Pattern 3

• Consider a referral to a spine surgeon if:
  – Persistent sciatica **beyond 6 weeks**
  – Pain is severe enough that patient is willing to consider surgery

• Early referral to spine surgeon if: “red flags” (e.g., cauda equina syndrome) – **rare**

• No need for MRI unless red flag or planning surgery
Surgical treatment appropriate for:

- Pattern 4
- Pattern 3 that has failed conservative management

What about back-dominant pain that has failed non-operative care?

- This is where the guidelines start to differ because the benefits of surgery are far less clear
CONCLUSION

Summary

1) RED FLAGS = contact spine surgeon on call
2) Pattern 1-4: Use treatment algorithms. If fails to respond on follow-up, refer to spine pathway clinic
   – Seen within 3 weeks
   – If surgical, MRI and surgeon appt will be priority
For more information

- More information including treatment algorithms and patient education materials can be found at [www.sasksurgery.ca/patient/spine.html](http://www.sasksurgery.ca/patient/spine.html)  
  [www.sasksurgery.ca/provider/spine.html](http://www.sasksurgery.ca/provider/spine.html)
- Print materials can be ordered (at no charge) by emailing: SpineTraining@health.gov.sk.ca
- Spine Training Online Course: [www.spinepathwaysk.ca](http://www.spinepathwaysk.ca)

Course Credits

*Post-reflective assignments* will be distributed via email approximately 4-6 weeks following the live session. Upon completion of the post-reflective assignment, family physicians will receive a certificate of completion which they must submit to The College of Family Physicians of Canada to claim their Mainpro+ credits. Reciprocal recognition is also available through the Saskatchewan Chiropractic Association.
Thank you for attending the Saskatchewan Spine Pathway
Low Back Pain Assessment and
Management training course

The Spine Pathway Working Group continually strives to improve the Saskatchewan Spine Pathway program. To do so, we require the feedback of those physicians that have completed this program. The post-reflective assignment and on-line course evaluation are means for physicians to provide this highly valued feedback.
Your patient is a 62 year old man with a chief complaint of low back and bilateral leg pain. He describes the back pain as a severe constant ache with occasional sudden intense jolts caused by sudden movement. The back symptoms have been present for about 18 months and followed several days of frequent snow shoveling during a winter storm. There is a past history of intermittent back pain treated with non-prescription drugs and chiropractic adjustment. No attack lasted for more than a couple of months and all subsided completely. The last episode was about three years ago.

The current level of back pain is sufficient to limit his daily activities and is interfering with his job as an operations manager for a large trucking company. Sitting for more than 30 minutes increases his pain, particularly on the right side of the low back and top of the right buttock. The pain can become so bad that to get relief he must stand up and walk around. If he moves slowly without twisting, the pain will slowly subside and can disappear for a few minutes.

His symptoms not only disrupt his work, they are having a significant impact on his recreational activities. He is an avid golfer but has been forced to greatly curtail his game. If he walks for more than two or three holes his legs begin to ache and he starts to have problems with his balance. Again the pain is worse on the right side, particularly in the back of the right thigh but it can radiate all the way from the right buttock to the top of the right foot. When the level of pain stops him from walking, he gains relief by sitting down. The leg pain is usually gone within five minutes and he is able to continue the game. He has started using a golf cart but the poor seat and rough terrain aggravate his back.

The patient’s general health is good. He is a non-smoker, social drinker and does not use recreational drugs. He has no complaints referable to the respiratory, cardiovascular, gastrointestinal or genitourinary systems. There is no history of cancer, heart trouble, diabetes or rheumatoid disease. There has been no change in weight or unexplained fever. He had a left inguinal hernia repair ten years ago; there were no complications. Bowel and bladder functions are normal.

He is 5’ 11” (180 cm) tall and weighs 205 lbs. (93 kg). He slouches when he stands and has a prominent abdomen. During your assessment the patient is obviously uncomfortable and keeps changing position. Chest is clear, heart sounds are normal, abdomen is soft and non-tender. Peripheral pulses are present but questionable on palpation of the right ankle and dorsum of the right foot. Hip movement is normal bilaterally with some discomfort in the right groin at the limit of flexion. Knee and ankle function is unremarkable.

On standing and bending forward, the finger tips reach just below the knees. There is typical right-sided low back and buttock pain. The range of standing extension is very limited and produces a sharp mid-line pain at the top of the pelvis. Side bending and trunk rotation are both limited with pain. Passive low back extension while laying prone provoked both the buttock and back pain.

Straight leg raising is 90° on the left and 70° on the right limited by back and buttock pain. The knee reflexes are bilaterally normal while the ankle reflexes are both diminished, slightly more on the right than on the left. Power of dorsiflexion and planter flexion is normal in both ankles. The Trendelenburg test is symmetrical. Resisted hip extension is limited bilaterally by back pain. All sensory testing is normal except for an area on the dorsum of the left foot. The plantar responses are down-going.
POP Q # 1:

A 49 year-old psychiatrist gives a two month history of low back pain. There was a gradual onset following a slip and fall outside his office. His pain is most intense in the right buttock and over the right greater trochanter. When severe it can radiate down the right leg into the right foot. The pain is constant. Symptoms are sufficient to interfere with his work and he is considering initiating a disability plan so that he can stay home. The pain is aggravated by sitting and any attempt at lifting. There is slight improvement with short periods of walking. When it is present, the right leg pain disturbs his sleep. He complains of constipation.

He has already had a course of lumbar facet injections, which produced no improvement. He is scheduled for an MRI and has already arranged to see a spine surgeon as soon as the results are available.

The physical examination demonstrates reduced ranges of lumbar flexion and lumbar extension. Extension is more painful than bending forward both when standing and when lying down. Straight leg raising on the right is limited to 60 degrees by the buttock pain. It does not reproduce the right leg pain. Straight leg raising on the left past 80 degrees produces right-sided back pain. There is an absent left ankle reflex. Power testing is normal except for standing planter flexion which is limited by increasing back pain. The plantar responses are down-going and there is no change in saddle sensation.

What is the significant pattern of pain?

Pattern 1 fast responder

Pattern 1 slow responder

Pattern 2

Pattern 3

Pattern 4

Pattern 5

Non-spinal pain
POP Q # 2:

A 60 year-old chef has a chief complaint of left posterior thigh pain after walking for more than 15 minutes. This is making it difficult for her to continue to work in the kitchen of an exclusive Italian restaurant. She has suffered constant low back pain for about ten years, which has not responded to chiropractic manipulation, physiotherapy modalities or massage therapy. The leg pain began three years ago after she was involved in a rear end collision and is getting progressively worse. To continue working she must sit down frequently and draw up her left knee, which gives total but only short term relief from her leg complaints.

Repetitive flexion in standing increases the back pain but does not produce pain in the back of the thigh. Her symptoms don’t change with repeated standing extensions. Straight leg raising on the left at 90 degrees causes back pain only. Motor power is 4/5 in the left ankle dorsiflexiors and left EHL. The Trendelenburg test is asymmetrical. The remaining motor, reflex and sensory tests are unremarkable. There are no upper motor findings.

What is the significant pattern of pain?

Pattern 1 fast responder

Pattern 1 slow responder

Pattern 2

Pattern 3

Pattern 4

Pattern 5

Non-spinal pain
POP Q # 3:

A 48-year-old contractor reports four months of pain across the low back at the top of the pelvis, more severe on the right side. His symptoms began while he was installing ceiling tile and were severe enough to make him stop. He describes his pain as constant but is aware that there are brief periods of complete pain relief when he lies in a fetal position. The pain returns as soon as he moves. He prefers to sit slumped forward rather than to stand. There is occasional pain radiation into the right leg to just below the knee.

On examination in standing there is no change in the back pain with repeated flexion while a single extension reproduces it immediately. Both passive prone lumbar extensions and supine passive right straight leg raising produce the typical back pain. The remaining neurological examination is normal.

What is the significant pattern of pain?

Pattern 1 fast responder

Pattern 1 slow responder

Pattern 2

Pattern 3

Pattern 4

Pattern 5

Non-spinal pain
A 28 year-old construction worker presents three weeks post injury. He describes the sudden onset of back and right knee pain while walking up a ramp carrying a bag of cement. There was a sharp job of back pain but he did not lose his balance. The back pain intensified and by the following day it was bad enough to prevent him from going to work. He has been off the job since.

He reports that the back pain is constant. The pain in the knee has diminished and become intermittent. Sleeping is not a problem once he can find a fairly comfortable position although his symptoms are worse in the morning when he first gets out of bed. They increase in severity again in the evening. He has difficulty sitting and bending to put on his shoes. Using a lumbar roll offers some relief. Bowel and bladder function are normal.

During the physical examination the patient reports increased back pain with repeated flexion in standing. He notes no change with standing extension but records a decrease in back pain following five prone passive extensions. Straight leg raising is normal bilaterally. Power, reflexes and sensation are unremarkable. The plantar responses are down-going.

Examination of the right knee reveals no abnormalities. There are two non-organic findings, acetabular rotation and cogwheel release of the right ankle dorsiflexors.

What is the significant pattern of pain?

Pattern 1 fast responder
Pattern 1 slow responder
Pattern 2
Pattern 3
Pattern 4
Pattern 5
Non-spinal pain
POP Q # 5:

A 32 year-old woman who works at the checkout counter in a supermarket gives a seven week history of pain in the left buttock and thigh. She states that about two months ago the pain began in the left buttock but that about three weeks ago it shifted into her leg radiating as far as her left knee. She now has pain in both areas but the posterior thigh pain is more severe. She cannot recall any event that might have triggered the pain or the change in location. Her symptoms are aggravated by sitting and are reduced by lying on her back. The pain has become so intense that she has not been able to work for the past three weeks. There is a burning discomfort involving most of the left foot.

On physical examination the patient has a marked left trunk shift. Left straight leg raising at 50 degrees produces both the left buttock and the left leg leg pain. The “Z” lie position decreases the pain in both areas but does not eliminate it completely. There are no changes in the power or reflexes in either leg. She can feel light touch over all of the left foot. Saddle sensation and the plantar responses are normal.

What is the significant pattern of pain?

Pattern 1 fast responder
Pattern 1 slow responder
Pattern 2
Pattern 3
Pattern 4
Pattern 5
Non-spinal pain
A 41 year-old airline pilot has a five month history of left low back pain radiating from the top of the left buttock into the left flank. He first noticed the pain after finishing a trans-Atlantic flight and it has gradually gotten worse. Although the symptoms do vary in intensity he has not been completely pain free at any time in the past few months. His pain has stopped him from coaching his son’s hockey team and has limited his activities around the house. He has started using a laxative to combat increasing constipation.

All back movements are significantly restricted. Both flexion and extension while standing reproduce his left sided back pain. The pain prevents him from performing a single passive prone extension. Lying in a supine knees-to-chest position with his legs up on a chair gives only partial relief. Straight leg raising is limited at about 70 degrees bilaterally by the production of the typical buttock and flank pain. Motor testing is hampered by the spinal stiffness and back pain. There seems to be a generalized weakness in both lower limbs. Reflexes are brisk and symmetrical. The plantar reflex is down-going. Sensation, including the saddle area, is normal.

What is the significant pattern of pain?

Pattern 1 fast responder
Pattern 1 slow responder
Pattern 2
Pattern 3
Pattern 4
Pattern 5
Non-spinal pain
PART 2: SASKATCHEWAN SPINE PATHWAY TOOLS

- Spine Pathway Triage Algorithm
- Spine Pathway Clinic – Primary Care Practitioner Assessment and Referral form
Lower back ± leg pain

Red flags?

Pattern diagnosis and treatment algorithm*

Improvement?

Continue treatment to restore functional ROM and resume normal activity

Primary care

Red flags?

Reassessment of pattern diagnosis and treatments*

Improvement?

Patterns 1 and 2: Refer back to primary care with recommendations for additional mechanical treatment and referral to surgery if symptoms persist >6 mo

Spine pathway clinic

Pattern 4

Pattern 3 pain >6 wk

Imaging and surgery consultation

Non-urgent referral

Urgent referral

Emergency referral
Saskatchewan Spine Pathway Clinic
Primary Care Practitioner
Assessment and Referral Form

Patient Information
Name: ____________________________

INITIAL ASSESSMENT: □□□□□
FOLLOW UP ASSESSMENT: □□ / □□□□□

HSN: □□□□□-□□□□□-□□□□□
□ Female   □ Male
Age: □□□□

Address: ____________________________

HOME ADDRESS  CITY/PROVINCE

Phone: □□□□□-□□□□□-□□□□□
Alt. Phone: □□□□□-□□□□□-□□□□□

Back Specific History
1. Where has the pain been the worst? (Check one)
   □ Back Dominant  □ Leg Dominant
2. Does the pain stop, even for a moment?
   □ Intermittent   □ Constant

3. What are the:
   Aggravating Factors: ____________________________
   Relieving Factors: ____________________________

4. Is there a previous history of back problems?
   □ No □ Yes. Describe: ____________________________

5. Has there been previous treatment or surgery for back problems?
   □ No □ Yes. Describe: ____________________________

Back Specific Physical Exam
8. Movement: Produce typical pain
   □ Pain produced on flexion  □ Pain produced on extension

9. Irritative Test: Looking to reproduce patient's typical leg dominant pain
   a. Passive Single Leg Raise
   Right □ Positive □ Negative
   Left □ Positive □ Negative

   b. Passive Femoral Stretch Test
   Right □ Positive □ Negative □ Not Tested
   Left □ Positive □ Negative □ Not Tested

10. Lower Motor Function
   Saddle sensation □ Normal □ Abnormal
   Rectal (as needed) □ Normal □ Abnormal

11. Plantar Response
   □ Flexor(normal) □ Extensor (positive Babinski)

Diagnosis and Treatment

Pattern 1 □ Pattern 2 □ Pattern 3 □ Pattern 4 □ + Pattern 5 □

Co-Morbidities: ____________________________

Comments: ____________________________

Refer directly to surgeon if “Red Flags” are present, or to Spine Pathway clinic if “No Improvement” at follow up.
□ I hereby refer the above noted patient for referral to the Saskatchewan Spine Pathway Clinic and to a Spine Surgeon as appropriate.

If surgical referral indicated following Spine Pathway Clinic assessment, please refer to:
□ Next available surgeon □ Specific surgeon*: ____________________________
*Please note that if specific surgeon is selected, wait time may be longer than for next available surgeon.

I am referring to: □ Community Rehabilitation □ Chiropractor □ Physio Therapist □ Other ____________________________

Referring Practitioners Name: ____________________________  Discipline: ____________________________
Practitioner's Address: ____________________________
Practitioner's Signature: ____________________________  Date: □□□□ / □□□□ / □□□□

SPINE CLINIC PHONE NUMBERS: (306) 766-7025 Regina,  (306) 655-7644 Saskatoon

April 14, 2016
PART 3: PATTERNS OF PAIN APPROACH

- Managing Low Back Pain: A Different Approach
- Quick Reference Triage Algorithm
Managing Low Back Pain: a different approach

Why do we need a different approach to managing patients with low back pain? Because the way we are doing things does not address the problem. It doesn’t give the patient what the patient wants:

- Rapid pain relief
- Reassurance
- A clear picture of what is going to happen

The results of our failure can be seen in the increasing popularity of alternative options and the length of the waiting list to see a spine surgeon. As a triage tool for low back pain, the medical paradigm doesn’t work. We can identify the specific patho-anatomic source of the pain in only 20% of back pain patients. Or to put it another way, we cannot give a diagnosis in 80% of back pain patients and with the medical paradigm, we need a diagnosis in order to treat.

Imaging the spine doesn’t help. There is no correlation between the degenerative changes seen on plain x-ray and the presence of back pain. CT has a 30% false positive rate. MRI has a 60-80% false positive rate. Even identified pathology has a weak connection to the clinical response to treatment.

The good news is the medical paradigm doesn’t matter. Over 90% of back pain is the result of minor alterations in spinal mechanics -- so most back pain is mechanical. Mechanical pain is:

- Related to movement
- Related to position
- Related to a physical structure

There is another way. Distinct patterns of reliable clinical findings are syndromes. A syndrome is a constellation of signs and symptoms that appear together in a consistent manner and respond to treatment in a predictable fashion.

“Distinct patterns of reliable clinical findings are the only logical basis of back pain categorization and subsequent treatment.”

Quebec Task Force 1987

History:

The key to the initial treatment is identifying the correct syndrome, and identifying the correct syndrome requires a precise history.

The two essential questions are:

- **Where is your pain the worst?** That means is it back or leg dominant. Pain that is dominant above the gluteal fold is back-dominant pain. Pain that is dominant below the gluteal fold is leg-dominant pain.
- **Is your pain constant or intermittent?** That question must be asked in two parts:
  - Is there ever a time when your pain stops, even though it comes back immediately?
  - When your pain is gone, is it totally and completely gone?

Back dominant, truly intermittent pain is the result of a benign mechanical condition. If the pain is constant, consider malignancy, systemic conditions and disease, or pain disorder. If none of these are present, the pain can be considered constant mechanical pain.

The remaining questions are:

- **What are the aggravating movements or positions?**
- **What are the relieving movements or positions?**
- **Have you had this same pain before?**
- **What treatment have you had before?**
- **What can’t you do now that you could do before you got the pain?**

Adapted from “A Syndrome Approach to Low Back Pain” lecture by Hamilton Hall MD FRCSC Professor, Department of Surgery, University of Toronto; Hall H, McIntosh G, Boyle C “Effectiveness of a Low Back Pain Classification System” The Spine Journal, vol. 9, no. 8, 2009, pp. 648–657
Physical Examination:
The precise history must be supported by an accurate physical examination. The physical examination is not an independent event. It is designed to support the history and should contain the elements that verify or refute the patient’s story. The examination includes:

Observation
• General activity and behaviour
• Back specific:
  o Contour
  o Color
  o Scars

Movement
• Flexion
• Extension

Nerve root irritation tests
• Straight leg raise test
  o Passive test - the examiner lifts the leg
  o Reproduction of the typical leg pain
  o Reproduction of back pain is not relevant
  o Produced at any degree of leg elevation
• Femoral stretch test
  o Passive test - the examiner lifts the leg
  o Patient prone with the knee extended
  o Reproduction of the anterior thigh pain
  o Back pain is common and not relevant

Nerve root conduction tests
• L5
  o Hip abduction
    ▪ Trendelenburg test
  o Ankle dorsiflexion
    ▪ with the patient seated, foot on floor
    ▪ identify voluntary release
  o Extensor hallucis longus
    ▪ separately and together
• S1
  o Hip extension
  o palpate gluteus maximus muscle tone
  o Flexor hallucis longus
    ▪ separately and together
  o Ankle reflex
    ▪ with the patient kneeling
  o Plantar flexion
    ▪ separately and together

Two essential questions and two essential tests:

<table>
<thead>
<tr>
<th>Question: Where is your pain the worst?</th>
<th>Question: Is your pain constant or intermittent?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test: Plantar response -- an upper motor test. There is never an upper motor finding in low back pathology.</td>
<td>Test: Saddle sensation -- a lower sacral nerve roots test. These are the roots that control the bowel and bladder sphincters. This test is a reminder to always ask about a change in bowel or bladder function.</td>
</tr>
</tbody>
</table>

Red Flags
Every red flag listed has already been covered in the history and physical examination or will be revealed in the subsequent indicated treatment.
• Sphincter disturbance: bowel and bladder
• History of cancer
• Unexplained weight loss
• Immunosuppression
• Intravenous drug use
• Recent onset of structural deformity
• Recent or on-going infection
• Fever
• Night sweats
• Non mechanical pattern of pain
• Constant pain
• Widespread neurological signs or symptoms
• Disproportionate night pain
• Lack of treatment response
• Thoracic dominant pain
• History of infections such as tuberculosis, HIV, etc
Four Mechanical Patterns = Four Mechanical Syndromes

Start with the patterns
If there is a pattern and it responds as it should, you have your solution.

There is usually a pattern if you look.

If you pick the wrong pattern, there will be no positive treatment response.

You have time to change your diagnosis and start again.

If there is no pattern or if the pattern does not respond to the correct treatment, that is the time to consider Red Flags.

Pattern 1
History:
• Back dominant pain
  o back
  o buttock
  o coccyx
  o greater trochanter
  o groin
• Worse with flexion
• Constant or intermittent

Physical Examination:
• Back dominant pain
• Worse with flexion
• Better with unloaded passive extension (Pattern 1 Fast Responder)
• Worse with extension loaded or unloaded (Pattern 1 Slow Responder)
• Neurological examination is normal or non-contributory

Pattern 2
History:
• Back dominant pain
• Worse with extension
• Never worse with flexion
• Always intermittent

Pattern 3
History:
• Leg dominant pain
  o below the gluteal fold
• Affected by back movement or position
• Constant

Physical Examination:
• Leg dominant pain
• Affected by back movement or position
• Positive neurological findings
  o irritative test
  o and/or conduction loss

Pattern 4
History:
• Leg dominant pain
• Worse with activity in extension
• Better with rest in flexion
• Always intermittent

Physical Examination:
• Negative irritative tests
• Possible conduction loss

Pain Control Strategies

General principles
• Education
• Counter-irritation
• Posture correction
• Direction specific movement
• Medication

Avoid information overload. One activity done well is better than two activities done poorly. The patient must do frequent sessions of any prescribed activities on a fixed schedule during the day.
Pattern 1 Fast Responder
Postural correction
- While sitting
  o lumbar roll
- While lying
  o night roll
  o large pillow between the knees

Direction specific movement
- In lying:
  o unloaded prone passive extensions: lock the elbows, keep the hips on the table, sag the back
- In standing:
  o Lean over the back of a large chair.

If standing extension doesn’t work in the office, it won’t work at home.

Pattern 1 Slow Responder
Postural correction
- While sitting
  o lumbar roll
- While lying
  o night roll
  o large pillow between the knees

Direction specific movement
All Pattern 1s aim for prone passive extensions. Pattern 1 SRs need to start slowly.
- Begin with unloaded flexion positions (knees to chest)
- Progress to unloaded flexion movement (tucks)
- Progress to unloaded extension position (prone over pillows)
- Finally progress to prone passive extensions

Pattern 2
Postural correction
- While lying
  o large pillow between the knees

Direction specific movement
- Sitting flexion:
  o bend forward between the knees and push up with the arms, hands on knees
  o Stand with one foot up and push off with hands on the knee

Pattern 3
Postural correction
- Scheduled rest for a set number of minutes every hour during the day.
- Specific rest positions
  o Z lie
  o prone over several pillows

The schedule must be strictly followed. Expect improvement weekly. Add narcotic medication as required.

Pattern 4
- Improved posture control.
  o abdominal strengthening
  o core strengthening
  o pelvic tilt

Very gradual improvement – the first three months are “an act of faith”. There must be a long term commitment.

Follow Up: Is it working?
Mechanical pain responds quickly and predictably. If you don’t see progress, recheck:
- Location of the typical pain
- Intensity of the typical pain
- Frequency of the pain-free periods
- Effect of the recommended treatment

Unresponsive Patterns 3 and 4 are usually excellent surgical candidates.

If a movement worked in the office it should work at home. So why is there no progress? It is possible that the patient didn’t do activities, did activities wrong, or did something else to bring on the pain.

Remember the goal is control, not cure. Mechanical back pain is not a disease.
# Quick Reference Triage Algorithm

Patterns of Low Back Pain

<table>
<thead>
<tr>
<th>Descriptive Symptoms</th>
<th>Findings on Objective Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pattern 1: Back dominant pain aggravated by flexion</strong></td>
<td>This pattern is divided into two groups:</td>
</tr>
<tr>
<td>- Low back dominant pain: felt most intensely in the back, buttock, over the trochanter or in the groin</td>
<td>- Fast Responders: Increased pain on flexion and relief with lumbar extension</td>
</tr>
<tr>
<td>- Pain is always intensified by forward bending or sustained flexion</td>
<td>- Slow Responders: Increased pain on flexion and on extension</td>
</tr>
<tr>
<td>- Pain may be constant or intermittent</td>
<td>The neurological examination is normal or non-contributory</td>
</tr>
<tr>
<td>- No relevant neurological symptoms</td>
<td></td>
</tr>
<tr>
<td><strong>Pattern 2: Back dominant pain aggravated only by extension</strong></td>
<td>The neurological examination is normal or non-contributory</td>
</tr>
<tr>
<td>- Low back dominant pain; felt most intensely in the back, buttock, over the trochanter or in the groin</td>
<td></td>
</tr>
<tr>
<td>- Pain is NEVER intensified with flexion</td>
<td></td>
</tr>
<tr>
<td>- Pain is <em>always intermittent</em></td>
<td></td>
</tr>
<tr>
<td>- No relevant neurological symptoms</td>
<td></td>
</tr>
<tr>
<td><strong>Pattern 3: Constant leg dominant pain</strong></td>
<td>Never give exercises to a Pattern 3</td>
</tr>
<tr>
<td>- Leg dominant pain: felt most intensely below the gluteal fold above or below the knee</td>
<td>Neurological examination must be positive for either an irritative test or a newly acquired focal conduction deficit.</td>
</tr>
<tr>
<td>- Pain is <em>always constant</em></td>
<td></td>
</tr>
<tr>
<td>- Neurological symptoms <em>must</em> be present</td>
<td></td>
</tr>
<tr>
<td><strong>Pattern 4: Intermittent leg dominant pain aggravated by activity</strong></td>
<td>Neurological examination at rest is normal or identifies an established focal conduction defect.</td>
</tr>
<tr>
<td>- Leg dominant pain: felt most intensely below the gluteal fold above or below the knee</td>
<td></td>
</tr>
<tr>
<td>- Pain is brought on by activity and relieved by rest in flexion</td>
<td></td>
</tr>
<tr>
<td>- Pain is <em>always intermittent</em></td>
<td></td>
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<tr>
<td>- Neurological symptoms are usually absent at rest</td>
<td></td>
</tr>
<tr>
<td>- Generally found in patients over 50 – often associated with degenerative changes in the spine</td>
<td></td>
</tr>
</tbody>
</table>

Please see corresponding Treatment Algorithm (Patterns 1-5) for treatment schedules

**Follow-up questions:**
1. Ask the patient – Did it work?
2. Location of Pain
3. Intensity of Pain
4. Frequency of Pain periods
5. Effect of the recommended treatment
PART 4: PATTERN-SPECIFIC TREATMENT ALGORITHMS AND PATIENT HAND-OUTS

- Pattern 1: Back Dominant Pain Aggravated by Flexion
- Pattern 2: Back Dominant Pain Aggravated by Extension
- Pattern 3: Constant Leg Dominant Pain
- Pattern 4: Intermittent Leg Dominant Pain
- Pattern 5: Pain Disorder (no patient hand-out)
- General Recommendations for Maintaining a Health Back
Pattern 1: Back Dominant Pain Aggravated by Flexion

**Descriptive Symptoms**
- Low back dominant pain: felt most intensely in the back, buttock, over the trochanter or in the groin.
- Pain is always intensified by forward bending or sustained flexion.
- Pain may be constant or intermittent
- No relevant neurological symptoms

**Findings on Objective Assessment**
- This pattern is divided into two groups:
  - Fast responders: Increased pain on flexion and relief with prone lumbar extension.
  - Slow responders: Increased pain on flexion and on extension.
- The neurological examination is normal or non-contributory

**Initial Treatment**
1. Reassure patient. Provide patient with *Back Pain: Patient Information* and *Pattern 1: Patient Handout*
2. Instruct patient to follow appropriate treatment schedule: position, movement, pharmacology and adjunct therapies

**Positions:**
- **Slow Responder: Constant Pain:**
  - "Z" lie
  - Knees to Chest
  - Lie prone: pillow under pelvis
- **Slow Responder: Intermittent Pain:**
  - "Z" lie
  - Minimal lumbar support
  - Lumbar night roll
  - Prone Lie
- **Fast Responder:**
  - "Z" lie
  - Use lumbar support when sitting
  - Place one foot on stool when standing

**Movement:**
- **Slow Responder: Constant Pain:**
  - Progress to Sloppy Pushup
  - Avoid loaded flexion
- **Slow Responder: Intermittent Pain:**
  - Progress to Sloppy Pushup
- **Fast Responder:**
  - Sloppy Pushup is mainstay of activity (Perform 10 reps every hour as the benefits are short-lived).

**Typical Therapy Options:**
- **Pharmacologic Therapy**
  - Acetaminophen
  - NSAIDS
- **Non-Pharmacologic (Adjunct) Therapy**
  - Spinal Manipulation
  - Exercise Therapy
  - Massage
  - Acupuncture
  - Yoga
  - Apply Ice/Heat
  - Progressive Relaxation

**Schedule 1: Follow Up: One to two days after beginning therapy**
1. Assess treatment response
   - Assess pain medication and treatment modalities
   - Assess improvement:
     - Better = decreased pain or pain is becoming more centralized
     - Worse = increased pain or pain moving down the legs
2. Has there been clinical improvement?
   - **Significant Improvement**
     - It is anticipated that a significant percentage of patients will have experienced considerable resolution of symptoms within seven days.
     - Provide patient with exercise and stretching information
     - Encourage patient to follow back care wellness program
     - If necessary, advise gradual return to work program
   - **Limited Improvement**
     - Continue to treat – see Schedule 2
     - Patients experiencing intermittent pain at reassessment continue to treat as Fast Responders
   - **No Improvement**
     - Patients with increased pain or radiation of pain into the legs should be referred to the Multi Disciplinary Clinic

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**Schedule 2: For patients with limited improvement in first week of treatment**

### Positions:

<table>
<thead>
<tr>
<th>Slow Responder</th>
<th>Fast Responder:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Maintain a rigid schedule of rest and movement</td>
<td>□ Increase lumbar support</td>
</tr>
<tr>
<td></td>
<td>□ Use lumbar support when recumbent</td>
</tr>
</tbody>
</table>

### Movement:

<table>
<thead>
<tr>
<th>Slow Responder:</th>
<th>Fast Responder:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ In addition to initial therapies add asymmetric movements and core stability exercises (Back Pain: Patient Information)</td>
<td>□ Improve techniques and increase frequency</td>
</tr>
<tr>
<td>□ Avoid flexion</td>
<td>□ Schedule Sloppy Pushup</td>
</tr>
</tbody>
</table>

**Follow Up: Two weeks after beginning Schedule 2**

Has there been clinical improvement?

☐ Improvement

**Fast Responders:**
- Provide patient with exercise and stretching information
- Encourage patient to follow back care wellness program
- If necessary, advice gradual return to work program

**Slow Responders:**
- Continue to treat following guidelines for Fast Responder: Schedule 2

☐ No Improvement
- If patient has no improvement, refer to the Multi Disciplinary Clinic.
Symptoms

✓ Pain is worst in the back, buttocks, upper thigh, or groin but may radiate to the legs.
✓ Pain may be constant or intermittent.
✓ Pain is worse when sitting or bending forward.
✓ Pain may be eased by bending backwards. Walking and standing are better than sitting.

Positions and Exercises

The following rest positions can be used at home to rest your back and reduce pain. Your health care provider will check the boxes next to the positions and exercises recommended for your condition.

❑ Supine Lie:
  • Lie on back, knees and head resting on pillows.
  Rest for ____ minutes every ____ hour(s).

❑ Prone Lie:
  • Lie on stomach. Use three pillows to support hips.
  Rest for ____ minutes every ____ hour(s).

❑ “Z” Lie:
  • Lie with back flat on floor, head supported by a pillow.
  • Put feet on a chair with knees bent at more than a 90° angle. (May support buttocks with a pillow.)
  Rest for ____ minutes every ____ hour(s).

❑ Knees to Chest:
  • Lie on back with knees bent and feet flat on the floor
  • Slowly, bring knees up towards chest. Bringing the legs up one at a time makes it easier.
  • Wrap arms behind knees and pull toward chest.
  Hold for ____ minutes every ____ hour(s).
Pattern #1 - Patient Education

Lumbar Roll - Sitting:
- Use a straight backed chair and ___ cm (___ inch) lumbar roll to support curve of the back.

Rest for ___ minutes every ____ hour(s).

Lumbar Roll - Night:
- Use lumbar night roll under mid-back when sleeping to support curve of the back.

Other Care Information
For the first few days, you may only be able to lie on your stomach (see Prone Lie). Progress to prone extension using your arms, at your health care provider’s recommendation.

Sloppy Pushup:
- Lie on stomach with hands on either side of head.
- Keep lower body on floor and use arms to slowly raise upper body. (Hands may need to be positioned above head to fully extend elbows, while pelvis remains on the floor.)
- Keep back muscles relaxed.
- Perform ____ repetitions every ____ hours for ____ days.

Rest for ___ minutes every ____ hour(s).

To strengthen your back muscles, your care provider may prescribe other exercises and stretches. Please see General Recommendations for Maintaining a Healthy Back: Patient Information.

- Your back will feel better when you walk or stand rather than sit. Schedule ____ minutes of walking every ____ hour(s).
- When standing, place one foot on a stool to relieve pressure on your back.
  Switch feet every 5 to 15 minutes. Maintain good posture.
- Avoid rolling your spine forward. This may put more pressure on the painful areas and increase your discomfort.

Comments
Pattern 2: Back Dominant Pain Aggravated by Extension

**Descriptive Symptoms**
- Low back dominant pain; felt most intensely in the back, buttock, over the trochanter or in the groin.
- Pain is never intensified with flexion.
- Pain is always intensified by extension.
- Pain is always intermittent.
- No relevant neurological symptoms.

**Findings on Objective Assessment**
- Increase pain on extension
- Never increased pain on flexion
- The neurological examination is normal or non-contributory

**Initial Treatment**
1. Reassure patient. Provide patient with *Back Pain: Patient Information* and *Pattern 2: Patient Handout*
2. Instruct patient to follow appropriate treatment schedule: position, movement, pharmacology and adjunct therapies.

**Positions:**
- "Z" Lie
- Supine knees to chest
- Correct sitting and standing postures

**Movement:**
- Repeated supine flexion (Knees to chest)
- Repeated seated flexion (Use hands on thighs to push upper body into upright position)
- Avoid extension as required

**Typical Therapy Options:**

**Pharmacologic Therapy**
- Acetaminophen
- NSAIDS

**Non-Pharmacologic (Adjunct) Therapy**
- Spinal Manipulation
- Exercise Therapy
- Massage
- Acupuncture
- Yoga
- Apply Ice/Heat

**Follow Up: One to two days after beginning therapy**
1. Assess treatment response
   - Assess pain medication and treatment modalities
   - Assess improvement:
     - Better = decreased pain or pain is becoming more centralized
     - Worse = increased pain or pain moving towards the periphery

2. Has there been clinical improvement?

   - **Significant Improvement**
     - Movement should begin to restore within one or two days. Full function is expected in two to three weeks
     - If necessary, advice gradual return to work program

   - **Limited Improvement**
     - Continue treatment. Use Pattern 1: Slow Responder
     - Improve techniques
     - Introduce manual therapies

   - **No Improvement**
     - Reconsider pattern selection
     - If patient has no improvement, refer to the Multi Disciplinary Clinic

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**Pattern #2 - Patient Education**

### Symptoms

✓ Pain is worst in the lower back and may spread to buttocks or legs.

✓ Pain is always intermittent.

✓ Pain is worse when bending backward and when standing or walking for extended periods.

✓ Pain may be eased by bending forward or sitting.

### Positions and Exercises

The following positions and exercises can be done at home to rest your back and reduce pain. Your health care provider will check the boxes next to the positions and exercises recommended for your condition.

- **“Z” Lie:**
  - Lie with back flat on floor, head supported by a pillow.
  - Put feet on a chair with knees bent at more than a 90° angle. (May support buttocks with a pillow.)
  - Rest for ___ minutes every ____ hour(s).

- **Knees to Chest:**
  - Lie on back with knees bent and feet flat on the floor
  - Slowly, bring knees up towards chest. Bringing the legs up one at a time makes it easier.
  - Wrap arms behind knees and pulling toward chest.
  - Hold for ___ minutes every ____ hour(s).

- **Sitting Flexion:**
  - Sit with feet flat on the floor, about hip-width apart.
  - Lean forward to rest stomach on lap. Allow arms and head to hang near feet.
  - With hands on knees, use arms to raise upper body.
  - Hold for _____ seconds. Do _____ repetitions.
Other Care Information

Progress to these exercises at your health care provider's recommendation.

Trunk Flexion Stretch (sustained flexion):

- Kneel on hands and knees.
- Tuck in chin and arch back.
- Slowly sit back on heels, dropping shoulders towards floor.

Hold for ____ seconds, then relax.
Do ____ repetitions.

Knees to Chest Stretch:

- Lie on back with knees bent and feet flat on floor.
- Raise one knee to chest and slowly raise the other to meet it. (Use hands to lift knees if necessary.)
- Place hands around knees and pull gently to chest. Press back firmly against floor by flexing stomach muscles.

Hold for ____ seconds, then relax.
Do ____ repetitions.

Your health care provider may recommend other exercises and stretches. Please see General Recommendations for Maintaining a Healthy Back: Patient Information.

- When standing up, reduce unnecessary load on the spine by using your arms on your thighs to push your upper body into an upright position.
- Avoid extension: Do not bend your back backwards. This may cause more pain.

Comments
Pattern 3: Constant Leg Dominant Pain

Descriptive Symptoms
- Leg dominant pain: felt most intensely below the gluteal fold above or below the knee.
- Pain is always constant.
- Neurological symptoms must be present.

Findings on Objective Assessment
- Neurological examination must be positive for either an irritative test or a newly acquired focal conduction deficit.

Initial Treatment
NOTE: Pattern 3 will not respond to exercise. Treatment consists of prescribed REST positions. Track progress over six weeks (Neurological deficit beyond seven days does not happen unless it is Cauda Equina Syndrome).

2. Instruct patient to follow appropriate treatment schedule: position, pharmacology and adjunct therapies.

Positions:
Basis of treatment is scheduled rest: 20-40 minutes every hour
- “Z” lie
- Prone lying on pillows
- Prone lying on elbows
- Rest on hands and knees
- Lumbar support
- Night roll

Typical Therapy Options:

<table>
<thead>
<tr>
<th>Pharmacologic Therapy</th>
<th>Non-Pharmacologic (Adjunct) Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Massage</td>
</tr>
<tr>
<td>NSAIDS</td>
<td>Acupuncture</td>
</tr>
<tr>
<td>Tramadol, Opiods</td>
<td>Apply Ice/Heat</td>
</tr>
<tr>
<td></td>
<td>Progressive Relaxation</td>
</tr>
<tr>
<td></td>
<td>Professionally administered invasive therapies</td>
</tr>
<tr>
<td></td>
<td>Spinal Manipulation(if there is no inflammation)</td>
</tr>
</tbody>
</table>

Follow Up: One to two weeks after beginning therapy

1. Assess treatment response
   - Assess pain medication and treatment modalities
   - Assess improvement:
     - Better = decreased leg pain
     - Worse = increased leg pain

2. Has there been clinical improvement?
   - Significant Improvement
     - Focus on symptom reduction for up to six weeks.
     - Pain should begin to resolve within four weeks
     - Once leg symptoms become intermittent or pain becomes back dominant continue treatment as per Pattern 1.
   - No Improvement
     - If patient has no improvement, refer to the Multi Disciplinary Clinic.

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Pattern #3 - Patient Education

Symptoms

✓ Pain is mainly in the legs but back pain may be present.

✓ Pain is constant.

✓ Pain is often worse when sitting or bending, but in the acute stage can be made worse by any movement.

✓ Pain may be lessened in some rest positions.

✓ The best position is the one that most reduces the leg pain.

✓ There is no place for exercise or repeated movements.

Positions and Exercises

The best treatment is to schedule rest periods throughout the day. Lie down for _____ minutes each hour. Find the rest position that best reduces leg pain. Long-term bed rest is not recommended and can hinder recovery. Your health care provider may prescribe other medical therapies to decrease pain and will check the boxes next to the positions recommended for your condition.

❑ Prone Lie:  
  • Lie on stomach. Use three pillows to support hips. (May support hips and head with pillows.)
  Rest for ___ minutes every ____ hour(s).

❑ Prone Lie on Elbows:  
  • Lie face down on floor or bed.
  • Bend elbows and relax.
  Rest for ______ minutes every ___ hour(s).

❑ Rest on Hands and Knees:  
  • Kneel on hands and knees on floor or bed.
  Rest for ______ minutes every ___ hour(s).

❑ “Z” Lie:  
  • Lie with back flat on floor, head supported by a pillow.
  • Put feet on a chair with knees bent at more than a 90º angle. (May support buttocks with a pillow.)
  Rest for ___ minutes every ____ hour(s).
Pattern #3 - Patient Education

❑ Lumbar Night Roll:
  • Wrap a night roll securely around waist when sleeping to support spine.

❑ Lumbar Support When Sitting:
  • Use a straight backed chair and ___ inch (___ cm) lumbar roll to support curve of back.

Please see General Recommendations for Maintaining a Healthy Back: Patient Information for more information about back care. Your health care provider may recommend stretches and exercises to strengthen your back and core muscles.

Comments
Pattern 4: Intermittent Leg Dominant Pain

**Descriptive Symptoms**
- Leg dominant pain: felt most intensely below the gluteal fold above or below the knee.
- Pain is worse with activity in extension and better with rest and flexion.
- Pain is always intermittent.
- Neurological symptoms are usually absent at rest.
- Generally found in patients over 50 – often associated with degenerative changes in the spine

**Findings on Objective Assessment**
- There are no acute irritative findings.
- Neurological examination at rest is normal or identifies an established focal conduction defect.

**Initial Treatment**
2. Instruct patient to follow appropriate treatment schedule: position, movement, pharmacology and adjunct therapies

**Positions:**
- Generally relieved rapidly with rest and flexion
- Pelvic tilt
- Correct sitting and standing postures

**Movement:**
- Modification of daily routine
- Regular, continued flexion-strengthening exercises is the most effective physical treatment
- Increase trunk strength in the abdominal oblique and paraspinal muscles

**Typical Therapy Options:**

**Pharmacologic Therapy**
- Acetaminophen
- NSAIDS

**Non-Pharmacologic (Adjunct) Therapy**
- Exercise Therapy
- Massage
- Acupuncture
- Yoga
- Apply Ice/Heat
- Progressive Relaxation

**Follow Up: Treat for one to two months before follow-up**
1. Assess treatment response
   - Assess pain medication and treatment modalities
   - Assess improvement:
     - Better = Increased walking distance
     - Worse = Decreased walking distance

2. Has there been clinical improvement?

**Significant Improvement**
- Treatment requires an extended period of increasing strength and range of motion
- Patient should have a quick return to work with no modification or review

**Limited Improvement**
- Continue with treatment
- Improve exercise techniques
- Stationary cycling in flexion
- Increase frequency of rest/exercise cycles

**No Improvement**
- If patient has no improvement, refer to the Multi Disciplinary Clinic.
Symptoms

✓ Pain is worst in legs and can be described as heaviness or aching.
✓ Pain is intermittent and is made worse by activity (often walking).
✓ Pain is relieved by a change in position, usually by bending forward.

Positions and Exercises

Pain should be relieved quickly with proper rest and flexion. When pain occurs in your legs, sit in a chair and lean forward until it subsides (see Sitting Flexion). Your health care provider will check the boxes next to the positions and exercises recommended for your condition.

❑ Single Leg Abdominal Press:
  • Lie on back with knees bent.
  • Keep back in a neutral position and tighten abdominal muscles.
  • Lift one leg so knee and hip are at a 90° angle.
  • Press one hand against the knee while pulling it towards the hand. Keep elbow straight.

  Hold for ____ seconds. Return to start position and repeat with opposite leg. Do ___ repetitions.

❑ Pelvic Tilt
  • Lie on back, knees bent, arms on chest or at sides.
  • Place feet flat on floor, hip-width apart, with knees slightly closer together than feet.
  • Tighten abdominal muscles.
  • Press small of back against floor, causing front of pelvis to tilt forward.

  Hold for ____ seconds and then relax.
  Do ___ repetitions.

❑ Sitting Flexion:
  • Sit with feet flat on the floor, about hip-width apart.
  • Lean forward to rest stomach on lap. Allow arms and head to hang near feet.

  Hold for _____ seconds. Do ______ repetitions.
Pattern #4 - Patient Education

Cat and Camel:

- Kneel on hands and knees.
- Arch back, letting head drop slightly.
- Keep abdomen and buttock muscles tightened.

Hold for ____ seconds.

- Let back sag towards floor while keeping arms straight and weight evenly distributed between legs and arms.

Hold for ____ seconds. Do ____ repetitions.

Partial Sit Up or Crunch:

- Lie on back with knees bent, feet flat on floor and arms crossed over chest.
- Using lower stomach muscles, raise head and shoulders slightly until shoulder blades are just off floor. (You may not be able to get up this far at first.)

Hold for ____ seconds. Relax. Do ____ repetitions.

Other Care Information

The most effective treatment of your condition is a long-term regular exercise program, focused on increasing strength in your core muscles. Your health care provider may recommend exercises and stretches. (See General Recommendations for Maintaining a Healthy Back: Patient Information)

Comments

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Pattern 5: Pain Disorder

Objective of Assessment:

- To specify the environment or situations in which Pain Disorder occurs
- To identify precursor (antecedent) factors that influence behaviour
- To identify consequent factors that influence behaviour

Assessment

Complete history as per Primary Care Provider Assessment Tool

LIFESTYLE QUESTIONNAIRE identifies possible need to ask the following questions:

1. Do you have pain that has lasted longer than three months?
   - Yes
   - No

2. Does your pain keep you from doing the work, play or daily activities you want to do?
   - Yes
   - No

3. Has your doctor ruled out surgery?
   - Yes
   - No

IF YES, THEN CONTINUE

Subjective History

4. Do you:
   - Need assistance with personal care?
   - Blame others for your situation?*
   - Have constant pain?
   - Demand a physical diagnosis?
   - Have an expanding array of symptoms?
   - Have a high perceived level of disability?
   - Receive financial compensation? *

5. Have you:
   - Sought legal consultation (union, worker reps)?*
   - Have multiple medical consultations?
   - Had negative family/workplace/social situations? *
   - Had poor medication response?
   - Experienced sexual dysfunction?
   - Had sleep disturbances? *

6. Are you:
   - Unemployed?
   - Experiencing unexplained deterioration

The greater the number of positive responses, the higher the probability of a Pain Disorder.

* If all five history points are present the risk of pain disorder is 99% (Treating the Patient with Pain Disorder, The CBI Method)

Physical Examination

Complete physical as per Primary Care Provider Assessment Tool

Check Waddell’s Signs (More than three of four groups support a diagnosis of Pain Disorder):

- Superficial and widespread tenderness or nonanatomic tenderness.
- Stimulation tests: Axial loading and pain on simulated spinal rotation.
- Distracted straight leg raise and double straight leg raise lower than single straight leg raise.
- Non-anatomic or regional sensory changes.

Diagnosis

If assessed as Pain Disorder, refer to Multi Disciplinary Clinic. Provide assessment results with referral.

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