A Perspective on Improved Patient Care:

DI from the System, Clinical and Patient Perspectives.

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AND

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Spine Pathway

http://www.health.gov.sk.ca/back-pain

- 80% of referrals can be managed without intervention

- Why do Family Physicians send patients to see a specialist?

- Family Physicians believe that if they could be provided access to ordering MRI's they would be able to diagnose and treat spine cases.

    - How might this affect ordering? Currently 4% of CT's in RQHR are ordered for spine conditions and 36% of all MRI's ordered in RQHR are for Spine Conditions

Spine Pathway : 3 stage implementation

#1. Continuing Medical Education (CME) course for all primary care providers in the province.

(IN PROCESS)

•#2. TWO Best Practise Multi-Disciplinary Centres for

(SPRING 2011)

#3. Changes to DI Ordering Processes (SPINE COURSE 101), Ward and Surgical Flow Processes.

(IN 2011/12)

Spine Pathway: Flow

ENTRY TO PATHWAY

Patient with back pain visits Primary Care Provider

If Primary Care Provider has received training they may

- Provide treatment to patient using Pattern Algorithm
- Refer suspected surgical patient or patient not responding to treatment to Multi Disciplinary Clinic

If Primary Care Provider has not received training they may:

- Refer suspected surgical patient to Multi Disciplinary Clinic

INITIAL ASSESSMENT

Completed by Primary Care Provider or Multi Disciplinary Clinic Team

- Screen for red flags. If present, refer to surgeon.
- General history and physical exam
- Back specific history.
  Tool Kit:
  - CBI-Q (Primary Care Provider)\
  - Lifestyle Questionnaire
  - EQ-5D
- Back specific physical exam

TRIAGE:

- Use **Triage Algorithm** to determine Treatment Pattern (1 to 5).
- Treat for clinical syndrome using **Treatment Algorithm**
- Provide patient with evidence based education materials and self-care guidelines.

FOLLOW-UP ASSESSMENT

- Patterns 1 fast responder and 2: Follow-up in 24-48 hours
- Pattern 1 slow responder – 1st follow-up in 1 wk. 2nd in 2 wks
- Patterns 3. Monitor for 1-2 weeks. Assess at end of this period.
- Pattern 4. Treat for 1-2 months before follow-up

Assess treatment response:

- Assess pain medication and treatment modalities
- Assess improvement:
  - Better=decreased pain or pain is becoming more centralized.

Has there been clinical improvement?

YES: Follow treatment schedule as per Treatment Algorithm.

NO: The Multi Disciplinary Team will determine:

- Potential Surgical Candidate
  ⇒ Then refer patient for DI
- Potential Medical Candidate
  ⇒ Then refer patient to community resources

All patients referred by a surgeon will be booked for a surgical consult

SURGEON ASSESSMENT

Surgeon assesses patient to determine if surgical candidate.

Surgical Candidate?

YES: Patient is booked into pre-surgical program while waiting for surgery.

Patient assessment and education with possible referral to community partner resources:

- Exercise therapy
- Chronic Pain Management
- Pharmacologic therapy
- Psychology

NO: Patient is returned to Primary Care Provider with educational resources and recommendations. Community Partner resources are recommended.

Spine Pathway: Patterns

• The new process teaches primary care providers to treat the symptoms, rather than the diagnosis.

• A classification system (developed by Dr. Hamilton Hall) was adopted by the group.

• The five patterns of pain are:

Pattern 1: Back dominant Aggravated by Flexion

Pattern 2: Intermittent Low Back Dominant Pain

Pattern 3: Constant Leg Pain

Pattern 4: Intermittent Leg Dominant Pain

Pattern 5: Pain Disorder

• Only patients who fail initial assessment are referred to the multi-disciplinary clinic.

Spine Pathway: Pattern Algorithm

Saskatchewan Low Back Pain Pathway
Primary Care Provider Treatment Algorithm

Saskatchewan Ministry of Health

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

Movement:

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

Typical Therapy Options:

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

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

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

Positions:

Slow Responder	*Fast Responder:*
☐ Maintain a rigid schedule of rest and movement	☐ Increase lumbar support
	☐ Use lumbar support when recumbent

Movement:

Slow Responder:	*Fast Responder:*
☐ In addition to initial therapies add asymmetric movements and core stability exeroises (Back Pain: Patient Information)	☐ Improve techniques and increase frequency
	☐ Schedule Sloppy Pushup
☐ Avoid flexion	

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.

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Spine Pathway: Assessment Tool

Saskatchewan Low Back Pain Pathway
Primary Care Provider Assessment Tool

Saskatchewan Ministry of Health

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: _____
_____

6. Has there been a change in bowel and/or bladder function?
☐ No
☐ Yes. Describe: _____
_____

7. What is the overall level of disability?
☐ No Limitations
☐ Mild Limitations- able to do most activities with minor modifications or difficulty
☐ Moderate Limitations – able to do most activities with modification or assistance
☐ Severe Limitations – unable to perform most activities

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
Left ☐ Positive ☐ Negative

10. Lower Motor Function

Saddle sensation	☐ Positive	☐ Negative
Rectal (as needed)	☐ Positive	☐ Negative

11. Reflexes

a. Major Deep Tendon Flexion
Patella Reflex ☐ Absent ☐ Diminished ☐ Normal ☐ Hype-reflexive
Achilles Reflex ☐ Absent ☐ Diminished ☐ Normal ☐ Hype-reflexive

b. Plantar Response
☐ Flexor(normal)
☐ Extensor(positive Babinski)

12. Conductive (motor) Tests

a. L5

Ankle dorsi -flexion	☐ Normal	☐ Weak
Hip Abductor	☐ Normal	☐ Weak
Extensor Hallucis Longus	☐ Normal	☐ Weak

b. SI

Ankle Reflex	☐ Normal	☐ Weak
Flexor Hallucis Longus	☐ Normal	☐ Weak
Gluteus Maximus	☐ Normal	☐ Weak

Screen for Red Flags

Check if Red Flags are present:

Indicates urgent surgical referral:
☐ New neck or back pain in a person with Ankylosing Spondylosis
☐ Possible Cauda Equina Syndrome:
☐ *Loss of anal sphincter tone/fecal incontinence*
☐ *Saddle anaesthesia about anus, perineum, or genitals*
☐ *Urinary retention with overflow incontinence*

Indicates surgical referral if "No Improvement" at follow up:
☐ Any history of cancer
☐ IV drug abuse, immunosuppression, HIV
☐ Unexplained weight loss
☐ Fever/Chills

Diagnosis and Treatment

Pattern 1 ☐ Pattern 2 ☐ Pattern 3 ☐ Pattern 4 ☐ + Pattern 5 ☐

Co-Morbidities: _____
_____

Comments: _____
_____
_____
_____
_____

See appropriate Treatment Algorithm for treatment schedule

Follow Up Assessment

Follow up with Pattern 1 and 2 in one to two days after beginning therapy. Follow up with Pattern 3 and 4 in one to two weeks after beginning therapy.

Response to Non Surgical Treatment Attempted:

Rest Positions	☐ Significant Improvement	☐ Limited Improvement	☐ No Improvement
Movement	☐ Significant Improvement	☐ Limited Improvement	☐ No Improvement
Pharmacologic Therapy	☐ Significant Improvement	☐ Limited Improvement	☐ No Improvement
Non-Pharmacologic Therapy	☐ Significant Improvement	☐ Limited Improvement	☐ No Improvement
Other	☐ Significant Improvement	☐ Limited Improvement	☐ No Improvement

Refer to surgeon if "Red Flags" are present or "No Improvement" at follow up

I certify that the assessment has been completed:

Physician's Name: _____

ID # _____

Physician's Signature: _____ **Date:** ☐☐ / ☐☐☐ / ☐☐

Saskatchewan Ministry of Health

Spine Pathway: Patient Education

Pattern #1 - Patient Education

Saskatchewan Ministry of Health

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).

❑ **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).

❑ **"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 #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.

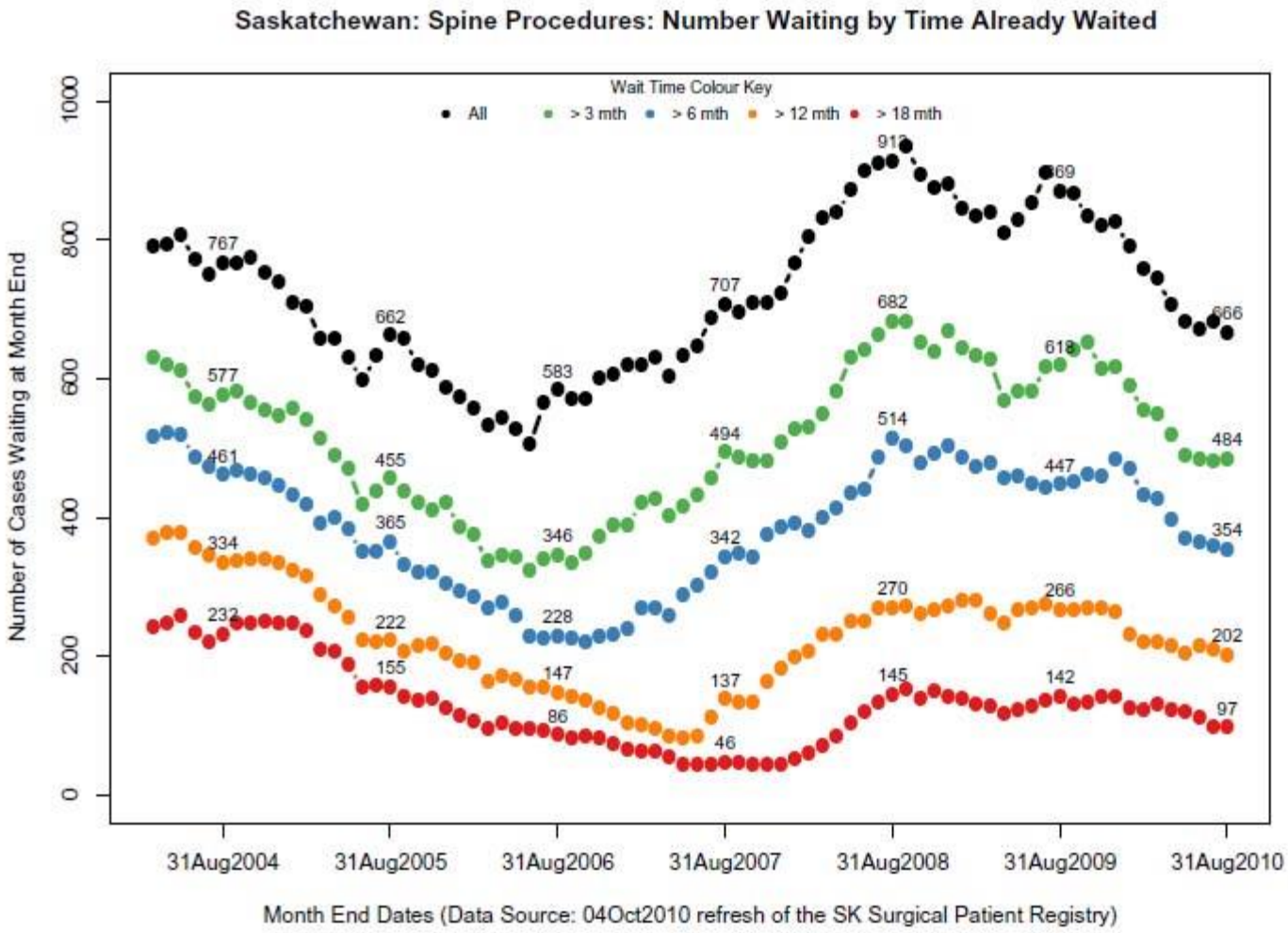
Rest for ____ minutes every ____ hour(s).

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

April 2010


Saskatchewan: Spine Procedures: Number Waiting by Time Already Waited
Wait Time Colour Key
All
> 3 mth
> 6 mth
> 12 mth
> 18 mth
Number of Cases Waiting at Month End
0
200
400
600
800
1000
767
662
583
707
913
869
666
577
455
346
494
682
618
484
461
365
228
342
514
447
354
334
222
147
137
270
266
202
232
155
86
46
145
142
97
31Aug2004
31Aug2005
31Aug2006
31Aug2007
31Aug2008
31Aug2009
31Aug2010
Month End Dates (Data Source: 04Oct2010 refresh of the SK Surgical Patient Registry)

Access to Specialized Diagnostics

Continuous Quality Improvement Initiative

Current Volumes:
CT – 850 of the total =4% of volume
MRI – 2,600 = 36% of volume

Potential decrease of 60% of these exams (2,000 exams per year)
Potential decrease of 4,000 – 6,000 visits to specialists per year.

Introduction

- Limited and restricted access
- New service delivery models (e.g. BAC, PAC, MSK)
- Demand, capacity, waitlists, wait times

Nevertheless, if we allow capacity issues to deflect patient first values and direct access, we are missing a huge opportunity for overall system and quality improvements.

The Initiatives

- Decision Support Tool
- Privileging Program
- Hospitalists
- Emergency Department
- Radiologist Recommended Reflex Testing
- Direct Consultation – Generic Diagnostic

Privileging Program

- ***"MRI of Knee" – Physician Privileging Session***
- ***"CT of Head" – Physician Privileging Session***

Educational Program

- ***Physician Education Package***
- ***Orthopedic Guidelines for MRI Of Knee***
- ***Neurological Guidelines for Requesting CT Head***
- ***Indications/Requirements/Consults/Case Examples***
- ***Technical Considerations/Patient Concerns***
- ***Physician Privileging & Quality Assessment***

CAR - MRI

CAR Recognized Clinical Applications of MRI

A. Adult and Pediatric Brain
B. **Adult and Pediatric Spine**
C. Head and Neck
D. Abdomen and Pelvis (Male and Female Genitourinary System)
E. **Musculoskeletal System**
F. Cardiac
G. Chest
H. Vascular and Magnetic Resonance Angiography
I. Breast Imaging

CAR - CT

Standard for Performing and Interpreting Diagnostic CT Scans (2003)

Computed tomography is a well accepted and established imaging technique which utilizes ionizing radiation to obtain cross sectional images. The applications for CT technology include:

1. Head and Neck diagnosis.
2. **Evaluation of spinal disorders**.
3. Assessment of the thorax.
4. Abdominal and pelvic imaging studies.
5. Imaging of the musculoskeletal system.
6. Guidance of interventional procedures.

Physician CE Package

- Educational Program
- Anatomical diagram
- Diagnostic Imaging Requests - Ordering/Scheduling
- Contact Information – Diagnostic Imaging
- Contrast Media Consent (RQHR 054)
- Referral Guideline(s)
- Provincial Urgency Classification(s) for CT & MRI
- CAR Website Information
- CAR Standards
- CAR patient information section – www.radiologyinfo.ca
  - "Do you **need** that scan?"
- Patient information @ www.radiologyinfo.org
  - Safety: Radiation Exposure in X-ray Examinations
- Evaluation Forms

Success Factors

- Physician Champion
- Executive-Medical Leadership
- Front-line staff and Radiologists support
- Desire and willingness by Family Physicians – patient assessment, appropriateness guidelines, peer audits
- Capacity and access
- Sustainable program