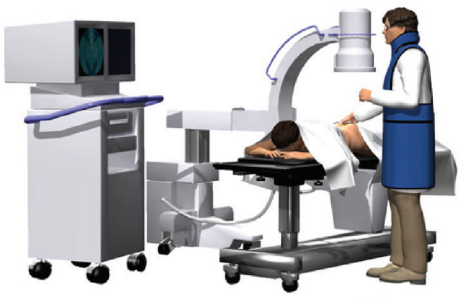
Axial Low Back Pain

Acute: 0 - 6 weeks / Subacute 6 weeks - 3 months

Review Red Flags[1]

Neurological Signs & Symptoms[2]

Y → Imaging recommended
3D imaging (MRI preferred) to assess lumbar radiculopathy & myelopathy



N → **Unbearable low back pain**

Y → - Consider Differential[3] Diagnosis & Specialist Referral for Red Flags

- DO NOT refer to pain program unless Chronic > 3 months

N → • Watchful waiting
• Education
• Prevention
• No additional imaging needed

Y → **Primary Pain Symptoms**

Y → **Symptom Control "The P'S"**

- **P**atient education / reassurance
- **P**ostural /mechanical modification:
  "Put the purse or backpack down!"
- **P**hysiotherapy:
  - Participation in home exercise program

- **P**ut on heat or ice (could try TENS, but low evidence)
- **P**harmacological therapy:
  - Poor evidence for medication, but consider:
    - NSAIDs or muscle relaxant
- **P**oor literature support for:
  - lumbar bracing
  - chiropractor / traction
  - massage
  - low level laser therapy
- Short course opioid, limited duration for severe pain
  See Island Health acute opioid guidlines
- No role for:
  - systemic corticosteroids
  - acetaminophen
  - neuropathic pain medications

N → Surgery and interventional [4] management by Pain Doctor in acute phase **not indicated** as most Acute Back Pain will spontaneously resolve.

* **Opiates**
- Do not use opiates as 1st line treatment
- Not recommended in chronic pain
- See Island Health opiate guidelines

1. RED FLAGS

- Significant trauma
- Infectious symptoms (epidural abscess)
- Constitutional symptoms (malignancy)
- Upper motor neuron pathology suggestive of Cauda equina
- Severe intractable pain
- History of inflammatory arthritis

2. Neurological Signs & Symptoms

- Weakness
- Gait disturbance
- Bowel / Bladder dysfunction
- Motor / Sensory loss in lower extremities

3. Differential Diagnosis

- **Spinal Causes**
  - Lumbar myofascial pain
  - Lumbar discogenic / endplate pain
  - Lumbar Facet osteoarthritis
  - Sacroiliac joint dysfunction
  - Vertebral compression Fracture (see algorithm)
- **Non Spinal Causes** (referred pain)
  - Vascular disease
  - Infection
  - Malignancy
  - Rheumatic conditions
  - Pelvic organs (eg.prostatitis endometriosis)
  - Renal disease (eg. kidney stones)
  - GI disease
  - Fibromyalgia

4.Surgical Lesions (eg.)

- Epidural abscess
- Fracture / Instability
- Myelopathy from:
  - severe disc herniation
  - malignancy
  - osteophytes
  - (compressing nerves)

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Axial Low Back Pain

Chronic: > 3 months

*** Opiates**
- Do not use opiates as 1st line treatment
- Not recommended in chronic pain
- See Island Health opiate guidelines

Review Red Flags ①

Acute or Chronic pain?
- follow the acute - subacute low back pain algorithm if patient has severe Functional impairment

1. RED FLAGS
- See Acute / Subacute low back pain algorithm

2. Neurological Signs & Symptoms
- See Acute / Subacute low back pain algorithm

3. Differential Diagnosis
- See Acute / Subacute low back pain algorithm

4. Surgical Lesions (eg.)
- See Acute / Subacute low back pain algorithm

5. Yellow Flags
- Psychiatric symtoms
- Poor emotional responses
- Kinesiophobia
- System obstacles (litigation, insurance, unable to modify duties

Primarily axial back symptoms

- 3D imaging if red flags or neurological symptoms ②
- x-ray could be considered
- see pain medicine referral form

New surgical lesion not previously evaluated with neurological signs & symptoms ③

Neurosurgery Consult

*Do not refer to neurosurgery for primary axial back pain unless obvious surgical pathology from red flags and imaging

N

Unbearable back pain symptoms

N

Consider:
- DDx ③
- Review red flags ①
- Review yellow flags (if risk of chronic LBD) ⑤
- Consider further assessment
- Referral to specialist

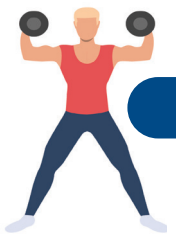
Y

Primarily Leg symptoms

Follow lumbar radiculopathy algorithm

Multidisciplinary Pain Program Referral

Pain Specialist Role
① Educate on pathophysiology
Deconstruct myths to mitigate fear
② Offer rehabilitation options:
- Pain Clinic & community
③ Medications → NeP algorithm
④ Interventional algorithm



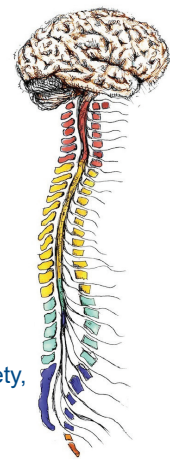
Physical | **Psychological**

Educate:
Current pain science / nervous system changes with chronic pain

Movement as Medicine:
Create an action plan with graded exercise and paced activity using pool and gym programs

Teach Strategies to:
Settle the CNS and diminish an overactive state using medication and relaxation

Consider:
Psychology or Psychiatry involvement for severe anxiety, difficulty coping, etc...



Medication
- Poor evidence for medication management, tailor to side effects
- Consider NSAID's, Duloxetine, Tramadol and possibly TCA's with benefit / risk discussion
- Methocarbamol & Tizanidine considered for persistent symptoms
- Avoid opiates in chronic pain as much as possible
- Short duration opioids for a limited time only (see Island Health opiate guidelines)
- Limited evidence for Gabapentin and other neuropathic pain medications

Intervention / Injection
- See low back pain interventional algorithm
- low evidence for many treatments
- Recommend combining injections with education & exercises
- Limited benefit of repeated injections for numerous re-visits

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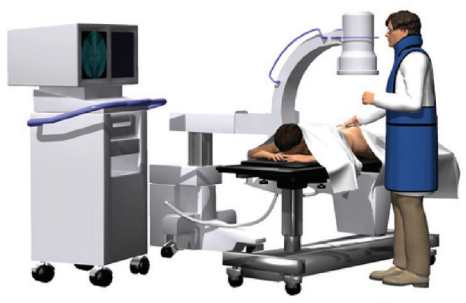
Cervical Axial (Neck) Pain

Acute: 0 - 6 weeks / Subacute 6 weeks - 3 months

Review Red Flags[1]

Neurological Signs & Symptoms[2]

- Y → 3D imaging (MRI preferred) and see cervical radicular myelopathy



- N → Unbearable neck pain

- Y → Consider Differential Diagnosis & Specialist Referral for Red Flags

- Consider Differential Diagnosis & Specialist Referral for Red Flags
- DO NOT refer to pain program unless Chronic > 3 months

- N → Watchful waiting
  - Education
  - Prevention

*** Opiates**

- Do not use opiates as 1st line treatment
- Not recommended in chronic pain
- See Island Health opiate guidelines

- Y → **Primary Pain Symptoms**
- N → Y → **Symptom Control "The P'S"**

- **P**atient education / reassurance
- **P**ostural /mechanical modification:
  "Put the purse or backpack down!"
- **P**hysiotherapy:
  Participation in home exercise program

- **P**ositional sleep modifications
- **P**ut on heat or ice (could try TENS, but low evidence)
- **P**harmacological therapy:
  - Poor evidence for medication, but consider:
    - NSAIDs / Acetaminophen / muscle relaxant
- **P**oor literature support for:
  - cervical collar
  - chiropractor / traction
  - electromagnetic therapy
- Short course opioid, limited duration; See Island Health acute opioid guidlines
- No role for:
  - neuropathic pain medications
  - oral corticosteroids

- Y → Surgery and interventional management by Pain Specialist in acute phase not indicated. Most Acute Neck Pain will spontaneously resolve.

1. RED FLAGS

Eg:

- Significant trauma
- History of rheumatoid arthritis
- Infectious symptoms (epidural abscess)
- Constitutional symptoms (malignancy)
- Upper motor neuron pathology
- Severe vascular disease
- Concurrent chest pain, shortness of breath (MI)
- Severe intractable pain

2. Neurological Signs & Symptoms

- Weakness
- Gait disturbance
- Bowel / Bladder dysfunction
- Motor / Sensory loss in upper or lower extremities

3. Differential Diagnosis

- **Spinal Causes**
  - Cervical myofascial pain
  - Cervical discogenic pain
  - Cervical facet osteoarthritis
  - DISH
  - Whiplash } see Canadian C-spine guidelines for imaging
  - Trauma
- **Non Spinal Causes** (referred pain)
  - Cardiovascular disease
  - Infection
  - Malignancy
  - Headache
  - Rheumatic conditions
  - Thoracic outlet obstruction
  - Vascular disease
  - Temporal mandibular joint disorder
  - Fibromyalgia

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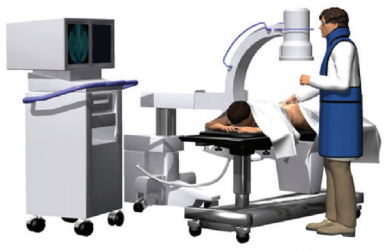
Cervical Axial (Neck) Pain

Chronic: > 3 months

Review Red Flags[1]



Acute on chronic pain?

- Follow the acute - subacute axial neck pain algorithm if patient has severe functional impairment

Primarily axial neck symptoms

Primarily arm symtoms

Follow cervical radiculopathy algorithm

- 3D Imaging if red flags or neurological symptoms **2**
- see pain medicine referral form

New Surgical lesion not previously evaluated and neuro symptoms

N

Unbearable neck pain symptoms

N

Consider **3**
- Differential Diagnosis
- Referral to specialist
- Review red flags
- Consider further assessment

Neurosurgery consult

Y

Multidisciplinary Pain Program Referral

Pain Specialist Role

① Educate on pathophysiology
Deconstruct myths to mitigate fear
② Offer rehabilitation options:
- Pain Clinic & community
③ Medications → NeP algorithm
④ Interventional algorithm

* Do not refer to neurosurgery for primary cervical neck pain unless obviously surgical pathology from red flags and imaging.

1. RED FLAGS

- Significant trauma
- History of rheumatoid arthritis
- Infectious symptoms (epidural abscess)
- Constitutional symptoms (malignancy)
- Upper motor neuron pathology
- Severe vascular disease
- Concurrent chest pain, shortness of breath (MI)
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- **Spinal Causes**
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  - Cervical facet osteoarthritis
  - DISH
  - Whiplash } see Canadian C-spine guidelines for imaging
  - Trauma }
- **Non Spinal Causes** (referred pain)
  - Cardiovascular disease
  - Infection
  - Malignancy
  - Headache
  - Rheumatic conditions
  - Thoracic outlet obstruction
  - Vascular disease
  - Temporal mandibular joint disorder
  - Fibromyalgia

Physical

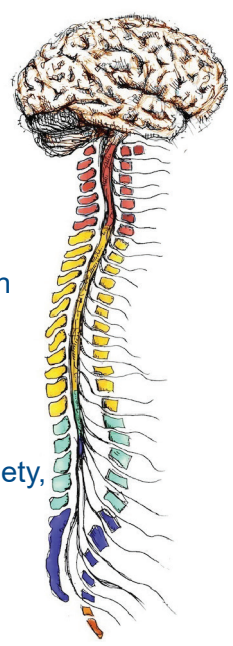
Psychological

Educate:
Current pain science / nervous system changes with chronic pain

Movement as Medicine:
Create an action plan with graded exercise and paced activity using pool and gym programs

Teach Strategies to:
Settle the CNS and diminish an overactive state using medication and relaxation

Consider:
Psychology or Psychiatry involvement for severe anxiety, difficulty coping, etc...



Medication

- Poor evidence for medication management, tailor to side effects
- Consider NSAID's, acetaminophen, muscle relaxants
- Avoid opiates in chronic pain as much as possible
- Short duration opiates for a limited time only (see Island Health opiate guidelines)
- Limited evidence for neuropathic pain medications
- Refer to Island Health neuropathic pain algorithm

Intervention / Injection

- Consider cervical medial branch blocks / radio frequency ablation for facet joint pain / cervicogenic headaches
  - Image guidance mandatory
  - Fluoroscopy (3 image angles saved)
  - CT (high radiation exposure and cost)
- Do not perform epidural for neck pain
- Dry needling and trigger point injections lack high quality data
- Not recommended:
  - Botox injection

★Surgical intervention not recommended for persistent neck pain

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Cervical Radiculopathy

Acute: 0 - 6 weeks

Review Red Flags[1]

Neurological Signs & Symptoms[2]

Y

Myelopathy

- unsteady gait
- weakness in arms & legs
- bowel or bladder symptoms
- widespread paresthesias
- hyperreflexia
- upper limb motor or sensory dysfunction

N

Unbearable arm pain

Y

N

- Watchful waiting
- Education
- Prevention

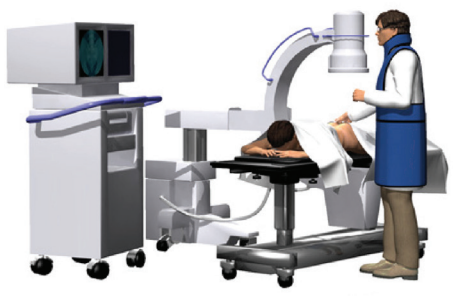
Y

N

Significant or progressive functional neurological signs / symptoms

N

Y



3D Imaging
• MRI preferred

Surgical Lesion demonstrated

N

Y

Surgical Consult

Primarily Pain Symptoms

Consider

- Differential Diagnosis
- Referral to neurology / psychiatry
- Review red flags
- Consider further assessment
  - EMG
  - CT myelogram if clinical symptoms or signs discordant from MRI
- **Do not refer to pain program**

1. RED FLAGS

Eg:
- Trauma
- Malignancy
  - fever, night sweats
  - weight loss
- Infection
- Drug abuse
- Hx inflammatory arthritis
- Bilateral signs & symptoms

2. Neurological Signs & Symptoms

- Radicular pain
- Paresthesia
- Numbness

Y

Surgery and Referral to Pain Clinic for epidural injections are not recommended in the acute phase b/c most resolve spontaneously.

Y

Conservative treatment / Symptom control

- Continue active range of motion
- Physiotherapy
  - arm strengthening & stretching
- Consider short term use of a soft collar
- Consider cervical traction but evidence limited
- Poor evidence for medications but consider:
  - NSAIDs / Acetaminophen muscle relaxants
  - Neuropathic meds: see Island Health algorithm on website
  - Short course of oral corticosteroid
  - Short course opioid of limited duration (see Island Health acute opioid guidelines)

Recap

★ Surgical Consult if:
- Red flags (OR)
- Unremitting radicular pain despite 6 - 12 weeks of conservative therapy AND progressive motor weakness AND clinical correlation with imaging

Most patients with cervical radiculopathy from degenerative disorders; signs & symptoms will resolve spontaneously over time.

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Cervical Radiculopathy

Subacute: 6 weeks - 3 months

Review Red Flags[1]

Neurological Signs & Symptoms[2]

Y

N

Symptoms of Myelopathy

- unsteady gait
- weakness in arms & legs
- bowel or bladder symptoms
- widespread paresthesia
- hyperreflexia

N

Y

Significant or progressive functional; or neurological signs / symptoms

Y

Upper limb motor or sensory dysfunction

N

Unbearable arm pain

N

- Watchful waiting
- Education
- Prevention

Y

N

3D Imaging
• MRI preferred

Y

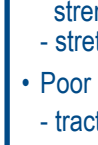
Y

Surgical Lesion demonstrated

N

Y

Y



Neurosurgery Consult

Primarily Pain Symptoms

N

Y

Pain program with fellowship trained specialist when possible

Primarily radicular arm pain

Primarily neck pain

Multimodal Pain Management

See Island Health cervical neck pain algorithm

Consider

- Differential Diagnosis
- Referral to neurology / physiatry
- Review red flags
- Consider further assessment
  - EMG
  - CT myelogram if clinical symptoms or signs discordant from MRI
- Do not refer to pain program

Recap

★ Surgical Consult if:
- Red flags (OR)
- Unremitting radicular pain despite 6 - 12 weeks of conservative therapy AND progressive motor weakness AND clinical correlation with imaging

1. RED FLAGS

Eg:
- Trauma
- Malignancy
  - fever, night sweats
  - weight loss
- Infection
- Drug abuse
- Hx inflammatory arthritis
- Bilateral signs & symptoms

2. Neurological Signs & Symptoms

- Radicular pain
- Parasthesia
- Numbness

* **Opiates**
- Do not use opiates as 1st line treatment
- Not recommended in chronic pain
- See Island Health opiate guidelines

Physical

- Active rehabilitation:
- Physical therapy:
  - cervical shoulder, scapulothoracic, upper arm strengthening
  - stretching
- Poor literature support for:
  - traction
  - soft collar
  - IMS
  - trigger point injections
  - other passive modalities
- Would not recommend:
  - chiropractor
  - cervical manipulation

Psychological

- Educate / Explain pain
- Address fear, anxiety, repetitive negative thoughts, pain masking with substances, etc.
- Pain coping
- Psychology / Psychiatry consults if appropriate

Medication

- Refer to Island Health “neuropathic pain medications”
- Avoid opiates in chronic pain as much as possible
- Short duration opiates for a limited time only (see Island Health opiate guidelines)
- Poor evidence for medication management, tailor to side effects
- Do not recommend long term use of oral corticosteroids

Intervention / Injection

- Consider epidural steroid injection with fluroscopy or CT guidance
- **Image guidance mandatory**
  - **1. Fluoroscopy**
    - 3 image angles saved
  - **2. CT**
    - higher radiation exposure and cost
    - do not perform epidural for neck pain
    - limit recurring epidural injections and use latest dose of corticosteroid
    - if doing transforminal use a particulate free steroid
    - diagnostic nerve root blocks lack specificity correlate for surgical management

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Cervical Radiculopathy

Chronic: > 3 months

*** Opiates**

- Do not use opiates as 1st line treatment
- Not recommended in chronic pain
- See Island Health opiate guidelines

1. RED FLAGS

Eg:
- Trauma
- Malignancy
  - fever, night sweats
  - weight loss
- Infection
- Drug abuse
- Hx inflammatory arthritis
- Bilateral signs & symptoms

Review Red Flags[1]

Acute on chronic pain?

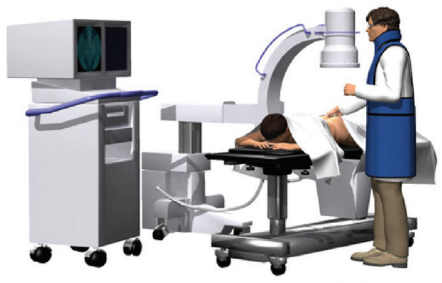
Follow the acute & subacute radicular algorithm if patient has significant functional impairment

Yellow flags

- Kinesophobia
- Anxiety
- Depression
- Social and or work stressors
- Personality disorder
- Addiction / Masking
- "Sick role / behaviour" - bedrest, me off work, ER visits
- Unrealistic expectations
- Poor job satisfaction
- Lack of family
- Supports
- Litigation / WCB
- Insomnia

Primarily arm symptoms

3D imaging if functional impairment and patient has not been previously imaged (CT or MRI)



New surgical lesion not previously evaluated

N

Y

Neurosurgery Consult

Not a surgical candidate

Primarily axial neck symptoms

Follow cervical neck pain algorithms

Unbearable radicular arm pain symptoms

N

Consider

- Differential Diagnosis
- Referral to neurology / physiatry
- Review red flags
- Consider further assessment
  - EMG
  - CT myelogram if clinical symptoms or signs discordant from MRI

Y

Recap

★ Surgical Consult if:
- Red flags (OR)
- Unremitting radicular pain despite 6 - 12 weeks of conservative therapy AND progressive motor weakness AND clinical correlation with imaging

Multidisciplinary Pain Program referral

Pain Specialist Role

① Educate on pathophysiology
Deconstruct myths to mitigate fear
② Offer rehabilitation options:
- Pain Clinic & community
③ Medications → NeP algorithm
④ Interventional algorithm

Physical

Psychological

Educate:
Current pain science / nervous system changes with chronic pain

Movement as Medicine:
Create an action plan with graded exercise and paced activity using pool and gym programs

Teach Strategies to:
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Consider:
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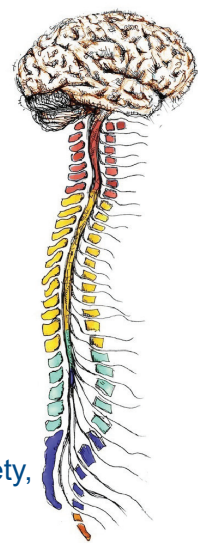

Medication

- Poor evidence for medication management, tailor to side effects
- Consider NSAID's, acetaminophen, muscle relaxants
- Avoid opiates in chronic pain as much as possible
- Short duration opiates for a limited time only (see Island Health opiate guidelines)
- Limited evidence for neuropathic pain medications
  - Refer to Island Health neuropathic pain algorithm

Intervention / Injection

- Epidural Steroid
  - Consider trial of epidural injection for severe radicular pain management
  - Low threshold to discontinue if no functional effect
  - Do not "try" epidural steroid injections with low probability of radicular pain

  Consider benefits vs risk
  - evidence poor for epidural steroids in chronic radiculitis

- Neuromodulation (Spinal Cord Stimulator)
  - Does not treat axial symptoms
  - 1^0 indication
    - refractory radicular pain

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Complex Regional Pain Syndrome

Pain out of proportion to severity affecting a single limb?
And inciting event causing pain?
(ie: Fractures, crush injuries, sprains, surgery)

***Key Take Home with CRPS: NO OTHER DIAGNOSIS THAT BETTER EXPLAINS SIGNS AND SYMPTOMS**

N

• Consider Differential Diagnosis (1)
- Specialist referral

Predominantly pain symptom?

N

Reconsider differential diagnosis and refer to appropriate specialist

Y

Non-urgent referral to Pain Clinic for assessment

Y

negative

Apply Budapest Criteria (2) for diagnosis of CRPS

positive

URGENT referral to Pain Clinic

*NO Diagnostic tests specific for CRPS

*Tests help rule out pathology mimicking CRPS

1. Differential Diagnosis

Eg:
- Infection: Skin,muscle, bone, joint
- Compartment syndrome
- Peripheral Vascular Disease
- Deep Vein Thrombosis
- Peripheral neuropathy
- Vasculitis
- Thoracic outlet syndrome
- Inflammatory arthritis
- Raynaud's Disease
- Erythromelalgia
- Conversion disorder
- Factitious Disorder
- Chronic post surgical pain

2. Budapest Criteria

- Continuing pain disproportionate to inciting event
- No other diagnosis that better explains signs and symptoms
- Must have ≥ one symptom in 3/4 categories below
- Must have ≥ one sign at time of evaluation in 2/4 categories below

Categories -
- Sensory: hyperalgesia, allodynia
- Vasomotor: change in temperature or skin colour
- Sudomotor / Edema: edema or sweating changes
- Motor / trophic: Decreased range of motion, motor dysfunction or changes in hair, nail or skin

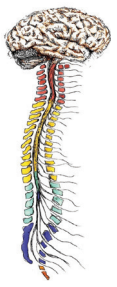
Pain Clinic Management

Physical

- **Physiotherapy**
  - goal: maintain functional activities
  - specialist techniques include graded motor imagery, desensitization, mirror therapy, virtual reality, allodynia re-education
- **Occupational Therapy**
  - Increasing ADL's, iADL's

Psychological

- **Goal:** Reduce pain to tolerate physiotherapy
  - Patient education
  - Pain coping skills
  - Pain psychologist
    - cognitive, behavioural therapy
    - biofeedback
    - relaxation training
    - identify other psychological factors contributing to pain (ie. depression, anxiety)



Medication

- **Goal:** Reduce pain to tolerate physiotherapy
- **Acute CRPS** (≤ 12 weeks)
  - corticosteroids or NSAID's inflammatory component
  - medications below for symptom support
- **Chronic CRPS** (≥ 12 weeks)
  - neuropathic algorithm - Island Health
  - bisphosphonates
  - topical creams (lidocaine, capsaicin)
- **Less evidence for:**
  - ketamine (PO or IV)
  - opioids
  - calcitonin
  - N-Acetyl Cysteine
  - IVIG
  - naltrexone
  - magnesium tadalafil
  - DMSO
  - Mannitol
- **Vitamin C**
  - may decrease incidence of CRPS after distal radius fracture

Intervention / Injection

- **Goal:** Reduce pain to tolerate physiotherapy
- **Limited evidence for all interventions:**
- **Sympathetic nerve block**
  - for sympathetically mediated pain
- **Neuromodulation**
  - spinal cord stimulation, dorsal root ganglion stimulation.
- Surgical sympathectomy
  - limb amputation not supported in literature

Low Back Pain (Interventional)

POTENTIAL STRUCTURAL TARGETS

Bone scans are poorly predictive of pain source; useful to rule out infection, CA, fracture

Younger Age
No other structural causes

Presumed discogenic / end plate/ other

Discography is traumatic / no current recommended interventions

Active Rehab strategies eg: Core stability - McKenzie & Education to alleviate anxiety

Pain above beltline
Older age

Medial branch block (facet injections unreliable)

Response

N

Y

Radio frequency ablation

Consider other structure

Pain below beltline
SIJ provocative maneuvers

SIJ injection or lateral branch blocks

Response

N

Y

Consider Radio frequency ablation if short term relief from Lateral branch blocks

Recent vertebral fracture (<3 months)

Kyphoplasty, and other interventions if appropriate (see VCF algorithm)

Myofascial
Often associated with other structural causes

Active Rehab Strategies

The following interventions are NOT supported by the literature for long term benefit

Trigger Point Injections

Steroid Injections

Other syndromes

Piriformis
Trochanteric
Baastrup

* The evidence does NOT support ongoing Ultrasound guided medial branch blocks or Facet injections

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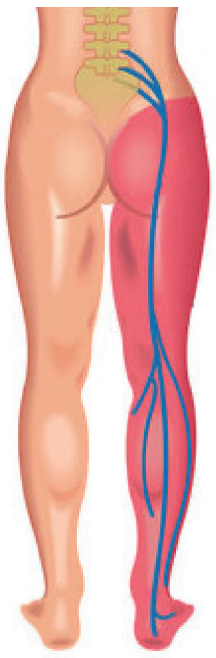
Lumbar Radiculopathy/Radiculitis
non-infectious non-malignant

Acute: 0 - 6 weeks



RED FLAGS

Eg:
- **Fever, night sweats**
- **Unexplained weight loss**
- **Bilateral leg symptoms**
- **H/O malignancy**

Review Red Flags

Neurological Signs & Symptoms

Y / N

- Bowel/Bladder symptoms
- Saddle anesthesia

Unbearable leg pain 

Y / N

Lower limb Motor/Sensory dysfunction 

Y / N

- Watchful waiting
- Educate prevention

Y / N

(Severe) Significant or progressive functional neurological signs/symptoms

Y / N

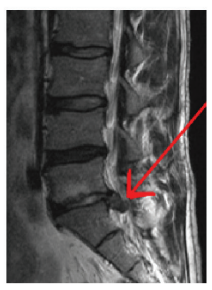
3D Imaging
- MRI preferred 

Y / N

Surgical lesion demonstrated 

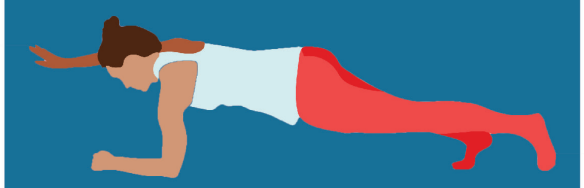
Y / N

Surgical Consult 



Surgery and Epidural injections are typically not recommended in the acute phase b/c most resolve spontaneously

Symptom Control
- Avoid total bed rest if possible
- Graduated walking program
- Poor evidence for medications but consider
  - NSAIDS / Acetaminophen / MM relaxants
  - Neuropathic meds: see Island Health algorithm on website
- Short course oral steroid
- Short course opioid, limited duration: see Island Health acute opioid guidelines



Consider
- CT or CT myelogram if very high index of suspicion (NASS) for SOL diagnosis
- Review Red Flags
- Consider help neurology / physiatry

Primarily pain symptoms

* Unless symptoms are severe and functionally limiting

Surgery is not typically recommended in the acute phase as the majority of patients improve spontaneously

Lumbar Radiculopathy/Radiculitis
non-infectious non-malignant

Chronic - 3 or more months

RED FLAGS

Eg:
- **Fever, night sweats**
- **Unexplained weight loss**
- **Bilateral leg symptoms**
- **H/O malignancy**

YELLOW FLAGS

- Kinesophobia
- Anxiety
- Depression
- Social and/or work stressors
- Personality disorder
- Addiction / Masking
- "Sick role / behaviour" - bedrest, time off work, ER visits
- Unrealistic expectations
- Poor job satisfaction
- Lack of family
- Supports
- Litigation / WCB
- Insomnia

Review Red Flags

Acute on chronic follow acute + subacute radicular algorithm if patient has significant funtional impairment

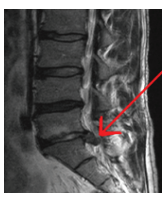
Primarily leg symptoms

Primarily axial LBP symptoms

Follow LBP algorithm

3D imaging if functional impairment + patient has not been previously imaged (CT or MRI)

Surgical Lesion eg.
- Concordant disk herniation
- Epidural hematoma / abscess
- Comp # with retropulsion



New Surgical lesion not previously evaluated

N

Y

Y

Unbearable radicular leg PAIN symptoms

N

Reconsider diagnosis

Possible neurology or physiatry consult

eg. motor or sensory loss with little / no pain

Y

Neurosurgery Consult

Y

Not a surgical candidate

Pain Program Referral

Pain Specialist Role
1. Educate on pathophysiology Deconstruct myths to mitigate fear
2. Offer rehabilitation options: - Pain clinic + community
3. Medications → NeP algorithm
4. Interventional algorithm

Physical

Psychological

Medication

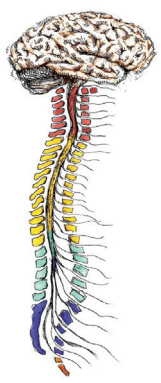
Intervention / Injection

Educate:
Current pain science/ nervous system changes with chronic pain

Movement as Medicine:
Create an action plan with graded exercise and paced activity using pool and gym programs

Teach Strategies to:
Settle the CNS and diminish an overactive state using meditation and relaxation

Consider:
Psychology or psychiatry involvement for severe anxiety, difficulty coping, etc...



- Neuropathic Pain Algorithm (NeP) Island Health
- Avoid opiates in chronic pain as much as possible
- Short duration opiates for a limited time only (see Island Health acute opiate guidelines)
- Poor evidence for medication management, tailor to side effects

1° neuropathic limb symptoms
- Does not do as well for axial symptoms

Yellow Flags Important here

Epidural steroid
- Consider limited trial of epidural injection + only for severe symptoms with low threshold to discontinue if no functional effect
- Do not "try" epidural steroid injections with low probability of radicular pain
- Weigh the risks vs. benefits with patient as there is little evidence for epidural steroids in chronic radiculitis

Spinal Cord Stimulation

1° Indications
- Post surgical refractory leg pain / PLPS / FBSS
- Refractory radicular pain

This Pain Algorithm was created with funding from The Specialist Services Committee: A Partnership of Doctors of BC and the BC Ministry of Health https://sscbc.ca/

Lumbar Radiculopathy/Radiculitis
non-infectious non-malignant

Subacute: 6 weeks - 3 months

Review Red Flags

RED FLAGS
- Fever, night sweats
- Unexplained weight loss
- Bilateral leg symptoms
- H/O malignancy

Neurological Symptoms

Bowel/bladder symptoms saddle anesthesia — Y

Significant/Severe functional symptoms — Y

Lower limb motor/ sensory symptoms — Y

Unbearable leg pain — N

3D imaging MRI preferred (with contrast if prev surgery) — Y, Y

Watchful waiting, educate prevention — N

Opiates
- Do not use as first line
- Not recommended in chronic pain
- See island health opiate guidelines

Surgical Lesion eg.
- Concordant disk herniation
- Epidural hematoma / abscess
- Comp, Fx with retropulsion

Surgical lesion demonstrated — Y, Y

Primarily pain symptoms — N

Reconsider diagnosis Consider help Neurology Physiatry

Do not refer to pain program

Neurosurgery Consult — Y

Do not refer to Neurosurgery for primarily LBP unless, red flags, instability, malignancy.

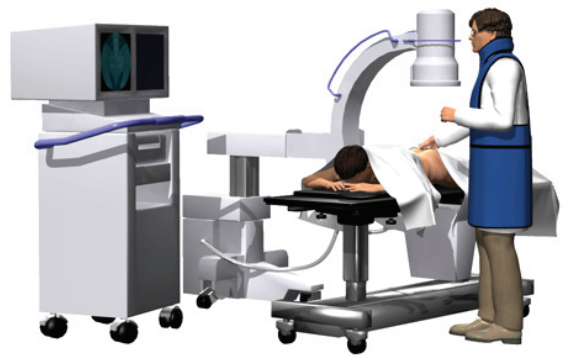
*Follow LBP algorithm

Pain program with fellowship trained specialist when possible — Y

Primarily radicular leg pain

Primarily low back pain

See Island Health LBP algorithm



Multimodal Pain Management

Physical
- Active rehabilitation
- Guided exercises eg McKenzie, core stabilization, graduated moment
- Poor literature support for trigger point injections, IMS, ultrasound, cold laser + other passive modalities

Psychological
- Educate -Explain pain
- Address fear, anxiety, repetitive negative thoughts, pain masking with substances etc.
- Pain coping
- Psychology/Psychiatry consults If appropriate

Medication
- Neuropathic Pain Algorithm (NeP) Island Health
- Avoid opiates in chronic pain as much as possible
- Short duration opiates for a limited time only (see Island Health acute opiate guidelines)
- Poor evidence for medication management, tailor to side effects

Intervention / Injection
- Consider epidural steroid injection with fluoroscopy or CT guidance (transforaminal approach best supported in the literature; however higher risk+less tolerated)

Image guidance mandatory:
1: Fluoroscopy (with three image angles saved)
2: CT (higher radiation exposure and cost, less safe for transforaminal approach)

- Do not perform epidural steroid injections for motor or sensory loss with no leg pain.
- Do not do “series of 3” epidural injections
- Do not perform non-image guided epidural injections
- Do not provide epidural injections for low back pain

- Limit recurring epidural injections and use lowest effective dose of steroid

- Diagnostic benefit of epidural injections and nerve root blocks are poor d/t lack of specificity (unclear whether cost vs risk is justified)

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Lumbar Spinal Stenosis (LSS)

Non-malignant / non-infectious

1) Descending buttock and leg pain with walking
2) Leg and buttock pain relieved with forward flexion
(opposed to relief of LBP)
3) No leg or buttock pain with bicycle exercise
4) Motor or sensory disturbance while walking
5) Wide based gait +Rhomberg
6) Normal foot pulses

Incidental findings of LSS are common + often not clinically relevant
Do not automatically assume imaging findings correlate to symptoms

Clinical suspicion of neurogenic claudication

LSS discovered incidentally on imaging

Low back pain primarily

See low back pain algorithm

R/O Red Flags

Trauma, Malignancy, Infection,IVDU,
Bilateral symptoms (cord comp.)
Bowel or Bladder (acutely)

Review differential diagnosis

- PVD
- Peripheral neuropathy
- Joint pain referral hip, knee, lumbar "pseudoradiculopathy"

Intolerable
severe/functionally limiting buttock or leg symptoms

Tolerable
mild/mod leg and buttock symptoms

- active exercise program
- goals – improve strength, balance + walking tolerance
- decrease anxiety about condition

3D imaging MRI, CT, CT myelogram

Trial conservative approach if no red flags

3+ months without return to baseline with significant pain

Mild/mod LSS on imaging

Look for other cause and consider help Neuro/Physiatry

★ Surgical Consult if:
- Surgical Red flags
- Unremitting radicular pain despite 6 - 12 weeks of conservative therapy AND progressive motor weakness AND clinical correlation with imaging

Severe LSS on imaging

Neurosurgery consult

Non-surgical
Medical comorbidities, multilevel or foraminal stenosis, incorrect diagnosis

Primarily pain symptoms

N

Primarily motor/sensory loss symptoms

Consider help from Neurology or Physiatry **DO NOT** refer to chronic pain program

Y

Yellow flags

- Kinesophobia
- Anxiety
- Depression
- Social and or work stressors
- Personality disorder
- Addiction / Masking
- "Sick role / behaviour" - bedrest, time off work, ER visits
- Unrealistic expectations
- Poor job satisfaction
- Lack of family
- Supports
- Litigation / WCB
- Insomnia

PAIN FELLOWSHIP TRAINED MD'S AND FLUOROSCOPY

Y

Physical

- active rehabilitation
- focus on strength, balance, gait and walking tolerance
- poor evidence for passive treatments eg. Myoactivation/ trigger point injections, cold laser, IMS, Ultrasound

Psychological

- Educate / Explain pain
- Address fear, anxiety, repetitive negative thoughts, pain masking with substances, etc.
- Pain coping
- Psychology / Psychiatry consults if appropriate

Medication

- Refer to Island Health "Neuropathic pain medications"
- Avoid opiates in chronic pain as much as possible
- Short duration opiates for a limited time only (see Island Health opiate guidelines)
- Poor evidence for medication management, taylor to side effects
- Do not recommend long term use of oral corticosteroids

Intervention / Injection

Poor evidence for epidural steroids in LSS
- limit attempts
- best not to do LESI (central stenosis) or TFESI (foraminal stenosis) at level of severe stenosis
- Imaging (CT or Fluoroscopy) with 2+ views mandatory for epidural
- DO NOT perform non-image or ultrasound guided epidurals

Spinal cord stimulation may be considered in otherwise non-surgical patients in select cases *be aware of yellow flags*

Radiofrequency ablation and facet injections are NOT appropriate for neurogenic claudication (RFA may benefit pseudoradicular symptoms if pain is facetogenic)

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