



Module 10-3

Chronic Low Back Pain

By the end of the module, you will be able to:

- Discuss the assessment, differential diagnosis and the Red Flag conditions of chronic low back pain
- Know how to treat and when to refer patients with chronic low back pain

We will review:

Topic One: Assessment, Differential Diagnosis and Red Flag conditions

Topic Two: How to treat and when to refer

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Topic One

Assessment, Differential Diagnosis, and Red Flags



Low back pain is anywhere between the tip of the last thoracic spinous process to the tip of the sacro- coccygeal joints.

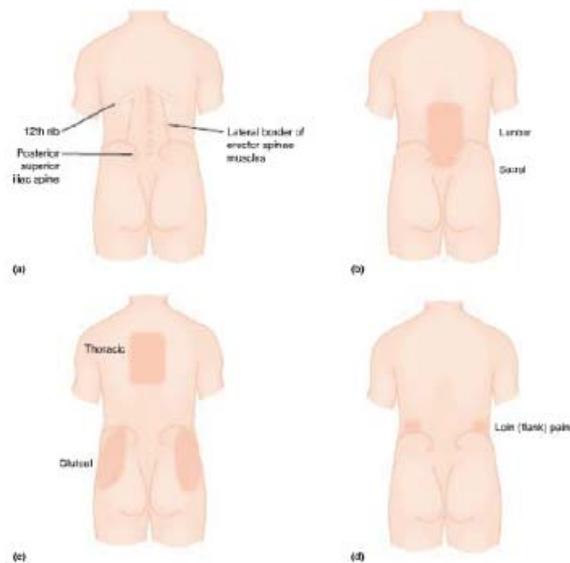


FIGURE 71.2 The definition of what is back pain and what is not. A. Landmarks for the definition of lumbar spinal pain. B. The topographical location of lumbar spinal pain and sacral spinal pain, any combination of which amounts to low back pain. C. Thoracic spinal pain and gluteal pain. D. Loin pain.

Notes

It is important to define the perimeters of low back pain.

Distinguish between lumbar, lumbo-sacral and sacral pain from thoracic and flank pain

Low back pain can refer to the lower extremity above and below the knee.



Notes

Referring chronic low back pain follows myotome distribution and the neurological exam is normal.

Radiating chronic low back pain follows a dermatome and is accompanied with neurological signs such as paresis, hyper-reflexia or hypoesthesia.

Bony Structures

Spine
Iliac crests
Hip jt

Muscles

Quadratum lomborun
Multifidus
Psoas
Gluteaus max, med, minimus
Piriformis

Nerves

- Lumbo-scasral plexus
- Sciatic Nerve
- Dermatomes
- Motor innervation and reflexes

Low back pain is pain that is present for more than 3 months.

Whereas acute low back pain is largely self limiting and causes are unknown, sources of chronic low back pain can be investigated.

History and physical exam can rule out Red Flag conditions but in their absence cannot determine the cause of chronic low back pain.

Notes

This is an important point often overlooked, sources of chronic low back pain can be investigated.

Never forget the OPQRSTU mnemonic

Onset of pain

Provocation/Palliation

Quality/Character

Region/Radiation

Severity/ Intensity

Timing (continuous, intermittent)

U/you (impact on activities)

Notes

Repeat this mnemonic often

*Consider Red Flag conditions when:

- Recent significant trauma (any age)
- Osteoporosis, use of steroids
- Age over 70
- Weight loss, pain at night
- Fever, immunosuppression
- Neurological deficit
- History of cancer or IV drug abuse

*Contrary to acute low back pain Red Flag conditions are **uncommon** causes of chronic low back pain.

Notes

Emphasize that patients with chronic low back pain uncommonly have Red Flag conditions. However missing them has devastating effects on the patient.

To rule out these conditions use a checklist:

Name:						LOW BACK PAIN						
Date of birth:				Medical Record No.								
History of:			Cardiovascular			Endocrine						
Trauma	Y	N	Risk factors?	Y	N	Diabetes?	Y	N				
Sports injury	Y	N	Respiratory				Corticosteroids?	Y	N			
Fever, night sweats	Y	N	Cough?	Y	N	Parathyroid	Y	N				
Recent surgery	Y	N	Urinary				Musculoskeletal					
Catheterization	Y	N	Infection?	Y	N	Pain elsewhere?	Y	N				
Venipuncture	Y	N	Hematuria?	Y	N	Neurological						
Illicit drug use	Y	N	Retention?	Y	N	Symptoms/signs?	Y	N				
Weight loss	Y	N	Stream problems?	Y	N	Skin						
Past history of cancer	Y	N	Reproductive				Infection?	Y	N			
Occupational exposure	Y	N	Menstrual?	Y	N	Resnea?	Y	N				
Hobby exposure	Y	N	Hemopoietic				GIT					
(Overseas) travel	Y	N	Problems?	Y	N	Diarrhea?	Y	N				
Comments:						Signature						
						Date:						

FIGURE 71.5 A checklist for red flag clinical indicators, suitable for inclusion in medical records used in general practice.¹⁵

Notes

Go over the list and underline how the questions reveal red flags

Tumor (fever, night sweats, history of cancer, weight loss)

Infection (fever, recent surgery, illicit drug use, immunosuppression, catheterization, travel)

Fracture (trauma, recent surgery, manipulation, corticosteroids)

Aneurysm (visceral, abdominal pain as well)

Conventional imaging does not diagnose the cause of chronic low back pain.

It is **incorrect** to attribute chronic low back pain solely to structural abnormalities on X rays or CT.

Known accepted sources of chronic low back pain that merit further investigation are:

- zygapophyseal joints (facets) - 40%
- internal disc disruption - 15%
- Sacroiliac (SI) joints - 15%

Notes

This is a key slide and common misconception. Many chronic low back pain patients get unnecessary treatments and surgery because of 'abnormal' x-rays, CT

Emphasis the need to investigate possible sources of chronic low back pain as suggested.

Preferred investigations for possible sources of chronic low back pain.

CLINICAL INDICATORS AND PREFERRED INVESTIGATIONS FOR POSSIBLE SERIOUS CAUSES OF SPINAL PAIN

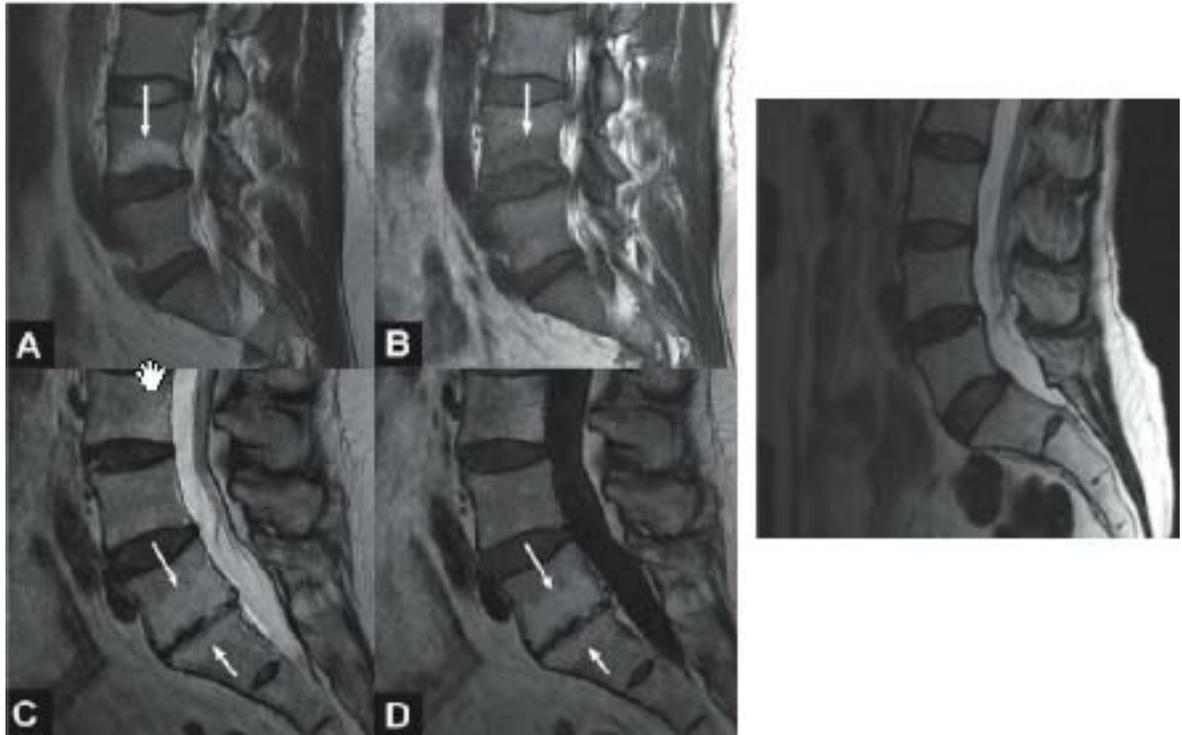
Suspected Pathology	Clinical indicators	Preferred test	
Fracture	Severe trauma	1st line	X-ray
Stress fracture	Sporting activity involving spinal extension, rotation, or both	1st line 2nd line	Bone scan or MRI X-ray
Pathological fracture	Osteoporosis Prolonged use of corticosteroids Past history of cancer	1st line 2nd line	X-ray MRI
Infection	Fever, sweating Risk factors for infection: (invasive medical procedure, injection, illicit drug use, trauma to skin or mucous membrane, immunosuppression, diabetes mellitus, alcoholism)	1st line 2nd line	ESR, FBC, CRP MRI
Tumor	Past history of malignancy Age greater than 50 Failure to improve Weight loss Pain not relieved by rest	All cases 1st line 2nd line Prostate Myeloma	1: ESR, CRP 2: MRI PSA IEPG, serum protein electrophoresis
Aortic aneurysm	Cardiovascular risk factors Anticoagulants No musculoskeletal signs	1st line	Ultrasound

Notes

Go over this work up

Only MRI constitutes a screening tool for occult lesions.

High intensity zone on T2 MRI or Modic changes on T1 MRI are highly specific only if the disc is proven to be painful by provocative discography.

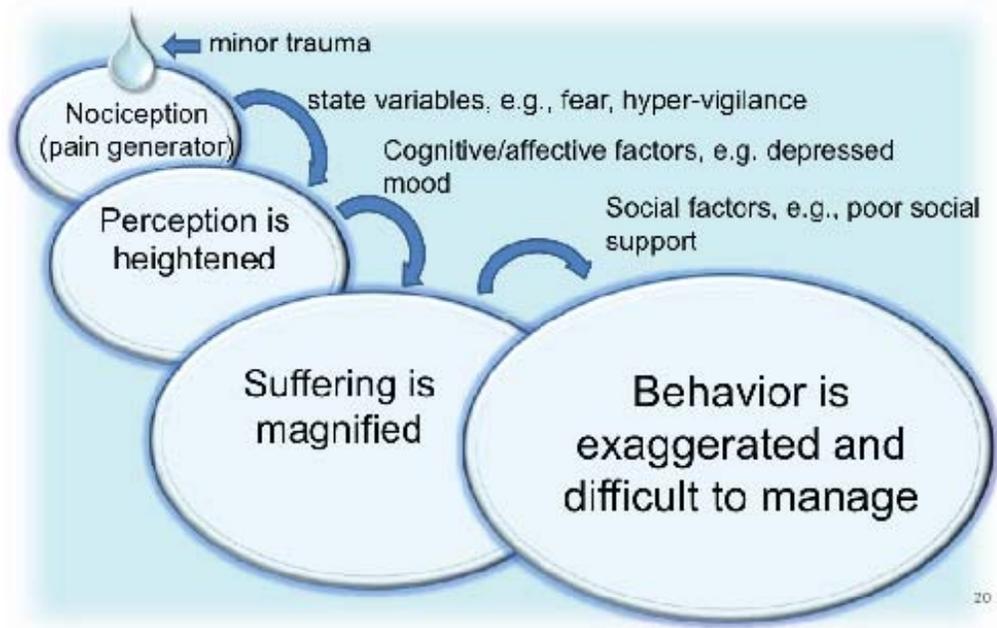


Topic Two

How to Treat and When to Refer



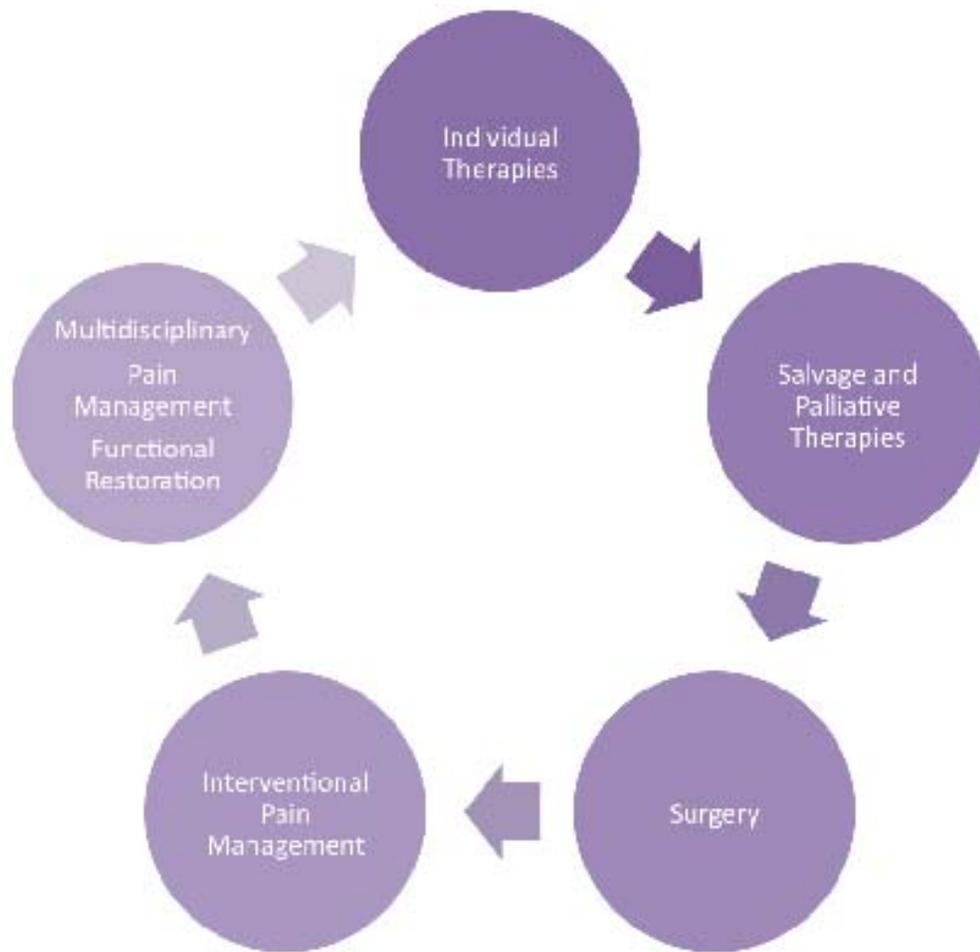
Chronic low back pain can be a great source of suffering and disability.



Notes

This slide shows the transition from acute to chronic pain. If acute pain is not treated appropriately, suffering, disability, and pain behavior will become the predominant features of the patient.

Monotherapy is insufficiently effective at managing chronic low back pain.



Notes

It is important to emphasize that very rarely patients go through a 'balanced' treatment. They usually have medications, interventions and surgery before a multidisciplinary program with functional restoration is put in place.

Most available treatments offer partial, if any pain relief. None offer pain elimination.

A long term commitment with the patient is key.

Encourage patients to stay active by using motivational interviews.

Allow physical, integrative and mind-body therapies since they are low risk and may offer some symptom relief.

Drugs, and especially high dose opioids are not effective and are responsible for long term morbidity and mortality.

Notes

Explain that these patients are disabled, hopeless and helpless. The emphasis for a functional recovery treatment and not opioids is key.

Structural abnormalities alone cannot be assumed to cause pain.

For corrective surgery to be successful, diagnostic blocks and a psychological assessment are essential.

Pain without progressive neurological deficits due to 'instability', does not qualify as an indication for surgery.

Notes

Corrective surgery may be helpful only if diagnostic blocks have been unequivocal and psycho-social issues have been addressed.

Unfortunately most patients go into surgery WITHOUT these prerequisites.

Spondylosis, Spondylolysis, Spondylolisthesis are not synonymous and require an anesthetic block for diagnosis.

Spondylosis: degenerative changes to the zygapophyseal (facet) joints - requires medial branch blocks.

Spondylolysis: defect in the pars interarticularis that stresses the zygapophyseal (facet) joints - requires medial branch blocks.

Spondylolisthesis: anterior or posterior displacement of the vertebral body without progressive neurological deficit **rarely** requires surgery.

Notes

It is important to explain these commonly used terms

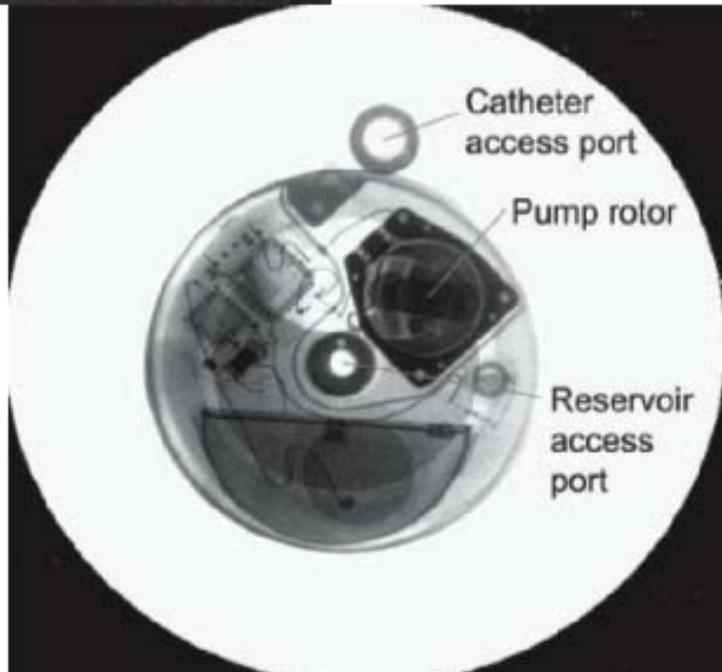
Long term corrective surgery for pain alone rarely improves pain and actually increases disability.



Notes

Note that studies have shown that surgery alone without addressing psycho-social comorbidities causes increase, not decrease, in long term disability.

Chronic oral or intrathecal opioids and spinal cord stimulation should be discussed as palliative care.



Notes

Emphasize these procedures are not without complications, expensive yet may provide relief in a small selected, trialed group of patients.

Communication with the patient and the specialist, as well as addressing the psycho-social conditions are imperative for success.

Confidently assure that progressive life style changes are unavoidable and necessary.

Patient engagement and self management are the strongest indicators of a successful functional restoration.

When everything else fails discuss palliative care options with the patient and a pain care specialist.

Be weary of irreversible, novel, promising techniques.

Notes

This is the most important message of the presentation. Bear in mind that many of the patients that you will see have received many failed therapies.

Knowledge Check

The most common possible sources of chronic low back pain are:

- a. Congenital abnormalities; spondylolisthesis; spondylolysis; spondylosis
- b. Depression; anxiety; job dissatisfaction; somatization
- c. Internal disc disruption; zygapophyseal (facet) joint pain; sacroiliac (SI) joint pain
- d. Post surgical arachnoiditis; neuroma formation; nerve impingement

Knowledge Check – Answer

The most common possible sources of chronic low back pain are:

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- d. Post surgical arachnoiditis; neuroma formation; nerve impingement

Notes

Read question aloud

Knowledge Check

When working up a patient with chronic low back pain the follow statement is NOT true:

- a. History is not diagnostic, however it is important in screening for red flags
- b. Physical exam is not diagnostic, but can help us determine next diagnostic tests
- c. MRI constitutes the optimal imaging tool
- d. Psychological counseling, to help patients cope with their pain, should only be offered after a firm diagnosis is established

Knowledge Check – Answer

When working up a patient with chronic low back pain the follow statement is NOT true:

- a. History is not diagnostic, however it is important in screening for red flags
- b. Physical exam is not diagnostic, but can help us determine next diagnostic tests
- c. MRI constitutes the optimal imaging tool
- d. Psychological counseling, to help patients cope with their pain, should only be offered after a firm diagnosis is established

Notes

Read question aloud



Summary



Look for signs and symptoms of red flag low back pain conditions during routine visits and clinical examinations.

Avoid unnecessary imaging, judiciously consider long term palliation and always address depression and anxiety.

Consider irreversible treatments like radiofrequency neurotomy or surgery only after confirmatory diagnostic blocks are done.

Reducing fears, resuming activities, eating and sleeping well are key and assure patients that not all pain is bad and not all pain relief is good.

References



Fishman SM, Ballantyne JC, Rathmell JP. Bonica's Management of Pain. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins, 2010; 1105-1129



JPEP

Joint Pain Education Program

