



S O U T H W E S T O H I O  
**PAIN INSTITUTE**

Patient Care Education Research

# Evaluation and Management of Low Back Pain Patients

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# Epidemiology of LBP

- 70-85% of Individual experience back pain during their lives
- Most common cause of limitation of activity in population < 45 years
- Second most frequent reason for visit to physicians
- Third most common indication for surgery
- Fifth ranking cause of hospital admissions

– Andersson GB. Epidemiological features of chronic low-back pain. *Lancet* 1999;354:581–5.

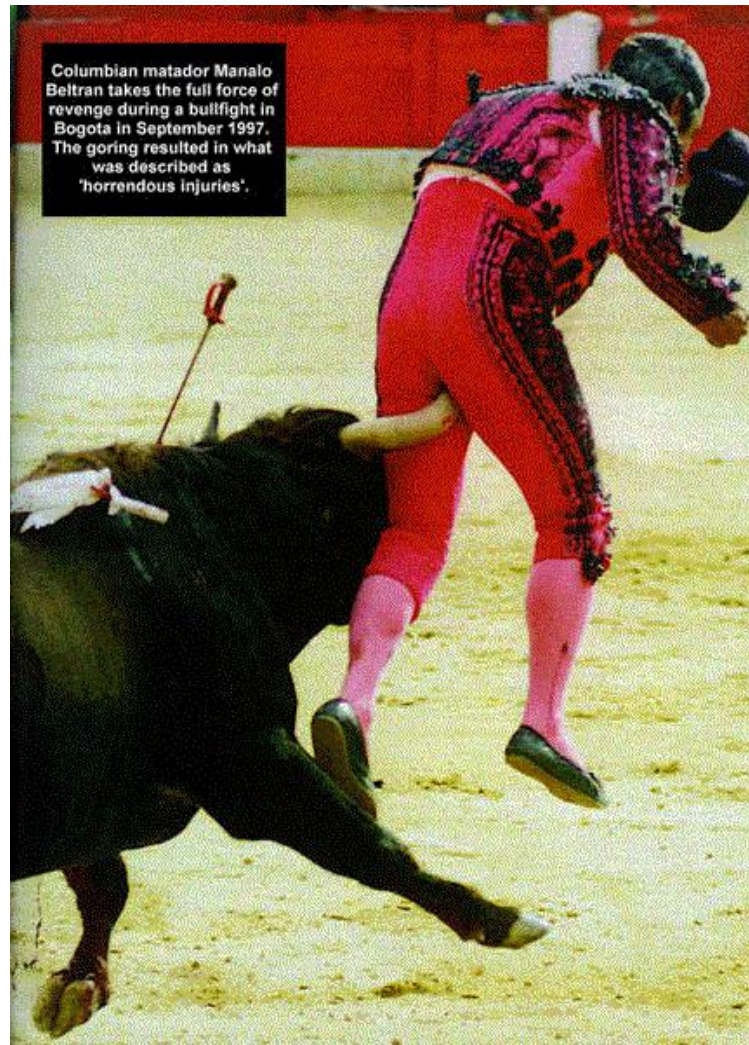
# Epidemiology of Chronic LBP

- 15-33% of US Population or as many as 70 Million People are affected by chronic pain.
- Disables more people than both Cancer and Heart Disease combined
- Costs more than both Cancer and Heart disease
- \$100 billion dollars annually in medical costs, lost working days and workers compensation.
  - Twice as much as the budget of Israel
  - In fact only 16 Countries in the World had budget over 100 billion for the year 2005!!

# Evaluation of Low Back Pain

- Classification of LBP
  - Temporal
    - Acute
    - Subacute
    - Chronic
  - Mechanistic
    - Nociceptive
    - Neuropathic

# Acute Pain



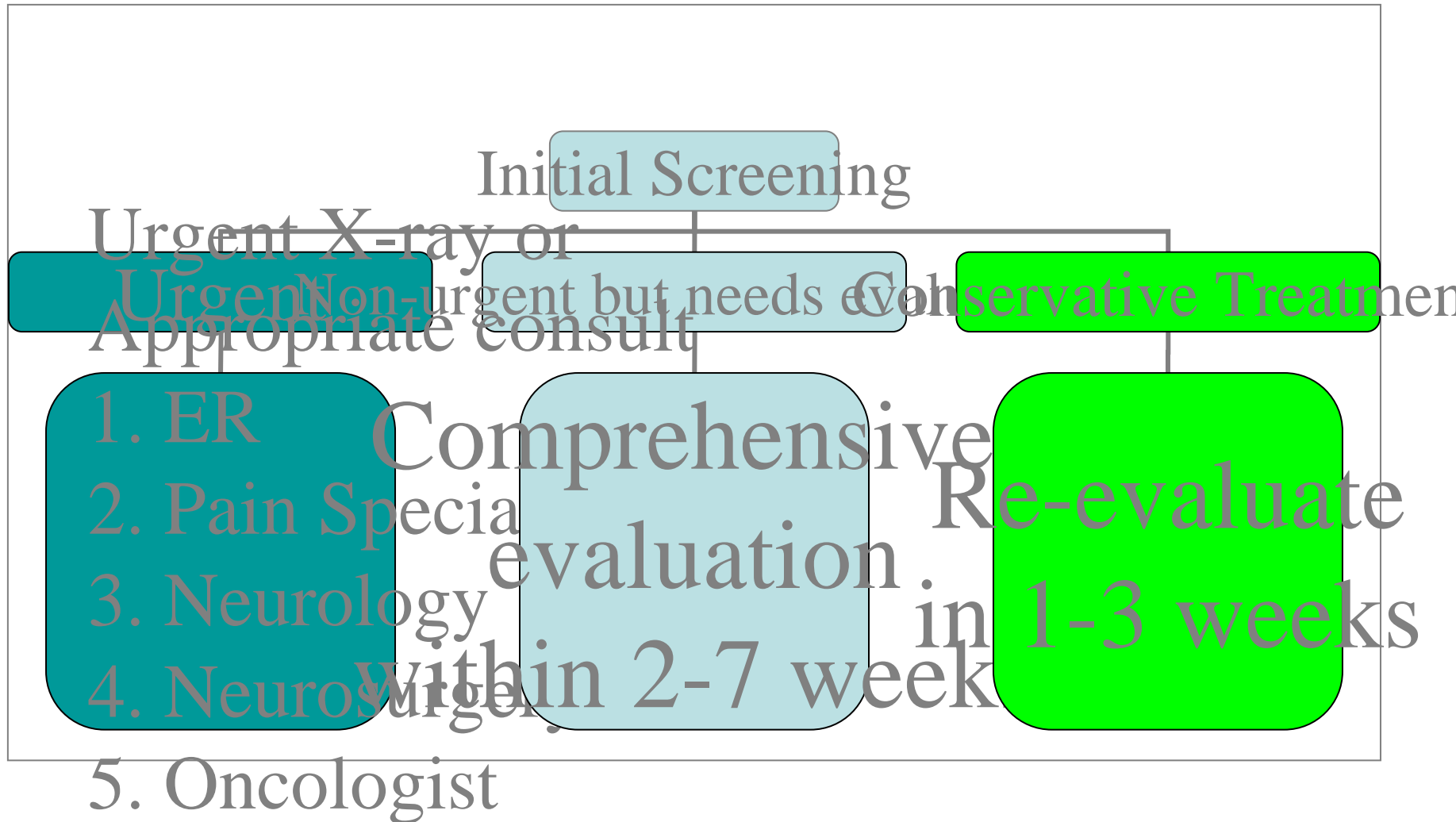
# Acute Low Back Pain

- < than 6 week duration
- 90% of back pain patients improve within 4-6 weeks.
- >50% of patients with an episode of acute back pain will experience a further episode.
- Goals:
  - Serious pathology though rare, must be identified or excluded before assuming a more benign cause of pain
  - Identify neurological deterioration, infection or tumor progression, trauma and identify patients who require urgent intervention and/or urgent lumbar spine x-rays
  - Identify patients who need further evaluation (within 2-7 weeks),
  - Bielanski TE, Nashelsky J. Clinical inquiries. What is the prognosis for acute low back pain? *J Fam Pract* 2002;51:417.

# Management of Acute LBP

- Encourage patients to pursue **Conservative Treatment Measures** and gradually resume normal activities
- Patients should also be warned that recurrence of the acute episode is likely
- Each acute episode, provided there is resolution between episodes, can be treated independently as a new acute episode.

# Initial Screening of Acute LBP (PCP)





# Urgent

- unrelenting night pain or pain at rest
- fever 100.4°F (38°C) for >48 hrs
- pain with distal (below the knee) numbness and/or weakness of leg(s)
- loss of bowel or bladder control (retention or incontinence)
- progressive neurological/neuromotor deficit

# Urgent with Lumbar X-ray

- Urgent causes mentioned before and
- significant trauma
- possible cancer
- osteoporosis
- chronic steroid use
- drug or alcohol abuse

# Conservative Treatment Measures

- Cold packs or heat
- Acetaminophen or NSAIDs
- Consider muscle relaxants and/or opioids
- Limit bed-rest (only for severe initial symptoms and limited to 2-4 days)
- Activity modification (maintain non-stressful activities)
- Structured, recommended exercise (advice from specialty spine program may be helpful at this stage)
- Self care – educational materials, emphasize absence of serious disease and good prognosis, “hurt does not equal harm”, appropriate physical activity is helpful and not harmful.

# Non-urgent but needs Evaluation

- history of injury
- past history of back symptoms
- back pain duration >6 wks
- unexplained weight loss
- history of cancer

# Sub-acute Low Back Pain



# Sub-acute Low back Pain

- Pain lasting more than 6 weeks
- Differentiate surgical vs non surgical candidate
- Radicular pain vs Axial back pain
- Comprehensive physical and psychosocial evaluation
- Goal to restore function and reduce long term utilization of medical interventions (optimize medication usage and minimally invasive treatment options)

# Comprehensive physical evaluation (Medical)

- History and physical (physical should include palpation for spine tenderness, neuromuscular testing and straight leg raise\*)
- LBP with radiation below the knee (sciatica) is suggestive of nerve root compression – assess with MRI
- LBP without radiation below the knee – assess using AP and lateral plain x-rays of the lumbar spine
- ESR if inflammatory arthritides or infection are suspected
- Bone scan if bony metastases, inflammatory arthritides, or infection are suspected
- General screening for systemic illness – hematology, chemistry, liver function tests
- EMG/NCV
- Myelography / CT-myelography or MRI with gadolinium

# Comprehensive psychosocial evaluation

- Waddell's nonorganic signs
- Non-anatomic pain drawing
- DSM-IV screening checklist for depression
- CAGE and CAGE-D (not relevant to opioids)



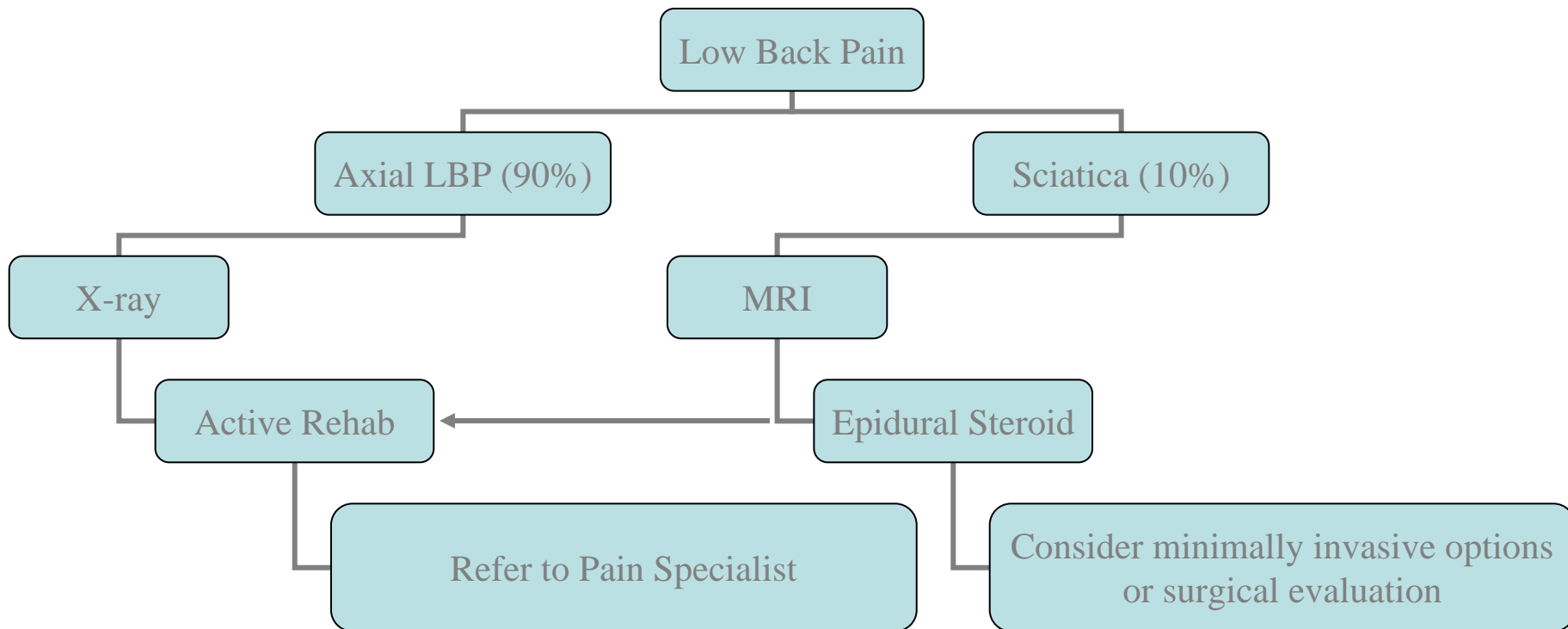
# Waddell's Signs

- **Superficial tenderness** – skin discomfort on light palpation.
- **Nonanatomic tenderness** – tenderness crossing multiple anatomic boundaries.
- **Axial loading** – eliciting pain when pressing down on the top of the patient's head.
- **Pain on simulated rotation** - rotating the shoulders and pelvis together should not be painful as it does not stretch the structures of the back.
- **Distracted straight leg raise** - if a patient complains of pain on straight leg raise, but not if the examiner extends the knee with the patient seated
- **Regional sensory change** - Stocking sensory loss, or sensory loss in an entire extremity or side of the body.
- **Regional weakness** - Weakness that is jerky, with intermittent resistance (such as cogwheeling, or catching). Organic weakness can be overpowered smoothly.
- **Overreaction** - Exaggerated painful response to a stimulus, that is not reproduced when the same stimulus is given later.
- Although Waddell's signs can detect a non-organic component to pain, they do not exclude an organic cause. A high Waddell score (>3) is indicative only of symptom magnification or possible illness behavior and not malingering.

# Addiction to Opioids

- APS, AAPM and ASAM Consensus statement defining addiction in patient using opioids for pain
  - Impaired control over drug use
  - Compulsive use
  - Continued use despite harm
  - Craving

# Treatment of Sub-acute LBP



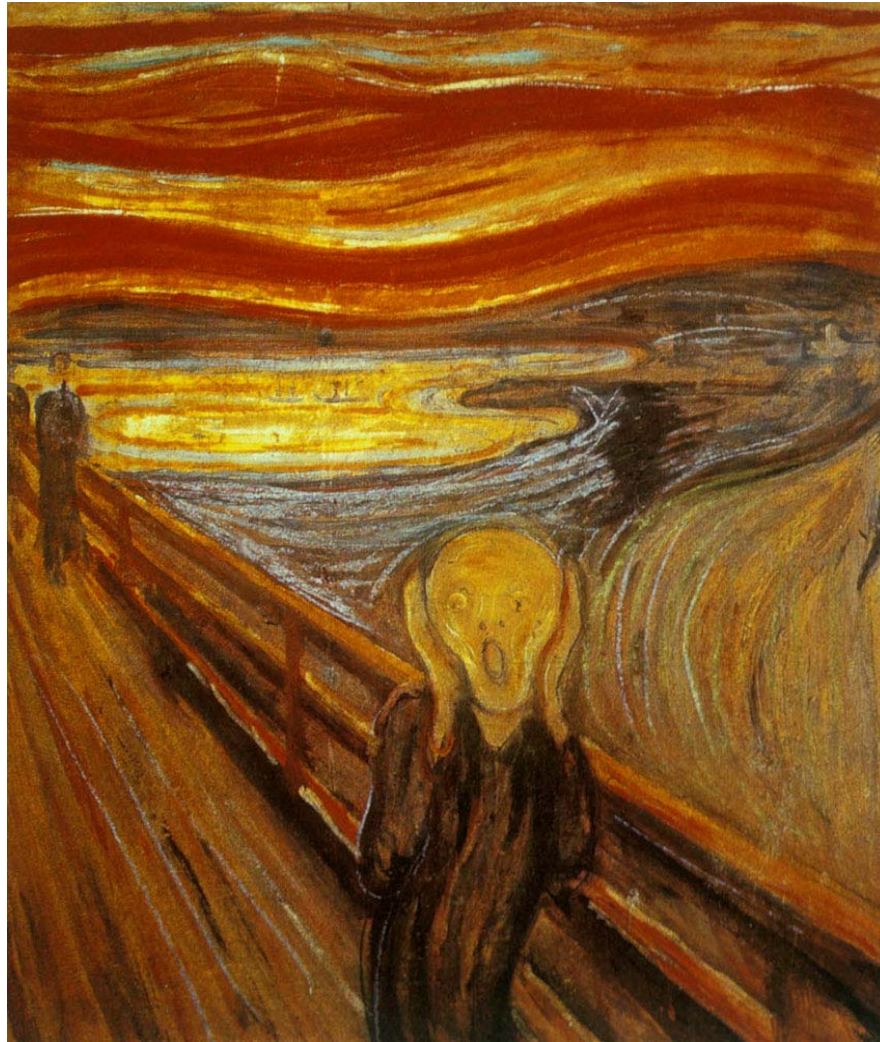
# Active Rehabilitation for sub-acute LBP

- Adopt a multidisciplinary approach
- Assess and manage psychosocial factors
- Begin an exercise program, develop good body mechanics
- Emphasize active self-management
- Encourage gradual resumption of normal activities, as tolerated
- Use medications (including opioids) and interventional procedures to maximize cooperation with active physical rehabilitation
- Refer for vocational counseling (if necessary)

# Indications for Surgery

- Fit for surgery
- Cauda equina syndrome
- Progressive or severe neuromotor deficit (eg, foot drop or functional muscle weakness such as hip flexion weakness or quadriceps weakness)
- Persistent neuromotor deficit after 4-6 weeks of conservative treatment (does not include minor sensory changes or reflex changes)
- Chronic sciatica with positive straight leg raising for >4-6 wks

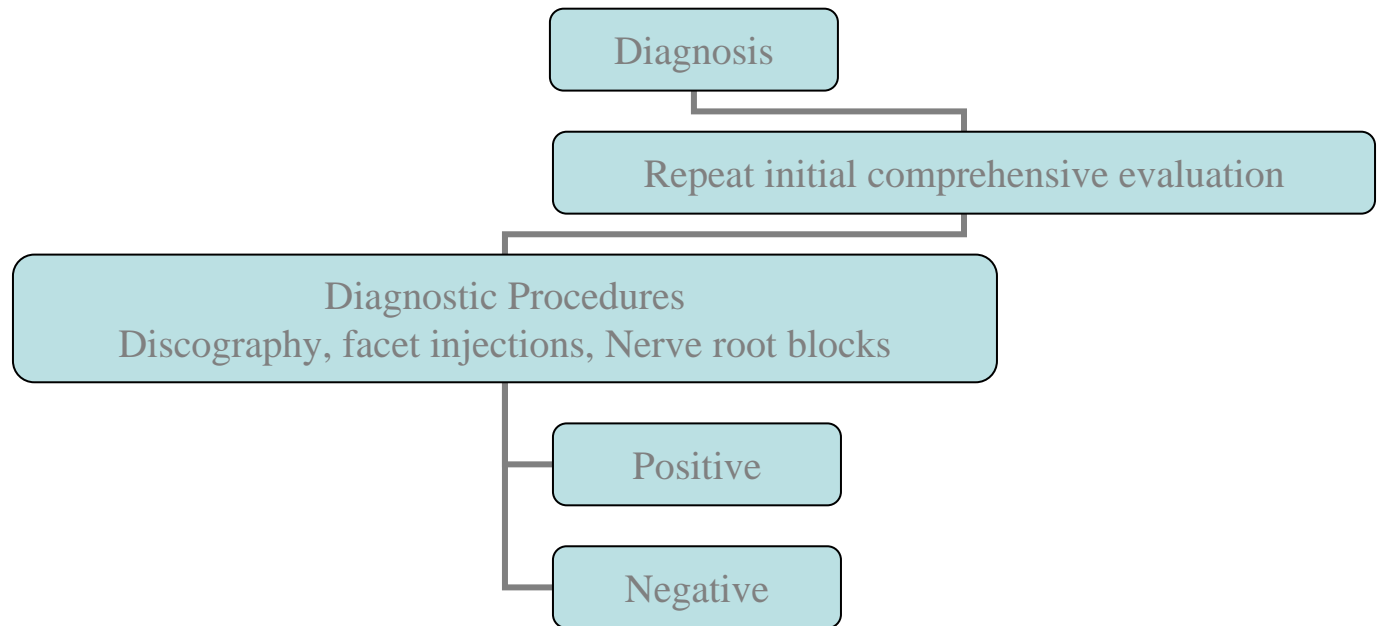
# Chronic Low Back Pain



# Chronic Low back pain

- > 3 months
- Repeat the initial evaluation as well comprehensive physical and psychosocial evaluation
- Goals of treatment are different (curative vs palliative approach)
- Multidisciplinary treatment approach is a must.
- A combination of medications, interventions, psychological and physical rehabilitation may improve outcome.

# Diagnosis of Chronic Low Back Pain





# Positive Diagnosis

- **Consult**
  - Specialty clinics
  - Psychology
  - Psychiatry
- **Treatment**
  - Rehabilitation program
  - Consider suitability for advanced interventional procedures (IDET, facet block, spinalcord stimulation)

# Negative Diagnosis

- Continue self care
- Minimize reliance on Rx
- Maintain normal activity
- Lifestyle change may be necessary
- Utilize alternative approaches  
(acupuncture, massage, spiritual healing)
- Utilize behavioral approaches (biofeedback, relaxation)

# Summary

- Serious causes (infection, trauma, tumor) are rare but needs to be excluded
- Etiology of Back pain may remain unknown in significant number of patient. Non specific back pain is a legitimate diagnosis
- Distinguish pain limited to the axis of the spine from radiculopathy
- Reassure patients with acute back and neck pain that the vast majority of patients recover within weeks, without specific treatment.

# Summary (cont)

- Discogenic pain is the single most common cause for axial LBP.
- Cervical facet joints are among the most common causes of axial neck pain.
- Diagnostic local anesthetic blocks can be helpful in establishing an anatomic diagnosis.