1 Nonsurgical Management of Acute and chronic back pain
   • BRe tt Menmuir, M.D, FAOS
   • Reno Orthopaedic Clinic
2 Epidemiology LBP
   • recovery is quick
   • chronic development 10%
   • prevalence 70%
   • annual incidence 45%
   • 35-45 age group
   • $91 billion cost
3 Epidemiology LBP
   • recurrence 72%
   • 2% workforce
   • $20 billion workers compensation
   • 70% return < 6 wks
   • 90% return < 12 wks
4 Etiologies
   • no specific identifiable cause in many cases
   • treatment based on reducing pain and increasing function
   • usually occur post trauma
   • often insidious
   • exhibits pain with increased activity
   • imaging studies WNL, with expected degenerative changes
5 RED FLAGS
   • Fracture - kyphosis
   • Tumor - <15 >50, Constitutional Symptoms
   • Infection- F/C, UTI, IVD, Immune Suppression, constant pain
   • CES - saddle anesthesia, B/B dysfunction, Progressive LLE weakness
6 Nonorganic ETIOLOGY
   • T - widespread
   • R - nondermatomal
• O - overreaction, never free of pain
• D - pain improves with distraction (SLRT)
• S - pain with axial loading and simulated rotation

7 □ ACute vs chronic
• Acute < 12 weeks
• Chronic > 12 weeks

8 □ TREATMENTS
• Education
• Medications
• Exercise therapy
• Activity modification
• Manipulation
• Magnets
• Injections
• Orthoses
• TENS
• Accupuncture

9 □ Education
• correct posture and mechanics
• expected outcome
• favourable natural history
• need active participation
• lifelong commitment - most important RF is previous episode

10 □ medication
• Analgesics
• NSAIDS
• MR
• Antidepressants

11 □ Medication
• Prevention of dependence
• choices, duration, doses
• side effects

12 **NonNarcotic analgesics**

ACEtaminophen
- first choice for acute LBP - safe OTC
- < 4g/day
- hepatotoxicity
- not recommended for chronic issues
- avoided in alcoholics and liver dz
- preffered to NSAIDS with renal dysfunction

13 **NonNarcotic Analgesics**

Tramadol
- centrally acting
- monamine oxidase receptors in spinal cord
- caution with MOI - inhibits serotonin and norepinephrine uptake
- short term use
- seizures

14 **Narcotics**

- judicious use
- if 1st line agents fail
- addictive
- short term use
- long term - regular f/u for efficacy, complication, and overuse

15 **Topical Analgesics**

- Capsaicin - hot peppers, depletes substance P in sensory fibers, effectiveness not proven
- lidoderm skin patches - postherpetic neuralgia, no documented benefit

16 **NSAIDS**

- inhibit synthesis of COX enzyme
- COX 1 - protects stomach lining
- COX-2 - inhibits protaglandin production (pain, inflammation, fever)
• cardiovascular complications
• first line agents for acute and chronic
• not one is more superior
• first and second generation NSAIDS equally effective

17 MR
• short term use in acute
• synergistic effect with NSAIDS
• side effects - abuse, dependence, drowsiness, dizziness
• no superiority
• take at night to decrease drowsiness
• chronic use - withdrawal symptoms, Carisoprodol controlled in some states (abused with tramadol and oxycodone)

18 Oral Steroids
•
• RCT’s show no difference compared with placebo
• not recommended for chronic
• short term use in acute

19 Antidepressants
• pain vs mood
• not recommended for acute
• use in chronic pain syndromes
• used for sleep disturbance (depression) - sedating properties

20 ACTivity modification
• think avoidance of painful activities
• avoid prolonged bedrest
• activity improves faster recovery

21 Passive Physical Therapy
- Cold packs, superficial heat and ultrasound
- Cold produces vasoconstriction to decrease inflammation
- Heat relaxes muscles > 1-2 weeks post acute phase
- No documented value

22 **massAGE therapy**
- No documented evidence to support use
- Negative impact if performed long duration

23 **Exercise Therapy**
- Low impact aerobic activity improves mood, pain tolerance and prevents deconditioning - less stress on back
- Instituted < 2 weeks
- Core conditioning and strengthening not recommended < 2 weeks - more stress on back

24 **Exercise Therapy**
- Very effective for chronic back pain
- Increased aerobic fitness
- Restores normal lumbosacral motion
- Strengthens core
- Corrects body mechanics
- Decreased osteopenia by avoiding demineralization

25 **Magnets**
- No effect on circulation
- No effect on tissue temperature
- No benefit for CLBP

26 **Manipulation**
- 30% seek chiropractors
• mixed studies
• recommended < 6 weeks symptom duration
• avoidance if symptoms persist or have radicular symptoms or neurologic deficits

27 □ traction
• no benefit in RCTs
• VAX-D - <40 kg for 45 min 5 days/wk with 70% good results

28 □ Epidural steroid injections
• interrupts pain spasm cycle and nociceptor transmission by local anesthetic - lidocaine
• lidocaine dampens C fiber activity
• reduces inflammation - steroid component
• steroids stabilize cell membranes, inhibit neural peptide synthesis/activation, suppress neuronal discharge and sensitization of dorsal horn neurons

29 □ ESI
• not effectiveness for ALBP
• limited long term relief for CLBP
• no more than 3 in 6 mths
• no 3 injection protocol if no relief from 1st or 2nd
• no indication if no radicular component

30 □ FAceT Joint injections
• no documented evidence to support use in ALBP
• short term relief with CLBP
• rhizotomy short term relief of CLBP

31 □ Trigger Point INjections
• not indicated for nonspecific A/CLBP
• useful in myofascial syndrome
• trigger points made of hyperirritable foci of taut muscle bands
• focal pressure produces a local twitch, referring pain distally
• limit use due to muscle damage and tissue scarring

32 □ Sacroiliac joint injections
• not usually indicated
• can be area of referred pain
• injections can be diagnostic if history and PE consistent with SI dysfunction
• no therapeutic value

33 **Prolotherapy**
• inject sclerosing agents into ligaments
• no evidence supporting efficacy

34 **Orthoses**
• no documented effectiveness
• mechanism as proprioceptive reminders to use correct mechanics during activities
• prolonged use weakens core muscles

35 **Transcutaneous Electrical nerve Stimulation**
• conflicting evidence

36 **Accupuncture**
•
•
•
• mixed evidence
• not recommended as first line treatment
• consider in CLBP as part of comprehensive program

37 **cognitive Behavioural therapy**
• addresses negative thoughts and emotions
• addresses altered activity and medication dependence
• improves quality of life
• decreases medication dependence