

Oh! My aching back!

LORA COTTON, DO

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Cc: Low Back Pain

Wong-Baker FACES® Pain Rating Scale



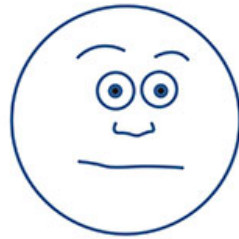
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No
Hurt



2

Hurts
Little Bit



4

Hurts
Little More



6

Hurts
Even More



8

Hurts
Whole Lot



10

Hurts
Worst

Objectives

1. Take a broad overview of the causes of acute low back pain
2. Describe steps in evidence based evaluation and workup of a patient with acute low back pain
3. Review evidence based treatment guidelines for management of acute low back pain
4. Reflect on your own “know-do” gap in the application of acute low back pain management guidelines
5. Explore factors that improve patient satisfaction with acute low back pain care

Acute back pain is defined as lasting less than ____ weeks, while chronic back pain lasts ____ weeks or more.

- A. 1 weeks, 6 weeks
- B. 2 weeks, 8 weeks
- C. 3 weeks, 10 weeks
- D. 4 weeks, 12 weeks

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What percentage of patients presenting with nonspecific low back pain will have resolution of symptoms within 6 weeks of onset?

A. 60%

B. 70%

C. 80%

D. 90%

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The ACP Guidelines

STARTING WITH THE PUNCH LINE

ACP Clinical Guidelines

April 2017

Noninvasive treatments for acute, subacute, and chronic low back pain: a clinical practice guideline from the American College of Physicians

- Systematic review randomized, controlled trials and systematic reviews published through April 2015 on noninvasive pharmacologic and nonpharmacologic treatments for low back pain
- Clinical outcomes evaluated
 - Reduction/elimination of pain
 - Improved function
 - Improved health-related quality of life
 - Reduction in work disability and return to work
 - Global improvement
 - Patient satisfaction
 - Adverse effects

ACP guidelines for management of acute low back pain recommend which of the following as first line treatment?

- A. Non-pharmacologic treatment alone
- B. Non-pharmacologic treatment plus acetaminophen
- C. Non-pharmacologic treatment plus NSAIDs and/or muscle relaxers
- D. Non-pharmacologic treatment plus short course systemic steroids

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The ACP Guideline for Acute Nonspecific Low Back Pain

- Given that most patients with acute or subacute low back pain improve over time regardless of treatment:
- Physicians and patient should select nonpharmacologic treatment
 - superficial heat
 - massage
 - acupuncture
 - spinal manipulation
- If pharmacologic treatment is desired, clinicians and patients should select
 - NSAIDS
 - skeletal muscle relaxants

How do you know when the ACP treatment guidelines apply?

- History and Physical must support diagnosis of "nonspecific acute low back pain"
 - 85-90% of all presentations of LBP are "nonspecific" LBP
 - About 1% of acute LBP presentations will be caused by serious/life threatening pathology
 - Clues to serious pathology may be subtle and easily missed
- **WARNING: these facts place physicians in danger of complacency and presumption of a benign disorder**

So, what is nonspecific acute low back pain?

- Back pain in the absence of a specific underlying condition that can be reliably identified
 - Less than 4 weeks in duration
 - Mostly musculoskeletal pain
 - Most improve in a few weeks regardless of treatment

Nonspecific Acute Low Back Pain

AKA: lumbago, lumbar sprain/strain, idiopathic LBP, myofascial strain

Presentation:

- Most comfortable at rest
- Worsen with activity and movement
- No red flags
- No signs or symptoms of neurologic compromise

Important:
When is it NOT
nonspecific acute
low back pain?

Causes of Acute Low Back Pain

THEY ARE LEGION

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Differential of Low Back Pain

Very broad – but three general categories

- Mechanical lower back (97%) – sprains/strains (70%), degenerative disk and facet disease (10%), herniated disk (4%), spinal stenosis (3%), fractures (osteoporotic 4%, traumatic <1%)
- Nonmechanical (1 %) – neoplastic process, infection, shingles, inflammatory arthritis
- Visceral Disease (2%) - referred from pelvic organs, renal pathology, aortic aneurysm, digestive system pathology

The Evaluation and Workup

STAY VIGILANT

History

Location/radiation

Timing/inciting and relieving factors

Trauma

Associated symptoms: weakness/numbness in extremities, saddle paresthesia, new bowel or bladder incontinence, new erectile dysfunction, fever, weight loss

Medical History: previous cancer diagnosis, recent infections, procedures on back, osteoporosis, cardiovascular risk factors

Social History: smoking, alcohol use, IV drug use, recent stressors

Physical Exam

Inspection of back and posture

Palpation/percussion of spine

Osteopathic exam –
attention lumbar, sacrum,
pelvis

Neurologic exam

Straight leg raise testing

Nonorganic signs
(Waddell's signs)

Other if indicated: post-
void bladder ultrasound,
lymph
node/breast/prostate if
cancer is strongly suspected

Neurologic Exam

Nerve Root	Motor	Functional	Sensation	Reflex
L3	Extend Quadriceps	Squat and return to stand	Lateral thigh/medial femoral condyle	Patellar
L4	Dorsiflex ankle	Heel walk	Medial leg/medial ankle	Patellar
L5	Dorsiflex great toe	Heel walk	Medial leg/medial ankle	NA
S1	Stand on toes >5 repetitions	Walk on toes	Plantar foot/lateral ankle	Achilles tendon

Straight leg raise testing

Helps with diagnosis of sciatica by stretching the sciatic nerve

Ipsilateral positive – sensitive but not specific

Crossed leg positive – specific but insensitive

Negative test – valuable because these patients generally have good long term outcomes

In isolation, not considered a "neurologic deficit" that would require immediate imaging

Red Flags

HOW MANY CAN YOU
LIST?

Red Flags

Pain > 1 month

Bed rest with no relief

Age <20 or >50 year

Cancer history

Unexplained weight loss

Corticosteroid use greater than 1 week

Substance abuse

Fever

Recent skin or urinary infection

Immunosuppression

Injection drug use

Insidious onset of pain > 3 months

Morning stiffness that improves with activity

What are nonorganic signs (AKA Waddell's signs)?

List some nonorganic signs (AKA Waddell's signs)

- Overreaction during physical exam
- Superficial tenderness
- Straight leg raise that is better when patient is distracted
- Pain reproduced with gentle axial loading (pressing down on patient's head)
- Unexplained neurologic deficits
 - Non-dermatomal sensory loss
 - Sudden give way or jerky movement on strength testing
 - Inconsistency in observed spontaneous activity (dressing, getting off table, walking to/from room)

What do non-organic signs (AKA Waddell's signs) suggest?

- A. Psychological distress
- B. Malingering
- C. Drug seeking
- D. Poor functional recovery prognosis
- E. All of the above

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Which of the following is NOT an indication for immediate imaging in the setting of acute low back pain?

- A. Significant trauma
- B. History of cancer
- C. Neurologic deficits
- D. Radicular pain
- E. All of the above are indications imaging

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- B. History of cancer
- C. Neurologic deficits
- D. Radicular pain
- E. All of the above are indications imaging

Diagnostic Approach- When to do imaging?

Significant Trauma -----> Imaging

History of "Red flag"-----> Imaging

Neurologic Compromise----> Imaging

If no trauma, red flags or neurologic compromise

- no imaging
- Provide reassurance and conservative, noninvasive treatment

Imaging – plain film

1. Major risk factors for cancer – image at presentation
2. Others – image after trial of conservative therapy
 - Minor risk factors for cancer
 - Risk for ankylosing spondylitis
 - Risk of vertebral compression fracture

Imaging - MRI

1. Image at presentation:

- Risk factors, signs or symptoms of infection
- Risk, signs or symptoms of cauda equine syndrome
- Severe or progressive neurologic deficits

2. Image after a trial of conservative therapy:

- Signs/symptoms of radiculopathy (and candidate for procedural intervention)
- Risk/signs/symptoms of spinal stenosis (and candidate for procedural intervention)

Cauda Equina Syndrome

NEUROLOGIC EMERGENCY REQUIRING EMERGENT DIAGNOSIS AND
THERAPY

Cauda Equina Syndrome

Most consistent findings:

- LBP
- Urinary symptoms – new onset
- Sacral and perineal paresthesias
- Sometimes bilateral sciatica
- Urinary retention – sensitive and specific for CES
- MRI is diagnostic
- Emergent neurosurgery consult needed

Cauda Equina Syndrome

Compression of the conus medullaris of the spinal cord or the nerve roots of the cauda equina

Causes:

- Space occupying lesions
- Large central disk herniations
- Spinal stenosis
- Tumor
- Spinal epidural abscess
- Hematoma

Lumbar fractures

Significant trauma – fall from a height or external trauma

Minor trauma or spontaneous

- Older patients
- Known osteoporosis
- Steroid use > 1 week ever
- Smoker
- Alcohol use

Physical finding – bone tenderness with palpation or percussion

Infection

Types: discitis, spinal epidural abscess

History: IV drug use, recent spinal procedure, recent infection of skin or urinary tract

Fever or chills

Physical exam: tenderness over the spinous process

Spinal Stenosis

Causes: degenerative arthritic changes in spine, spondylolistheses, thickening of ligamentum flavum

Typically age > 60 years

Ambulation induced – pain in distal leg

Relieved with sitting or leaning forward

Acute Lumbar Radiculopathy

Pain radiating in a nerve root pattern– usually L5 or S1

Severity varies

- Pure sensory/pain – pain only, no motor deficit
- Mild - radicular pain, sensory dysfunction, and mild nonprogressive segmental motor weakness and/or reflex change
- Marked motor deficit pattern, characterized by radicular pain and sensory dysfunction with severe or worsening motor deficits

The Treatment

DO NO HARM

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Are some more effective than other?

NSAIDS

MUSCLE RELAXERS

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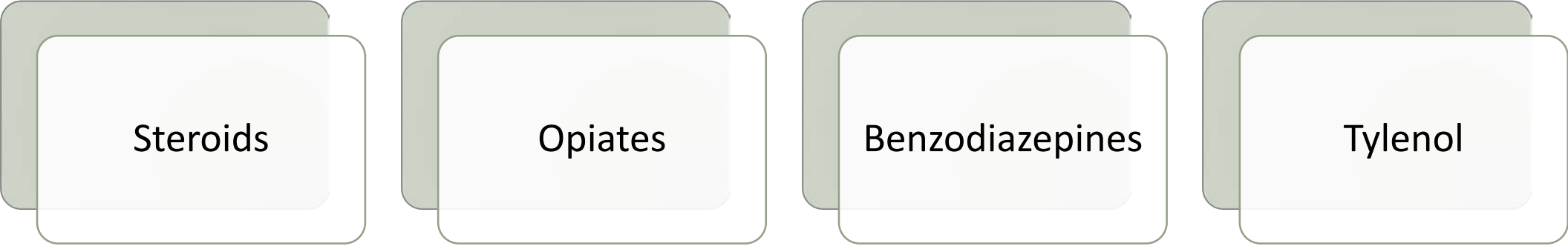
NSAIDS

Nope

MUSCLE RELAXERS

Nope

Things that are conspicuously absent from evidence based treatment guidelines for Acute Low Back Pain



Steroids

Opiates

Benzodiazepines

Tylenol

ARE YOU BORED?



**DRAW EYEBROWS ON YOUR
DOG AND LAUGH UNTIL HIS
NEXT BATH.**

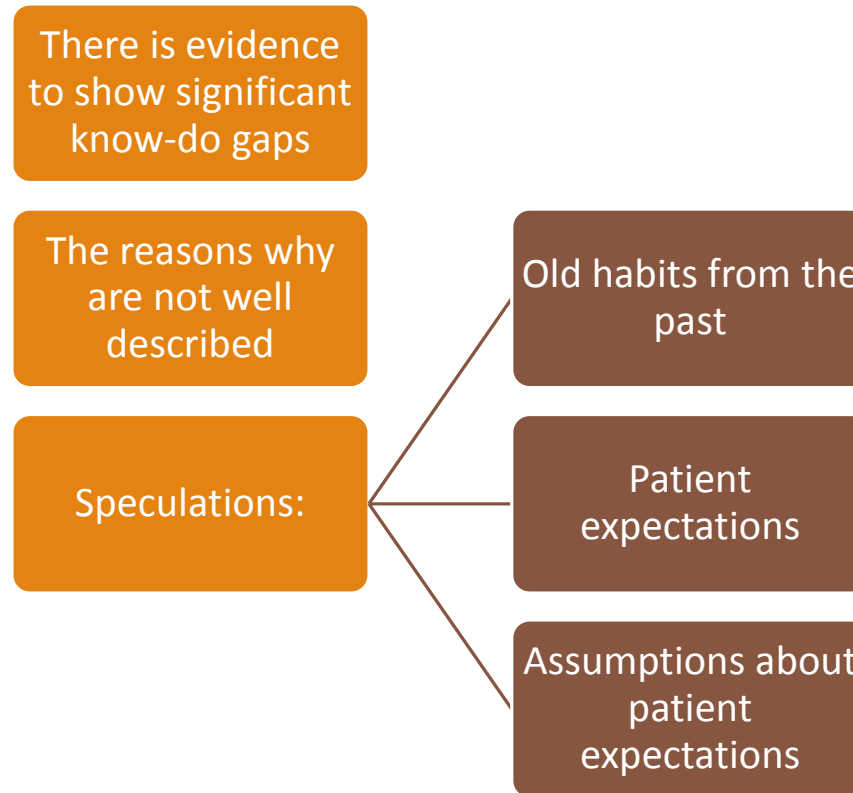
The Know-Do Gap

WHY DO WE NOT ALWAYS FOLLOW THE GUIDELINES FOR
TREATMENT OF ACUTE LOW BACK PAIN?

I follow the evidence based guidelines for the treatment of Acute Low Back Pain:

- A. None of the time
- B. Some of the time
- C. All of the time
- D. I'm not sure

Why do we not follow the guidelines for treatment of Acute Low Back Pain?

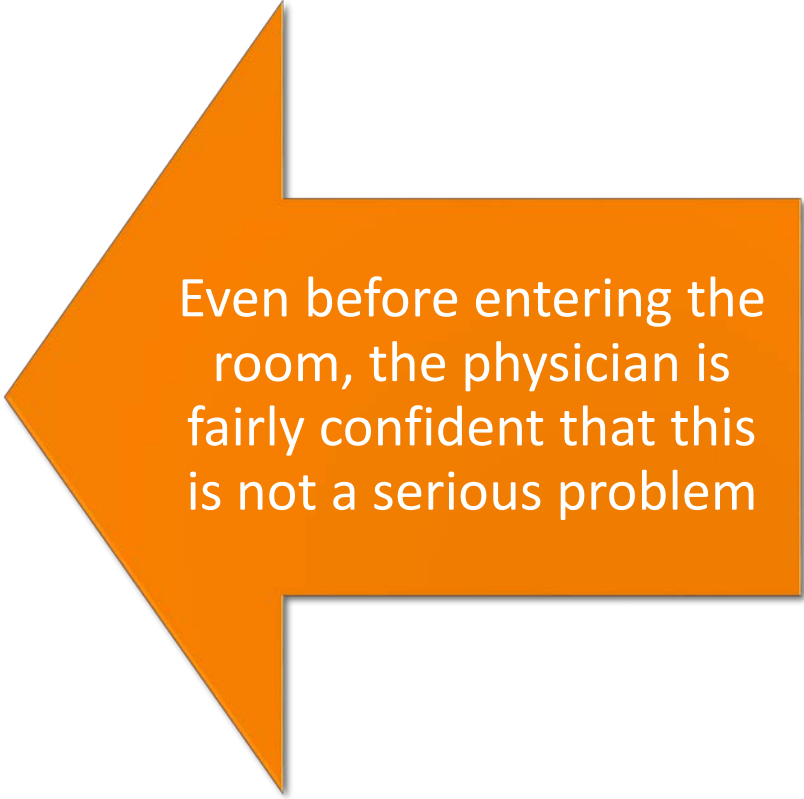


Improving Patient Satisfaction


WITH REASSURANCE AND EDUCATIONAL MATERIALS



Acute low back pain presents the perfect set-up for physician-patient dissatisfaction



Even before entering the room, the physician is fairly confident that this is not a serious problem



The patient is in significant pain and fears a life threatening or debilitating problem

What increases patient satisfaction with care for acute low back pain?

- Physician confidence in the evaluation and treatment
 - Was shown to be even more important that the physicians attitude toward patients with acute low back pain
- Describing reasons for questions and steps in physical exam
 - “I need to ask questions to determine if your pain has a serious cause”
 - “I'm checking your reflexes and strength to see if your pain is caused by a problem with your nerves”
- Giving patient education, including information to take home
- Discussion of typically encouraging prognosis
- Describing next steps if pain does not improve as expected
- Counseling about concerning symptoms (fever, weakness, bowel or bladder incontinence)
- Schedule follow up to confirm progress – about 4 weeks from onset of symptoms

Resources

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