

The Bane of Back Pain

A photograph of a man's back, viewed from behind. The man is shirtless and has his right hand on his lower back. A bright red glow is visible on the lower back area, indicating pain or discomfort. The background is plain white.

Nancy Rodway MD MPH
Medical Director
Occupational Services
Lake Health
Medical Director LCGHD

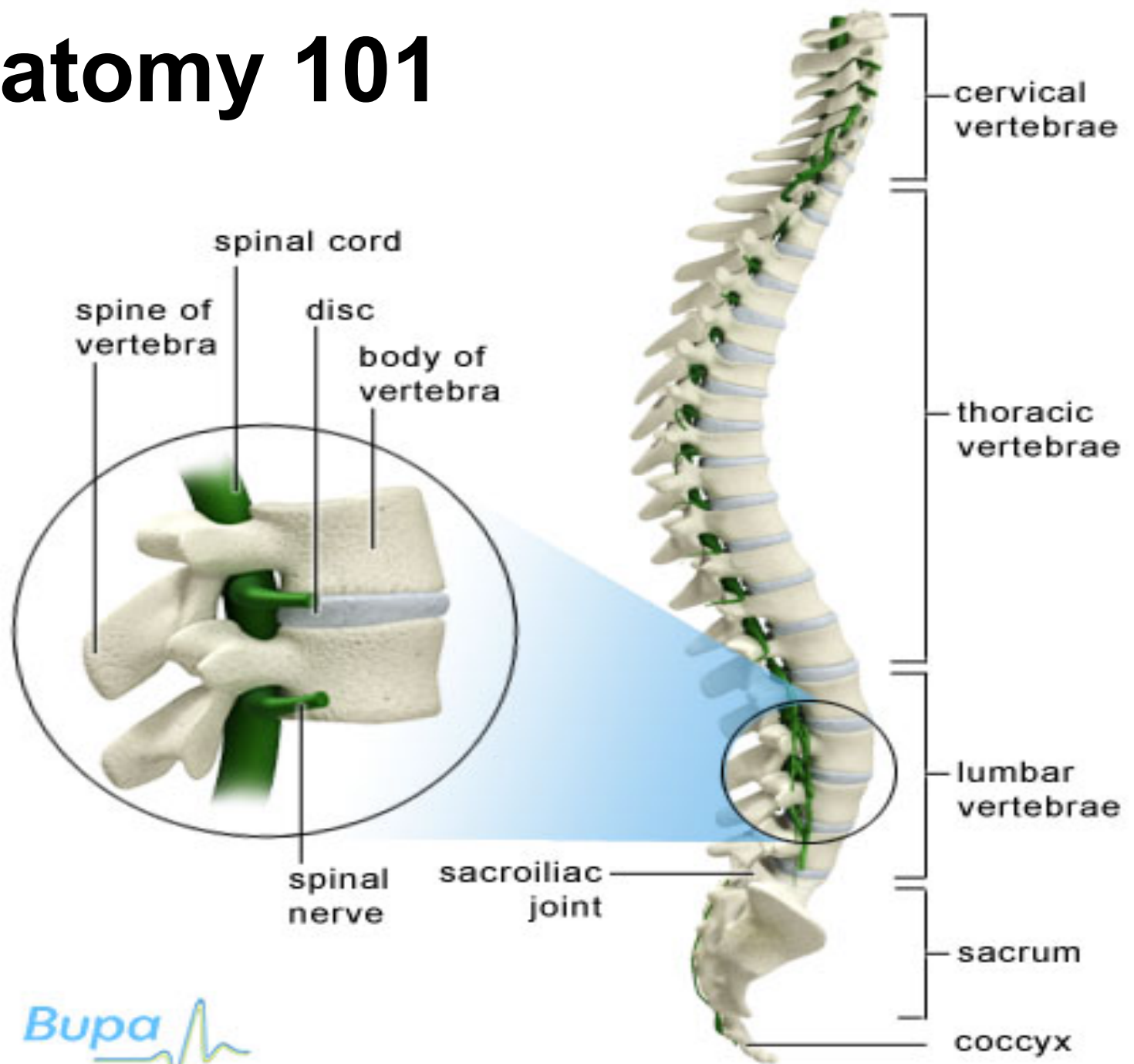
Objectives

- Describe the scope of the problem
- Anatomy 101
- Understand the anatomy of back pain
- Can anything prevent back pain?
- How to treat back pain?
- Can anything predict back problems?
- Recommendations for employers

Back Pain Basics

- 60-80% of adults will experience LBP
- LBP = more days off work than any occupational injury
- LBP = 10-33% of BWC costs
- 90% of LBP resolves within 90 days even without any treatment
- Often no clear-cut cause for pain

Anatomy 101



UPPER BACK
(Trapezius)

Infraspinatus

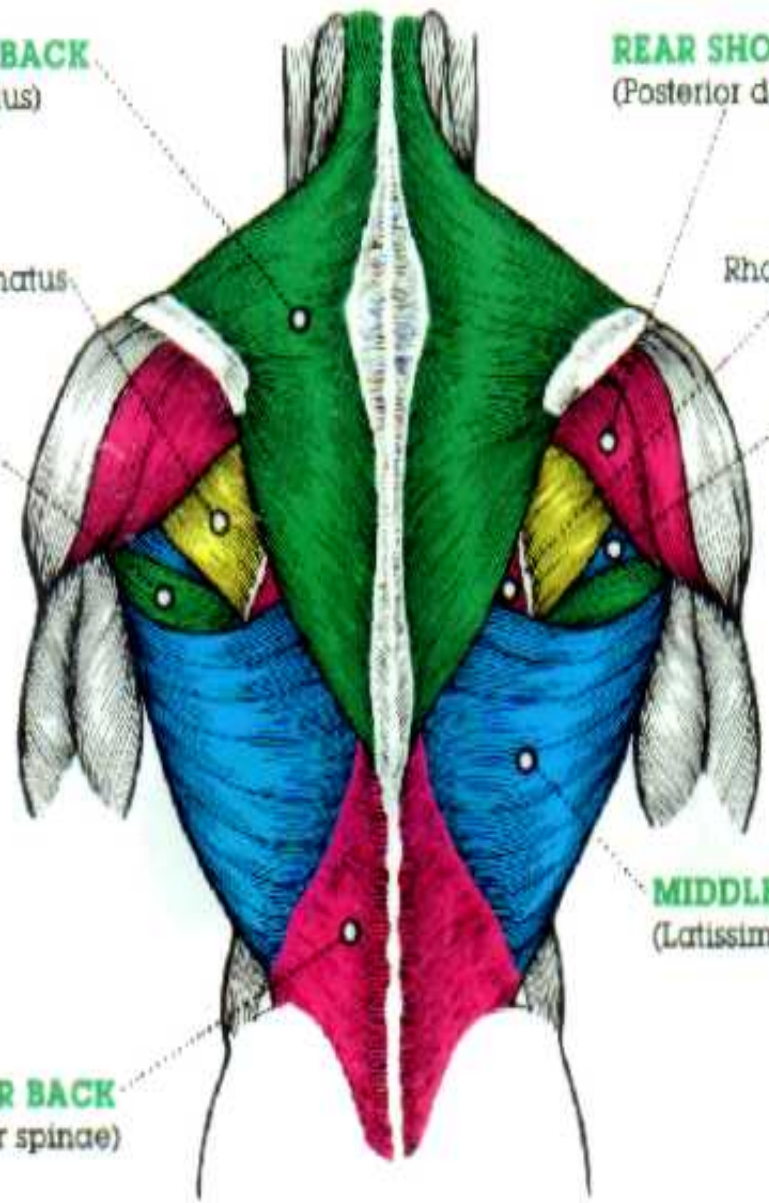
Teres major

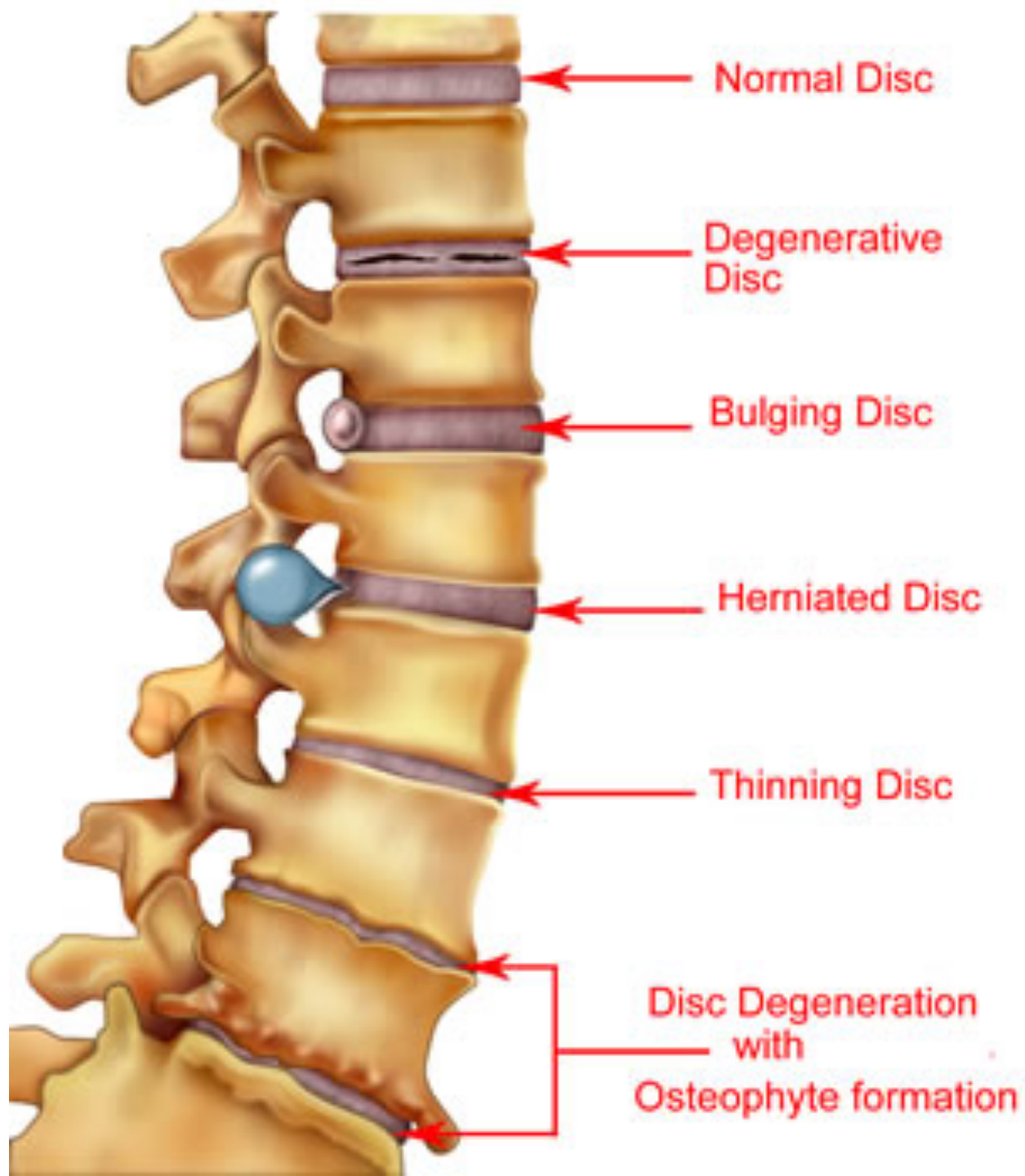
LOWER BACK
(Erector spinae)

REAR SHO
(Posterior d

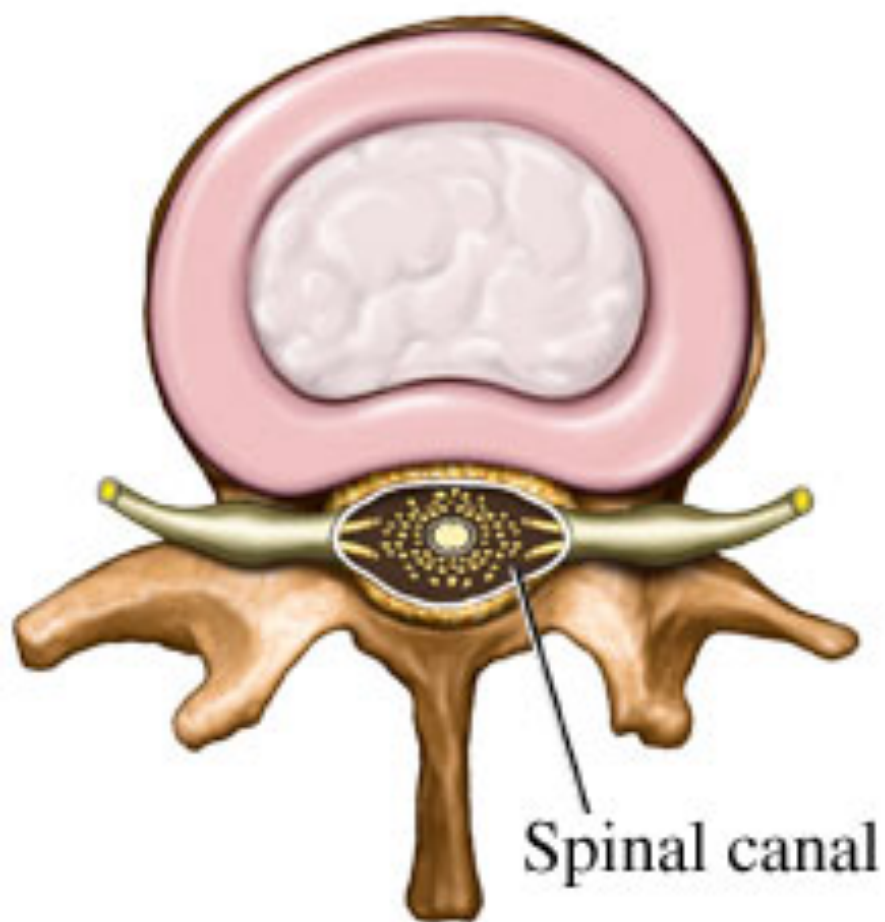
Rho

MIDDLE
(Latissim

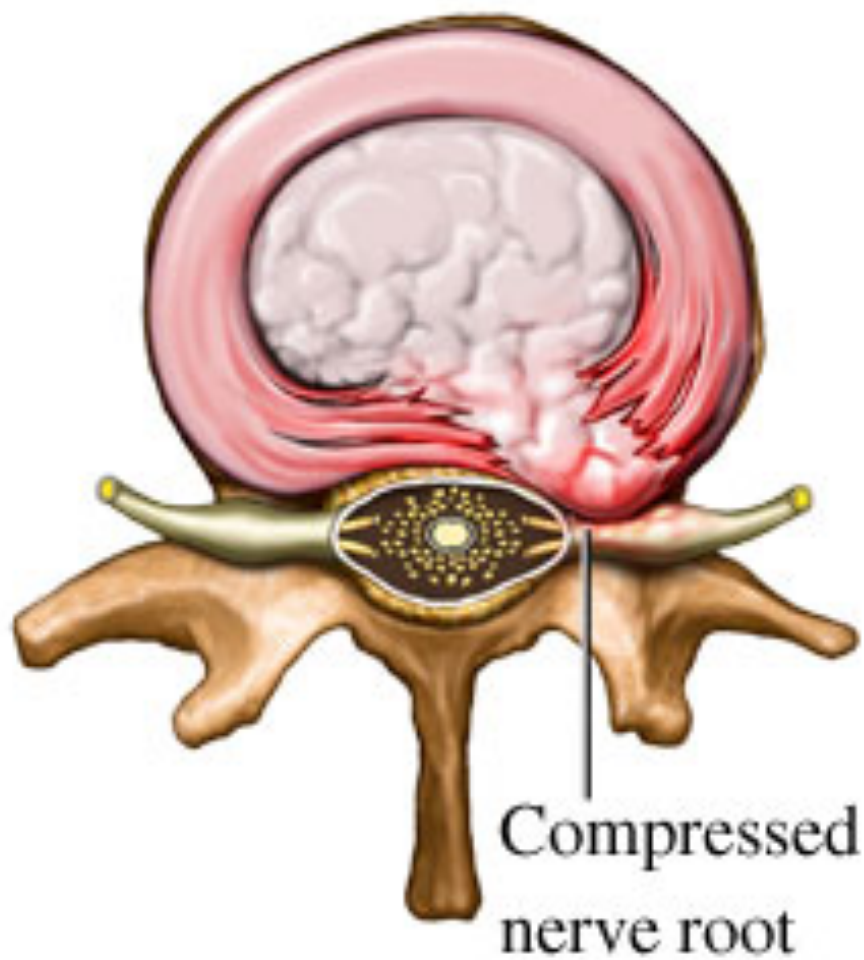




Normal disc



Herniated disc



Top views of vertebrae

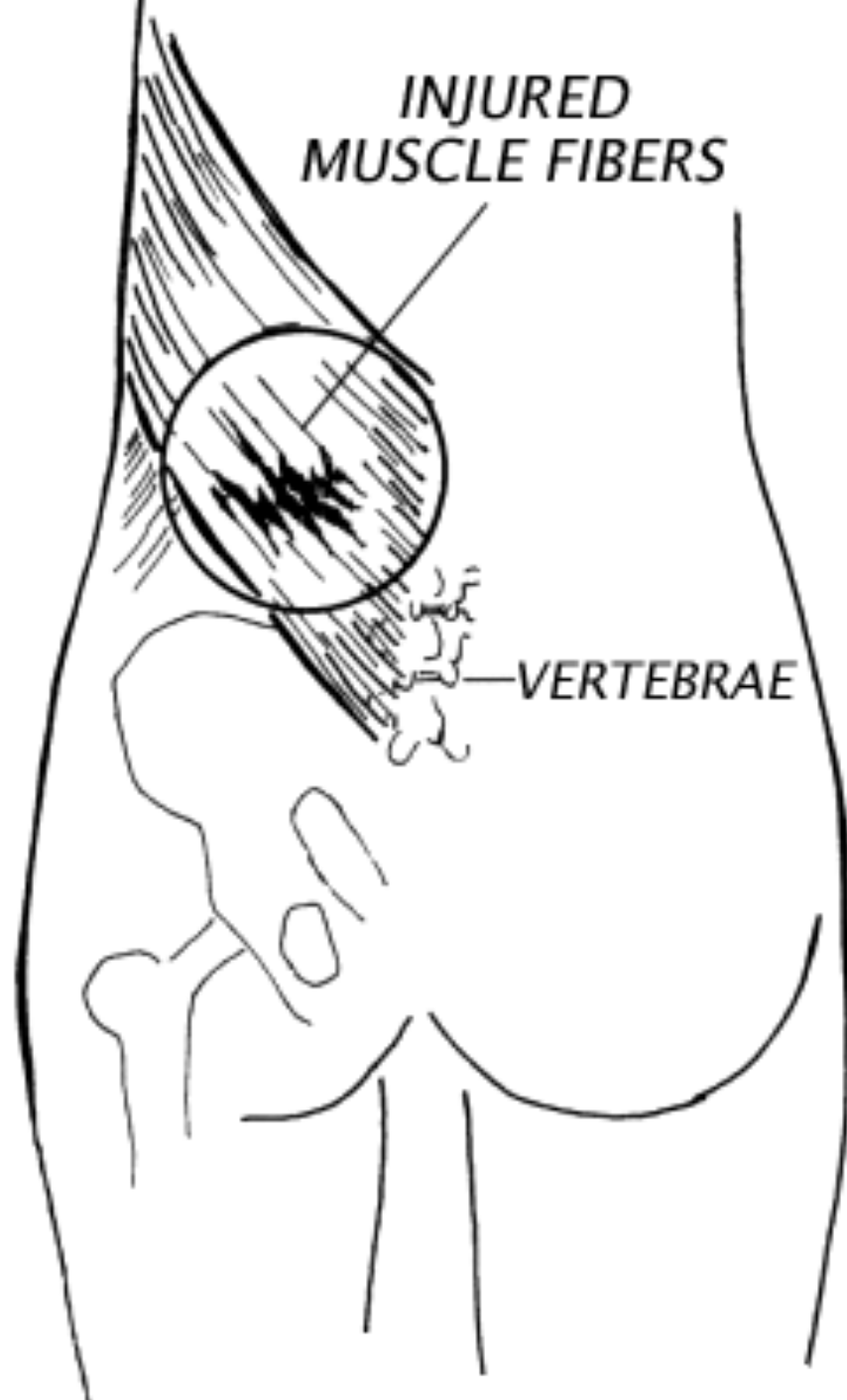
Disc disease

- **Common by age 40**
- **80% of 60 year olds have bulging discs**



INJURED
MUSCLE FIBERS

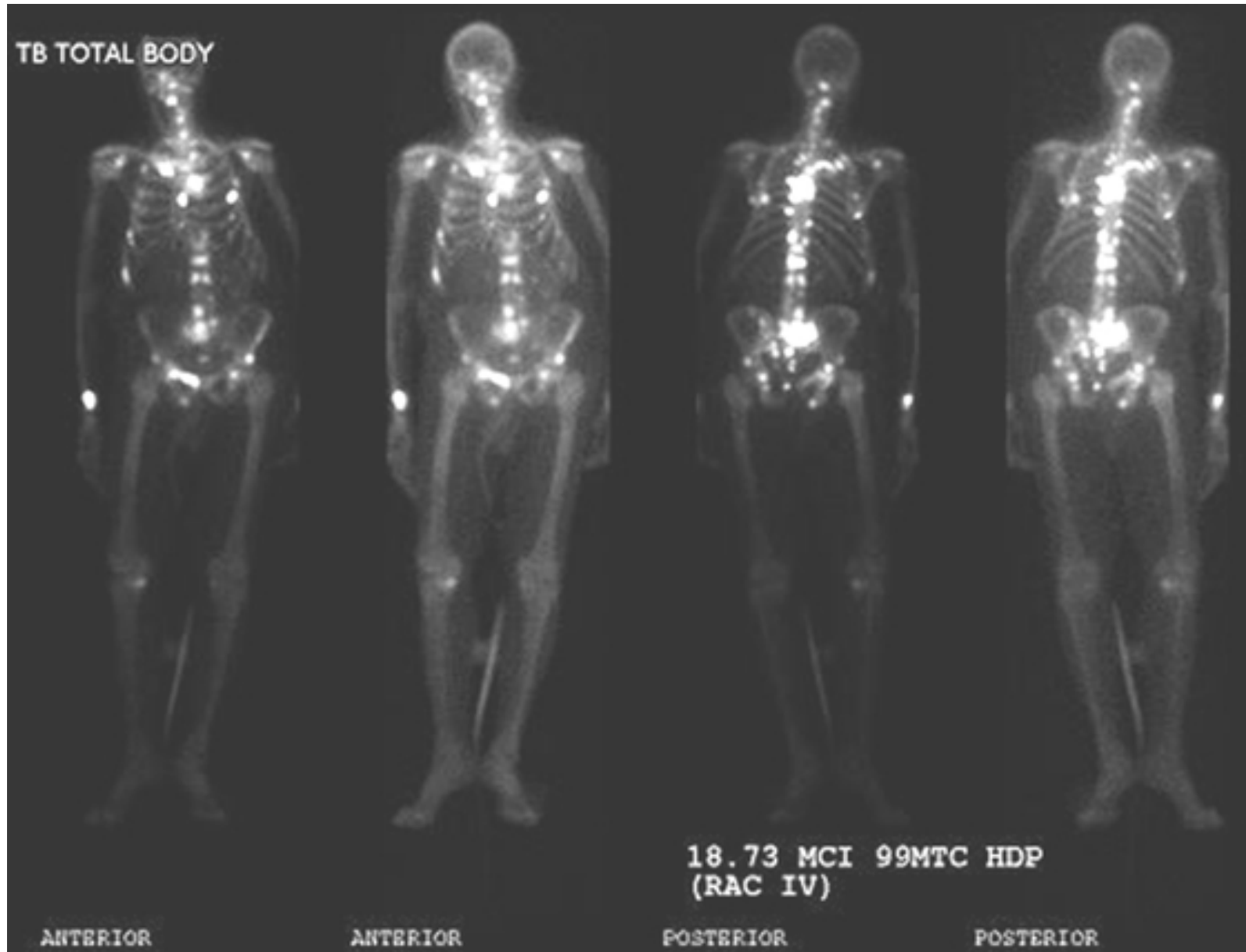
VERTEBRAE



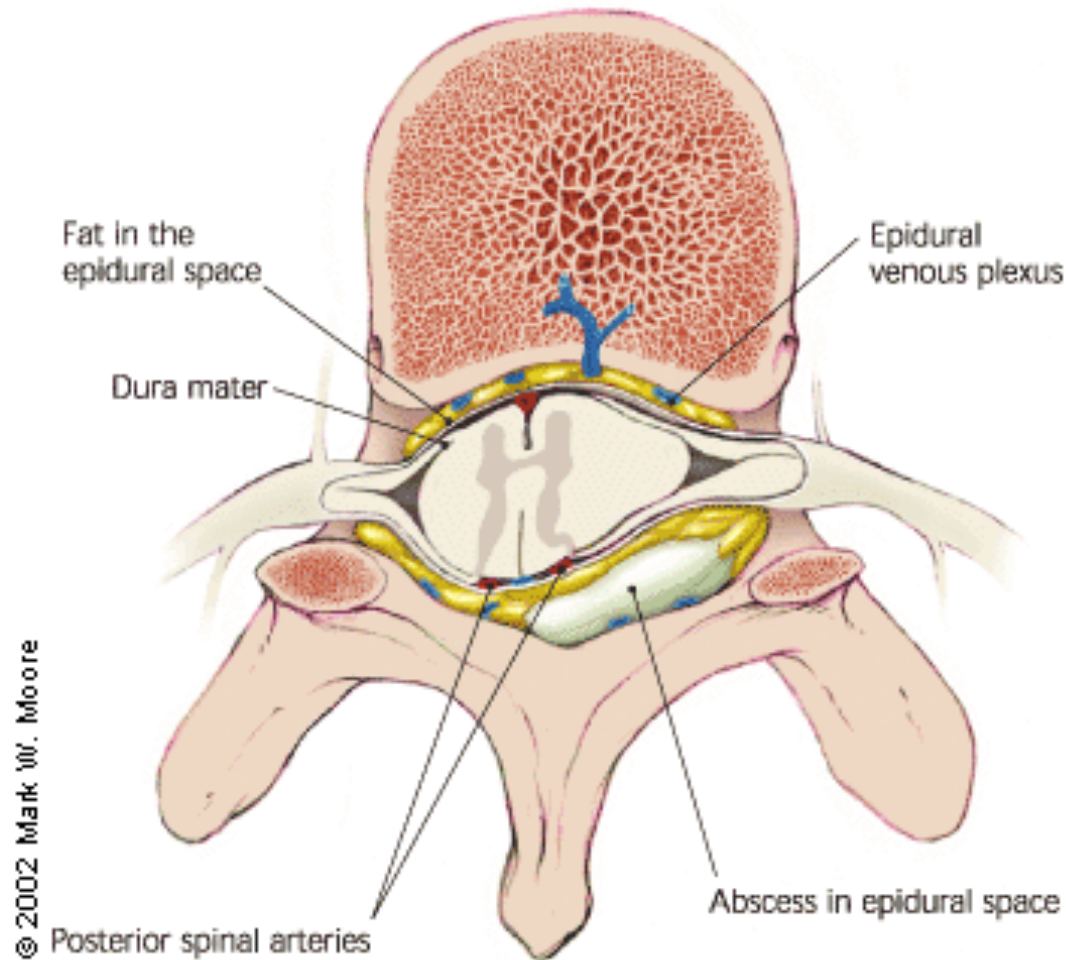
WARNING!

- **Cancer**
- **Fever**
- **Incontinence**
- **Pain not relieved by rest**

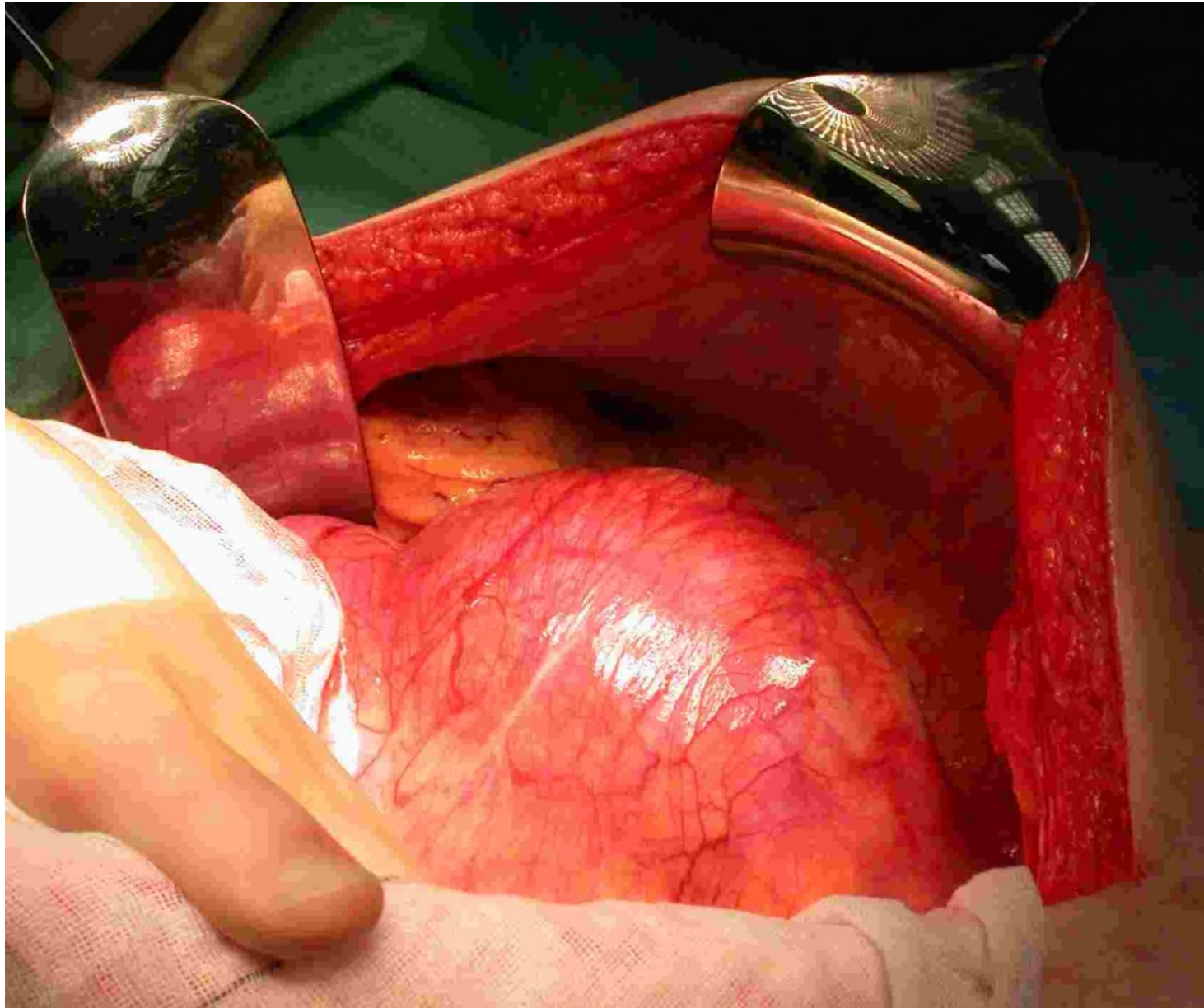
Metastatic Cancer



Epidural Abscess



Abdominal Aortic Aneurysm



Occupational Back Pain



Evaluation of OTJ Back Injuries

Waddell Signs

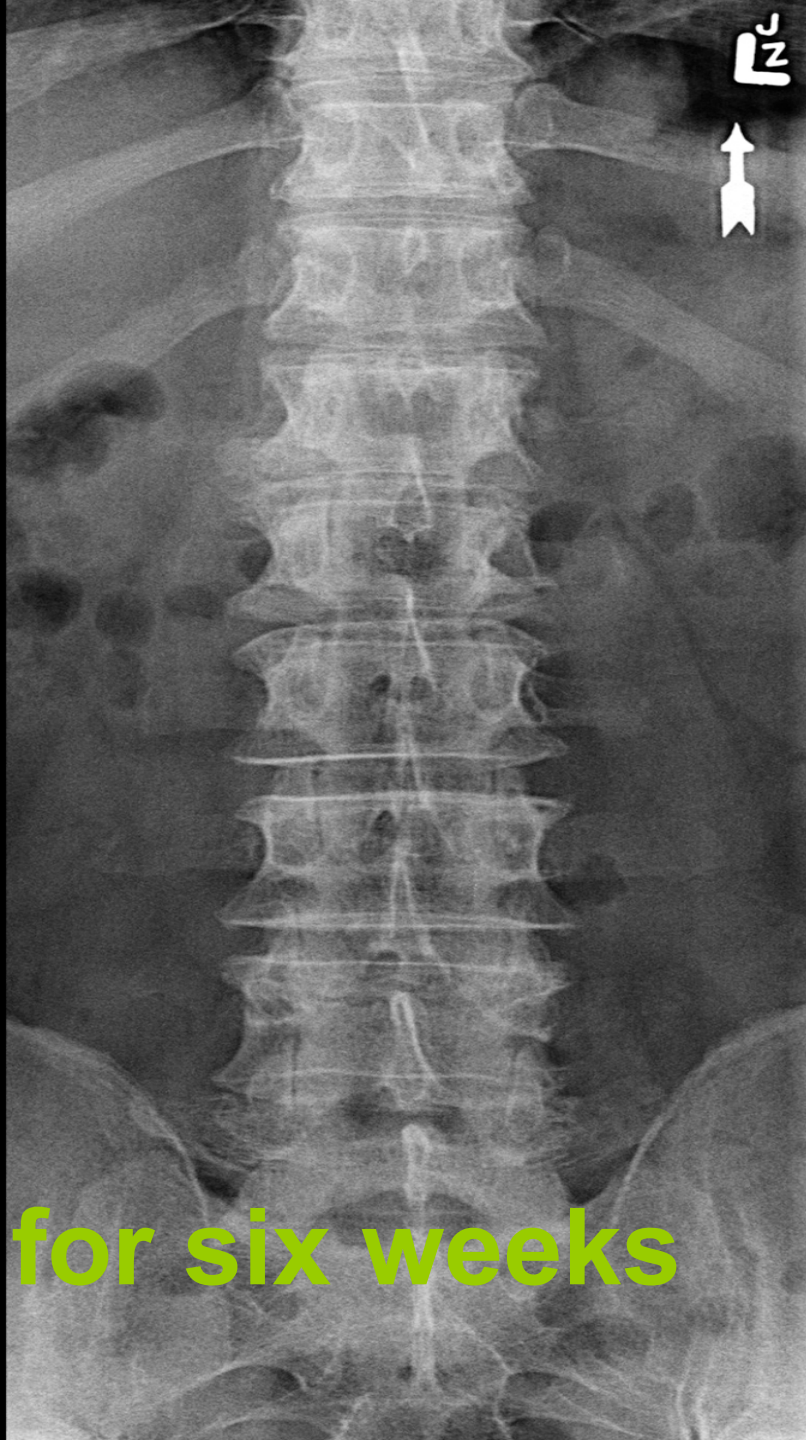
- Tenderness tests: superficial and diffuse tenderness
- Simulation tests: axial loading
- Distraction tests
- Weakness or sensory changes which aren't anatomically logical
- Overreaction

Need 3

Evaluation Continued

“Symptom Magnification”

“Non-physiologic Symptoms”



None for six weeks

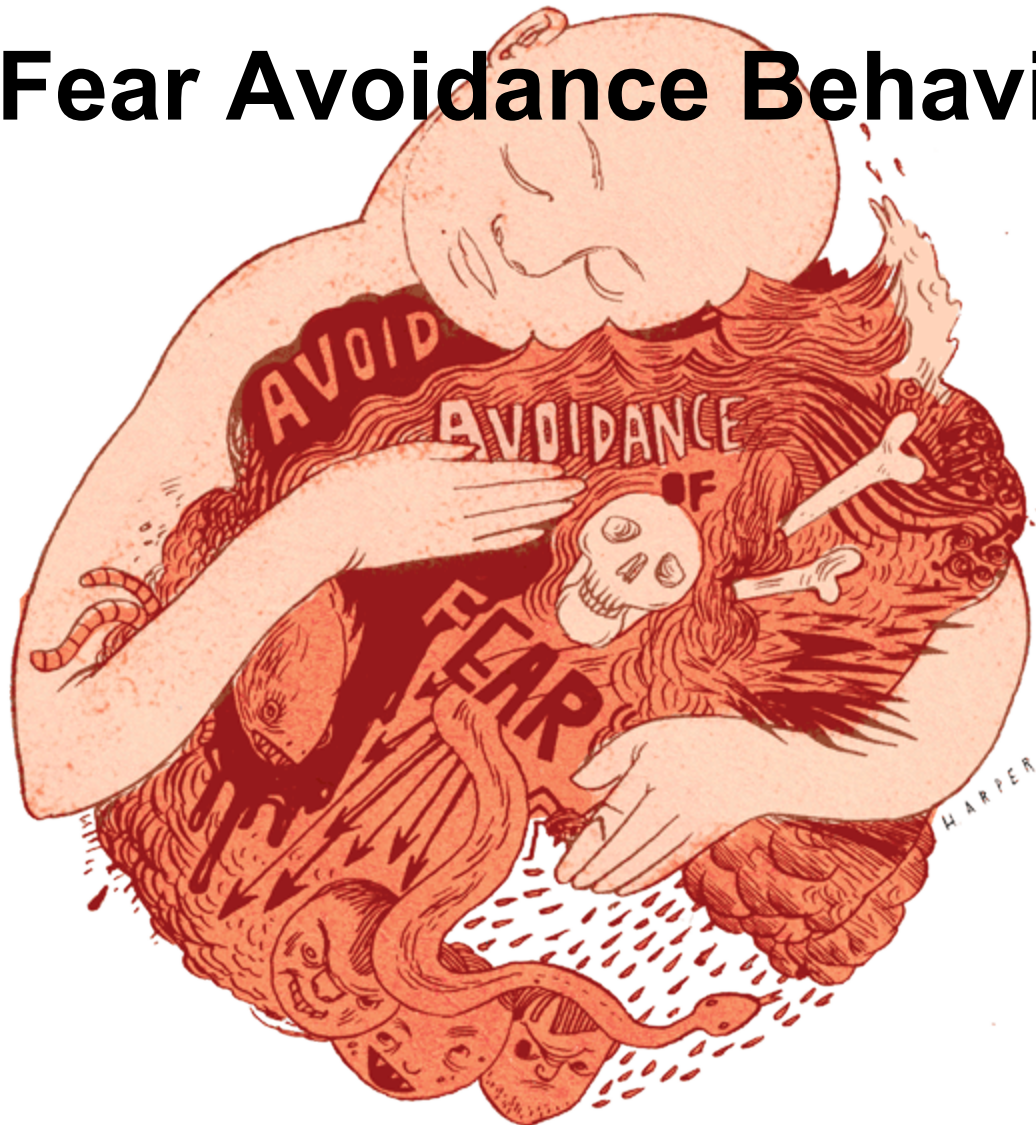
Treatment for Acute LBP

- Heat
- OTC analgesics
- **Manipulation**
- Aerobic activity
- Harpagoside
- Massage
- Fear avoidance behavior testing and training



Clinical Prediction Rule

Fear Avoidance Behavior



Fear Avoidance Training

Handy Hints²⁰ **(Biomedical Model)**

Traditional biomedical concepts of spine anatomy, injury, and damage

Avoid activity when in pain

Describes further interventions, including surgery

Concentrates on pain, rather than activity

Encourages patient to be passive

The Back Book¹⁹ **(Fear-Avoidance Model)**

No sign of serious disease or suggestion of permanent damage for patients with nonspecific low back pain

The spine is strong, and spine pain does not necessarily mean your back has any serious damage

A number of treatments can help to control the pain, but lasting relief depends on your effort

Concentrates on activity to restore normal function and fitness

Encourages positive attitudes and coping

Harpagoside



DO NOT TAKE WITH BLOOD THINNERS

What doesn't work in acute LBP

- Antidepressants
- Routine use of opiates
- Dietary supplements
- Lumbar supports
- Mechanical massagers

What doesn't work in acute LBP

- Traction
- Myofascial release
- Acupuncture
- Stretching
- Prolotherapy

NO BED REST!!!!



What works for chronic LBP

- Heat
- Massage and acupuncture for short term
- TENS units
- Aerobic exercise and strengthening
- Yoga
- Trigger point injections
- Cognitive behavioral therapy
- Back school

What works for chronic LBP

- OTC analgesics
- Opiate trial IF function improves
- Harpagoside
- Alteration of sleep posture (NOT mattress)
- Neuroreflexotherapy
- Shoe insoles
- Heel lift if leg length difference



Sleep



Neuroreflexotherapy



What doesn't work for CBP

- Regular or routine manipulation
- Strengthening abdominal muscles
- Spinal injections if no leg pain (epidural or facet)
- Prolotherapy

What doesn't work for CBP

- Surgical lumbar fusion
- Artificial disc replacement
- Spinal cord stimulators
- Discectomy—surgically trimming the bulging disc

Does surgery help?

- Simple lumbar discectomy for leg pain x 4-6 weeks
- Decompression surgery for spinal stenosis
- Fusion for spondylolisthesis

SURGERY TREATS LEG PAIN/WEAKNESS

Medicalization of Back Pain

- Patients need reassurance that most back pain is benign and 90% resolve without treatment
- Getting a specific DIAGNOSIS suggests there is a CURE leading to:
 - Failed expectations
 - “I just want them to fix me.”
 - Problem with BWC
- Abnormal findings on Xray and MRI are normal by age 40 and 80% of adults have abnormal Xray/MRI by age 60

CURE often not possible

Focus on return to prior function

Limit focus on PAIN in recovery

Back pain prevention

What works

- Core strengthening
- Proper lifting technique
- Ergonomic stations
- Engineering controls
- Smoking cessation and weight loss



The wrong way!



The right way!

Back pain prevention

What does not work

- **Back Class/School**
- **Back Brace**
- **Stretching**



Screening tests for back injuries

Can you avoid hiring workers who will be injured?

Xrays of the lumbar spine do not predict occupational back injuries and may harm the worker

Predictive of LBP

- Physical exams don't predict LBP
- Lift tests predict only the weakest worker
- A history of back problems predicts LBP
- Family history of LBP predicts LBP
 - GINA law means you cannot ask family history
- Job Performance Assessment

Job Performance Assessments

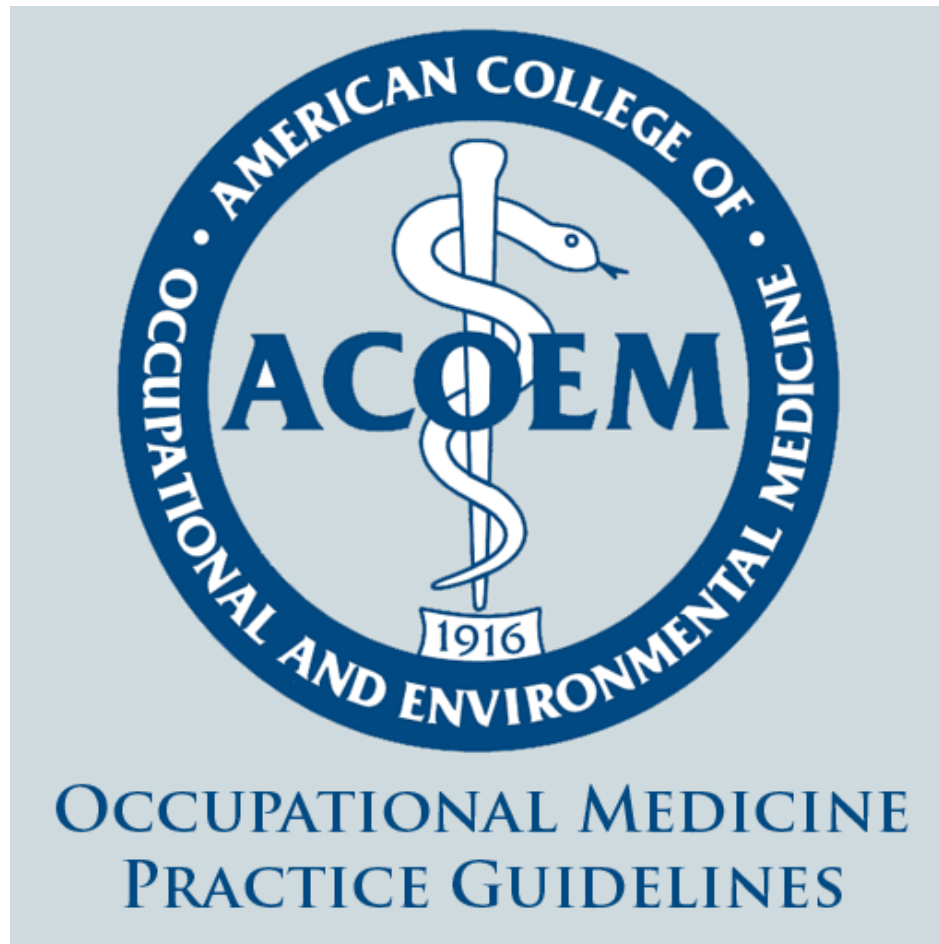


Recommendations

- Prioritize ergonomics and engineering controls to prevent back injuries
- Consider on-site manipulation
- Consider JPAs
- Maintain a healthy workforce
- Do not hire smokers or encourage smoking cessation
- Assess fear avoidance behaviors and be aggressive with claim management if high



American College of Occupational and Environmental Medicine Practice Guidelines





The End