Managing Worker Injuries

PART 1

New Concepts To Consider as Part of a Successful Injury Reduction Program

Jan W. Braunstein, PT, CFE, CEAS, CWCP

BenchMark PHYSICAL THERAPY

Seminar Objectives

This seminar is designed to update the participant's understanding of the following topics:

- Spinal Musculoskeletal Injuries
- Impact of Obesity in Work Injury Care
- Functional Assessments "Day1 through Discharge" as part of all PT Programs
- Work Conditioning for Safe Return to Work

BenchMark PHYSICAL THERAPY

Musculoskeletal Disorder Facts

- Mechanical and Physiological Process
- Related to Work Intensity and Duration
- Require Periods of Weeks, Months or Years to Develop
- Poorly Localized, Non Specific and Episodic
- Often Unreported
- Multiple Work and Personal Causes

Ergonomic Spinal Risk Factors

- **Repetition**
- **Awkward Posture**
- Forceful Exertion- UE
- **Static Posture**
- Mechanical Contact Stress-UE
- **Temperature**
- Vibration-UE

BenchMark PHYSICAL THERAPY

Most Common Musculoskeletal Disorders According to Vern Putz Anderson

- **Low Back Strain**
- Tendonitis-UE
- Tenosynovitis-UE
- DeQuervains Disease-UE
- Trigger Finger-UE

BenchMark PHYSICAL THERAPY

Musculoskeletal Disorders (continued)

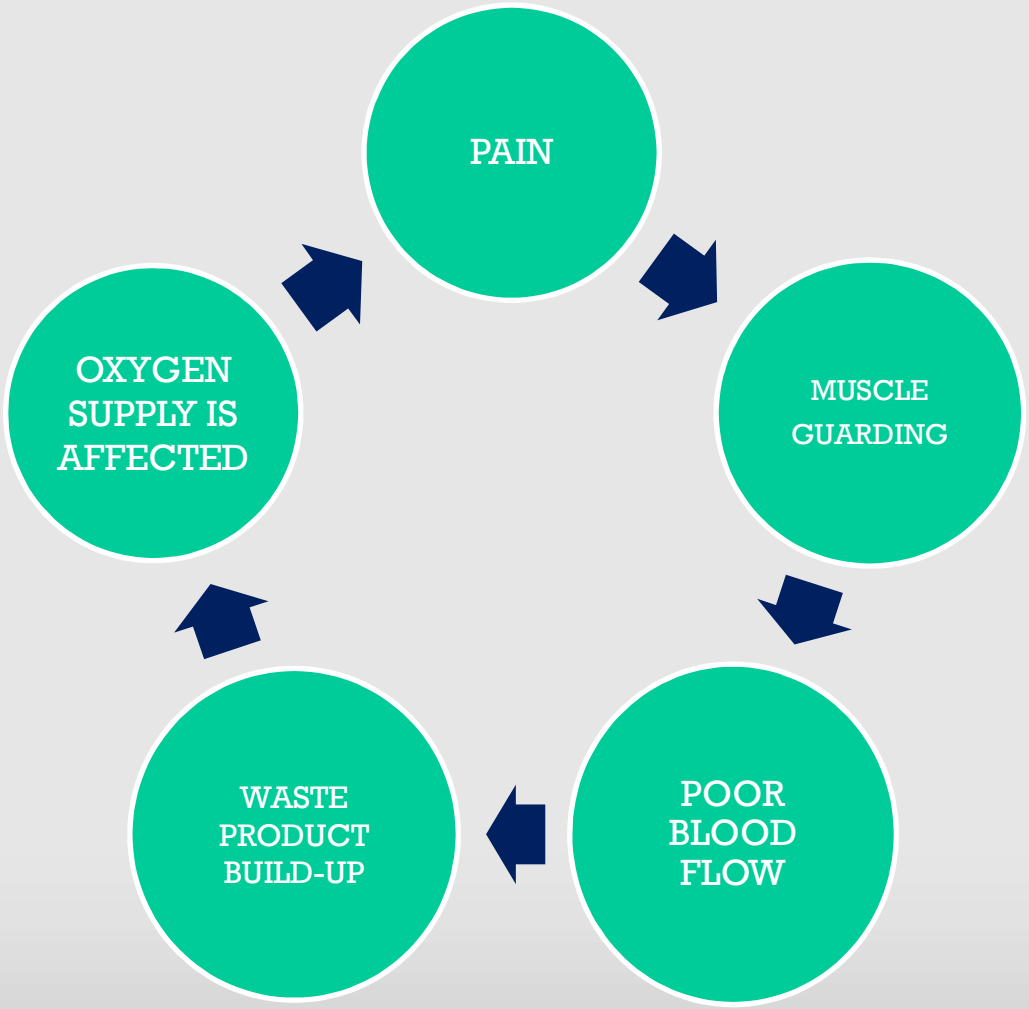
- Ganglionic Cyst-UE
- Epicondylitis (Medial/Lateral)-UE
- Rotator Cuff Tears-UE
- Carpal Tunnel Syndrome-UE

TODAY… we will focus on Spinal Injuries

- The lifetime prevalence of low back pain is approximately **80%**
- **31 million Americans** have low back pain at any given time[1]
- In the United States, **low back pain is second only to the common cold** as the reason patients cite for seeking medical care.
- The estimated cost of medical care for patients with low back pain **exceeds $8 billion annually**[2].

From Hoag Memorial Hospital, Newport Beach, Calif. (M.C.J., M.N.B.-Z., D.M.); Riverside MRI, Riverside, Calif. (M.C.J.); and the Cleveland Clinic, Cleveland (N.O., M.T.M., J.S.R.).

Effects of MSD's…PAIN CYCLE

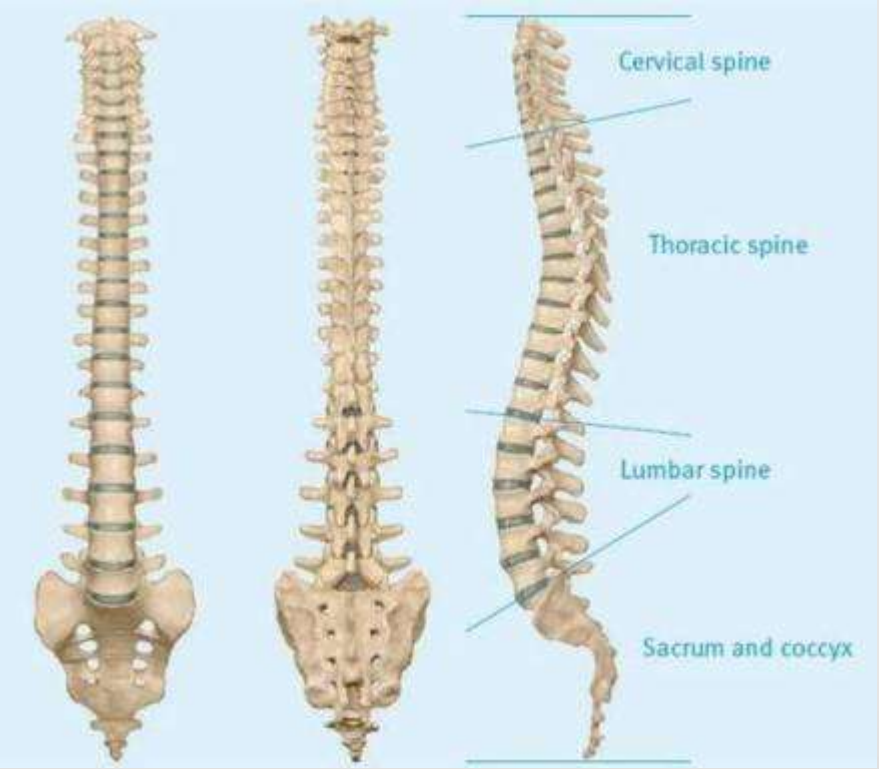


BenchMark PHYSICAL THERAPY

LOW BACK STRAINS

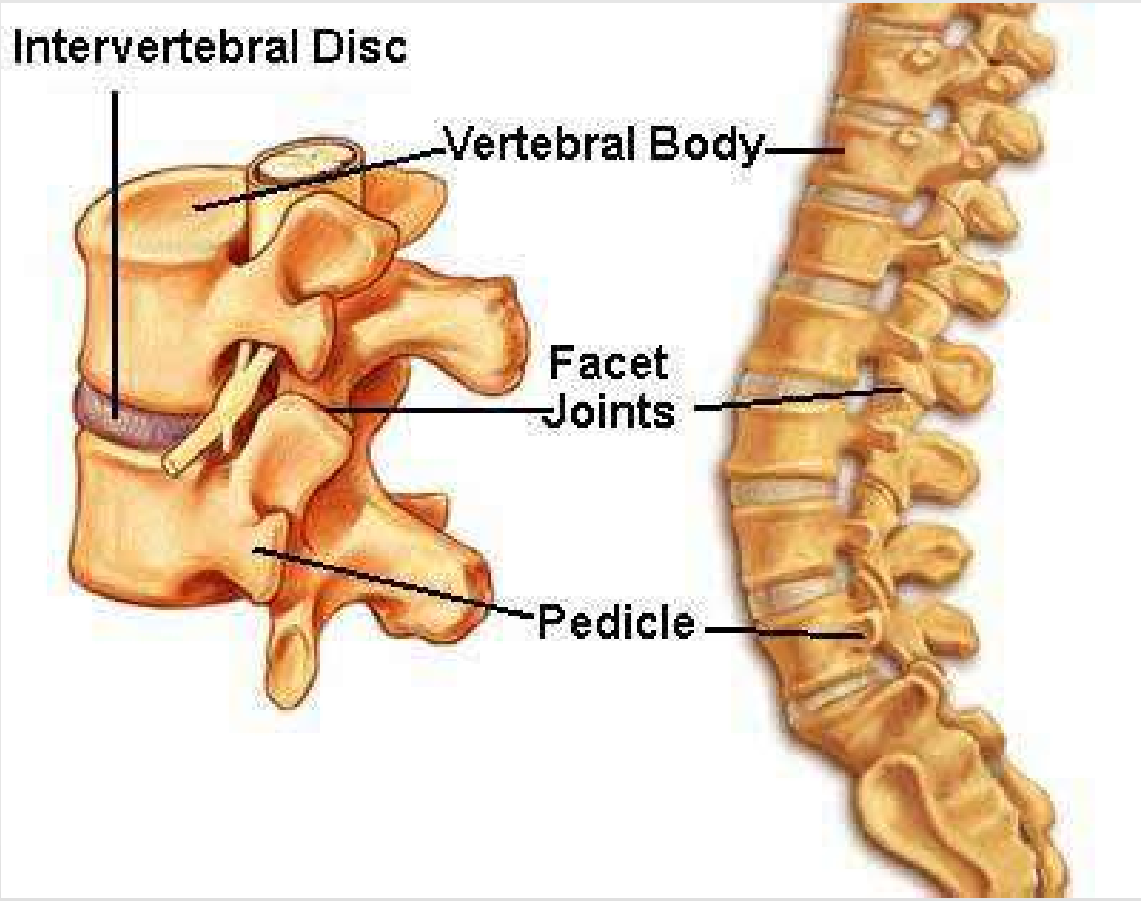
Anatomy of the Spine and an Accurate Diagnosis

- Vertebrae
- Discs
- Nerves
- Facet Joints
- Muscles
- Ligaments



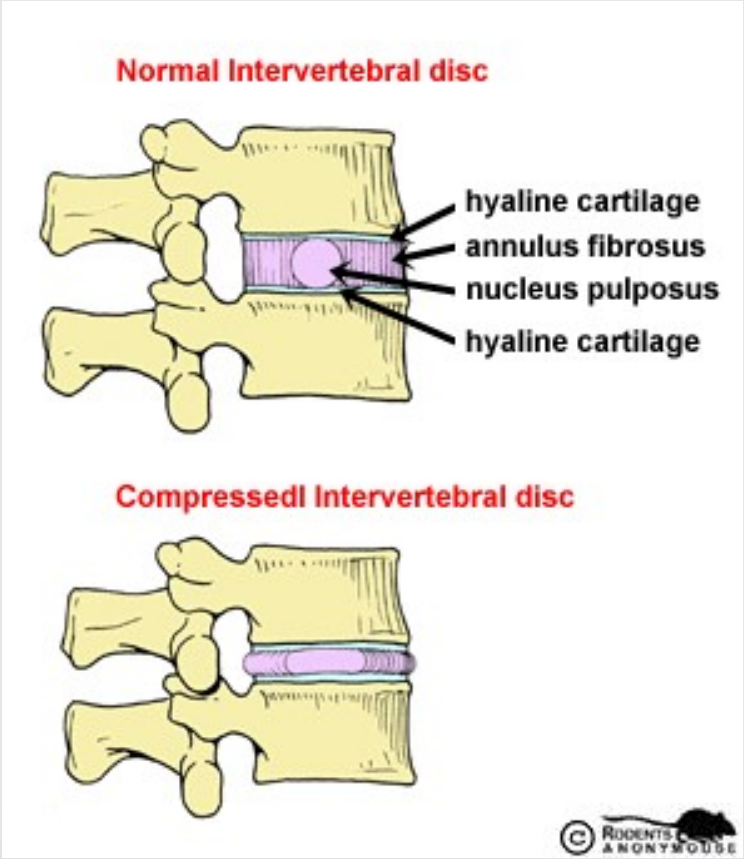
BenchMark PHYSICAL THERAPY

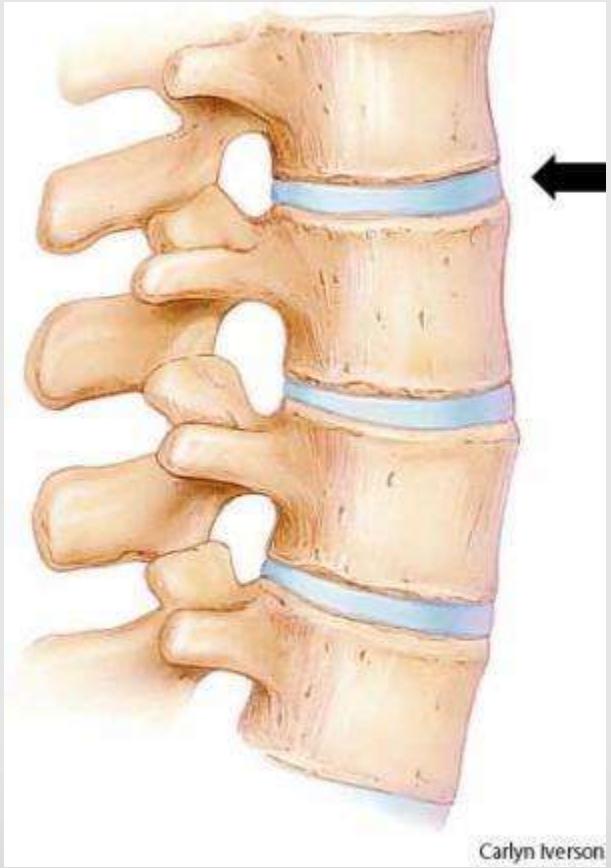
Vertebrae and an Accurate Diagnosis



BenchMark PHYSICAL THERAPY

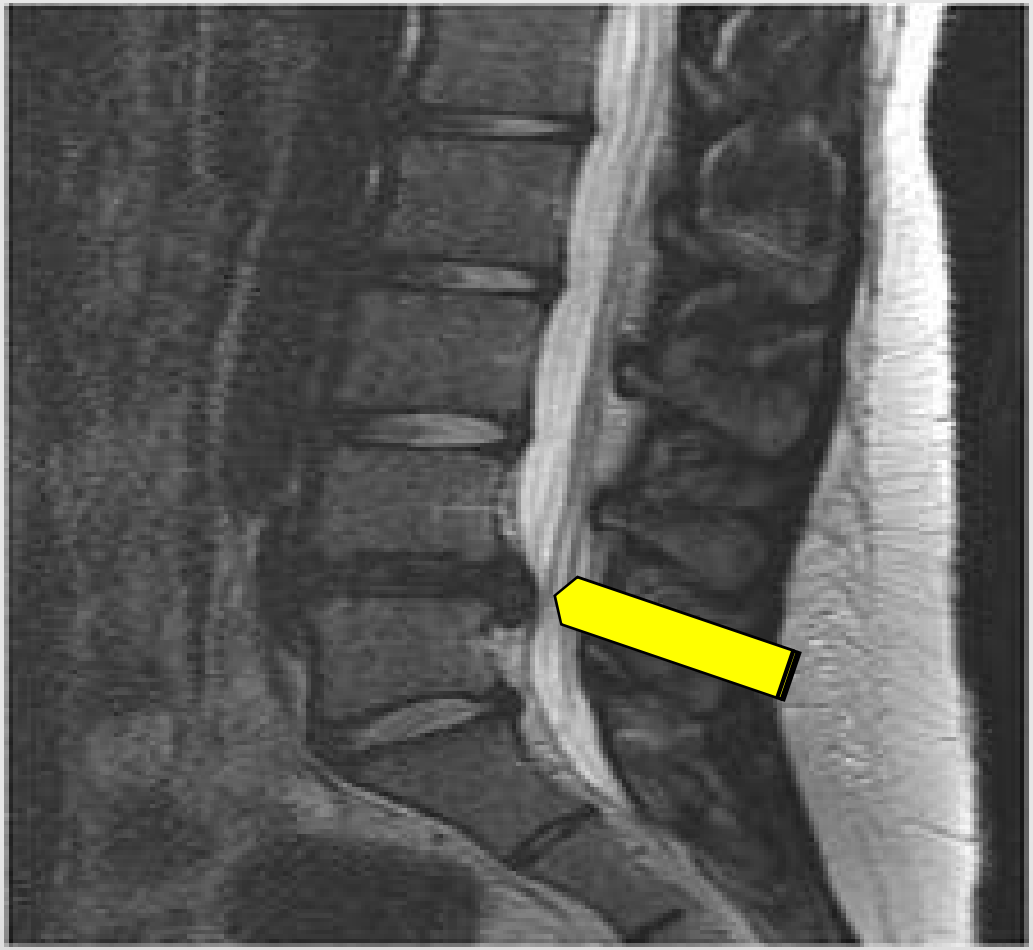
Discs and an Accurate Diagnosis





BenchMark PHYSICAL THERAPY

Discs-MRI



Some research has recommended that physicians should *avoid* giving people X-rays and MRI unless the patient reports severe and persistent neurological symptoms or unresolved pain for more than 6 weeks duration.

BenchMark PHYSICAL THERAPY

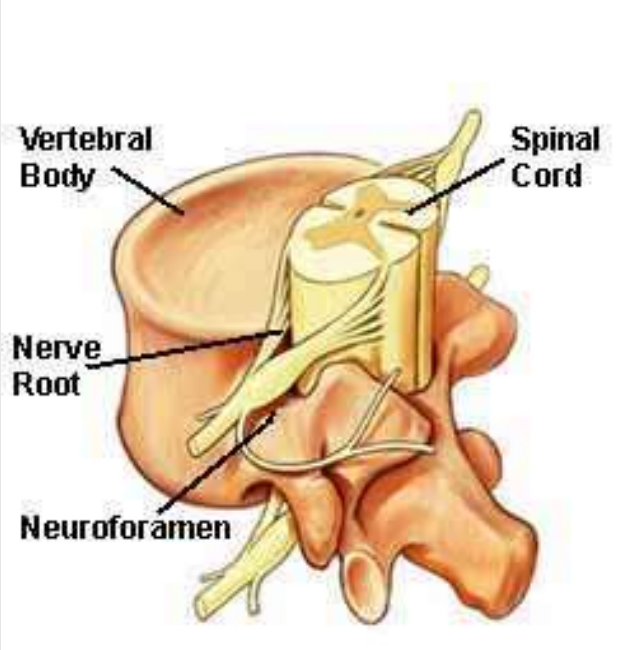
Consider the results of a major 2015 review by Brinjikji et al:

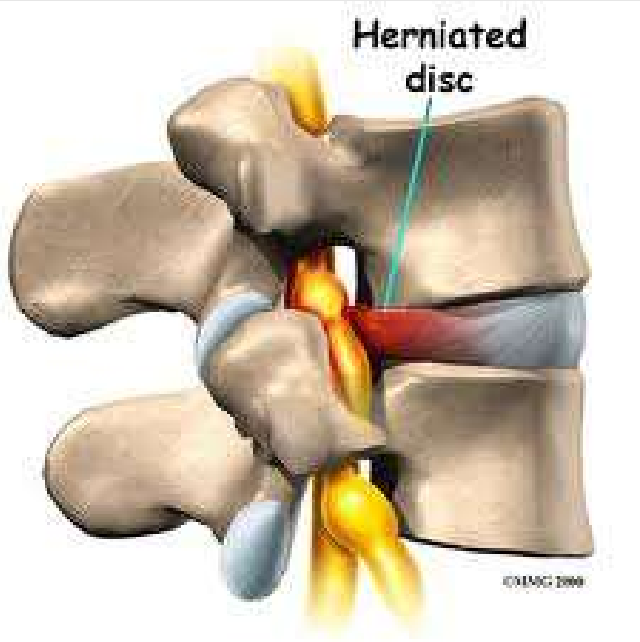
1. Signs of disc degeneration are present in very high percentages of healthy people with no problem at all.
2. "Many imaging-based degenerative features are likely **part of normal aging and unassociated with pain."**

However: MRI Tests can be appropriate for some kinds of severe and persistent low back pain.

BenchMark PHYSICAL THERAPY

Nerves and an Accurate Diagnosis





BenchMark PHYSICAL THERAPY

Muscles and an Accurate Diagnosis

PLEASE STAND AND LET'S CHECK YOUR HAMSTRING MUSCLE FLEXIBILITY

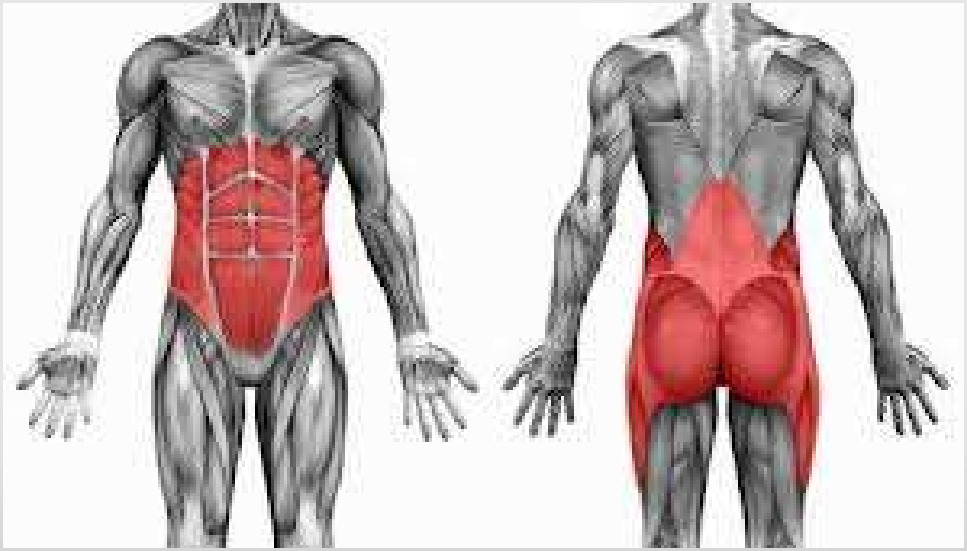
BenchMark PHYSICAL THERAPY

Muscles

CORE MUSCLES ARE THE KEY

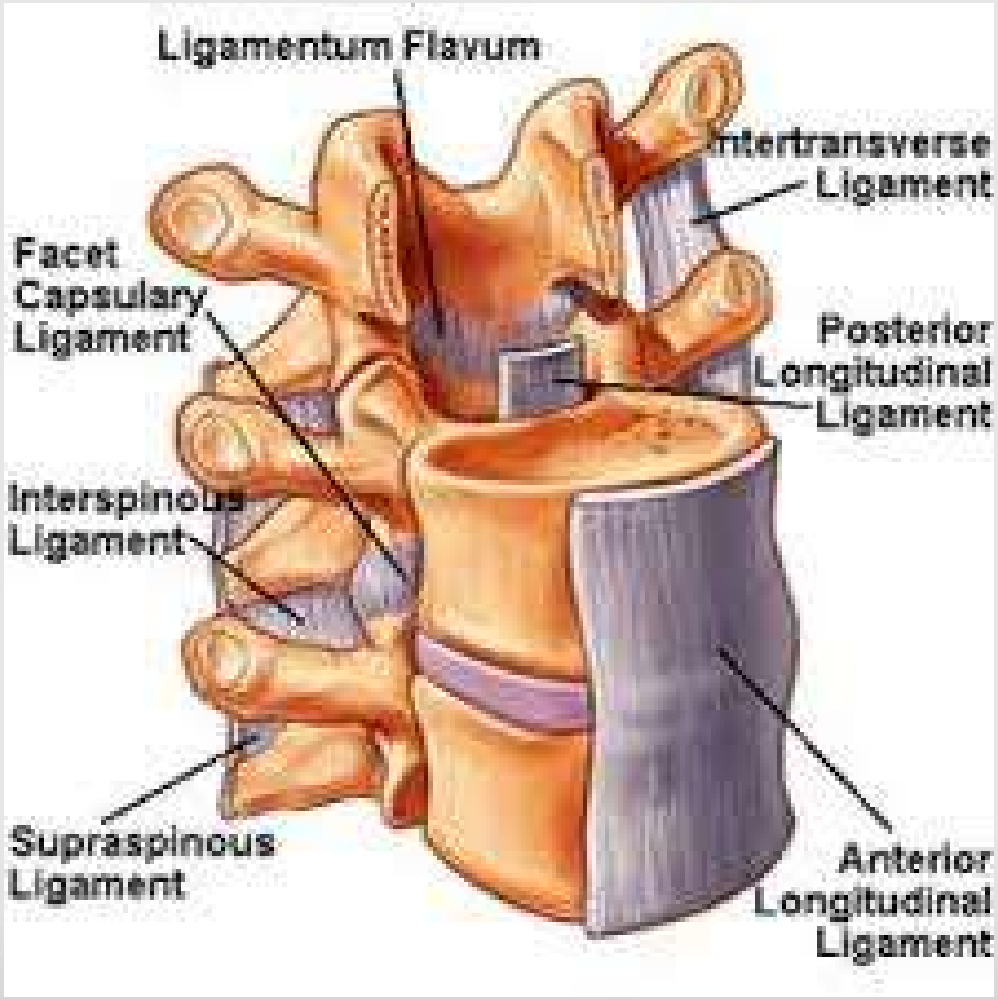
1. Rectus Abdominus and Obliques
2. Transverse Abdominus -*Increases Intra-Abdominal Pressure to Support the Spine*
3. Erector *Spinae-8 muscles Run up & Down the Spine*

4. 5. Quadratus Lumborum -*Stabilizes the lower spine*



BenchMark PHYSICAL THERAPY

Ligaments and Diagnosis



BenchMark PHYSICAL THERAPY

Treatment Goals

- Decrease Inflammation
- Promote Healing
- Increase Strength, Endurance, Flexibility (to prevent this injury from ever occurring again)

Rehab Treatment Techniques

- Moist Heat vs. Ice
- Proper Rest Positions-Day 1
- Mobilization Techniques
- Soft Tissue Massage
- Electrical Stimulation
- Ultrasound
- Home Exercise Program
- Body Mechanics Review
- Work Conditioning

BenchMark PHYSICAL THERAPY

Ergonomic Interventions to Get Faster Case Resolution

BenchMark PHYSICAL THERAPY

SOMETHING TO THINK ABOUT…
A New Concept in Work Injury PT

THERAPEUTIC DRY NEEDLING

BenchMark PHYSICAL THERAPY

What About Dry Needling to Reduce Pain?

Faster Results in PT…RTW Sooner!

BenchMark PHYSICAL THERAPY

WHAT IS DRY NEEDLING?

- Dry Needling is a technique used to treat myofascial pain (trigger point)
- Uses a dry needle that is inserted into a trigger point with the goal of releasing/inactivating the trigger points and relieving pain (APTA)

BenchMark PHYSICAL THERAPY

Why do we get Trigger Point Pain?

- Repetitive overuse injuries
- Poor postures
- Direct injuries
- Sustained loading (carrying a load on one side)
- Muscle clenching/tensioning
- Inactivity

Is Dry Needling the Same as Acupuncture?

ACUPUNCTURE

- **Eastern** medicine concept
- Uses Meridians of body
- Theory is that blockages and imbalances result in **pain and illness.**
- Uninterrupted and balanced flow of energy along these meridians contributes to one's overall health.

TDN
(Therapeutic Dry Needling)

- **Western** medicine concept
- Anatomical and neurophysiological principles used
- Insert filament needle into trigger point
- Used in conjunction with other manual therapies/exercises

BenchMark PHYSICAL THERAPY

Contraindications to TDN

- Clinician Skill
- Patient Consent
- Pregnancy (1st Trimester)
- Local Infection
- High Dose Anticoagulants/Bleeding Disorders
- Malignancy
- Over Joint Replacements, Breast Implants, Cardiac Pacemakers

CAN EVERYONE DRY NEEDLE?

It Depends On Your State's Physical Therapy Practice Act!!

BenchMark PHYSICAL THERAPY

All Treatment Should Restore Function & Resolve Symptom Complaints PLUS Stop The Injury Cycle

REDUCE OVERLOAD

Abatement or Modification of the Precipitating Factors

VERY IMPORTANT MISSING PIECE OF THE RTW PUZZLE…Often Overlooked

An ergonomic site visit will significantly reduce MD and PT visits.

This also reduces recurrent injuries.

BenchMark PHYSICAL THERAPY

COMORBIDITIES AND WORK INJURIES

Definition of Comorbidity:
The simultaneous presence of two chronic diseases or conditions in a patient.

BenchMark PHYSICAL THERAPY

Did You Know?

- Approximately 68% of Americans suffer from multi-morbidities
- Workers' compensation (WC) claims with **comorbidities** on average pay out **double the cost**
- Comorbidity is likely to impact accurate diagnoses, complicate injury, and **delay return to work**.

BenchMark PHYSICAL THERAPY

In 2013 The AMA Voted to Label Obesity as a Disease

97 Million Americans Affected

- Increased rate of surgical site infection
- Obesity increases the amount of stress across weight bearing joints
- Increased chance of osteoarthritis in weight bearing joints

Effects on post-operative healing

- Increased tension on the wound edges contributes to wound rupture along the surgical incision
- Increased tissue pressure to the surgical site reduces the availability of oxygen to the wound which can slow healing

BenchMark PHYSICAL THERAPY

RECENT RESEARCH STUDIES:

Pepsi and Duke Medical

These Risk Factors Can Be Controlled:

1. Body Weight
2. Glucose
3. Cholesterol
4. Blood Pressure
5. Stress
6. Poor Diet
7. Tobacco Use
8. Alcohol Consumption

Reducing Body Weight Makes the Biggest Difference !

BenchMark PHYSICAL THERAPY

OBESITY MEASURES

BODY MASS INDEX=BMI

- OBESE= BMI 30-34.9
- SEVERE OBSISTY= BMI 35-39.9
- **MORBIDLY OBESE= BMI 40+**

The body mass index (BMI) is a person's weight in kilograms (kg) divided by their height in meters (m) squared.

BenchMark PHYSICAL THERAPY

IMPACT OF RISK FACTOR MODIFICATION ON WORKERS COMP COST SAVINGS

- Stress Reduction Programs: Saved 15%
- Cholesterol Control: 10% Savings
- Glucose Management: 13% Savings

- **Weight Reduction Programs: Saved 66%**

Henke et al JOEM May 2010; Pepsi Study

BenchMark PHYSICAL THERAPY

Archives of Internal Medicine, April 2007-Ostbye and Others

Compared Morbidly Obese Workers at Duke Medical Center to Others of Normal Weight:

Morbidly Obese Workers (BMI: 40 or More):

- **Twice As Many Worker's Comp Claims**
- **13 Times More Lost Work Days**

And this is the most amazing statistic….

BenchMark PHYSICAL THERAPY

Compared Morbidly Obese (BMI: 40 or More) Workers at

Duke Medical Center to Others of Normal Weight:

Morbidly Obese Workers:

Average Claim Cost Was 7 Times Greater

($51,091 Vs. $7,503)

BenchMark PHYSICAL THERAPY

PREHAB…THE ROLE OF PT EXERCISE PRACTICE BEFORE SURGERY

DID YOU KNOW ???

Individuals who participate in pre-surgical rehabilitation, tend to regain function and return to their daily lives faster than individuals who do not participate in pre –surgical rehabilitation.

BenchMark PHYSICAL THERAPY

PREHAB PROGRAM GUIDELINES

1. Start the program 4-6 weeks prior to surgery. 1-2 visits per week. Flexibility Exercise, Strengthening and Cardio focus as tolerated. Home exercise program stressed.
2. Therapist and MD design goals of program
3. Being in optimal physical health can improve post operative recovery

BenchMark PHYSICAL THERAPY

Physical Therapy Functional Goal Setting = Injured Workers Returning Safely Back to Work

"Work Injury PT's" must monitor functional abilities

DAY 1 THROUGH DISCHARGE

BenchMark PHYSICAL THERAPY

Physical Therapy
Functional Goal Setting

PT MTM Assessment: Day 1 through Discharge

Methods-Time Measurement (MTM) is a **Pre-determined Motion-Time Standards** (PMTS) system.

PMTS systems were originally used by Industrial Engineers to determine the time needed to carry out manufacturing processes.

Establish estimates for production time and costs, and establish efficiency measures.

Assures a SAFE RETURN TO WORK

BenchMark PHYSICAL THERAPY

Wouldn't You Like Objective Functional Testing Included in Physical Therapy Goal Setting & PT Progress Notes???

4 BIG Reasons why this is important:

1. Safe return to work. Only injured body part is assessed.
2. Employees should not be kept off work for unrelated issues/limitations.
3. Provides assistance to the physician when completing work status forms with objective data.
4. Reduced recurrent injuries = Cost Savings

BenchMark PHYSICAL THERAPY

Objective Testing as Part of PT Care Assists the Physician to Complete Work Status Reports

When the MTM % IS test is above 100%-the individual can perform that task **CONSTANTLY** over an 8 hour workday.

An Industrial Standard(IS) of 70%-99% suggests that this task can be performed **FREQUENTLY** 5.5 hours in an 8 hour workday.

An Industrial Standard(IS) of 30%-69% would suggest that they can do the task **OCCASSIONALLY** 2.5 hours over an 8 hour workday.

BenchMark PHYSICAL THERAPY

This is NOT an FCE…Only 1-3 tasks associated with the referral injury are tested. Validity Testing is Not Included.

- Walk
- Bend/Stoop
- Crouch
- Kneel on one knee
- Reach Forward
- Reach Overhead
- Handle Objects with one hand
- Handle Objects Bilaterally
- Fingering

BenchMark PHYSICAL THERAPY

POST REHAB

AN INDIVIDUALIZED WORK CONDITIONING PROGRAM BASED ON THE SPECIFIC OBJECTIVE NEEDS FOR EACH PARTICIPANT IS THE KEY TO SUCCESS….

A Cookbook Approach

DOES NOT WORK !

BenchMark PHYSICAL THERAPY

Candidates for Work Conditioning

- Must have a JOB goal
- Demonstrates willingness to participate in program
- Identified systemic neuromusculoskeletal physical and functional deficits that interfere with work.
- Is able to participate in a progressive program for minimum of 2 hours/day, at least 3 days/week.
- Injury should be less than 2 years old.
- Has to be at the point of resolution of initial injury by end of program-objectively determined.

Work Conditioning Research

A Patient is a Good Candidate for Work Conditioning, if they:

1. **Have received acute rehabilitation services**
2. Are expected to return to his or her previous employment

BUT

Patient is currently unable to Meet Their Job Demands as a result of general deconditioning since the injury and his or her limited endurance or tolerance to work requirements.

(OK study; MD Advisory Panel on Work Comp)

EXAMPLES OF WORK CONDITIONING PROGRAM

NO HANDS ON TREATMENT IS GIVEN

Package Delivery Driver
s/p Rotator Cuff Repair

BenchMark PHYSICAL THERAPY

BenchMark PHYSICAL THERAPY

BenchMark PHYSICAL THERAPY

BenchMark PHYSICAL THERAPY

BenchMark PHYSICAL THERAPY

#1 GOAL of A SUCCESSFUL WORK CONDITIONING PROGRAM:

SAFE RETURN TO WORK!

1. Increase Functional Strength and Endurance
2. Encourage Responsible Weight Reduction
3. Proper Body Mechanic Training
4. Pre and Post Functional Assessment

REDUCE RECURRENT INJURIES

BenchMark PHYSICAL THERAPY

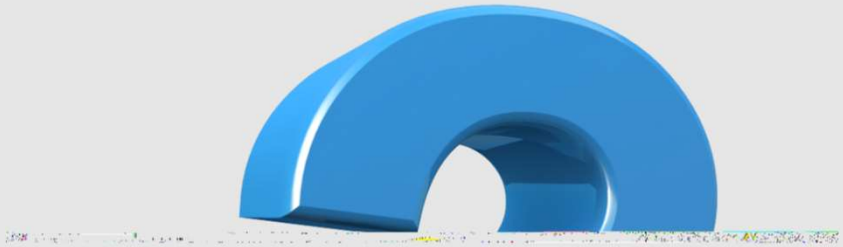
Ergonomic Interventions Will Reduce Recurrent Injuries

BenchMark PHYSICAL THERAPY

Did We Achieve Our Seminar Objectives ?

- ✓ Overview of Spinal Musculoskeletal Injuries
- ✓ Impact of Obesity in Work Injury Care
- ✓ Brief Discussion of the use of Functional Assessments **"Day1 through Discharge" Objective Data to the MD vs Guessing on Work Ability Status Reports**
- ✓ Work Conditioning for those returning to **Medium/Heavy or Very Heavy PDC** jobs to assure safe return and **Decrease Recurrent Injuries**.

BenchMark PHYSICAL THERAPY



BenchMark®
PHYSICAL THERAPY

Thank You

Jan W. Braunstein, PT, CFE, CEAS,CWCP
404-925-2006
jbraunstein@bmrp.com