



Diagnosis: Defining the Patient Problem

A "prerequisite for treatment"

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Session Objectives

1. Appreciate the role of Physical Therapist (PT) diagnosis in clinical practice
2. Compare and contrast "PT Diagnosis" and "Medical Diagnosis"
3. Distinguish diagnostic process from diagnostic classification
4. Explain the Hypothesis-Oriented Algorithm for Clinicians (HOAC) and how it informs diagnostic process
5. Apply a systematic diagnostic process to a patient problem

Why We Need to Diagnose



"The sorry, the doctor no longer makes diagnosis."

Patient Case

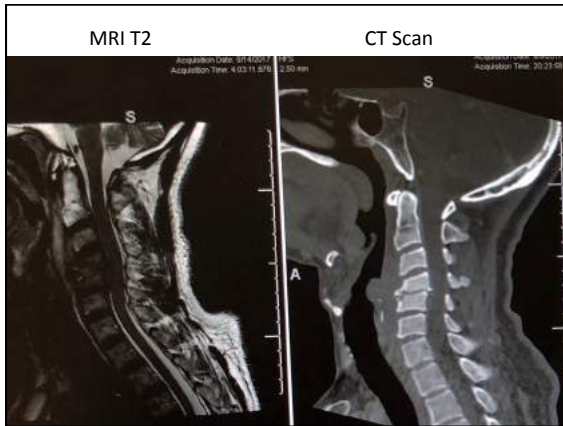
- 59 year-old industrial worker presents to local outpatient PT clinic with a chief complaint of left shoulder pain and intermittent tingling in L UE
- History of neck pain
- Physical exam findings: negative for shoulder impairments
- Cervical spine exam reveals limited L cervical rotation (35°), + Spurlings test, + Quadrant test
- Referred patient to PCP with report of findings
- Patient lost to follow-up

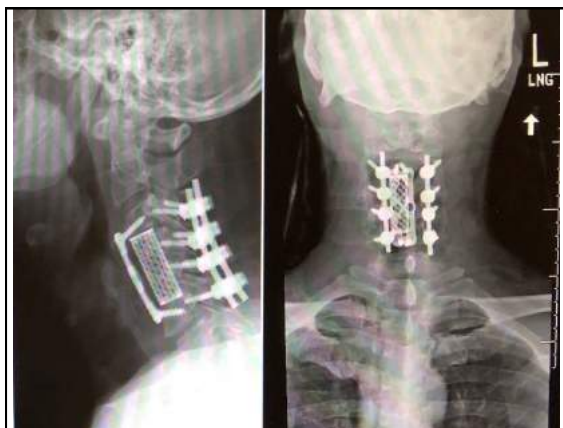
Outcome

- PT recommendation was not followed
- Patient discontinued treatment
- Several months later, after persistent and worsening symptoms, imaging was obtained
- Diagnosis: Osteomyelitis
- Subsequently underwent Cervical Corpectomy with Fusion

Conventional Radiographs
(Several months later)







Consider

- Musculoskeletal (MS) health education in medical curricula is limited (Freedman KB, Bernstein J: Educational deficiencies in musculoskeletal medicine. J Bone Joint Surg Am 2002;84(4):604-608)
- Family practice residents are not confident in their ability to manage MS conditions (Matheny JM, Brinker MR, Elliott MN, et al: Confidence of graduating family practice residents in their management of musculoskeletal conditions. Am J Orthop 2000;29(12):945-952)

PT versus Family Practitioner Knowledge of LBP Management

- 54 PT's and 140 FP Physicians serving in US Air Force completed standard MS exam
- PT's more likely to recommend the correct drug treatment for acute LBP compared to FP (85.2% vs 68.5%)
- PT's demonstrated significantly greater knowledge of optimal management strategies

Ross MD, et al. Physical therapist vs. family practitioner knowledge of simple low back pain management in the US Air Force. Mil Med 2014 Feb;179(2):162-8.

Yet

- MS conditions are the primary reason patients seek care from a PCP (Praemer A et al, 1999)
- MS conditions are the most common cause of long-term disability
- Aging population will lead to increased prevalence of MS conditions

Matching Question (Fill in the Blank)

Cardiologist

Cardiac Surgeon

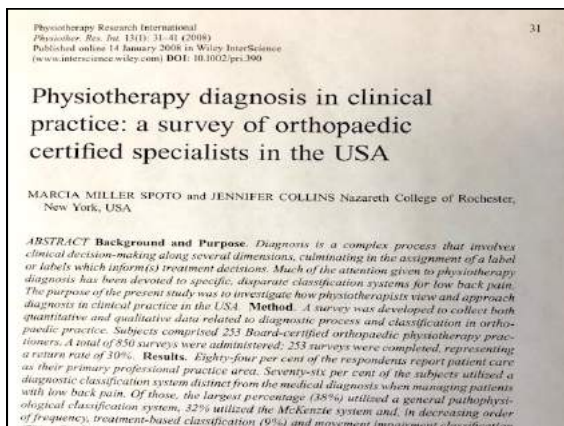
Neurologist

Neurosurgeon

Orthopedic Surgeon



What profession is best poised to offer conservative, non-surgical management for MS Conditions?



Themes PT Diagnosis:

1. May incorporate the medical diagnosis, but moves beyond it
2. Occurs across multiple levels or systems
3. Physiotherapists tend to view diagnosis as being process-oriented; primary purpose is to direct treatment

Diagnosis: Definition

- A label that describes the 'primary dysfunctions toward which the physical therapist directs interventions'. (*Guide to Physical Therapist Practice*)
- "Diagnosis is both a process and a descriptor. The diagnostic process includes integrating and evaluating the data that are obtained during the examination for the purpose of guiding the prognosis, the plan of care, and intervention strategies. Physical therapists assign diagnostic descriptors that identify a condition or syndrome at the level of the system, especially the human movement system..." (Norton BJ. Harnessing our collective professional power: diagnosis dialog. Phys Ther. 2007;87(6), 635-8.)

Functions of Diagnosis

- Statistical tracking of health conditions
- Identification of cause of health condition
- Explain patient health condition
- Provide a prognosis
- Directs treatment



APTA Position on Diagnosis

- Policies & Bylaws: Practice
- <http://www.apta.org/Policies/Practice/>
- Diagnosis by Physical Therapists



HOD P06-12-10-09

- "Physical therapists shall establish a diagnosis for each patient/client"
- "When indicated, physical therapists order appropriate tests, including but not limited to imaging and other studies, that are performed and interpreted by other health professionals. Physical therapists may also perform or interpret selected imaging or other studies... In performing the diagnostic process, physical therapists may need to obtain additional information (including diagnostic labels) from other health professionals."

Scope of Practice

- Direct Access by State:
<http://www.apta.org/StateIssues/DirectAccess/>
- *"Physical therapists diagnose with respect to physical therapist practice as authorized by state law. In diagnosing a patient's condition in accord with such law, physical therapists are not in conflict with the diagnosis provisions of state laws governing the practice of medicine. No states prohibit a physical therapist from performing a diagnosis."*

Language in Direct Access Laws

Alabama: *"May perform PT services without a prescription...to an individual for a previously diagnosed...for which PT services are appropriate after informing the health care provider rendering the diagnosis."*

Nevada: *"Physical therapy does not include the diagnosis of physical disabilities."*

Scope of Practice

- Prohibits the diagnosis of disease/medical diagnosis:**
- California
 - Colorado
 - Connecticut
 - Idaho
 - Maine
 - Minnesota
 - North Carolina
 - Texas
 - Utah

Physician groups argue that physical therapists cannot diagnose. How should we respond to such a charge?



Medical Versus PT Diagnosis

Medical Diagnosis:

Duchenne Muscular Dystrophy

PT Diagnosis:

Lower extremity weakness leading to inability to transition from floor to standing independently.

Medical Diagnosis:

Rotator Cuff Tendinopathy

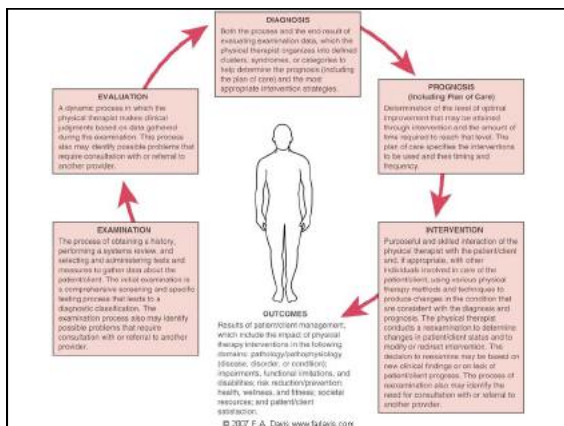
PT Diagnosis:

Shoulder Instability with associated impairments of muscle strength consistent with rotator cuff tendinopathy

Note: Caution with use of term "instability"

The Hypothesis-Oriented Algorithm for Clinicians II (HOAC II): A Guide for Patient Management

In this era of health care accountability, a need exists for a new decision-making and documentation guide in physical therapy. The original Hypothesis-Oriented Algorithm for Clinicians (HOAC) provided clinicians and students with a framework for science-based clinical practice and focused on the remediation of functional deficits and how changes in impairments related to these deficits. The HOAC II was designed to address shortcomings in the original HOAC and be more compatible with contemporary practice, including the *Guide to Physical Therapist Practice*. Disablement terminology is used in the HOAC II to guide clinicians and students when documenting patient care and incorporating evidence into practice. The HOAC II, like the HOAC, can be applied to a patient regardless of age or disorder and allows for identification of problems by physical therapists when patients are not able to communicate their problems. A feature of the HOAC II that was lacking in the original algorithm is the concept of prevention and how to justify and document interventions directed at prevention. [Rothstein JM, Echternach JL, Riddle DL. The Hypothesis-Oriented Algorithm for Clinicians II (HOAC II): a guide for patient management. *Phys Ther*. 2003;83:455-470.]



Hypothesis-Oriented Algorithm for Clinicians (HOAC)

- Model of clinical reasoning
- Systematic approach to patient management
- Identifies patient data to be collected and analyzed in clinical decision-making
- Hypothesis is molded through patient interview, physical examination, and other relevant patient data
- Hypothesis links “pathology” to impairments and functional limitations

HOAC

1. Collect initial patient data (includes history)
2. Patient-Identified Problems (PIP's)
3. Plan physical exam
4. Conduct physical exam
5. Add clinician identified problems
6. Write Goals
7. Administer interventions
8. Assess outcomes (re-evaluate)

Diagnostic Classification

- Classification is a tool to categorize patient data and apply it to clinical decision-making
- Classification (Subgrouping) facilitates intervention planning
- Subgrouping patients with LBP is common (MDT, Treatment-Based Classification, Movement System Classification)
- Can improve clinical outcomes (Fritz JM et al. Subgrouping patients with low back pain: evolution of a classification approach to low back pain. *JOSPT*, 2007 Volume:37 Issue:6 Pages:290–302 DOI: 10.2519/jospt.2007.2498)

Clinical Practice Guidelines: Non-Specific Neck Pain

Grade I: Neck pain with no S&S of structural pathology, no or mild functional limitation

Grade II: Neck pain with no S&S of structural pathology; but high level of functional disability

Grade III: Neck pain with no S&S of structural pathology; + neurological signs

Grade IV: Signs or symptoms of major structural pathology (vertebral fracture, infection, inflammatory disease, etc)

Bier JD et al. Clinical practice guidelines for physical therapy assessment and treatment in patients with nonspecific neck pain. *Physical Therapy*. 2018; 98 (1): 162-171

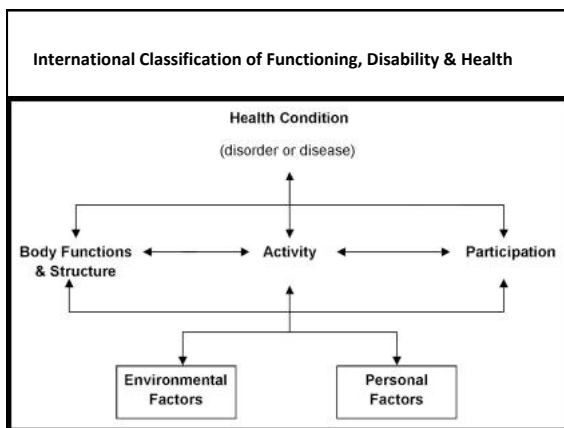
No Universal Classification System in PT Practice

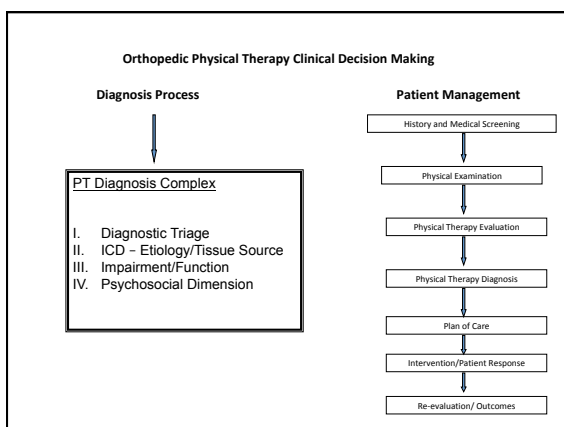




Integrated Diagnostic Process

Diagnosis is both a process and a label





Multi-Level Diagnosis

- I Medical Screening & Triage**
- II Musculoskeletal Differential Diagnosis**
- III Impairment/Function**
- IV Psychosocial Dimension**

Level I Diagnosis: Medical Screening

Options:

- ☐ Referral to Appropriate Healthcare Provider – condition is outside scope of practice
- ☐ PT Management with Referral – condition is within scope of practice, but comorbid condition exists that requires consultation/referral
- ☐ PT Management – condition falls within scope of practice without need for referral

Level II: MS Differential Diagnosis

- Tissue source of pain
- ICD – 10 Code (Designator)
- Hierarchical System: Use most specific code that can be supported by diagnostic tests
- Must be correlated with clinical findings
- Term “probable” can be used in the absence of confirming evidence
- May lead to need for collaboration with physicians – diagnostic imaging or other diagnostic tests

Level III Diagnosis

- Physical impairments linked to functional limitation
- ROM, Joint Mobility, Muscle Strength, Muscle Length, Muscle Endurance, CV Endurance
- Drives intervention
- Must consider tissue irritability

High Irritability

- High self-report pain level (>7/10)
- Pain at rest; difficulty sleeping
- Pain before end range (ROM testing)
- AROM < PROM
- High levels of disability (ODI/FOTO)
- Interventions focused on controlled loading, pain control, monitoring impairments



Moderate Irritability

- Moderate pain levels (4-6/10)
- Intermittent pain at rest
- Pain at end-range (ROM testing)
- AROM slightly < PROM
- Moderate levels of disability
- Treatment focused on impairments and basic functional restoration

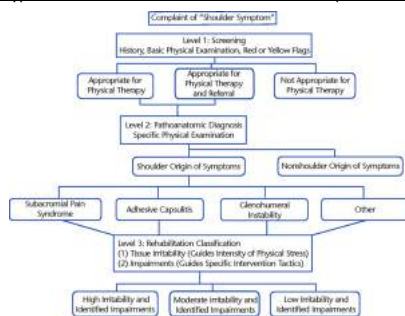
Low Irritability

- Low pain levels ($\leq 3/10$)
- No pain at rest
- AROM = PROM
- Minimal pain with joint overpressure
- Mild disability
- Treatment focus impairments and high demand functional tasks



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From: **Staged Approach for Rehabilitation Classification: Shoulder Disorders (STAR-Shoulder)**



Date of download: 1/25/2017

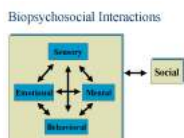
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Level IV: Psychosocial Dimension

- Yellow-Flag (Screening)
- Psychologically informed practice
- Identification of psychosocial factors that may impact prognosis & outcomes
- Addressed with cognitive/behavioral intervention – including patient education

Biopsychosocial Model

The biopsychosocial (BPS) model of health care recognizes that health conditions involve complex interactions among biological, psychological and sociological factors. The BPS model supersedes the biomedical framework in the diagnosis & treatment of health conditions. No where is this more important than in the management of spine related disorders.



Psych Factors

- Negative Beliefs
- Fear
- Catastrophizing
- Poor self-efficacy
- Depression
- Passive Coping
- Hypervigilance
- Anxiety



Social Factors

- Job satisfaction
- Work Disability
- Home life
- Social interaction
- Relationships



Yellow-Flag Screening

- STarT Back Tool
- Fear-Avoidance Belief Questionnaire
- Pain Castastrophe Scale
- PHQ-9
- Beck's Depression Inventory
- Pain Self-Efficacy Scale

Note: A good history is the best tool for screening

Cognitive-Behavioral Interventions

- Educational Interventions
- Neuroscience Pain Education
- Stress Management/Relaxation Techniques
- Cognitive Restructuring
- Confrontation versus avoidance
- Pain coping skills training
- Graded exposure
- Quota-based Exercise

Summary

- Expectations for doctoring profession include ability to diagnose the patient problem
- Diagnosis is the central/pivotal element in patient management
- Diagnosis is both a process and a label; PT labels are currently inconsistent
- Diagnostic classification subgroups patients in ways that inform prognosis and treatment
- Diagnosis defines the patient problem
