CLINICAL REASONING AND EVIDENCE-BASED PRACTICE: THE POWER OF COMBINING BOTH

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Objectives

Present a model of patient care guided by examination findings integrating EBP.

Demonstrate how diligent tracking of examination findings serves as the primary guide during patient management.

Discuss a model of progression based on the patient response to selected interventions and discuss how factors may alter the decision making process.

“The important thing is not to stop questioning. Curiosity has its own reason for existing.” –Albert Einstein

34% of individuals do not fit a classification-based system

Stanton et al, PT, 2011

Permeable Brick Wall

Theoretical
- Diagnosis
- Pathology
- Neuropathology
- Radiology

Clinical
- Patient Presentation
- History
- Signs
- Symptoms

The Evidence
- Psychosocial
- Test Clusters/Metrics
- TBC
- CPR

Clinical
- Symptoms
- Signs
- History
- Patient Presentation
Clinical Reasoning

“A process in which the therapist, interacting with the patient... helps patients structure meaning, goals, and health care management strategies based on clinical data, patient choices, and professional judgment.”

- HIGGS AND JONES

Key Points

<table>
<thead>
<tr>
<th>Asterisks</th>
<th>Treat</th>
<th>Re-assess</th>
<th>S.I.N.S.S</th>
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Patient Profile

- 36 year old female referred for LBP
- Parent Advocate
- Jogs 3 miles 3/wk
- Oswestry 28%
- Married, mother of 2 children

Hypothesis Generation

- Disc/Other?
- OA unlikely
- Flexion-based?
- Functionally limited?
- Age?
- Limited and in what way?

S.I.N.S.S

- Severity
- Irritability
- Nature of the disorder
- Stage
- Stability

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Key Points

- Patient Profile
- Body Chart
- Aggravating/Easing Factors
- Current History
- Past History

Body Chart

- Structure implication
- Pattern recognition
- Symptom tracking
Body Chart:

- Structure implication
- Pattern recognition
- Symptom tracking

Body Chart:

1. Deep C.V. sore
2. Deep Int. spot of pain
3. Deep Int. ache
4. Int. tightness
5. Deep ache, Int. sharp

Hypotheses following body chart

Musculoskeletal Pathology
- Discogenic/Radiculopathy
- Dynamic Instability
- Intra-articular hip
- Sacroiliac joint
- Lumbar facet
- Iliopsoas
- Hamstring
- Plantar heel pain

Non-musculoskeletal pathology
- Hernia
- Cancer
- Abscess
- TB
- Etc…
**Severity and Irritability**

- Sitting or standing
- “Catch” forward bend or rolling
- Jogging

**Current History**

- Onset of hamstring tightness 1 month ago
- LBP exacerbated 18 days ago, currently worsening, pain, soreness and locking

**Past History**

- 20+ years of ballet semi-professionally
- First onset with training, 20 years ago, no specific injury
- Managed with chiropractic manipulation
- 1 year plantar heel pain
- 6 month groin ache
  - Medical history & red flag questions negative
  - Lumbar x-rays unremarkable

**Hypotheses following patient history**

- S1 radiculopathy of discogenic origin
- L5/S1 dynamic instability
- R intra articular hip pathology
- SIJ
- L1/2 referral
- Hamstring strain
- Plantar fasciitis
Grieve (1994)
“We must first find abnormality, and then decide whether it is significant, and thus a likely factor in producing the symptoms reported. Sometimes it is not.”

Planning the Objective Examination
- Observation
- Functional Movement Assessment
- Active Movement testing

Lumbar
- Segmental Neuro Exam
- Neurodynamic tests
- Lumbar instability testing
- Palpation
- Lumbar PAIVMs

Hip
1. Hip Flexion w/ over-pressure
2. Hip Flexion/Add/Int. Rotation (FADIR)
3. Hip Flexion/Abd/Ext. Rotation (FABER)
4. IR at 90º hip Flexion
5. Prone hip Ext. w/ PA glide

Hip
- Right Hip Flexion with over-pressure produced an ↑ in the right groin pain
- Flexion / Adduction / Internal rotation was also (+) for hip pain provocation
- Finally, the FABER’s test was also (+) for anterolateral hip pain

SIJ Cluster
- Compress/Distraction
- Thigh Thrust
- Gaenslan’s
- Sacral Thrust
- Faber’s
Hypotheses following objective exam
• S1 radiculopathy of discogenic origin
• L4/5 dynamic instability
• R intra articular hip pathology
• SIJ
• L1/2 referral
• Hamstring strain
• Plantar fasciitis

Intervention Visit One
What should the first intervention be?

EBP/TBC Dilemma

<table>
<thead>
<tr>
<th>Instability</th>
<th>Specific Exercise</th>
<th>Manipulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Age</td>
<td>✓ Centralization</td>
<td>✓ 18 days</td>
</tr>
<tr>
<td>✓ Instability Catch</td>
<td>✓ Symptoms distal to buttock</td>
<td>✓ No pain below knee</td>
</tr>
<tr>
<td>✓ + prone instability test</td>
<td>✓ Hip IR &gt; 35°</td>
<td>✓ Lumbar hypomobility</td>
</tr>
<tr>
<td>✓ SLR &gt; 91°</td>
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<td></td>
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</tbody>
</table>

Intervention Visit One:
Central PA L5

Reassessment of Asterisks
• Observation
• Lumbar ext with O/P
• Hip flexion w/ O/P, FABER, FADIR
• SLR
• PA L4 & L5
• Prone Instability Test
• Palpation hamstring/heel
• EHL MMT

Visit Two (Day 5)
How will you determine your progression?

Re-assessment of Asterisks:
• Lumbar extension w/ O/P // hamstrings and groin pain, ext ROM
• Hip flexion w/ O/P, FADIR // R groin pain
• FABER no change
• R SLR // 100°(+ 20° to onset of hamstring tightness)
• PA L5 // stiffness and pain
• PA L4 // unchanged
• Hamstring trigger point //
• Heel palpation // no change
• EHL // improved to 4+/5
Re-assessment of Subjective Asterisks

- Symptoms in standing // back & hamstring soreness, NPRS 1/10
- Turning over in bed // one episode
- Running // groin and hamstring 2 miles
- Sensation of locking // has avoided bending
- Heel pain increased following intervention

Re-assessment of Objective Asterisks

- Aberrant movement improved
- Lumbar extension w/ OP // hamstring and groin pain, ROM, R sided LBP persists
- Groin pain hip flexion and FADIR, FABER no change
- SLR R 100 hamstring tightness
- Stiffness and pain PA L5, no change in muscle guarding L4
- Hamstring trigger points to evaluation level
- EHL MMT returned to evaluation level 4/5
- Heel palpation (-)

Additional testing visit two

- Foot/ankle exam
- Slump test (+) R -10° knee extension with reproduction of hamstring and heel symptoms with dorsiflexion

Intervention Visit Two:

Objective Asterisks

- Aberrant movement
- Lumbar extension w/ OP in standing
- Hip flexion w/ OP, FABER, FADIR (-)
- PAIVM at L4 and L5
- Hamstring/heel palpation (-)
- EHL MMT 4+/5

Hypotheses following visit two intervention

- S1 radiculopathy of discogenic origin
- L4/5 dynamic instability
- R intra articular hip pathology

Visit Three (Day 10)

How will you determine your progression?
Re-assessment of Subjective Asterisks

• Oswestry Low Back Disability Index 18%
• Symptoms in standing / sitting after 1 hour
• Running at 2.5 miles
• Turning over in bed decreased by 50%
• Sensation of locking decreased by 50%
• Heel symptoms decreased by 50%

Re-assessment of Objective Asterisks

• Aberrant movement improved
• Lumbar extension w/ O/P in standing increased LBP
• Hip flexion w/ O/P, FABER, FADIR (-)
• PAIVM at L4 and L5
• Hamstring trigger point palpation (-)
• EHL MMT 4+/5

Key Points

Asterisks
Diligent Tracking

Treat — Re-assess
After Each Intervention

S.I.N.S.S.
Guiding Force

The Evidence
Clinical

Literature
S.I.N.S.S.

TBC
Signs/ Symptoms

CPR
Patient Presentation

Thank You

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