Evidence-Based Management of the Lumbopelvic Region & Lower Quarter

Date: Saturday, October 1, 2016
Time: 2:45 PM - 5:55 PM
Session ID & Location: 7B: MtgRm3
CEU Eligibility: 0.30

Presented by: Anthony Mancini, PT, DPT, OCS; Hemal Patel, PT, DPT, OCS, CIDM; Robert Russell, PT, DPT; Glenn Thompson, Jr., PT, DPT

Session Description: Diagnosis and management of the lumbopelvic area and lower quarter is frequently encountered in the clinic. While it may be convenient and no doubt important to treat the sight of the pain, there continues to be a growing body of evidence to support evaluating and treating various lumbopelvic/lower quarter dysfunctions with a more “regionally interdependent” approach. This course is designed to cover relevant research pertaining to manual therapy and lumbopelvic/lower quarter dysfunction while providing the clinician an opportunity to reason through subjective and objective patient data allowing an opening to utilize current research in management as well as treatment of various patient’s presented as case vignettes.

1. Recognize pertinent evaluative findings to synthesize evidence informed hypotheses
2. Interpret and apply current research to various case scenarios regarding both the lumbopelvic region and lower quarter
3. Utilize an evidence-informed clinical reasoning approach to treatment of lumbopelvic/lower quarter dysfunction
4. Demonstrate efficiency in evidence driven, manual therapy techniques to the lumbopelvic and lower quarter regions with hands on guided instruction in lab session breakouts

Presenter Bio(s):

Anthony Mancini, PT, DPT, OCS graduated from The University of Tennessee Health Science Center and began working for Benchmark Physical Therapy as a staff clinician following. He completed an orthopaedic residency through Benchmark Rehab institute and has received his board certification in orthopedics. Anthony is current Fellow in Training through Evidence in Motion.

Hemal Patel, PT, DPT, OCS, CIDM graduated from The University of Dayton with a Doctorate in Physical Therapy and shortly after began working for Benchmark Physical Therapy for which he is now an Area Director. Completing an orthopaedic residency through Evidence in Motion, and
gaining his OCS are among his recent accomplishments and he is now currently a Fellow in Training through Evidence in Motion.

**Robert Russell, PT, DPT** (Bobby) graduated from The University of Tennessee Health Science Center and began working for Benchmark Physical Therapy as a staff clinician soon after. Bobby has completed an orthopaedic residency through Benchmark Rehab Institute and is a current Fellow in Training through Evidence in Motion.

**Glenn Thompson, Jr., PT, DPT** graduated from East Tennessee State University with a Bachelor’s of Science in Physical Therapy, and transitioned to a Doctorate in Physical Therapy through Evidence in Motion Health Institute. He has been an employee with benchmark since 2008 and is a current Area Director in the Upper Cumberland area in TN. Glenn has since completed an orthopaedic residency and is a current Fellow in Training both through Evidence in Motion.
Evidence-Based Management of the Lumbopelvic Region & Lower Quarter

Pre/Post Test Questions

1) Which one of these is NOT a pillar of evidence based practice

   a) Individual Clinical Expertise
   b) Individual Bias
   c) Patient Values and Expectations
   d) Best External Evidence

2) Which of these knee special tests has excellent diagnostic utility?

   a) Clarke’s Sign
   b) Patella Mobility Testing
   c) Patellar Compression Test
   d) None of the above

3) Which of these regions can the hip refer pain to?

   a) Groin
   b) Buttock
   c) Anterior Shin
   d) All of the above

4) Neovascularity associated with patellar tendinopathy can be reversed

   a) True
   b) False

5) Which one of these tests is NOT part of Laslett’s cluster for SIJ pathology?

   a) FABER
   b) Gaenslen’s
   c) FADIR
   d) Thigh thrust
6) A patient presents to your clinic with the clinical findings of a higher ASIS on the left, a lower PSIS on the left. Which of these diagnoses is a possible cause of her hip pain?

a) Left anteriorly rotated innominate  
b) Right posteriorly rotated innominate  
c) Right on left sacral torsion  
d) None of these findings have enough evidence to support their use during clinical reasoning. Further testing is needed

7) Which of these intrinsic factors demonstrates a significant correlation with anterior knee pain?

a) Leg length discrepancy  
b) Decreased vertical jump height  
c) Q angle  
d) Patellofemoral joint laxity

8) Eccentric Exercises are more effective than isotonic exercises for patellar tendinopathy?

a) True  
b) False
### Evidence-Based Management of the Lumbopelvic Region & Lower Quarter

**Case Study One -- Setting:** Outpatient Orthopedics  
**Date:** Present Day -- **Medical Diagnosis:** Left Knee Pain

<table>
<thead>
<tr>
<th>Name:</th>
<th>Billy Ocean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td>27</td>
</tr>
<tr>
<td>Date of Injury:</td>
<td>Sub-acute</td>
</tr>
<tr>
<td>New Injury:</td>
<td>Yes</td>
</tr>
<tr>
<td>General Health:</td>
<td>Good</td>
</tr>
<tr>
<td>Amount of exercise:</td>
<td>1-2 hrs a day 5 days a week</td>
</tr>
<tr>
<td>Occupation:</td>
<td>UPS Truck Driver</td>
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<tr>
<td>Household:</td>
<td>Single and ready to mingle</td>
</tr>
<tr>
<td>Hand Dominance:</td>
<td>Right</td>
</tr>
<tr>
<td>Race:</td>
<td>Caucasian</td>
</tr>
</tbody>
</table>
### Lumbopelvic Region & Lower Quarter Case Study 1

**Imaging Results:** An x-ray of the left knee shows mild degenerative changing  
**Medications:** Ibuprofen 400mg 4x a day as prescribed by MD  

**Past Medical History:**

<table>
<thead>
<tr>
<th>Musculoskeletal</th>
<th>Neurological:</th>
<th>Cardiopulmonary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoarthritis</td>
<td>Stroke</td>
<td>Congestive heart failure</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>Dementia</td>
<td>Arrhythmia</td>
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<tr>
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<tr>
<td>Leg Cramps</td>
<td>Numbness/ Tingling</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Double Jointed</td>
<td></td>
<td>Asthma</td>
</tr>
<tr>
<td>Other: Reports of chronic Bilateral</td>
<td></td>
<td>Shortness of breath</td>
</tr>
<tr>
<td>Ankle Sprains</td>
<td></td>
<td>COPD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIV/AIDS</td>
</tr>
<tr>
<td></td>
<td><strong>Endocrine:</strong></td>
<td><strong>Other:</strong></td>
</tr>
<tr>
<td></td>
<td>Diabetes</td>
<td>Anxiety</td>
</tr>
<tr>
<td></td>
<td>Kidney dysfunction</td>
<td>Depression</td>
</tr>
<tr>
<td></td>
<td>Bladder dysfunction</td>
<td>Cancer</td>
</tr>
<tr>
<td></td>
<td>Liver dysfunction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thyroid dysfunction</td>
<td></td>
</tr>
</tbody>
</table>

**SUBJECTIVE EXAMINATION**

**Chief Complaint:** Left Knee Pain  

**Onset of Symptoms:** After a game of basketball over a month ago  

**Mechanism of Injury:** Has fallen on knees before but does not attribute this to direct cause of symptoms  

**Aggravating Factors:** Basketball (Jumping in general), Stairs in the UPS truck, weighted deep squats at the gym, kneeling with weight through left knee  

**Easing Factors:** Rest, Ibuprofen, Ie  

**Stability (of symptoms):** Pain is consistent with greater than 24 hours of provocation following basketball and exercise
Lumbopelvic Region & Lower Quarter Case Study 1

OBJECTIVE EXAM

<table>
<thead>
<tr>
<th>Hip screen:</th>
<th>Hip Flexion</th>
<th>Hip Extension</th>
<th>Hip ABD</th>
<th>Hip ER</th>
<th>Hip IR</th>
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</thead>
<tbody>
<tr>
<td>AROM R</td>
<td>110</td>
<td>16</td>
<td>46</td>
<td>53</td>
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<tr>
<td>PROM R</td>
<td>110</td>
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<td>47</td>
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<td>6</td>
<td>40</td>
<td>38</td>
<td>18</td>
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<td>PROM L</td>
<td>100</td>
<td>14</td>
<td>40</td>
<td>38</td>
<td>18</td>
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Special Tests:
- WNL

Palpation:
- WNL

Knee Screening:

ROM:
- WNL

Palpation:
- Pain located at the inferior pole of the patella

Special Tests/Physical Findings:
- Clarks: Negative
- Noble Compression: Negative
- Patellar Grind: Negative
- Resisted Knee Extension: Painful
- Single leg eccentric squat on incline baseline for pain
- Max single leg calf raise: **Left:** 15 repetitions **Right:** 30 repetitions

Ankle/Foot Screening: Within Normal Limits

Write down some other special tests or physical findings you may want to test:

Prognostic Assessment:
Thus far, what do you expect the prognosis to be?

Hypothesis/Treatment:
What is on your radar at this point and how are you going to go about treating this using best current evidence?
Evidence-Based Management of the Lumbopelvic Region & Lower Quarter

Case Study Two -- Setting: Outpatient Orthopedics
Date: Present Day -- Medical Diagnosis: Right Hip Bursitis

<table>
<thead>
<tr>
<th>Name:</th>
<th>Susie Q</th>
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<tbody>
<tr>
<td>Age:</td>
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<tr>
<td>Date of Injury:</td>
<td>Sub-acute (2 months ago)</td>
</tr>
<tr>
<td>New Injury:</td>
<td>Yes</td>
</tr>
<tr>
<td>General Health:</td>
<td>Good</td>
</tr>
<tr>
<td>Amount of exercise:</td>
<td>Golf 3x/wk; 18 holes</td>
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<tr>
<td>Occupation:</td>
<td>Retired School Teacher</td>
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<td>Household:</td>
<td>Lives w/ husband</td>
</tr>
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<td>Hand Dominance:</td>
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Lumbopelvic Region & Lower Quarter – Case Study 2

Imaging Results

X-ray only taken of the right hip. No inspection into the lumbar spine.

Medications: Aleve 2x/day, multi-vitamin (Centrum Silver), Fish Oil, Calcium w/ D

Past Medical History: Hysterectomy, R RCR, L TKA

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<td>● Other:</td>
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Endocrine:

● Diabetes
● Kidney dysfunction
● Bladder dysfunction
● Liver dysfunction
● Thyroid dysfunction

SUBJECTIVE EXAMINATION

Chief Complaint: Right Hip Bursitis/Pain

Onset of Symptoms: Noted the pain nearly 2 months ago.

Mechanism of Injury: Patient states that she was playing golf and noticed pain in her right lateral hip. Her pain slowly built up over a period of days to the point in which she stopped playing golf all together.

Aggravating Factors: Walking > 15 minutes (8/10), climbing stairs (7/10), standing > 10 minutes (8/10), golf > 3 holes (driving > chipping)

Easing Factors: sitting < 10 minutes (3/10), walking w/ grocery cart (8/10 to 4/10), laying sidelying < 5 min (0/10), Aleve, hot tub

Stability (of symptoms): consistent signs and symptoms with specific aggs and eases.
Lumbopelvic Region & Lower Quarter – Case Study 2

OBJECTIVE EXAM

Posture:
Noted to have a forward head, rounded shoulders, increased thoracic kyphosis. Lordosis seems slightly exaggerated in the lumbar spine. Pelvis level, ASIS level. Hips, knees, ankles WNL.

Gait:
- Does not use an assistive device
- Demonstrates an antalgic gait on the R LE
- Decreased stance and stride length on the R in comparison to the left
- Compensated Trendelenburg noted w/ a slight L lateral lean.

MMT: Performed in a seated position
(B) knees and ankles 5/5 overall in all planes. Great toe extension 5/5 overall (B)

L hip 5/5 overall in all planes.

R hip flexion 4/5, hip extension 5/5, hip add 5/5, hip abd 4/5, IR/ER overall 4/5. Strength was limited by pain.

Neuro: Performed in a seated position
DTR 2+ (B) knee and ankles

Intact sensation for light touch, deep pressure, and proprioception.

(B) Babinski and clonus (-)

Hip screen:

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Special Tests:

Test Cluster 1
All 3 findings need to be present for diagnosis of patient with hip osteoarthritis: Pain reported in the hip, < 115° hip flexion, < 15° hip internal rotation
Lumbopelvic Region & Lower Quarter – Case Study 2

Test Cluster 2
Alternate cluster for diagnosis if all 3 findings are present: Pain with hip internal rotation, > 60 minutes morning stiffness, > 50 years of age

Positive for all 3 in TIC 2

2) Directional preference/Centralization

Prefers to be in a flexed posture, avoids standing or walking for long periods. Avoids extension based activities

3) Hip Scour did not reveal any abnormalities, but did have increased symptoms with pressure into the posterior-lateral aspect of the hip.

4) FABER negative

5) FADIR noted to be negative, but painful due to limitation with IR.

Palpation:
Noted to have tightness in the hip flexors and pain noted more on the right side than left. Increased tenderness along the R greater trochanter. No symptoms on the left. Increased pain on the R PSIS as well. No symptoms on the L PSIS. Palpation of the lumbar spine revealed tenderness along L1/2 on the right w/ UPA’s. Lumbar spine was very hypomobile.

Knee Screening:
WNL

Ankle/Foot Screening:
WNL

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