

Clinical Decision Making in a Patient with Concurrent Degenerative Processes Affecting the Lumbar Spine and Hip Joint: A Case Report

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BACKGROUND

The incidence of degenerative disease at both the lumbar spine (LS) and hip joint increase with age and frequently occur concurrently.¹⁻⁶ Symptoms present in both the LS and hip may complicate the clinical presentation and require additional investigations to identify primary and secondary impairments contributing to the individual's symptoms and activity limitations. Failure to recognize concurrent disease at both the LS and hip may lead to misdiagnosis and possibly ineffective physical therapy treatment.

PURPOSE

The purpose of this case report is to describe the clinical decision-making in the examination and treatment of an individual presenting with chronic low back pain (CLBP) and previously undiagnosed hip osteoarthritis (OA).

CASE DESCRIPTION

The patient was a 59-year-old male with CLBP with concomitant right (R) hip pain. Physical examination findings were consistent with chronic lumbar facet arthropathy and (R) hip OA. Impairment-based exam findings included: positive bilateral lumbar extension quadrant testing, decreased lumbar extension, (R) hip joint restrictions limiting hip motion in all planes, anterior hip soft tissue restrictions, and positive (R) Flexion Abduction External Rotation (FABER) test. MRI available at the time of examination confirmed the presence of L4/L5 facet arthropathy. Subsequent radiographs revealed severe (R) hip OA (Session 8). Primary impairments included (R) hip mobility, anterior hip soft tissue restrictions, and proximal hip strength deficits. Secondary impairments consisted of lumbar extension range of motion deficits. Activity limitations included lifting > 20 lbs and walking >30 minutes.

INTERVENTIONS

Sessions	Interventions
1	<ul style="list-style-type: none"> • Re-evaluation Performed • Manual Therapy <ul style="list-style-type: none"> ○ Low-velocity, mid-end range, CPA at L5 ○ High and low-velocity long axis distraction at (R) hip ○ Passive physiological mobilization of the (R) hip • Therapeutic Exercise and Home Exercise Program Developed <ul style="list-style-type: none"> ○ Static stretching of anterior hip musculature ○ Lumbopelvic motor control/ hip strengthening interventions
2	<ul style="list-style-type: none"> • Manual Therapy <ul style="list-style-type: none"> ○ High and low-velocity long axis distraction at (R) hip ○ Low-velocity, mid-end range mobilization (R) hip in FABER position ○ Passive physiological mobilization of the (R) hip • Therapeutic Exercise <ul style="list-style-type: none"> ○ Static stretching of anterior hip musculature ○ Lumbopelvic motor control/ hip strengthening interventions
3	<ul style="list-style-type: none"> • Interventions maintained from session 2
4	<ul style="list-style-type: none"> • Manual Therapy <ul style="list-style-type: none"> ○ Low-velocity, mid-end range mobilization (R) hip in FABER position ○ (R) Hip flexion mobilization with movement ○ Passive physiological mobilization of the (R) hip • Therapeutic Exercise <ul style="list-style-type: none"> ○ PNF stretching of anterior hip musculature ○ Lumbopelvic motor control/ hip strengthening interventions
5	<ul style="list-style-type: none"> • Therapeutic Exercise <ul style="list-style-type: none"> ○ PNF stretching of anterior hip musculature ○ Lumbopelvic motor control/ hip strengthening interventions
6	<ul style="list-style-type: none"> • Interventions maintained from session 5
7	<ul style="list-style-type: none"> • Review of goals and home exercise program
8	<ul style="list-style-type: none"> • Discharge, review of goals, and home exercises program

Figure 1. Body Chart

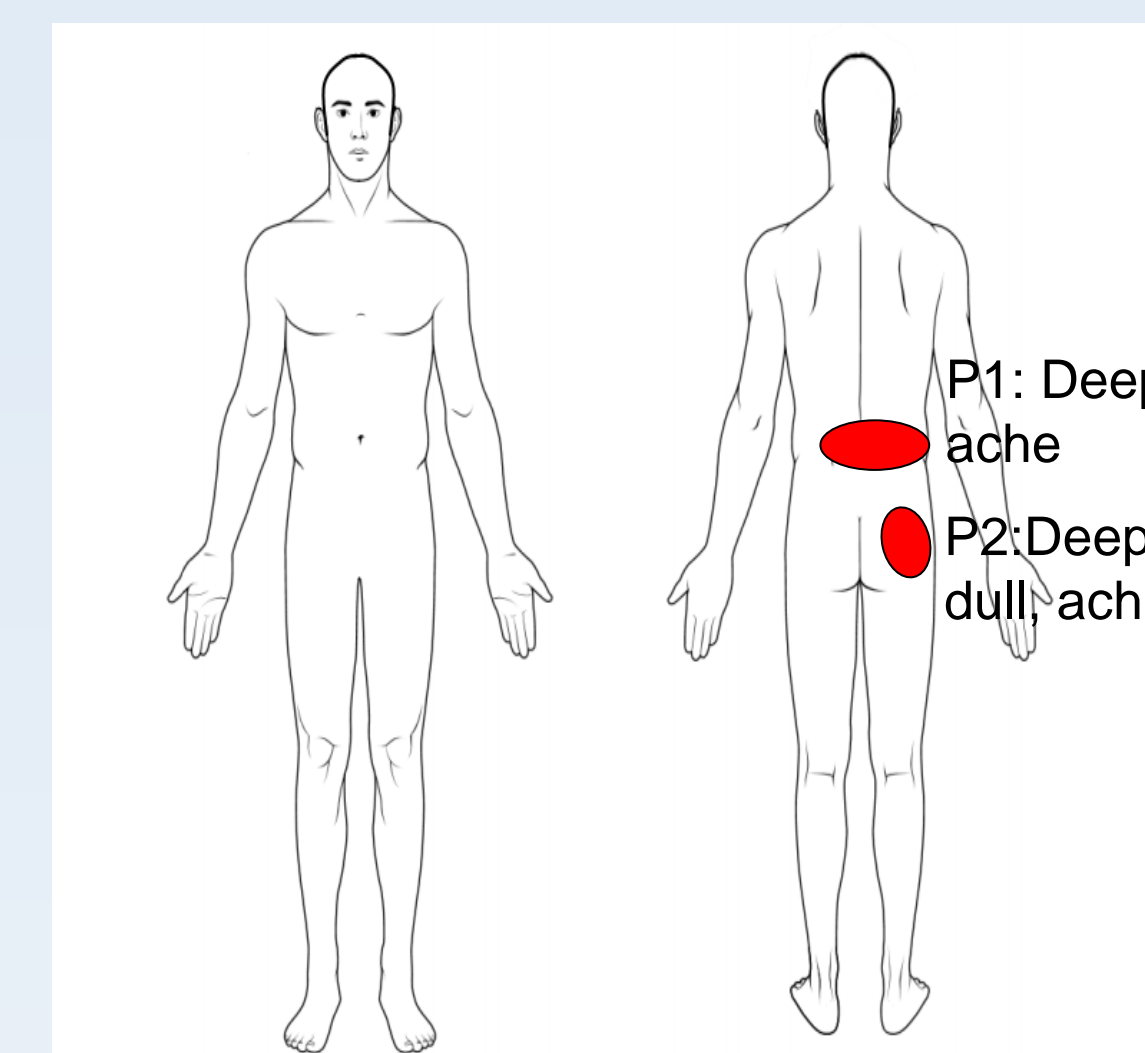


Figure 2. Mobilization with movement into hip flexion



Figure 3. Long axis distraction manipulation



Figure 4. NPRS across sessions



DISCUSSION

Clinical decision making in the presence of concurrent LS and hip symptoms is often difficult due to the overlapping referral patterns and intricate interaction between the hip and lumbopelvic region. This case report demonstrates how a physical therapist's recognition of coexisting disorders can improve physical therapy management. Accurate identification of primary and secondary impairments contributing to altered movement patterns resulted in positive patient-centered outcomes. This case supports research findings from previous literature¹⁻³ that an impairment-based treatment approach directed at the hip joint can lead to a favorable outcome in a patient with a primary complaint of CLBP.

OUTCOMES

The patient was seen for 8 treatment sessions over 10 weeks. His Oswestry Disability Index score improved from 27/50 to 8/50 (MCID=12.8 points) and his Global Rating of Change Score was +7, "A very great deal better". He reported a reduced pain experience in LS and (R) hip on Numeric Pain Rating Scale (NPRS) from 5/10 to 0/10 (MCID= 2 points). His (R) hip range of motion (ROM) improved in the sagittal and transverse planes. ROM improvements included (in degrees): Flexion= 15, External Rotation= 15; Internal Rotation = 19; Extension= 5. Additionally, he provided subjective reports of improve ambulation and lifting tolerances by 30 minutes and 20 lbs, respectively.

REFERENCES

1. Burns SA, Mintken PE, Austin GP, Cleland J. Short-term response of hip mobilizations and exercise in individuals with chronic low back pain: a case series. *J Man Manip Ther.* 2011;19(2):100-7.
2. Burns SA, Mintken PE, Austin GP. Clinical decision making in a patient with secondary hip-spine syndrome. *Physiother Theory Pract.* 2011;27(5):384-97.
3. Cibulka MT. Low back pain and its relation to the hip and foot. *J Orthop Sports Phys Ther.* 1999;29(10):595-601.
4. Offierski CM, Macnab I. Hip-spine syndrome. *Spine.* 1983;8(3):316-21.
5. Prather H, Cheng A, May KS, Maheshwari V, Vandillen L. Hip and Lumbar Spine Physical Examination Findings in People Presenting With Low Back Pain With or Without Lower Extremity Pain. *J Orthop Sports Phys Ther.* 2017;:1-36.
6. Tanaka S, Matsumoto S, Fujii K, Tamari K, Mitani S, Tsubahara A. Factors related to low back pain in patients with hip osteoarthritis. *J Back Musculoskelet Rehabil.* 2015;28(2):409-14.