



2026

Guidelines-based Diagnosis and Treatment of Common Musculoskeletal Disorders

Session 2 – Hip, Knee, Ankle and Foot

Buttock & Hip / Observational Gait Analysis

Thigh & Knee / Integrating Manual Therapy and Movement

Leg, Ankle & Foot / Lower Quarter Gait Biomechanics

2026 Ortho PT Seminars Series - Information

Seminar Content Outline

The objective of this seminar series is to train residents and clinicians participating in continuing professional development in the skills required to implement the APTA Orthopedics Clinical Practice Guidelines at a high level. In essence, it will be 12 days of fast-paced, high-level skill-building.

Pre-Seminar Knowledge and Testing Requirements

In my role as the APTA Orthopedics Associate for Practice Guidelines Implementation, I collaborated with an APTA Orthopedics vendor partner, PhysioU, to develop a learning management system featuring interactive learning modules, digital decision trees, foundational educational presentations, procedure videos, and handouts based on our Clinical Practice Guidelines for Common Musculoskeletal Conditions. This LMS and PhysioU's Ortho PT-related apps – including Exercise Patterns – offer comprehensive insights into CPG implementation strategies.

For each day in the attached Seminar Content Outline, the "Knowledge to Review/Acquire Prior to Class" section provides the LMS and app materials to review. These materials include CPG Interactive Learning Modules, which have multiple test items embedded in the modules. Participants need to score 80% on these test items to pass each CPG module. If the participant scores less than 80%, they can retake that module.

It is expected that every seminar participant will complete the learning module on the CPGs covered in class on that day, before arriving at class.

All APTA Orthopaedics members receive free access to the APTA Orthopedics /PhysioU Practice Guideline Package as part of their membership benefits.

For non-members, the cost to access the Practice Guideline Package for 12 months is \$200.

The AOPT Vendor Partners, such as PhysioU, share revenue from these products derived from the AOPT's CPG with the AOPT to help sustain the development, revision, and dissemination of the CPGs. To access the LMS, use the following link: <https://clinicalpattern.com/aopt-practice-guidance/>

Rationale for Pre-Seminar Knowledge Requirements

This seminar series will utilize a "flipped" classroom design to optimize the use of in-person, hands-on psychomotor coaching and clinical reasoning training. Essentially, the knowledge gained from (1) DPT entry-level education and the CPG-related Foundational Educational Presentations, (2) the LMS's CPG Interactive Learning Modules, and (3) the CPG-related apps (e.g., Exercise Patterns) forms the foundation for skill acquisition.

The seminar instructors expect all participants to have this foundational *knowledge* when they enter the classroom. On the first day, the instructors will train *skills* based on that knowledge level and will continue to do so throughout the 12 days of the seminar. The LMS also features integrative decision trees, handouts summarizing the content, and videos of the procedures covered in the seminars, which can serve as recall and practice tools for participants.

Feel free to contact me or other members of our Academy.

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Guidelines-based Diagnosis and Treatment of Common Musculoskeletal Disorders

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Day Four: Buttock & Hip / Observational Gait Analysis

Content Summary

- Movement analysis and reeducation of walking
- Hip anatomy and evidence as it relates to examination and treatment
- Interpret hip clinical findings consistent with the ICF-based clinical guidelines
- Manual therapy for hip mobility deficits
- Therapeutic exercises for hip movement coordination impairments and mobility deficits

Knowledge to Review/Acquire Prior to Class

1. Foundations of Guidelines-based MSK Care: Clinical Decision Trees for Subgroup Classifications
2. CPG Interactive Learning Modules: Non-Arthritic Hip Joint Pain
Hip Pain and Mobility Deficits/Hip Osteoarthritis
Hamstring Strain Injury
3. CPG-related Procedure Options – Hip Labs – Handout & Videos 6.2, 6.3, and 6.4
4. Exercise Patterns: Hip osteoarthritis – Hip stretching exercises; Thigh muscle strain & Hip pain with radiating pain – Hamstring and sciatic nerve mobility ex's

Selected References

Cibulka MT, White DM, Woehrle J, Harris-Hayes M, Enseki K, Fagerson TL, Slover J, Godges JJ. Hip pain and mobility deficits - hip osteoarthritis: a clinical practice guideline linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther.* 2009;39(4): A1-A25 and 2017 Hip Osteoarthritis Clinical Practice Guideline Revision - *J Orthop Sports Phys Ther* 2017;47(6):A1-A37

Enseki K, Harris-Hayes M, White DM, Cibulka MT, Woehrle J, Fagerson TL, Clohisey JC. Nonarthritic hip joint pain: a clinical practice guideline linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther.* 2014;44 (4):A1-A32

Martin RL, Cibulka MT, Bolgla LA, Koc Jr TA, Loudon JK, Manske RC, Weiss L, Christoforetti JJ, Heiderscheit BC, Voight M, DeWitt J. Hamstring Strain Injury in Athletes: Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability and Health From the Academy of Orthopaedic Physical Therapy and the American Academy of Sports Physical Therapy of the American Physical Therapy Association. *J Orthop Sports Phys Ther.* 2022;52(3):CPG1-44.

Procedure Focus

Movement Analysis

Walking - with a focus on spine inter-regional relations

Examination Procedures

Piriformis Stretch Test and Palpation/Provocation

Mobility and Muscle Flexibility: Hip Flexion

Hip Internal Rotation
Hip External Rotation
Hip Abduction
Hip Extension

Lower Limb Nerve Mobility

Resistive and Stretch Tests:

Lateral Hamstring
Medial Hamstrings
Hip Adductors
Rectus Femoris

Manual Therapy

Soft Tissue Mobilization and Contract/Relax Stretching:

Piriformis, Gluteus Maximus & Medius, and the other Hip External Rotators

Joint Mobilization:

Hip Flexion Mobilization with Movement
Hip Internal Rotation Mobilization with Movement
Femoral Anterior Glides

Exercise Training

Hamstring/Sciatic Nerve Mobility Exercises
Hip Stretching (Extension, Flexion, External Rotation, Internal Rotation)
Buttock and Thigh Motor Control, Strength and Endurance Training

Day Five: Thigh & Knee / Integrating Manual Therapy and Movement

Content Summary

- Review and refine movement analysis and manual procedures practiced on day five
- Knee anatomy and evidence as it relates to examination and treatment
- Interpret knee clinical findings consistent with the ICF-based clinical guidelines
- Manual therapy for knee mobility deficits
- Therapeutic exercises for knee movement coordination impairments and mobility deficits
- Interviewing skills related to effective vs ineffective attending and open inquiry skills

Knowledge to Review/Acquire Prior to Class

1. Foundations of Guidelines-based MSK Care: Impairment-based Rehabilitation - Foundational Principles
2. CPG Interactive Learning Modules: Knee Ligament Sprain and Knee Injury Prevention
Knee Meniscal/Cartilage Lesions / Knee Pain and Mobility Impairments
Patellofemoral Pain
3. CPG-related Procedure Options – Knee Labs – Handout & Videos 7.2, 7.3, and 7.4
4. Exercise Patterns: Knee osteoarthritis – Knee stretching exercises
Anterior knee pain – Quadriceps strengthening exercises
Performance – Injury prevention

References

Deyle GD, Henderson NE, Matekel RL, Ryder MG, Garber MG, Allison SC. Effectiveness of manual therapy and exercise in osteoarthritis of the knee. *Ann Intern Med.* 2000;134:173-181.

Logerstedt DS, Snyder-Mackler L, Ritter RC, Axe MJ, Godges JJ. Knee stability and movement coordination impairments: knee ligament sprain - clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther* 2010;40(4):A1-A37
and 2017 Revision - Knee Stability and Movement Coordination Impairments: Knee Ligament Sprain - *J Orthop Sports Phys Ther.* 2017;47(11):A1-A47

Logerstedt DS, Snyder-Mackler L, Ritter RC, Axe MJ. Knee pain and mobility impairments: meniscal and articular cartilage lesions - clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther* 2010;40(6):A1-A35
and 2018 Revision – Knee Pain and Mobility Impairments: Meniscal and Articular Cartilage Lesions - *J Orthop Sports Phys Ther.* 2018;48(2):A1-A50

Arundale AJH, Bizzini M, Giordano A, Hewett TE, Logerstedt DS, Mandelbaum B, Scalzitti DA, Silvers-Granelli H, Snyder-Mackler L. Exercise-based knee and anterior cruciate ligament injury prevention - clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Academy of Orthopaedic Physical Therapy and the Academy of Sports Physical Therapy of the American Physical Therapy Association. *J Orthop Sports Phys Ther.* 2018;44(6):A1-A42.
and 2023 Revision - Exercise-Based Knee and Anterior Cruciate Ligament Injury Prevention - *J Orthop Sports Phys Ther.* 2023;53(1): CPG1–CPG34.

Willy RW, Hoglund LT, Barton CJ, Bolgla LA, Scalzitti DA, Logerstedt DS, Lynch AD, Snyder-Mackler L, McDonough CM. Patellofemoral pain: clinical practice guidelines linked to the international classification of functioning, disability and health from the academy of orthopaedic physical therapy of the American physical therapy association. *J Orthop Sports Phys Ther.* 2019;49:CPG1-95.

Procedures List

Movement Analysis

Single Leg Squat - with a focus on trunk/hip/thigh and leg/foot strength & motor control

Examination Procedures

Knee Special Tests: Varus/Valgus, Lachman's, McMurray's
Knee Extension ROM Exam: (Terminal Extension & Anterior Glides)
Knee Flexion ROM Exam: (Hyperflexion & Posterior Glides)
Patellofemoral / Lower Extremity Static and Dynamic Alignment
Patellar Medial/Lateral Glides
Iliotibial Band Assessment (Length Tests & Palpation/Provocation)
Proximal Tibiofibular Accessory Movement Exam
Fibular (Peroneal) Nerve Mobility Exam: (Tension Tests and Entrapment Provocation)
Palpation/Provocation: Medial Joint Line, Pes Anserine, Patellar Tendon

Manual Therapy

Soft Tissue Mobilization

Lateral Thigh/Iliotibial Band
Lateral Retinaculum
Lateral Leg Nerve Entrapment Sites

Joint Mobilization

Patella Medial Glides
Tibiofemoral Extension
Tibial Anterior Glide

Knee Flexion Mobilization with Movement
Fibular Posterior/Medial Glide
Fibular Anterior/Lateral Glide

Exercise Training

Knee Mobility and Stretching
Quadriceps Activation and Strength Training
ACL and Knee Injury Prevention

Day Six: Leg & Ankle / Lower Quarter Gait Biomechanics

Content Summary

- Clinical reasoning principles promoting reflective clinical practice accelerated skill acquisition
- Analysis of leg, ankle and foot functioning with pre-gait and gait activities
- Calf, ankle, and foot anatomy and evidence as it relates to examination and treatment
- Interpret leg, ankle, and foot clinical findings consistent with the ICF-based clinical guidelines
- Manual therapy and movement training for calf, ankle, heel, and foot mobility and coordination impairments
- Therapeutic exercises and reeducation for normalizing lower extremity shock absorption and gait mechanics

Knowledge to Review/Acquire Prior to Class

1. Foundations of Guidelines-based MSK Care: Critical Events for Shock Absorption - Walking
2. CPG Interactive Learning Modules: Achilles Tendinitis / Achilles Pain, Stiffness, and Power Deficits
Ankle Ligament Sprain / Ankle Stability/Coordination Deficits
Heel Pain / Plantar Fasciitis
3. CPG-related Procedure Options – Ankle and Foot Labs – Handout & Videos 8.2, 8.3, 8.4, and 8.5
4. Exercise Patterns: Achilles pain, stiffness, and power deficits/Achilles Tendinitis – Calf strengthening exercises
Ankle coordination deficits/Sprain and Heel Pain/Plantar fasciitis – Calf stretching exercises
Performance progression – Lower extremity

Selected References

Martin RL, Davenport TE, Paulseth S, Wukich DK, Godges JJ. Ankle stability and movement coordination impairments: ankle ligament sprains - clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther.* 2013;43(9):A1-A40

Carcia CR, Martin RL, Houck J, Wukich DK. Achilles pain, stiffness, and muscle power deficits: Achilles tendinitis - clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther.* 2013;40(9):A1-A26
and 2018 Revision – Achilles Pain, Stiffness, and Muscle Power Deficits: Midportion Achilles Tendinopathy - *J Orthop Sports Phys Ther* 2018;48(5):A1-A38

Martin RL, Davenport TE, Reischl, SF, McPoil TG, Matheson JW, Wukich DK, McDonough CM. Heel Pain / Plantar Fasciitis: Revision 2014 - a clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther.* 2014;44(11):A1-A23.

Procedure Focus

Movement Analysis and Reeducation

Talocrural, Talocalcaneal, Talonavicular, Calcaneocuboid, and 1st MTP functioning during

Initial Contact, Loading Response, Mid-Stance, Terminal Stance, and Pre-Swing

Foot Function with:

Tibial Internal and External Rotation; 1/4 Squat; Heel Raise

Examination Procedures

Anterior Talofibular Ligament Palpation/Provocation

Inversion Stress Test (Talar Tilt)

Anterior Drawer Test

Ankle Sprain MWM

Lower Limb Nerve Tension Tests (biasing tibial, sural, fibular nerves at the ankle)

Nerve Entrapment Site Provocation

Calcaneal Position and Eversion ROM

Mid-Tarsal Accessory Movement Tests

1st MTP Extension ROM and Tarsophalangeal Accessory Movements

Manual Therapy

Soft Tissue Mobilization to Leg and Ankle Nerve

Entrapment Sites

Distal Fibular Posterior Glide

Distal Tibiofibular Mobilization with Movement

Ankle Dorsiflexion Mobilization with Movement

Talar Posterior Glide

Talar Posterior Glide Mobilization with Movement

Ankle Plantar Flexion Mobilization with Movement

Talar Anterior Glide

Calcaneal Lateral Glides

Navicular Dorsal and Plantar Glides

Cuboid Dorsal and Plantar Glides

1st MTP Dorsal Glides

1st MTP Mobilization with Movement