

**Functional Biomechanics of the Lower Quarter:
Implications for the Evaluation and Treatment of Musculoskeletal Disorders**

15./16. December 2012, München

Overview/Objectives of Course

Altered lower quarter mechanics are frequently implicated as being contributory to various musculoskeletal conditions. An understanding of how abnormal limb function can contribute to the mechanisms of specific joint dysfunction is essential for the evaluation and treatment of common orthopaedic disorders. This evidence-based course will review the anatomy and mechanics of the lower kinetic chain, particularly in relation to specific pathologies of the ankle, knee and hip. Emphasis will be placed on current research findings in the areas of gait analysis, lower limb function, and joint biomechanics. Implications for the evaluation and treatment of various musculoskeletal conditions also will be addressed.

Course Objectives/Learning Outcomes

At the conclusion of the course the participant will be able to:

1. Describe the normal anatomy and biomechanics of the foot/ankle, knee and hip.
2. Describe the normal joint kinematics, kinetics and muscle actions during walking and running.
3. Describe the normal interaction of the hip, knee, ankle and foot during walking and running.
4. Compare and contrast the biomechanical differences among the various running styles (heel strike, midfoot strike, forefoot strike).
5. Describe the influence of footwear on running mechanics.
6. Describe the current research literature related to the mechanisms of lower extremity injury.
7. Plan appropriate treatment interventions based on a biomechanical assessment of the lower extremity.

Course Schedule

Day 1 (15.12.2012)

8:00-9:00	Introductions & course overview
9:00-10:00	Normal gait mechanics: kinematics, kinetics, muscle actions
10:00-10:15	Break
10:15-12:00	Normal gait mechanics: kinematics, kinetics, muscle actions (cont.)
12:00-1:00	Lunch
1:00-3:00	Running mechanics & footwear
3:00-3:15	Break
3:15-5:00	Pathomechanics of the lower quarter (proximal & distal influences)

Day 2 (16.12.2012)

8:00-9:00	Ankle joint: Pathomechanics of injury and treatment considerations
9:00-10:00	Knee joint: Pathomechanics of injury and treatment considerations
10:00-10:15	Break
10:15-11:15	Patellofemoral joint: Pathomechanics of injury and treatment considerations
11:15-12:00	Hip joint: Pathomechanics of injury and treatment considerations
12:00-1:00	Lunch
1:00-2:00	Influence of hip muscle weakness on spine mechanics
2:00-3:00	Intervention strategies for lower chain dysfunction
3:00-3:15	Break
3:15-4:00	Therapeutic exercise and progression: A proximal approach
4:00-4:45	ACL injury prevention programs
4:45-5:00	Summary/adjourn

Registrierung und Preis

Die **Anmeldegebühr** für den Kurs "Functional Biomechanics of the Lower Quarter" beträgt 590,00 EUR netto. Der Betrag ist spätestens zwei Monate im Voraus auf das Konto der Simi Reality Motion Systems GmbH zu überweisen (Kontonummer: 140 688 888, BLZ: 702 501 50, Kreissparkasse München Starnberg)

Die Vorregistrierung beginnt ab dem 5.1.2011. Bei Interesse an der Teilnahme schicken sie bitte eine E-Mail an academy@simi.com oder philipp@simi.com . Wir werden ihnen dann alle weiteren Registrierungsinformationen zukommen lassen.

Registration and price

The course fee is 590,00 EUR net. The registration fee has to be paid latest two month prior to the course to Simi Reality Motion Systems GmbH (account: 140 688 888, BLZ: 702 501 50, SWIFT/BIC: BYLADEM1KMS, bank: Kreissparkasse München Starnberg)

Registration starts 5.2.2012. If you want to register please send an Email to academy@simi.com . You will then receive further information and invoice.