INTERNATIONAL FOOT HEALTH SYMPOSIUM 2015
AUSTRALIA
THURSDAY 8\textsuperscript{th} OCTOBER 2015

ONE DAY WORKSHOP
FROM STABLE STANDING TO ROCK AND ROLL WALKING
IN FOOTWEAR AND AFO FOOTWEAR COMBINATIONS

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Diploma in Clinical Gait Analysis
Diploma in Lower Limb Orthotic Biomechanics

This one day workshop presents a fresh approach to the observation and analysis of standing, swaying, stepping and walking with full gait cycles. It emphasises the importance of segment proportion, segment alignment, pitch, stiffness and sole profiles for these activities. The principles will be demonstrated by video vector gait laboratory examples throughout.

The kinematics of normal walking will be reviewed, with an emphasis on segment alignment and segment kinematics. The interaction of kinematics and kinetics, in normal and pathological walking, will be explored. A categorisation of gait based on abnormality of segment kinematics will be introduced.

The biomechanics of footwear and ankle-foot orthosis design will be reviewed, as will the influence of footwear on gait in AFO Footwear Combination (AFOFC) design. Techniques for tuning footwear and AFOFCs, to optimise standing and walking activities, will be demonstrated by case examples. Short and long term outcomes will be presented. Guidelines for optimal joint and segment alignments, footwear design, rocker type and rocker position for the different categories of gait abnormality will be given.

Three clinical algorithms, which facilitate orthotic decision making based on the segmental kinematic approach, will be introduced.

Learning Objectives:
1. Discuss the importance of temporal midstance and the segment and joint alignments that occur at temporal midstance.
2. Discuss the importance of segment alignment, segment proportion, pitch, stiffness and sole profile for standing, stepping and walking with full gait cycles.
3. Discuss the actual and effective foot.
4. Categorize pathological gait by segment deviation.
5. Discuss three clinical algorithms for designing, aligning and tuning footwear and AFOFCs.
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ONE DAY WORKSHOP
SCHEDULE
10.00am – 5.00pm
Lunch and breaks

MORNING
• Video Vector Gait Laboratory analysis of walking
• Defining stepping, gait cycles, temporal events, segment and joint alignments
• Segment proportions - adults and children
• Segment alignment and kinematics during normal standing, swaying, stepping, full gait cycles
• Interaction of segment and joint kinematics and kinetics
• Segment kinematics walking in footwear - the actual and effective foot
• Categorisation of gait disorders by segment deviation

AFTERNOON
Video Vector Gait Laboratory case studies throughout

• An ICF approach to determining aims of orthotic management
• Review of the biomechanics of footwear designs, AFO designs, combined AFO and Footwear designs.
• Clinical Algorithm for Dorsiflexion-free AFO Footwear Combinations
• Clinical Algorithm to determine the optimum Angle of the Ankle in an AFO
• Clinical Assessments for these two algorithms
• Algorithm for designing, aligning and tuning AFO Footwear Combinations
• Guidelines for optimum AFOFC design and alignments, including AFO design, footwear design, rocker type and rocker position, for each category of gait
PUBLICATIONS

- Owen E (2009) How should we define the rockers of gait and are there three or four. Gait & Posture. 30S: S49