Pediatric Gait Analysis: A Segmental Kinematic Approach to Orthotic Management
December 12-14, 2013

&

Advanced Pediatric Gait Analysis
April 3-4, 2014

www.ric.org/education

Rehabilitation Institute of Chicago has been ranked “Best Rehabilitation Hospital in America” every year since 1991 by U.S. News & World Report.

Wesley M. & Suzanne S. Dixon
Education and Training Center

Rehabilitation Institute of Chicago
345 East Superior Street
Chicago, Illinois
THE BEST REHABILITATION HOSPITAL... MEANS THE BEST REHABILITATION EDUCATION.

The Rehabilitation Institute of Chicago (RIC) is ranked the “Best Rehabilitation Hospital in America,” in part because it fully integrates research, clinical care, and education, through the Continuing Education (CE) programs offered by the RIC Academy.

The RIC Academy CE programs help you keep abreast of changes in your field. The curriculum is grounded in evidence-based practice, when appropriate, as well as based on the collective clinical experience of our staff. RIC Academy courses are taught by interdisciplinary teams of recognized specialists from RIC and visiting experts from across the country and around the world.

GUEST FACULTY FOR BOTH COURSES

Elaine Owen, MSc, SRP, MCSP

Elaine Owen has been practicing as a physical therapist since 1974 and specializes in adult neurology and pediatrics. Since 1983, she has been the Head of the Community Pediatric Physical therapy Department for North West Wales, UK. She has postgraduate qualifications in Lower limb Orthotic Biomechanics (University of Strathclyde) and Clinical Gait Analysis (University of Strathclyde). She has an MSc in Rehabilitation Studies, which included a thesis about orthotic management of neurological conditions, normal standing and gait. She has undertaken both adult and pediatric Bobath training. For 15 years she has used the Orthotic Research and Locomotor Assessment Unit (ORLAU) transportable video vector gait laboratory at Bangor for gait analysis, and orthotic and physical therapy management of children and adults. She has regularly been invited to teach her course and lecture internationally. As well as through her own courses these principles have been presented at the International Society for Prosthetics and Orthotics (ISPO) Triennial World Congress, European Society of Movement Analysis of Adults and Children (ESMAC) and American Academy for Cerebral Palsy and Developmental Medicine (AACPDM). Elaine is also a regular visiting lecturer at the School of Prosthetics and Orthotics, University of Salford, Manchester, UK.

Pediatric Gait Analysis: Dec 12-14, 2013

A Segmental Kinematic Approach to Orthotic Management

COURSE DESCRIPTION

This course is intended primarily for pediatric physical therapists and orthotists. This course explores a fresh approach to the observation and analysis of normal standing, stepping and gait and the management of gait disorders. The biomechanics of normal gait and the pathological gaits of disabling conditions will be reviewed, with particular reference to orthotic management. The emphasis of patient cases will focus on cerebral palsy, myelomeningocele and other neurological conditions. Participants will gain knowledge of the aims of orthotic management and how to achieve them through: the biomechanics of ankle foot orthoses, the influence of footwear, varieties of “AFO footwear combination” design, refining, aligning and tuning “AFO footwear combination” design to optimize gait, and extensive video examples. In addition,
patient discussions in small and large groups will help participants refine their clinical decision-making skills involved in gait analysis and orthotic design. Upon completion of the course, participants will be able to apply the principles directly into their working practice.

WHO SHOULD ATTEND
Orthotists, Orthotic Assistants, Orthotic Technicians, Orthotic Fitters, Pedorthists, Pediatric Physical Therapists and Physical Therapist Assistants. Physical Therapists working in adult neurology or adult learning disability and other professionals working in pediatrics have also found the content relevant and valuable.

COURSE OBJECTIVES

- Describe kinematic (movement) analysis of the divisions of the normal gait cycle with equal emphasis on movements of the joints and movements of the segments relative to the vertical.
- Describe kinetic (force) analysis of the divisions of the normal gait cycle and the interaction of kinematics with kinetics
- Describe the kinematics and kinetics of standing and stepping
- Describe and Discuss the kinematics and kinetics of pathological gaits, gait deviations at segments and joints and categorization or pathological gaits by segment deviation.
- Distinguish the assessments required to determine the optimum sagittal angle of the ankle in an AFO and demonstrate the use of a clinical algorithm.
- Distinguish and Discuss the biomechanics of a variety of AFO and footwear designs and the alignment, refinement and tuning of these designs to optimize gait.
- Demonstrate use of an algorithm for designing, aligning and tuning AFO Footwear Combinations to determine optimum prescriptions
- Integrate tuning concepts with patient case examples

AGENDA
Thursday, December 12, 2013

7:30 am  Registration
1st Floor Lobby
Rehabilitation Institute of Chicago

Continental Breakfast
16th Floor Lobby
Rehabilitation Institute of Chicago

7:50  Welcome and Opening Remarks
Melissa Kolski, PT, OCS, Dip MDT
Education Program Manager
Entire course facilitated by Elaine Owen, MSc, SRP, MCSP

8:00  Normal Gait Kinematics, a Segmental Approach
      Normal Segment and Joint Kinematics

10:30  Break

10:45  Normal Gait Kinematics continued
       Normal Gait Kinetics and Muscle Actions

12:30 pm  Lunch (on your own)

1:45  Clinical Assessment prior to gait analysis and Orthotic Management
      Assessing for the Sagittal Angle of the Ankle in the AFO

3:00  Break

3:15  Use of Algorithm for Determining the Sagittal Angle of the Ankle in an AFO
      Musculotendinous Units- development and adaption

5:30 pm  End of Day One

Friday, December 13, 2013

7:30 am  Continental Breakfast
          16th Floor Lobby
          Rehabilitation Institute of Chicago

8:00  Pathological Gait, Aims of Orthotic Management, Biomechanics of AFOs,
       Influence of Footwear and Footwear Adaptations

11:00  Break

11:15  Use of Algorithm for Designing, Aligning and Tuning AFOs & Footwear

12:30 pm  Lunch (on your own)

1:45  Video Demonstrations of Pathological Gait & Orthotic Management
      Common Case presentations of Equinus, Crouch and Jump Gait

3:15  Break

3:30  Video Demonstrations of Pathological Gait & Orthotic Management
      Common Case presentations of Equinus, Crouch and Jump Gait

5:00 pm  End of Day Two
Saturday, December 14, 2013

7:30 am  Continental Breakfast
          Heyworth Room, 2nd Floor
          Rehabilitation Institute of Chicago

8:00   Patient Demonstration with Video Lab Assessment

10:00  Break

10:15  Patient Discussion & Case Reviews

12:15 pm  Lunch (on your own)

1:30  Patient Demonstration with Video Lab Assessment

3:30  Patient Discussion & Case Reviews

4:00 pm  Conclusion of Course

Advanced Pediatric Gait Analysis: April 3-4, 2014

*NOTE: Prerequisite for this course is to have attended a Pediatric Gait course facilitated by Elaine Owen, MSc, SRP, MCSP in the past.

ADVANCED PEDIATRIC GAIT COURSE DESCRIPTION

This course is intended primarily for pediatric physical therapists and orthotists with a working knowledge of pediatric gait assessment. This course will provide an in depth analysis of “AFO footwear combination” design to optimize gait. Participants will have an opportunity to discuss videos and live patient demonstrations and the surrounding clinical decision-making skills involved in gait analysis and orthotic design. Elaine’s algorithms will be extensively reviewed through video examples and small/large discussion groups. Upon completion of the course, participants will be able to apply the principles directly into their working practice.

COURSE OBJECTIVES

• Describe and Discuss kinematic and kinetic analysis of standing, stepping and the divisions of the normal gait cycle, with equal emphasis on joints and segments, and the interaction of kinematics with kinetics
• Identify, Distinguish and Discuss the kinematics and kinetics of pathological gaits, gait deviations at segments and joints and categorization of pathological gaits by segment deviation.
• Distinguish and Defend the assessments required to determine the optimum sagittal angle of the ankle in an AFO.
• Demonstrate the use of a clinical algorithm to determine the optimum ankle angle in an AFO during patient case examples and live patient gait analyses.
• **Distinguish and Defend** the biomechanics of a variety of AFO and footwear designs and the alignment, refinement and tuning of these designs to optimize gait.

• **Integrate designing, aligning and tuning** concepts and the use of an algorithm to determine optimum prescriptions for a variety of patient case examples.

• **Demonstrate** use of an algorithm for designing, aligning and tuning AFO Footwear Combinations to determine the optimum prescriptions for patients during live gait analysis and tuning sessions.

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**AGENDA**

**Thursday, April 3, 2014**

7:30 am  
Continental Breakfast  
16th Floor Lobby  
Rehabilitation Institute of Chicago

*Entire course facilitated by Elaine Owen, MSC, SRP, MCSP*

8:00  
**Review and Interactive Discussion**  
Normal and Pathological Gait  
Algorithm for Designing, Aligning and Tuning AFOs & Footwear  
Algorithm for Determining the Sagittal Angle of the Ankle in an AFO  
Current practice in the use of the algorithms by delegates

12:30 pm  
Lunch (on your own)

1:45  
**Small group breakout sessions.**  
Video Case Discussions of Pathological Gaits & Orthotic Management  
Decision Making  
*Large Group Interactive Discussion*

3:15  
Break

3:30  
**Small group breakout sessions.**  
Video Case Discussions of Pathological Gaits & Orthotic Management  
Decision Making  
*Large Group Interactive Discussion*

5:00 pm  
End of Day Two

**Friday, April 4, 2014**

7:30 am  
Continental Breakfast  
Heyworth Room, 2nd Floor  
Rehabilitation Institute of Chicago

8:00  
Live Patient Demonstration with Video Lab Assessment  
Application of Algorithm & Orthotic Tuning  
Including Small Group Break Out Sessions
10:15 Break

10:30 Live Patient Demonstration with Video Lab Assessment
Application of Algorithm & Orthotic Tuning
Including Small Group Break Out Sessions

12:45 pm Lunch (on your own)

1:45 Live Patient Demonstration with Video Lab Assessment
Application of Algorithm & Orthotic Tuning
Including Small Group Break Out Sessions

4:30 Question and Answer

5:00 pm Conclusion of Course

TUITION

<table>
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<tr>
<th>Number of Students</th>
<th>Tuition</th>
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<tbody>
<tr>
<td>Pediatric Gait Analysis</td>
<td>$725</td>
</tr>
<tr>
<td>Advanced Pediatric Gait</td>
<td>$595</td>
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LOCATION

The program will be held at the Rehabilitation Institute of Chicago. The conference site is wheelchair accessible. Accessible materials, sign language interpretation and personal assistance are available with at least 45-days advance notice.

HOUSING

Rooms have been reserved at the Avenue Crowne Plaza Chicago Downtown Hotel, 160 East Huron Street, Chicago, Illinois for both courses.

The Avenue Crowne Plaza Chicago Downtown Hotel is located 1½ blocks from RIC. Please contact their reservations department from 9:00 am until 5:00 pm at (312) 787-2900 and indicate that you are attending this course in order to receive the corporate rate plus 16.4% tax. The daily rate for parking at the Avenue is $49.00/day.

<table>
<thead>
<tr>
<th>Course Date</th>
<th>Hotel</th>
<th>Deluxe King (Single or Double Occupancy)</th>
<th>2 Queen Beds (Single or Double Occupancy)</th>
<th>Hotel Reservation Cut-off Date</th>
<th>Registration Cancellation Deadline</th>
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<tr>
<td>December 12-14, 2013</td>
<td>Avenue</td>
<td>$109</td>
<td>$109</td>
<td>November 18, 2013</td>
<td>December 5, 2013</td>
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<td>April 3-4, 2014</td>
<td>Avenue</td>
<td>$169</td>
<td>$169</td>
<td>March 10, 2014</td>
<td>March 27, 2014</td>
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The room block could reach its maximum before the above cut-off dates. Rooms and rates revert to a space-available basis after the room block has reached its maximum or after the cut-off date.

**REFUND POLICY**

All cancellations must be in writing. Refunds less a 20% administrative charge will be given until December 5, 2013 for Pediatric Gait or March 27, 2014 for Advanced Pediatric Gait. RIC reserves the right to cancel or change any programs for due cause. Cancellation of a program by RIC will result in a full refund of tuition. RIC is not responsible for the refund of travel or hotel expenses under any circumstance.

**IMPORTANT REGISTRATION INFORMATION**

Registrations will be taken in the order in which tuition checks or credit card information is received. We highly encourage you to register online as these are processed more quickly than mailed or faxed registrations. **Full tuition must accompany the registration form in order to confirm a place in this course.** Until you receive your confirmation letter you are not officially registered for the course. For online registrations you will receive email confirmation within one week of the date you registered. For registrations received by standard mail or fax the confirmation may take up to 3 weeks after we receive your registrations. If you do not receive confirmation within this time period, please call (312) 238-6042.

Do not make airline reservations that have cancellation penalties until we confirm your registration. However, you should make hotel reservations as soon as possible.

**One week prior to the course only internet registrations and faxed registrations that include an email will be accepted.** Please note that the course could reach its maximum enrollment before this time.

**CONTINUING EDUCATION CREDIT for PEDIATRIC GAIT ANALYSIS**

This course has been approved by the Illinois Physical Therapy Board for 21.00 Contact Hours. Approval #216-000069

This program has been approved for up to 21.50 credits through the American Board for Certification in O&P (ABC) for Orthotists, Orthotic Assistants, Orthotic Technicians, Orthotic Fitters and Pedorthists. Full participation in this program is required to be eligible for the full amount of credits.

This program has been approved through the Illinois Early Intervention Training Program for 21.00 contact hours of EI credit: 2.0 – Assessment, 3.0 - Atypical Development, 15.0 – Intervention, 1.0 - Typical Development
CONTINUING EDUCATION CREDIT for ADVANCED PEDIATRIC GAIT ANALYSIS

This course has been approved by the Illinois Physical Therapy Board for 15.00 Contact Hours. Approval #216-000069

This program has been approved for up to 15.00 credits through the American Board for Certification in O&P (ABC) for Orthotists, Orthotic Assistants, Orthotic Technicians, Orthotic Fitters and Pedorthists. Full participation in this program is required to be eligible for the full amount of credits.

This program has been approved through the Illinois Early Intervention Training Program for 15.00 contact hours of EI credit. 7.0 – Assessment, 2.5 - Atypical Development, 3.5 – Intervention, 2.0 - Typical Development
REGISTRATION ONLINE at www.ric.org/education
or clip and return this form with payment

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&
Advanced Pediatric Gait Analysis: April 3-4, 2014

☐ Pediatric Gait Analysis: $725
☐ Advanced Pediatric Gait Analysis: $595

Make check payable to: REHABILITATION INSTITUTE OF CHICAGO

Mail to: RIC Academy
345 East Superior Street, Suite 1641
Chicago, Illinois 60611

Please TYPE or PRINT your name and professional initials (OT, PT) as you would like them to appear on your continuing education certificate.

Name ____________________________________________
First Name ____________________________ Last Name

Home Phone (_________ ) __________________________ Prof. Initials ________________

Home Address _______________________________________________________________

City_________________________ State _______________ Zip_________

Organization/Facility__________________________________________

Work Address _________________________________________________________

City_________________________ State _______________ Zip_________

Work Phone (_________ ) __________________________ Fax (_________ )

Position ____________________________________________________________

E-mail ____________________________________________________________

(We encourage you to use email – it allows us to respond much faster to your registration. Thank you)

Please note: registration will not be processed without full payment.

Method of Payment: ☐ Check enclosed ☐ Credit Card

Credit Card Users Must Complete the Following Information:

☐ MasterCard ☐ VISA

Credit Card # __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __

☐
Expiration Date  __ / __

Name on Card__________________________________________________________

Billing Address________________________________________________________

City_________________________ State______________ Zip______________

Cardholder’s Signature_________________________________________________

Credit card registrations may be faxed to: 312-238-4451. If you fax your registration, do not send another registration by mail.

For official use #_________________________ CC  MK201301/04  D_____________

A_______________________________ ROL ________________ DL_____________

RIC Academy
Wesley M. & Suzanne S. Dixon
Education and Training Center
345 East Superior Street, Suite 1641
Chicago, Illinois 60611

Rehabilitation Institute of Chicago

An Academic Affiliate of
Northwestern University
Feinberg School of Medicine