Clinical Gait Analysis: Evidence Based Assessment and Treatment

Presenter: Dr. Andrew Starsky, BSEE, MPT, PhD  Intended Audience: PT, PTA
Intermediate Level; Contact Hours: 6.5 hours

Course Description
A primary area of expertise for a physical therapist is the analysis of gait. One of the simplest activities that we often take for granted can also lead to significant functional deficits. In this course, you will learn the basics of the gait cycle and the standard terminology used to describe it. You will also learn normal and abnormal joint kinematics (position and velocity) and kinetics (forces and torques) and learn how these parameters contribute to gait deviations. These deviations will be studied in detail and you will learn how to use simple 2D video analysis to assess and develop treatment plans for optimizing your patients’ gait.

Course Objectives
Upon completion of this course, participants will be able to:

1. Define the kinematics, phases, and muscular function of the lower extremity during walking.
2. Develop the necessary knowledge and observational skills to assess gait.
3. Describe how impairments in lower extremity strength and joint mobility affect the normal gait pattern.
4. Use the standard vocabulary related to the description of normal and pathological gait.
5. Describe some of the fundamental differences between walking and running.
6. Describe the standard set up and execution of a clinical gait and/or sport biomechanical analysis and be able to interpret the data from these analyses.
7. Analyze gait kinematics from a video and detect any abnormalities.
8. Interpret a gait lab analysis form for abnormalities in joint kinetics and muscle activation.
9. Identify the root cause of a number of gait deviations.
10. Utilize standard tools to document gait parameters.
11. Develop a treatment program based on these deviations.

Course Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>7:30 a.m.</td>
<td>Registration and Continental Breakfast</td>
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<tr>
<td>8:00 a.m.</td>
<td>Introduction and history of gait analysis</td>
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<tr>
<td>9:00 a.m.</td>
<td>The gait cycle temporal and spatial parameters with LAB</td>
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<td>10:00 a.m.</td>
<td>Break</td>
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<tr>
<td>10:15 a.m.</td>
<td>Joint kinematics during gait with LAB</td>
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<td>12:00 p.m.</td>
<td>Lunch (lunch provided)</td>
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<tr>
<td>1:00 p.m.</td>
<td>Muscle activation patterns with LAB</td>
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<tr>
<td>2:00 p.m.</td>
<td>Videotaping for kinematic analysis</td>
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<tr>
<td>2:30 p.m.</td>
<td>Break</td>
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<tr>
<td>2:45 p.m.</td>
<td>Examples for analysis</td>
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<tr>
<td>3:00 p.m.</td>
<td>Gait deviations with LAB</td>
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<tr>
<td>4:00 p.m.</td>
<td>Adjourn</td>
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Presenter

Andrew Starsky, BSEE, MPT, PhD, obtained his bachelor’s degree in electrical engineering from Marquette University in 1992. He completed his Masters in Physical Therapy degree in 1998, and received his PhD in Biomedical Engineering in spring of 2007. He has been published in Physical Therapy, the Journal of Orthopedic and Sports Physical Therapy, and in Archives of Physical Medicine and Rehabilitation. Dr. Starsky is currently a Clinical Assistant Professor at Marquette University, teaching courses in electrotherapy, physical modalities, evidence based practice, and biomechanics. He has been teaching electrotherapy, biomechanics, and gait analysis for 14 years and has traveled extensively to lecture on this topic. Andy’s energetic approach to teaching and research have garnered him grants from the National Institute of Health, the American Heart Association, and the National Institute on Disability and Rehabilitation Research.

Contact Hours

Illinois Department of Financial and Professional Regulation (IDFPR): Physical Therapists

This course has been approved for 6.5 continuing education hours for physical therapy practitioners. The Illinois Department of Professional and Financial and Regulation, Division of Professional Regulation has certified Marianjoy Rehabilitation Hospital has complied with the provisions of the Illinois statutes and/or rules and regulations and is hereby authorized to sponsor the above named course as a Continuing Education offering.

This educational activity’s planners and the presenter(s) have indicated they have no bias or conflict of interest. Marianjoy Rehabilitation Hospital has not received any commercial support for this program. The planners of this course have no relevant financial or non-financial interests to disclose.

Activity Cancellation Statement: Cancellation/Refund Policy

A tuition refund less $50.00 administrative fee is available if your cancellation request is received in writing within 7 days prior to the program date. No refunds will be granted after that date. In the unlikely event that Marianjoy must cancel an educational event for any reason, you will receive a full refund of your paid tuition. Marianjoy does not assume responsibility for any other expenses incurred by the registrant.
REGISTRATION INSTRUCTIONS

1. Select the course(s) you are registering for from the menu below. 
   Please Note: If registering for a group rate, please complete a registration form for each participant. 
   All registration forms must be included with payment.

2. Complete participant and payment information and return this entire form.

MARIANJOY PROFESSIONAL LEARNING INSTITUTE

PARTICIPANT INFORMATION:

Name______________________________________________________________
Organization_________________________________________________________________________
Billing Address_________________________________________________________________________
City/State/ZIP_______________________________________________________________
Phone_______________________________________________________________________________
E-Mail_______________________________________________________________________________
☐ Check here to receive email updates on future classes.

DISCIPLINE:
☐ OT  ☐ OTA  ☐ PT  ☐ PTA  ☐ Nurse  ☐ SLP
☐ School Couns.  ☐ Other _________________________________
☐ Social Worker: License # _________________________________

Registration Questions? Call 630-909-6923

REQUIRE SPECIAL ACCOMMODATIONS (Please Specify):
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

NOTE: Due to fluctuations in room temperature, please bring a sweater or light jacket.

PAYMENT METHOD:
☐ CHECK made payable to “Marianjoy Rehabilitation Hospital”
☐ VISA  ☐ MASTERCARD  ☐ AMEX  ☐ DISCOVER

Account Number _________________________________________________
Exp. Date ___________CVV# ____________________________
Name on Card _________________________________________________
Signature ______________________________________________________

RETURN METHOD:
MAIL: Mail entire completed form to:
Marianjoy Rehabilitation Hospital
Attn: Phyllis Caranci
26W171 Roosevelt Road • Wheaton, IL 60187

EMAIL: Email completed form to education@marianjoy.org

FAX: Fax completed form with payment information to 630-784-2499

PHONE: 630-909-6923

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JULY 27, 2013
Neuroscience Applications to Clinical Practice with Adult Populations
Registration Deadline: 7-20-13
☐ SINGLE REGISTRATION FEE: $229
☐ GROUP REGISTRATION FEE PER REGISTRANT: $209
(2 or more from one facility)

AUGUST 21-23, 2013
Comprehensive Review of Rehabilitation Nursing
Registration Deadline: 8-14-13
☐ SINGLE REGISTRATION FEE: $350
☐ GROUP REGISTRATION FEE PER REGISTRANT: $330
(2 or more from one facility)

SEPTEMBER 21, 2013
Clinical Gait Analysis: Evidence Based Assessment and Treatment
Registration Deadline: 9-14-13
☐ SINGLE REGISTRATION FEE: $250
☐ GROUP REGISTRATION FEE PER REGISTRANT: $230
(2 or more from one facility)

OCTOBER 4-5, 2013
Physical Rehabilitation of the Hip: Integrating Structure, Function, and Treatment
Registration Deadline: 9-27-13
☐ SINGLE REGISTRATION FEE: $395
☐ GROUP REGISTRATION FEE PER REGISTRANT: $375
(2 or more from one facility)

OCTOBER 19-20, 2013
Visual Processing Impairment I: Evaluation and Intervention for Adult Acquired Brain Injury
Registration Deadline: 10-13-13

SPECIAL REGISTRATION NOTE:
To register for this course, visit www.visabilities.com and search for the Chicago, IL location.

PHOTO CONSENT: Please note that photos will be taken during these classes and may be used in marketing materials. If you prefer to not have your likeness used in photos, please let a Marianjoy Professional Learning Institute associate know and we will make the appropriate accommodations.