



# **Management of the Neurologic Upper Extremity: An Evidence-Based Approach With Practical Solutions**

**November 15-16, 2019**

**Shirley Ryan**  
**Abilitylab**<sup>®</sup>

355 East Erie  
Chicago, Illinois

## Management of the Neurologic Upper Extremity: An Evidence-Based Approach with Practical Solutions

The Academy is the not-for-profit, educational arm of the Shirley Ryan AbilityLab (formerly known as the Rehabilitation Institute of Chicago). Since 1953, the Academy has strived to advance the ability of healthcare professionals through our continuing education programs. Whether you are a seasoned veteran in the field of rehabilitation or a new graduate, our faculty are committed to helping you learn and apply the latest research and therapeutic approaches. We are excited that you share our passion for improving patient outcomes and hope you will continue to invest in your career by joining us for this program.

### COURSE DESCRIPTION

One of the most challenging and frustrating issues that rehabilitation professionals confront is the loss of hand and arm function in patients following an insult to the brain. Even with early rehabilitative intervention, a significant proportion of the neurological population will continue to have lasting sensorimotor impairments that if left unmanaged will continue to present further secondary impairments.

This comprehensive blended course will present evidence-based and practical solutions for neuromotor and sensory issues that beset patients with neurologic conditions (especially stroke). Evaluations and innovative approaches to commonly used interventions such as splinting, modalities and task-specific training will be discussed with evidence and clinical reasoning throughout the course. Course participants will be provided with useful tools for implementation of interventions for managing the neurologically impaired hand and arm. Teaching strategies include on demand self-study webinars, demonstrations, lectures, workshops, case studies, and problem solving. Workshops will include experiences with selected evidence-based evaluations and interventions. The course is designed for those whose caseloads include persons with stroke and related neurological conditions.

#### *Successful completion:*

Participants will complete 4 hours of self-study activities in advance of this course. These self-study activities will consist of webinars and readings that provide a foundation for the in-person lab and workshops. In order to receive contact hours, daily sign-in and completion of an online evaluation are required.

### WHO SHOULD ATTEND

Occupational Therapists, Occupational Therapy Assistants, Physical Therapists, Physical Therapist Assistants

### COURSE OBJECTIVES

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

- **Discuss** the process of recovery of the neurological upper extremity and factors that influence them
- **Describe and evaluate** common primary and secondary impairments associated with the neurological upper extremity
- **Administer and analyze findings from** select tests and measures specifically used for the neurological upper extremity {ARAT, FMA}
- **State** the scientific, theoretical, and evidence-based rationale to interventions that address the various functional levels of the neurological upper extremity
- **Demonstrate emergent skills in delivering** select evidence-based intervention for the neurological upper extremity {NMES, TST}

- **Discuss** intervention strategies for common neuromotor impairments of the upper extremity based on pragmatic clinical reasoning and evidence

### GUEST FACULTY

**Salvador Bondoc, OTD, OTR/L, BCPR, CHT, FAOTA** is an Associate Professor and Department Chair of Occupational Therapy at Quinnipiac University. His clinical practice and research interests are in upper extremity rehabilitation for persons with neurologic and orthopedic conditions. Sal has lectured extensively as an invited speaker at the state, national and international conferences on topics related to neuro-rehabilitation and hand therapy. He has published in peer-reviewed publications, as well as contributed chapters in textbooks.

Sal is an active clinician and combines his expertise in both neurologic and orthopedic populations. He holds volunteer leadership appointments as a member of the AOTA Commission on Practice and as a Team Chair for ACOTE's Roster of Accreditation Evaluators. He is the past Chair of AOTA's Physical Disabilities Special Interest Section. Currently, Sal is a Board Member for Professional Development of the Connecticut Occupational Therapy Association. He is the Administrator of newly created AOTA Evidence-Based Practice.

### FACULTY FROM SHIRLEY RYAN ABILITYLAB & NORTHWESTERN UNIVERSITY

**Courtney Celian, MS, OTR/L**, Occupational Therapist, Brain Innovation Center, Arms and Hands Lab, and Robotics Researcher, Shirley Ryan AbilityLab

**Molly Corrigan, OTD, OTR/L**, Occupational Therapist, formerly Stroke Unit, RIC, and Researcher in various labs including the Arms & Hands High Intensity Lab, Shirley Ryan AbilityLab

**Caitlin Doman, MS, OTR/L**, Therapy Manager, Arms & Hands Ability Lab, Shirley Ryan AbilityLab

**Piper Hansen, OTD, OTR/L**, Occupational Therapy Practice Leader, Shirley Ryan AbilityLab

**Jane E. Sullivan, PT, DHS, MS** is an Associate Professor in the Department of Physical Therapy and Human Movement Sciences, Feinberg School of Medicine, Northwestern University

**Kelly Thielbar, MS, OTR/L**, Research Occupational Therapist, Hand Rehabilitation Lab & Robotics Lab, Shirley Ryan AbilityLab

### PRE-WORK SELF-STUDY ACTIVITIES

All participants will complete the following **4** clock hours in advance of the course:

- Upper Extremity Training and Assessment Post-Stroke: On-Line Presentation and Assessment by Caitlin Doman, **1.5 CEU**
- Motor Control of the Upper Extremity by Salvador Bondoc, **.5 CEU**
- Upper Extremity Functional Recovery by Salvador Bondoc, **.5 CEU**
- Overview of the Action Research Arm Test by Caitlin Doman, **.5 CEU**

- Overview of the Fugl-Meyer by Salvador Bondoc, **.5 CEU**
- Overview of Electrical Stimulation Principles by Jane Sullivan, **.5 CEU**

## AGENDA

### Friday, November 15, 2019

*Except where noted, the entire course will be taught by Salvador Bondoc, OTD, OTR/L, BCPR, CHT, FAOTA*

- 7:45 am**      **Registration**  
 10<sup>th</sup> floor Sky Lobby  
 Shirley Ryan AbilityLab  
 355 E Erie St  
 Chicago IL 60611
- 8:15**            **Welcome and Introduction**
- 8:30**            **Upper Extremity - Recovery: Acute to Chronic Stages**
- Consequences of Acquired Brain Injury/Stroke on Upper Extremity Function
  - Primary impairments: Spasticity, Sensorimotor, and Movement Dysfunction
- 10:15**          **Break**
- 10:30**          **Evolution of Secondary Impairments: Musculoskeletal and Neuromotor Issues**
- Contractures
  - Pain syndromes
  - Shoulder subluxation
- 11:30**          **Evaluating the Neurological Upper Extremity**
- ICF and systems model
  - Fundamentals: from physical examination to tests & measures
- 12:15**          **Lunch**
- 1:15**            **Workshops: Tests and Measures**
- Action Research Arm Test (ARAT) – (Group 1)  
 Courtney Celian, MS, OTR/L, Molly Corrigan, OTD, OTR/L
  - Fugl-Meyer – (Group 2)  
 Salvador Bondoc OTD, OTR/L, BCPR, CHT, FAOTA, Kelly Thielbar, MS, OTR/L
- 2:45**            **Break**
- 3:00**            **Workshops: Test and Measures**
- Action Research Arm Test (ARAT)- (Group 2)  
 Courtney Celian, MS, OTR/L, Molly Corrigan, OTD, OTR/L
  - Fugl- Meyer (Group 1)  
 Salvador Bondoc OTD, OTR/L, BCPR, CHT, FAOTA, Kelly Thielbar, MS, OTR/L

4:30 Tests and Measures: Interpretation for Treatment Planning

5:00 End of Day 1

Saturday, November 16, 2019

7:30 am Continental Breakfast

8:00 Q & A – Review from day 1

8:15 Evidence Based Principles to Promote Motor Learning

- Task specificity
- Practice schedule and intensity
- Priming and Imagery

9:15 Evidence-Based Interventions and Clinical Pearls-Part 1  
Moderate to Mild Dysfunction

- Spastic Arm and Hand with Some Function
- Learned Non-Use

10:30 BREAK

10:45 Electrical Stimulation: Setting the Stage  
Jane Sullivan, PT, DHS

11:15 Workshops: Treatment Interventions

- Task-specific Training (Group 1)  
Courtney Celian, MS, OTR/L, Molly Corrigan, OTD, OTR/L  
Salvador Bondoc OTD, OTR/L, BCPR, CHT
- Electrical Stimulation Application for the UE (Group 2)  
Jane Sullivan, PT, DHS, Piper Hanson, OTD, OTR/L

12:30 pm Lunch

1:30 Workshops: Treatment Interventions

- Task-specific Training (Group 1)  
Courtney Celian, MS, OTR/L, Molly Corrigan, OTD, OTR/L  
Salvador Bondoc OTD, OTR/L, BCPR, CHT
- Electrical Stimulation Application for the UE (Group 2)  
Jane Sullivan, PT, DHS, Piper Hanson, OTD, OTR/L

2:45 BREAK

3:00 Evidence-Based Interventions and Clinical Pearls -Part 2

- Severe to Moderate Dysfunction: Flaccid to Severe Spastic Arm and Hand

5:00 End of Day 2

## TUITION FOR 18.50 CEUs

|   |        |
|---|--------|
| Early Bird Registration (Up to September 12)  | \$ 625 |
| Regular Registration Fee (After September 12) | \$ 675 |

## LOCATION

The program will be held at the Shirley Ryan AbilityLab at 355 E. Erie St, Chicago, IL 60611. The 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 Hyatt Centric Chicago Magnificent Mile, 633 North St. Clair, Chicago, Illinois, 60611.

The **Hyatt Centric Chicago Magnificent Mile** is located 1½ blocks from the Shirley Ryan AbilityLab. **Please contact their reservation agent from 9:00 am until 5:00 pm at (888) 591-1234 and ask for the Shirley Ryan AbilityLab Management of the Neurologic Upper Extremity course (Group Code G-MNUE) or make your reservation online using this link: <https://www.hyatt.com/en-US/group-booking/CHIMM/G-MNUE>.** The corporate rate is **\$189.00** for a Deluxe Guestroom (single or double occupancy) plus \*17.4% tax. The daily rate for parking at the Hyatt Chicago is \*\$69.00/day with in and out privileges. **The cut-off date for room reservations is October 17, 2019.** Please note that the room block could reach its maximum before the cut-off date. Rooms and rates revert to a space-available basis after the room block has reached its maximum or after the cut-off date (whichever comes first.) **\*The rates for parking and taxes are subject to change without advanced notice.**

## CANCELLATION POLICY

All cancellations must be in writing. Refunds less a 20% administrative charge will be given until **November 8, 2019**. The Academy reserves the right to cancel or change any programs for due cause. Cancellation of a program by the Academy will result in a full refund of tuition. The Academy 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 email**, you are not officially registered for the course. For online registrations, you will receive email confirmation on the day that you register. 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.

### **BASIC COMPUTER REQUIREMENTS FOR ONLINE COURSES**

For online courses and webinars, you will need access to a computer with an Internet connection. High-speed broadband access (LAN, Cable or DSL) is highly recommended.

- Internet connection
- Web browser: Internet Explorer 8+, Firefox 2+, Safari 1.2+, Google Chrome
- Javascript and Cookies enabled
- Flash Player 9+

### **CONTINUING EDUCATION CREDIT**

#### **Physical Therapy**

The Illinois Physical Therapy Board has approved this two-day course for 18.5 contact hours (4 hours pre-work & 14.5 hours live). Approval #216-000069.

The Shirley Ryan AbilityLab is recognized by the New York State Education Department's State Board for Physical Therapy as an approved provider of physical therapy and physical therapist assistant continuing education. This two-day course has been approved for 18.50 Contact Hours (4.0 Hours Self-Study 14.5 Live).

#### **Occupational Therapy**



The Shirley Ryan AbilityLab is an approved provider for the American Occupational Therapy Association to offer continuing education in occupational therapy. The two day intermediate level program awards occupational therapists 1.85 CEU or 18.5 contact hours (4 hours for pre-work & 14.5 hours live). The assignment of AOTA CEUs does not imply endorsement of specific course content, products, or clinical procedures by AOTA. AOTA CLASSIFICATION CODE: CATEGORY 2: Occupational Therapy Process

Register Online at [www.sralab.org](http://www.sralab.org) or complete the form below and return with payment

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|   |       |
|---|-------|
| Early Bird Registration (Up to September 12)  | \$625 |
| Regular Registration Fee (After September 12) | \$675 |

**Questions?** Contact Rachel Galant, at [rgalant@sralab.org](mailto:rgalant@sralab.org) or 312-238-7557

**Mail to:** Academy, Shirley Ryan AbilityLab, 355 E. Erie Street, Suite 12-West, 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.

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 (required) \_\_\_\_\_

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

**Method of Payment:**  Check enclosed (**Payable to:** Shirley Ryan AbilityLab)  
 Credit Card

**Credit Card Users Must Complete the Following Information:**

MasterCard  VISA  American Express

Credit Card # \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Expiration Date \_\_ / \_\_ CVV \_\_\_ (security code on back of card)

Name on Card \_\_\_\_\_

Billing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Cardholder's Signature \_\_\_\_\_

Credit card registrations may be mailed or faxed to 312-238-4451.