

# Children's Brains, Neuroplasticity, and Pediatric Intervention: What's the Evidence?

Patricia Montgomery, PhD, PT, FAPTA



## Faculty

Patricia C. Montgomery, PhD, PT, FAPTA received a BS degree in physical therapy from the University of Oklahoma, an MS in educational psychology, and PhD in child psychology from the University of Minnesota. Dr. Montgomery is an NDT trained therapist and Faculty Emeritus of Sensory Integration International. She has taught in several physical therapy programs and is the author of several books and articles. Dr. Montgomery has worked in a hospital setting, a NICU, a public school, and had a pediatric private practice. She is a past president of the MN Chapter, served on the Board of Directors of the American Physical Therapy Association, and is a Fellow of APTA.

Financial: Patricia Montgomery receives a speaking fee from Education Resources, Inc.

Non-Financial: She has no non-financial relationships to disclose.

"Patricia is an outstanding speaker and does a wonderful job portraying and explaining new and complicated concepts. I have benefited greatly from this course, especially because it forces you to reevaluate the thought process of PT and how you look at each patient." - J. Ward

## About this Course

This course is designed to present the most recent empirical evidence regarding efficacy of specific therapy-related interventions. Emphasis will be on strategies for children with cerebral palsy and other neurologic-based diagnoses. Videotapes of treatment sessions will be used to illustrate major points and to present longitudinal case studies. Recent information on neuroplasticity and motor learning principles as related to the developing child is included and implications for the most effective clinical interventions are suggested. Treatment strategies based on current knowledge of neuroplasticity, such as constraint-induced therapy, mirror therapy and treadmill training, are emphasized. The information presented should be immediately applicable to the organization of clinical treatment sessions and home, school, and community-based programs for children with a variety of developmental disabilities.

## Objectives

- ① Describe critical elements that support brain plasticity
- ① Summarize major processes in normal brain development
- ① Link developmental disabilities associated with impaired brain development
- ① Compare generalized intervention strategies to specific function-based activities
- ① Apply principles of motor learning to treatment sessions
- ① Compare differing viewpoints on the role of muscle tone in motor control
- ① Discuss "critical periods" for CNS sensory system development in children
- ① Review research regarding perceptual-motor development in typically developing children
- ① Discuss rationale for early gait training
- ① Analyze varying environments in relation to "affordances" for motor behavior

## Audience

Principles discussed in this course are applicable to children of all ages as well as adults. Treatment strategies presented are designed for the pediatric population. Course is designed primarily for PTs, OTs, PTAs and COTAs and may be of interest to speech clinicians and other health-care and education professionals.

Help your patients achieve better outcomes.

## Schedule – Day 1

<b>7:30-8:00</b>	Registration/Continental Breakfast
<b>8:00-9:30</b>	Evidence-Based Practice: What We Do and How We Do It Predict and Manage Care? Video: <ul style="list-style-type: none"> <li>• Spastic Diplegia</li> </ul>
<b>9:30-9:45</b>	Break
<b>9:45-10:45</b>	Update: Neuroplasticity How can therapy affect the brain? Video: <ul style="list-style-type: none"> <li>• Longitudinal Case Study (Ataxia)</li> </ul>
<b>10:45-11:45</b>	Constraint-Induced Therapy and Mirror Therapy
<b>11:45-12:45</b>	Lunch (on your own)
<b>12:45-1:30</b>	Motor Control and "Affordances" Is "hands off" therapy effective? Video: <ul style="list-style-type: none"> <li>• Community treatment session Spastic Diplegia</li> </ul>
<b>1:30-2:30</b>	Motor Learning: Clinical Issues in Treatment Sessions: What's best practice? Video: Home-based treatment sessions Traumatic Brain Injury (TBI)
<b>2:30-2:45</b>	Break
<b>2:45-3:15</b>	Role of Cognition and Perception How does cognition impact motor behavior?
<b>3:15-5:00</b>	Perceptual-Motor Development Can we Help Children Develop Perceptual-Motor Skills?

## Schedule – Day 2

<b>7:30-8:00</b>	Continental Breakfast
<b>8:00-8:45</b>	Neurogenesis: Normal and Abnormal development
<b>8:45-9:30</b>	Developmental Coordination Disorder Videos: <ul style="list-style-type: none"> <li>• Treatment Session of Child with DCD</li> <li>• Evaluation: Non-Verbal Child</li> </ul>
<b>9:30-9:45</b>	Break
<b>9:45-10:45</b>	The "Smart" Spinal Cord Can we "train" the spinal cord? Videos: <ul style="list-style-type: none"> <li>• Idiopathic Toe Walkers</li> <li>• Case Study-Child with Spastic Quadriplegia</li> <li>• Developing Ambulation Skills</li> </ul>
<b>10:45-11:45</b>	Review: Treadmill Intervention
<b>11:45-12:45</b>	Lunch (on your own)
<b>12:45-1:45</b>	Postural Control How do we evaluate and promote postural control? Video: <ul style="list-style-type: none"> <li>• Longitudinal Study of Child with Spastic Quadriplegia Cerebral Palsy</li> </ul>
<b>1:45-2:30</b>	"Muscle Tone" What is it? Can we alter muscle tone? Video: <ul style="list-style-type: none"> <li>• Hypotonia</li> </ul>
<b>2:30-2:45</b>	Break
<b>2:45-4:00</b>	Empirical Evidence Regarding Effects of Intervention: Issues of frequency and duration. Where Do We Go from Here?

## ERI: Life-changing learning

**You love what you do.** Our courses remind you why. As a therapist, you change lives every day – and have your life changed in return. ERI is life-changing learning, for therapists by therapists.

### The ERI Advantage:

- o Techniques you'll use the next day
- o Peers who share your passion
- o Renowned faculty
- o Evidence-based courses that improve outcomes
- o 30 years of life-changing learning

### Specialty Tracks throughout the lifespan – Neonatal, Pediatric, Adult, Geriatric

Each ERI specialty track is designed to make the most of your continuing education time, budget, and goals. Start your search with us, and plan every course you'll take in 2019.

Visit [educationresourcesinc.com](http://educationresourcesinc.com) for all of your 2019 courses.

## ERI Rewards

**Your ERI experience is more rewarding than ever.**

- o First Course Discount
  - Bring a Friend Savings
  - Group Discounts
  - \$100 off your 4th Multi-day Course
  - o And more
- Subject to availability. Exclusions may apply.  
Visit our website for details and coupon codes.

## Credits

This course meets the criteria for 14 contact hours (1.4 CEUs).

Application has been made to the FL Physical Therapy Association for 16 .5 continuing education hours.

Approved provider by the FL Board of Occupational Therapy for 16.5 continuing education courses – CE Broker



Approved provider of continuing education by the American Occupational Therapy Association #3043, for 14 contact hours - Intermediate Level Occupational Therapy Process: assessment, intervention. The assignment of AOTA CEUs does not imply endorsement of specific course content, products or clinical procedures by AOTA.

NBCOT professional development provider – 14 PDU's

Please contact us with any special needs requests:  
[info@educationresourcesinc.com](mailto:info@educationresourcesinc.com) or 508-359-6533

## Locations and Dates - 2019

**October 12-13** Miami, FL Nicklaus Children's Hospital CHQ Training Center

## Testimonials

"This was an extremely informational course that was well organized and helpful for evaluating and treating children. It helped me to realize different components of movements that I should look for in an evaluation." - N. DiNicola

"Patricia is one of the best presenters I have heard. Clearly knows her material and also has a wide background in various clinical settings. Very applicable material." - A. Veenis



\$435 fee. Deadline for registration is 3 weeks prior to course. Group rate (3 or more must be mailed/faxed together) \$410.. Registration will be accepted after deadline on a space available basis. Cancellation accepted up until 2 weeks before course, minus an administration fee of \$75. NO REFUNDS WITHIN 2 WEEKS OF COURSE.

Please make check payable and return to: Education Resources, Inc. 266 Main St., Suite 12 • Medfield, MA 02052  
508-359-6533 or 800-487-6530 (outside MA) FAX 508-359-2959 • [www.educationresourcesinc.com](http://www.educationresourcesinc.com)

Limited enrollment. We encourage you to register online!

### Children's Brains, Neuroplasticity and Pediatric Intervention/Montgomery

☐ Oct/FL

#### Course Registration Form

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Work Phone: \_\_\_\_\_

Cell Phone: \_\_\_\_\_

Needed in the event of an emergency scheduling change

Email: \_\_\_\_\_

Please clearly print your email address for course confirmation

Employer: \_\_\_\_\_

Discipline: \_\_\_\_\_ Specialty: \_\_\_\_\_

How did you learn of this course \_\_\_\_\_

Education Resources reserves the right to cancel any course due to insufficient registration or extenuating circumstances. Please do not make non-refundable travel arrangements until you have called us and received confirmation that the course will be held. We are not responsible for any expenses incurred by participants if the course must be cancelled.

☐ I have read your refund policy above and understand.

Cardholder's name & billing address with zip code if different from above:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature \_\_\_\_\_

Amount charged \_\_\_\_\_

I hereby authorize you to charge my: ☐ VISA ☐ MC ☐ DISCOVER# \_\_\_\_\_

Exp. Date \_\_\_\_\_ CVV2 Code \_\_\_\_\_