

## “BRAKING BAD” ECCENTRIC CONTROL FROM TALKING TO WALKING

**Presented by**

Mary Massery, PT, DPT, DSc and Nechama Karman, PT, MS, PCS:

### Course Description:

Eccentric muscle contractions are the brakes of the human movement system. Although there is yet little direct research on voicing eccentrics, preliminary data shows that glottal control is integral to upright postural control. Modulation of glottal constriction such as during voicing regulates intra-thoracic pressure, and by extension, intra-abdominal pressure, both of which are necessary for finely tuned postural control. The speakers will present novel ideas on the role of eccentrics in trunk control from talking to walking. In the normal gait pattern, the majority of muscle contractions are eccentric, yielding remarkable efficiency: harnessing momentum and ground reaction forces to minimize the energy cost of walking. In individuals with neurological injuries, movement impairments impede the ability to generate eccentric contractions or to time muscle contractions correctly, yielding co-contraction and inefficiency. The speakers will identify how these impairments impede postural control and gait ability and how to specifically address them using voicing as a mechanism to promote eccentric muscle contractions in intervention programs to minimize negative effects on gait and maximize walking performance. Guided activities experience will allow participants to practice application of these methods across a variety of functional tasks.

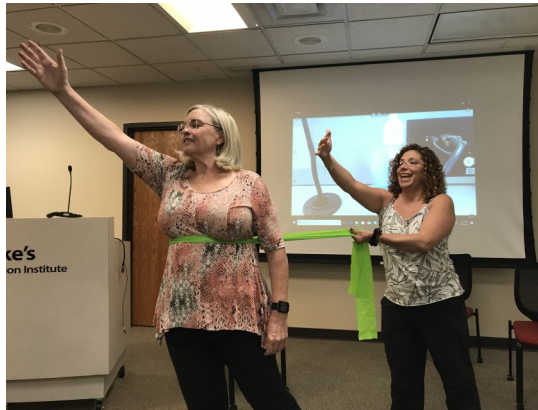
**Target audience:** This course will be of interest to Physical Therapists, Occupational Therapists and Speech-Language Pathologists.

### FORMAT:

**\* This course will be a live webcast (not recorded). Participants will be able to ask questions and have them answered by the instructors during the course. Participant attendance will be taken to verify participation. There will be NO recording available for viewing at a later date.**

### EXTRA INFO:

**Each Participant would benefit from having a 6 foot length of Theraband, any strength during the course.**



**Dates & Location:**  
**Friday, June 11th, 2021**  
Hosted by:  
**Easterseals DuPage  
&  
Fox Valley**  
**FORMAT: Live Webinar\***

### About the Instructors:

**Mary Massery, PT, DPT, DSc** received her BS in Physical Therapy from Northwestern University in 1977, her DPT from the University of the Pacific in 2004 and her DSc from Rocky Mountain University in 2011. Her publications and interests focus on linking motor behaviors to breathing and/or postural mechanics in both pediatric and adult patient populations.

Dr. Massery has been invited to give over 900 professional presentations in all 50 US states and 16 countries worldwide, including more than 100 presentations for the *American Physical Therapy Association*, and a full-day post-conference program at the *World Congress of Physical Therapy* in Singapore. Mary has delivered keynote and major addresses on topics such as cystic fibrosis and posture, neuropulmonary deficits, pectus excavatum (chest deformities), and connections between posture & breathing.

Mary has received national awards from the APTA, including its highest clinical award, *The Florence Kendall Practice Award*, honoring “one’s outstanding and enduring contributions to the practice of physical therapy.” She has been honored as *Outstanding Alumnus of the Year* by each of her 3 universities, and she was awarded *Northwestern University’s Alumnae Research Achievement Award*. Mary continues to maintain a private practice in Chicago, specializing in breathing and postural dysfunction.

**Disclosure Statement:** Dr. Massery has the following financial relationship to disclose: she receives a fee for speaking from Easterseals DuPage & Fox Valley. She has no relevant nonfinancial relationships to disclose.



**Nechama Karman, PT, MS, PCS** is obsessed with eccentric control and its link to functional balance and gait! Nechama was the driving force behind the development of this course.

Nechama Karman received her MSPT from Columbia University in 1994, her Advanced MS in orthopedic PT from Touro College in 1998 and has completed her Health Sciences PhD coursework at Seton Hall University. She has held academic appointments at both Hunter College and NYIT and is also an APTA board-certified pediatric clinical specialist.

Nechama is chief clinical educator at Mobility Research, providing pediatric and adult trainings, introductory and advanced seminars, webinars, and clinical support for LiteGait in the USA and internationally. She is a primary instructor in LiteGait’s “train the trainer” program. In addition, after a 2-year invited apprenticeship in 2016, Nechama became Mary Massery’s first certified faculty member to teach her national course: “If you can’t breathe, you can’t function.” In 2019, she was certified to teach Mary’s musculoskeletal course as well. Nechama owns a private practice in New York City focusing on treating patients with complex neurological conditions and/or complex pelvic conditions.

**Disclosure Statement:** Nechama Karman has the following financial relationships to disclose: she works for Mobility Research (LiteGait) and receives a fee for speaking from MasseryPT LLC. She has no relevant nonfinancial relationships to disclose.



## Course Schedule:

<b>TIME</b>	<b>SESSION &amp; IN-STRUCTOR</b>	<b>TITLE</b>
7:45 – 8:00	Zoom opens	
<b>8:00 am CST*</b>	<b>CLASS STARTS</b>	<b>CENTRAL TIME</b>
8:00 – 8:30	Lecture MM	- Introduction to course: All things eccentrics!
8:30 – 9:45	Lecture MM	- Biomechanical and neuromuscular links between respiration, posture and movement
9:45 – 10:00	Break	
10:00 – 10:25	<b>Breakout Room #1 &amp; discussions</b>	- Meet your team. Discuss: linking talking to walking - Return and discuss with full class
10:25 – 11:40	Lecture NK	- Elements of and impediments to achieving an energy-efficient gait pattern (importance of eccentric control) - Muscle Function/Gait Cycle: how much of gait is eccentric? A lot!
11:40 – 12:20	Lunch	
12:20 – 12:50	<b>Breakout Room #2 &amp; discussions</b>	- Q&A - What is a meaningful change in gait? - Return and discuss with full class
12:50 – 2:00	Demonstrations & <b>Breakout Room #3</b>	- intro to PNF Agonistic Reversal (AR) technique (eccentric resistance) - demonstrations & practice: Proximal techniques on the chest/trunk - Return and discuss with full class
2:00 – 2:15	Break	
2:15 – 2:35	videos	Clinical cases: eccentric control deficits walking and reaching
2:35 – 3:35	Demonstrations & <b>Breakout Room #4</b>	- demonstrations & practice – distal PNF AR techniques on the extremities - Return and discuss with full class
3:35– 4:15	<b>Breakout Room #5 &amp; show ‘n tell</b>	- PNF AR applied to functional activities: your turn to lead! Small group problem solving session with return demonstrations for the full class - Show us what you learned today!
4:15 – 4:30	Lecture and discussion	Summary and Q&A
<b>4:30 pm CST*</b>	<b>CLASS ENDS</b>	<b>CENTRAL TIME</b>
5:30 ...	Bonus Time	Instructors have volunteered to stay after class for more Q&A

**7.5 Contact Hours**

**Level of learning: Intermediate**

## Learning Objectives:

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

- State how the mechanics of breathing, talking, and postural control are inter-active and inter-dependent components of normal movement strategies using a soda-pop can as a conceptual model.
- Discuss the potential benefits of utilizing voicing strategies to treat postural control deficits in multi-task activities like talking while walking and reaching.
- Identify elements of a biomechanically-efficient gait pattern that are not present in specific gait patterns demonstrated by individuals with neurological impairments.
- Select and perform intervention strategies and/or techniques to elicit eccentric muscle contractions and address timing and alignment deficits that adversely affect reach, gait, transfers, sustained phonations, and voice volume in a wide-range of patients across the lifespan.

## Continuing Education Credits

Continuing education credits for *O.T./P.T.* will be offered through the Illinois Department of Professional Regulation.

**Early Intervention credits have been applied for 7.5 contact hours.**

All participants will receive a course completion certificate upon successful completion of the conference. No certificates will be awarded until course completion is verified on the final date of the conference.

### Speech Therapy:



Easterseals DuPage & Fox Valley is approved by the Continuing Education Board of the American Speech-Language-Hearing Association (ASHA) to provide continuing education activities in speech-language pathology and audiology. **See course information for number of ASHA CEUs, instructional level and content area.** ASHA CE Provider approval does not imply endorsement of course content, specific products or clinical procedures.

**This course is offered for 0.75 ASHA CEUs (Intermediate level, Professional).**

### Occupational

### Therapy:



This Intermediate Level course is offered with AOTA Classification Codes: Categories 1 Domain of OT & 2 Occupational Therapy Processes.

## REGISTRATION FORM

Please complete this form and mail with payment to:  
Easterseals DuPage & Fox Valley  
Continuing Education Department  
830 South Addison Avenue  
Villa Park, IL 60181  
FAX: 630.620.1148

**Registration Fee: \$215**  
**Live Webinar**

Name: \_\_\_\_\_  
(This is how your name will be printed on the course completion certificate.)

Title/Position: \_\_\_\_\_

Organization: \_\_\_\_\_

Org. address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Business phone: \_\_\_\_\_

Home address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

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E-mail: \_\_\_\_\_

**For credit card payment, please complete:**

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**Credit Card #:** \_\_\_\_\_

**Expiration Date:** \_\_\_\_\_ **CVV:** \_\_\_\_\_

Registration fee includes the conference, and access to all documents for the course.

Registration deadline: June 7th, 2021.

Register On-line: <http://www.easterseals.com/dfv/our-programs/employment-training/continuing-education.html>

Cancellations must be in writing and will incur a \$50 processing fee. No refunds granted after April 10th, 2020. If Easterseals or Speaker should need to cancel, course fees will be refunded or transferred to another course at the discretion of the participant.

**Special Accommodations:** Please notify us of any special accommodations you may have by contacting us at 630.261.6191.

**Braking Bad 06.21**

### Contact Info:

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[www.eastersealsdfvr.org/continuingeducation](http://www.eastersealsdfvr.org/continuingeducation)