

IF YOU CAN'T BREATHE, YOU CAN'T FUNCTION

Integrating Cardiopulmonary and Postural Control Strategies
in the Pediatric and Adult Populations

Instructor
Mary Massery, PT, DPT, DSc

Sponsored by
Danish Society of Neurological Physiotherapy

Location
Hammel, Denmark

May 12th – 15th, 2020

Option 1: Day 1 theory only (7.5 Contact Hours)

Option 2: Days 1 – 4 theory and practice sessions (28.0 Contact Hours)

TUESDAY (7.5 Contact Hours)

Open Enrollment

9:30 - 10:00		Registration
10:00 - 10:30	Discussion	Overview of course topics
10:30 – 12:00	Lecture	Breathing and posture: Part 1 - Pressure control (Soda pop model)
12:00 – 12:15		Break
12:15 - 1:30	Lecture	Breathing ... Part 2 - The diaphragm
1:30 - 2:30		Lunch
2:30 - 3:45	Lecture	Breathing ... Part 3 - The vocal folds
3:45 - 3:55		Break
3:55 - 4:55	Lecture/ Mini-lab	Positioning strategies: What can you do in 90 Seconds or less that has a profound and lasting effect?
4:55 - 5:00		Break
5:00 - 5:45	Lecture	<u>Lecture:</u> Normal and abnormal chest wall development and function
5:45 - 7:00	Lecture/ Mini-lab	Ventilatory or movement strategies: Integrating neuromuscular, musculoskeletal, respiratory and sensory systems

WEDNESDAY (7.5 Contact Hours)Limited Enrollment

8:00 - 8:30		Coffee and ...
8:30 - 9:00	Discussion	Review, synthesis and Q&A
9:00 - 10:15	Lecture/ Demo	Chest assessment: Focus on musculoskeletal alignment and breathing patterns
10:15 - 10:30		Break
10:30 - 12:00	Lab	Assessing breathing patterns and postural implications
12:00 - 1:00		Lunch
1:00 - 1:45	Lecture	Airway clearance: From Sherlock to solution
1:45 - 2:45	Lab	Facilitating efficient breathing patterns and endurance training: Neuromotor techniques for diaphragm, chest and other breathing patterns
2:45 – 2:55		Break
2:55 - 4:25	Lab	Facilitating breathing patterns (continued)
4:25 – 4:30		Break
4:30 - 5:30	Demo	Patient demonstration #1 (if possible)

THURSDAY (7.5 Contact Hours)Limited Enrollment

8:00 - 8:30		Coffee and ...
8:30 - 9:00	Discussion	Review, synthesis and Q&A
9:00 - 10:30	Lecture/ Discussion	Differential diagnosis (patient demo #1): “Find the Problem”
10:30 - 10:45		Break
10:45 - 12:00	Lab	Airway clearance lab: manual assistive cough techniques
12:00 – 1:00		Lunch
1:00 – 2:00	Demo	<u>Patient demonstration #2</u> (if possible)
2:00 – 2:10		Break
2:10 – 2:45	Discussion	Recap patient demo #2
2:45 – 4:00	Lab	Enhancing breath support for phonation and postural control
4:00 – 4:05		Break
4:05 – 5:30	Lab	More practice: neuromotor techniques, assistive cough techniques, phonation, postural control

FRIDAY (5.5 Contact Hours)

Limited Enrollment

8:00 - 8:30		Coffee and ...
8:30 - 9:00	Discussion	Review, synthesis and Q&A
9:00 - 10:30	Lecture/ Lab	Quick Screening: Musculoskeletal restrictions of the rib cage and trunk associated with breathing difficulties
10:30 - 10:45		Break
10:45 - 12:00	Lab	Specific tests: Rib cage and soft tissue restrictions
12:00 – 12:45		Lunch
12:45 – 1:30	Lecture	Matthew Case Study: Long term management of spine, posture & breath support
1:30 – 2:45	Lab	Rib cage restrictions - Treatment techniques
2:45 - 3:00	Discussion/ Homework	Group problem solving: Putting it all together

COURSE DESCRIPTION

This course, developed by Mary Massery, will challenge the practitioner to make a paradigm shift: connecting breathing mechanics and postural control with management of trunk pressures. Using Dr. Massery's model of postural control (Soda Pop Can Model), the speaker will link breathing mechanics with motor and physiologic behaviors (a multi-system perspective). The speaker will present novel research demonstrating the role of vocal folds as postural stabilizers, extending the concept of "core stability" from the vocal folds on the top of the trunk to the pelvic floor on the bottom. Numerous interventions will be presented that use positioning and ventilatory strategies to optimize motor performance. Neuromotor breathing retraining techniques, manual assistive cough techniques, and musculoskeletal techniques related to breathing, will be the focus of treatment labs. Multiple patient cases will be presented throughout the course, as well as two live patient demonstrations if possible. The emphasis of the course will be on developing practical, quick clinical solutions for pediatric and adult patients in all practice settings.

COURSE OBJECTIVES

At the conclusion of Day 1, participants should be able to:

1. Describe how trunk pressures link breathing and postural control using the Soda Pop Can Model.
2. Describe the multiple, simultaneous roles of the diaphragm as related to breathing, postural control, gastroesophageal reflux, constipation, and venous return.
3. Demonstrate the role of the vocal folds in normal postural stability responses (balance) and make the case for using speaking valves for patients with tracheostomies.
4. Position patients for optimal physiological and biomechanical support of breathing with simple equipment (towels, pillows, etc.).
5. Contrast normal infant chest wall development to those with impaired breathing mechanics.
6. Use a ventilatory strategy algorithm presented in class to optimally match breathing with movements from bed mobility to athletic endeavors.

At the conclusion of Days 2- 4, participants should be able to:

7. Present a multi-system (physical and physiologic) differential diagnosis to determine cause of motor impairments.
8. Identify the variations of “normal” breathing patterns and discuss the efficiencies/inefficiencies for individual patient conditions.
9. Evaluate need for, and demonstrate, appropriate neuromotor retraining techniques for patients with ineffective breathing/postural control strategies (health or participation deficits).
10. Participate in live patient demonstrations (if available) and suggest possible evaluation and treatment ideas based on the course material.
11. Design a targeted airway clearance program using the principles of mobilization, expectoration and oral management.
12. Demonstrate airway clearance techniques, with an emphasis on manual assistive cough techniques, and apply an airway clearance algorithm to specific patient conditions.
13. Identify thoracic cage/spine restrictions as they pertain to breathing mechanics and postural control.
14. Demonstrate musculoskeletal techniques that pertain to rib cage/trunk limitations secondary to breathing impairments.
15. Evaluate need for, and demonstrate, neuromotor retraining techniques to improve breath support for voicing and postural control (eccentrics).
16. Suggest means for incorporating the course material into therapy activities in your clinical setting immediately.

SPEAKER'S BIOGRAPHY

Mary Massery, PT, DPT, DSc

Dr. Massery 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 18 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), connections between posture & breathing, and PNF (Proprioceptive Neuromuscular Facilitation).



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. She was also awarded Northwestern University’s Alumnae Research Achievement Award. Mary continues to maintain a private practice in Chicago, specializing in breathing and postural dysfunction.