



Handout for OMS Webinar – Movement and Breathing Better

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Key messages from session:

- Practise nasal breathing
- Practise Light, Slow, Deep breathing (through your nose)
- Try breath holding at top of in-breath and bottom of out-breath
- Try taping your mouth (Myotape I find best) daytime and night time
- Raise your heart rate either for
 - short bouts of high intensity or
 - longer bouts of moderate intensity (Use Rate of Perceived Exertion below)
- Try variety of stretching, strengthening, balance, core strengthening
- Incorporate visualisation techniques into your meditation to enhance physical performance
- Gradually incorporate breathing techniques into activity
- Monitor progress – BOLT score (see below) and diary of symptoms

Books

The Breathing Cure. 2021. Patrick McKeown

Breath: The New Science of a Lost Art. 2020. James Nestor

Practical Exercises

BOLT Score test (Body Oxygen Level Test)

- Take a normal breath through your nose
- Allow a normal breath out through your nose
- Hold your nose closed with your fingers
- Count how many secs until you feel the distinct desire to breathe in

Rating of Perceived Exertion Chart (Cardiovascular Endurance)

#10		I am dead!!!	
#9		I am probably going to die!	
#8		I can grunt in response to your questions and can only keep this pace for a short time period.	
#7		I can still talk but I don't really want to and I am sweating like a pig!	
#6		I can still talk but I am slightly breathless and definitely sweating.	
#5		I'm just above comfortable, I am sweating more and can talk easily.	
#4		I'm sweating a little, but I feel good and I can carry on a conversation comfortably.	
#3		I am still comfortable, but I'm breathing a bit harder.	
#2		I'm comfortable and I can maintain this pace all day long.	
#1		I'm watching TV and eating bon bons.	

Websites

For more about my place of work you can take a look at our website. It is still under development, but you can find out about our services including online physiotherapy and exercise classes.

www.mstc-lothian.org.uk

You can find out more about some of the breathing techniques I have mentioned and much more at

www.oxygenadvantage.com

Find out more about the Wim Hof method here: www.wimhofmethod.com

Products

Myotape and other brands of mouth tape sleep strips can be purchased from Amazon

Acapella, Aerobika, Airphysio, Power Breathe are respiratory training aids for respiratory muscle training and mucus clearance. Further guidance should be sought before using any of these

Glossary of Terms

- **Diaphragm:** dome shaped muscle attaching to underside of ribcage separating chest cavity from abdominal cavity. Main muscle of breathing
- **Intercostal muscles:** small muscle in between ribs which assist diaphragm in breathing
- **Primary muscle weakness:** that which is a result of damage to the nervous system from MS lesions causing reduced nerve signal to the muscle
- **Secondary muscle weakness:** that which is due to reduced use of the muscle otherwise known as deconditioning
- **Respiratory centre:** area of the brain which controls breathing
- **Pursed lip breathing:** breathing through the mouth with lips held tight together. This increases pressure within the airways
- **BOLT score:** a measure of how effectively your body is using oxygen and therefore how effective your breathing is, also reflects fitness level
- **Wim Hof method:** controlled hyperventilation technique which causes a sharp reduction in CO2 levels. It can induce a feeling of light headedness and a perceived high. Some evidence that it can modulate your immune system with practise and repetition. Refer to his website for more info
- **Mitochondria:** organelles within our cells that produce energy
- **Serotonin & Noradrenaline:** neurotransmitters which produce the feel-good factor
- **Endorphins:** the body's natural painkillers
- **Anaerobic activity:** quick short bursts of activity less than 2 mins which use energy stores not requiring oxygen, usually glucose
- **Aerobic activity:** moderate level activity lasting more than 2 mins that accesses energy from oxygen mediated pathways
- **Vestibular retraining:** exercises that target the inner ear system, often involving movements of the head and eyes

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Useful Research Papers

Cook & Vuoskoski. 2021. "I just want someone to rub some life into them!": The lived experience of impaired sensation in the feet related to multiple sclerosis.' *British Journal of Neuroscience Nursing MS Supplement* S48-S54

Fry & Chiara. 2010. 'Pulmonary Dysfunction, Assessment and Treatment in Multiple Sclerosis.' *International Journal of MS Care* 12: 97-104

Kantele, Karinkanta & Sievanen. 2015 'Effects of long-term whole-body vibration training on mobility in patients with multiple sclerosis: A meta-analysis of randomized controlled trials.' *Journal of the Neurological Sciences* 358 (1-2), 31-37

Pilutti et al. 2014. 'The safety of exercise training in multiple sclerosis: A systematic review.' *Journal of the Neurological Sciences* 343: 3-7

Richter, Gilbert & Baldis. 2012. 'Maximising Strength Training Performance using Mental Imagery.' *Strength and Conditioning Journal* 34(5), 65-69

Slimani et al. 2016. 'Effects of Mental Imagery on Muscular Strength in Healthy and Patient Participants: A systematic Review'. *Journal of Sports Science and Medicine* 15, 434-450

Tzelepis & McCool. 2015. 'Respiratory dysfunction in Multiple Sclerosis.' *Respiratory Medicine* 109: 671-679