



## Certification Training Manual

# Masking for Brain Health, TBI and Stroke Recovery, and Reduction of Seizure Activity

Masking is an effective and safe approach to enhance oxygen flow to the brain and to address not only developmental brain dysfunctions, but also what is known as “Brain Aging”, defined as reduced oxygen flow to the brain. Since brain injury, regardless of form or degree, occurs due to lack of oxygen to brain cells, this technique is extraordinarily useful in the healing process from brain injury, trauma (emotional or physical). It’s an effective “brain tonic”, in effect, for anyone struggling with neurological issues. Masking is also known for its ability to reduce seizure activity.

This is a particularly important component of the NDM program of anyone who is unable to walk. Walking, running, climbing, dancing, sports - all encourage deeper breathing and keep the lungs healthy. Pneumonia often occurs in the bed-bound patient because they do not breathe deeply. This simple activity, Masking, can give the body the aerobic activity of deep breathing even in a paralyzed patient and can prevent lung infections. The reason is that it encourages reflexive diaphragmatic descent. Note that giving a patient oxygen artificially will suppress the breathing reflex and should only be used when no other option is reasonable.

The principle utilized in this technique is that a brief and limited increase in CO<sub>2</sub> in the bloodstream will lead to a significant increase of oxygen delivery to the brain.

When breathing into a paper or plastic bag or medical “re-breathing” mask, one exhales slightly more CO<sub>2</sub> than is inhaled. Over the period of 60 seconds, this increased CO<sub>2</sub> content in the bloodstream of no more than 5% serves both as a respiratory stimulant and as a vasodilator. After sixty seconds of re-breathing one’s own breath, there is an increase in blood vessel diameter that allows 40 - 70% more oxygen delivery to the brain once the breathing mask is removed.

Research by the Institutes for the Achievement of Human Potential in Philadelphia has substantiated the benefits of masking, one of which includes reduced seizure activity.



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The process is simple. The client breaths normally into a plastic or paper bag for 60-seconds, then removes it and breathes normally for 5 minutes or more. The nose and mouth are both covered with as tight a seal as possible. This can be easily achieved with a re-breathing mask to which you will attach a plastic bag to capture the breath. We use sandwich bags (the large size), instead of buying more expensive medical bags. You will have been shown how to attach the bag to the face piece/rebreathing mask.

The mask is left on for 60 seconds, then off for a minimum of 1 - 5 minutes. This is repeated 10 to 20 times and can be spread out over the day. It is particularly useful if one is experiencing any pre-seizure activity or warnings, and has been known to help prevent imminent seizures.

The first time a client tries this they will probably feel stressed at less than 60 seconds. This is a normal response to lack of oxygen. Simply take the mask or bag off, wait for 1-5 minutes and put it on again. Keep the mask on as long as is comfortable, which will be longer with each try - no longer than 60 seconds - then remove it and breathe normally.

Your NDM consultant will discuss any particular techniques necessary to make this successful for your family member.