

# Understanding Montessori



## Oxygen for Brain Development November 8, 2009

Sometimes a simple and effective solution is right in front of us.

Our bodies are 65 percent water. Our brains are 75 percent water. Water, H<sub>2</sub>O, is made from two atoms of hydrogen and one of oxygen. Our brain needs oxygen and water for optimum brain functioning. To help our brains be their best, what do we need to do? Drink lots of water and breathe efficiently. Pretty simple, right?

Dr. Phil McGraw in *Family First* writes that one of the most efficient and effective ways for stimulating brain function is breathing. No drugs necessary. To help focus and recall skills, Dr. Phil recommends inhaling for a count of five and exhaling for a count of five. Take six breaths, which should only take a minute.

Dr. Phil recommends doing this easy breathing exercise when under stress or before and during tests. Take a minute every day to practice with your child so that efficient and effective breathing becomes a habit and a behavior management tool for all your family members.

Dr. Carla Hannaford, in her book, *Smart Moves*, outlines the importance of adequate water intake, deep breathing and movement for learning. As a school

counselor, Dr. Hannaford, a neuro-biologist, found that a two-minute breathing exercise helps students gain control over their emotions and focus on the tasks at hand.

Getting adequate oxygen to the brain is a critical component of brain development. Since our bodies are 65 percent water, even a small level of dehydration can impair function. Carbonated and caffeinated beverages act as diuretics and do not re-hydrate our bodies. The best drink for hydration? Earth juice, aka water.

Many airplane pilots monitor their blood oxygen levels by use of a fingertip monitor. To avoid accidents, additional oxygen is required by the Federal Aeronautics Administration FAA on any flights above 15,000 feet of altitude.

At 15,000 feet a pilot has only 30 minutes of effective performance time. At 25,000 feet, the effective performance time drops to three to five minutes, and at 40,000 feet it is only 15 to 20 seconds. When body oxygen levels drop, decision-making abilities are diminished, and reaction time is slower. Also, headaches and muscle aches are a common side effect of oxygen deprivation.

We don't have to be flying in an airplane to become oxygen-deprived. When we are under stress, breathing becomes shallower, and less oxygen gets into our bloodstream.

Making sure we drink enough water and are breathing effectively can help counteract the effects of stress.

Movement and exercise are important for the oxygen they bring to the body and the brain. The saying, "Feeling down, move around," also helps us to remember that when we are feeling sluggish and unfocused, moving around, and thus increasing our oxygen intake, will help us feel better quickly.

At a brain development lecture, Alexander Stephens, assistant Professor of Behavioral Neuroscience at the Oregon Health and Sciences University, asked the audience to stand up and play a game. Standing up with slight movement for less than a minute helped the audience pay better attention by getting some additional oxygen to our brains.

To ensure the brain has adequate oxygen for optimum performance, drink water, breathe deeply and move around. It can be that simple.

**Next week:** Cultivating an Attitude of Gratitude