Does Nose Breathing Help Oral Wellness?

How Mouth Breathing Effects Oral Health

By Melinda E. Nelson RDH, NTP,
Orofacial Myofunctional Therapist,
Buteyko Breathing Educator

Since Michael Phelps has been in the news lately, I will use him as an example of a mouth breather. Have you noticed his long face, open mouth, crooked teeth, sunken cheeks and tired eyes? It is really a wonder how he won all those gold medals. He just does not look healthy. These signs and a whole lot more inside our mouths are effected when we mouth breathe.

We all know many of the health benefits of nose breathing. It heats or cools the air breathed in. It filters the air, which is one line of defense for our bodies like the skin is. It humidifies the air, which supports the cilia in assisting them to move the mucus and debris including allergens out of the body. Without this humidification debris is trapped and can cause coughing. It stimulates the odiferous molecules so we can smell.

The nose has nerve endings that warn when unhealthy particles are in the air. The turbinates centrifuge these particles so they get stuck to the mucous membrane preventing them from entering the lungs.
Nasal breathing regulates the volume of air coming in by providing anatomical resistance in the dead space

which helps to regulate breathing, whereas, mouth breathing promotes hyperventilation.

It promotes biological processes such as releasing nitric oxide and making carbon dioxide as the air moves along the nasal septum slowing the movement of air to get the greatest benefit.

Exhaling through the nose reduces the loss of carbon dioxide needed to release oxygen from the blood to the cells, brain, organs and muscles. This is called the Bohr Effect. The CO2 also dilates airways and blood vessels (smooth muscles).

It stimulates normal facial growth preventing long face syndrome and other facial growth anomalies including helping the teeth to be straight with a broad upper arch and I could go on about the cascade of effects from there.

Nasal breathing helps sinus growth in children
It reduces snoring, anxiety, allergies, increasing awareness of emotions and smell.

It activates movement in several head and neck joints and also inside the mouth lifting the soft palate when exercising to prevent the airway closure in the back of the mouth. When the soft palate hangs down in the back of the mouth (malampati score) is shows the lack of

airway. Excess tears have a way to drain only when nasal breathing.

It strengthens the immune system by producing immunoglobulins.

For athletes, it increases stamina and endurance, reduces mucous production, with less need for water as respiratory droplets are not blown out the mouth. People who exercise while nasal breathing recover faster and have less strain placed on the heart along with better concentration and performance. Plus it even helps to heal the body after working out or playing a sport even bruises! I know, my son saw all of these benefits after strictly nasal breathing while playing hockey.

There is more, besides all this, our nose breathing does so much for our oral wellness.

One thing I always noticed as a dental hygienist in practice was the dry mouth in people who mouth breathed. I used to make a note of this in the chart but had no way to help them. Now, I know what will help them. Teach them to nasal breathe! The dry mouth causes the gums to be puffy, inflamed and bleed. This not only causes periodontal disease but it can be the cause of cavities. It changes the Ph of the oral cavity. In a study of dry mouth on the Japanese elderly1, dry mouth was found to lead to pneumonia. Though this

study doesn’t address the immune system or mouth breathing these people were elderly and dry mouth can be caused by mouth breathing in addition to the slowing down of the salivary glands so both could have been part of the problem. As I mentioned before, the immune system is affected negatively by mouth breathing. This happens from not having that filter and the actions that nasal breathing has on immune responses and their functions.

Asthma patients were found to have increased cavities, dental erosion, periodontal disease, and oral candidiasis possibly from the medications though most asthmatics are mouth breathers.2

Demineralization of teeth in mouth-breathing patients undergoing maxillary expansion3, a study from Brazil, states that the mouth breather who has maxillary expansion for orthodontia will have increased risk factors for caries (cavities) and periodontal disease. They found it increased the cavities a little bit. Really the mouth breathing should have been corrected before the appliance or expander was put in. This would have helped the patient to have better oral health to begin with. Then applying the expander would cause less stress on the surrounding tissues, which were already stressed because of the mouth breathing and possibly the tongue position.

A person who breathes through the mouth will have a dry mouth. Have you ever woke up in the morning with a dry mouth? That is because you had your mouth open during the night at some point and you could have been snoring or sighing. The dryness of the mouth changes the Ph of the oral cavity by a lack of saliva.

Besides causing cavities, it causes inflammation and reduces the number of bacteria used in the beginning process of digestion when chewing food. The tongue position can also have something to do with this and the person could get air into the stomach when swallowing. This type of swallow also prevents the Eustachian tube from emitting the enzymes needed for pre-digestion as the food is swallowed.

If the tongue is thrust forward during the swallow, it pushes the joint back when the tongue comes back into the mouth. This will make the joint click or be painful if continued. This could lead to TMD or temporal mandibular joint dysfunction the disturbance of the integrity of the muscles in the cheeks and other orofacial muscles also causes the teeth to be crooked. The cheek muscles are too relaxed from improper use of the tongue so the top arch of the jaw narrows to create a vaulted palate and overlapping teeth.

Myofunctional therapy can help the muscles to regain strength or relax, whichever is needed and may bring about improvement in the jaws and teeth. The proper

muscle strength may help prevent sleep problems later in life.

Many children now, are having sleep problems caused from poor breathing. Mouth breathing will cause snoring then move on to sleep apnea. This can eventually cause high blood pressure as the veins are not supposed to be shaken all night.

But these children with sleep disorders do not do well in school. They are tired, and not alert, unable to do their work. They usually do not eat well, wanting comfort foods or eating sugar for breakfast. If just fed a hearty breakfast of eggs, which take no more time than pouring a bowl of cereal, they would be more alert. The sleep problem in children is becoming a more noticed and is beginning to be researched.

This can easily be corrected by teaching them to nose breathe. And it will save them many ailments in the future as well.

Bad breath or oral malodor is prevalent even in children who mouth breath as well as adults.4 Nose breathers do not have the stomach and digestion problems that mouth breathers have. Mouth breathers generally tend to swallow air when eating. This is one cause for the malodorous mouth. The dryness of the mouth causing the Ph to be more acidic is another cause

of bad breath. Actually, the whole digestion process is altered when breathing through the mouth.

Dr. John Flutter has done 20 years of research on the effects of mouth breathing with his orthodontic patients. He and those of us who have studied in this field of facial growth and muscles, know that with mouth breathers, the lower jaw (mandible) was further back (retrognathic), the palates are higher and narrower, and the overjet more pronounced (how far the top teeth project in front of the bottom teeth when closed). The long faces, as the face grows is because of mouth breathing also. The example of Michael Phelps, who has probably undiagnosed long face syndrome and is a mouth breather is a good example.

There is little exception of mouth breathers having malocclusion. Weston A. Price talked of this in his book "Nutrition and Physical Degeneration". When breathing through the mouth it is very hard to keep the tongue up in the roof of the mouth where is should be at rest. So this brings about the muscles working improperly in addition to the malformed facial growth.

Then the affect on digestion, and the foods we eat and on and on. Weston Price also found that the sugar and processed food have a lot to do with this malformation of the bone structure and teeth. Since we know about his nutritional research, I am suggesting that nose breathing be added to this mix of oral health.

I have not brought up the fact that over breathing can cause anxiety, allergies, asthma, and panic attacks. Over breathing is about the volume of air, which is why mouth breathing will always be over breathing. The mouth takes in more air than the nose can. As George Catlin said in his book written in 1875 called Shut Your Mouth Save Your Life, "Bread may almost as well be taken into the lungs, as cold air and wind into the stomach."

One more thing about the Bohr Effect is that when we mouth breathe, we exhale too much carbon dioxide. The CO2 is what triggers our respiratory center to breathe. It also is what triggers the blood to let the oxygen out and into the cells and organs. Another reason mouth breathers are tired. Tired to the core, really, because their organs cannot work optimally without enough oxygen. Be encouraged, there is a method of re-teaching the body to nose breathe, it is called the Buteyko Breathing Method after Dr. Buteyko who discovered this over 60 years ago.

Buteyko Breathing classes teach exercises to re-train the brain to want less volume of air. It is best if you can take a class from a BB educator. If there is any type of orthodontic relapse, tongue thrust, or other muscle problems that are usually a part of mouth breathing seeing a myofunctional therapist will facilitate the facial recovery.

Here are a couple of exercises to do for congestion and coughing that will start your recovery from hyperventilation (or mouth breathing) and begin healing of the oral cavity.

Breathe in through the nose and out through the nose always, then hold the breath and hold the nose with your fingers and nod your head to count. Hold for the maximum amount of time you can. You can do this several times to clear the sinus and get the mucous loose to begin the anti inflammation process. How many counts was your hold? You may start at 10 more or less and build from there with the help from a breathing practitioner.

The second exercise is for coughing but also it is good for a gentle healing and reduction in air volume to increase the carbon dioxide in the lungs and body. Breathe in and out through the nose, hold for 5 seconds. Nose-breathe for a couple of breaths then start again. This can be done for 20 to 30 minutes while driving or walking. It will stop a cough within a minute or two.

For a practitioner in your area look up Buteykoeducators.org and the latest press release at www.buteykoeducation.org

About the author:

Melinda Nelson was a dental hygienist for over 35 years before retiring in 2009 but still keeps her license. In the 1990's her son became ill with Acute Lymphatic Leukemia then three years after his treatment was done, she diagnosed with cancer, herself, which led her on a search for health. Finding Weston A Price was a life-changing event though she had learned about his research many years previous in dental hygiene school as well as the myofunctional therapy she does also.

The search for health for her family led her to become a certified nutritional therapist and then added myofunctional therapy because of her background in dentistry and the facial muscles. The Buteyko Breathing Method is a wonderful and necessary adjunct to the orofacial work as one has to be able to nose breathe in order to have the results the myofunctional therapy produces. It is a great mix of nutrition and orofacial myology that she uses to bring about oral wellness. Melinda's hobby is rescuing bees and being beekeeper at her "farm" in Southern California.

To get in touch with Melinda go to her website. Orofacialmyologyoforangecounty.com or email her at blessd2be2@yahoo.com

Factors associated with dry mouth in dependent Japanese elderly.
Kakudate N, Muramatsu T, Endoh M, Satomura K, Koseki T, Sato Y, Ito K, Ogasawara T, Nakamura S, Kishimoto E, Kashiwazaki H, Yamashita Y, Uchiyama K, Nishihara T, Kiyohara Y, Kakinoki Y.
Source

Stanford Prevention Research Center, Stanford University School of Medicine, Stanford, CA, USA; Department of Epidemiology and Healthcare Research, Kyoto University School of Medicine and Public Health, Kyoto, Japan.

2Aust Dent J. 2010 Jun;55(2):128-33. doi: 10.1111/j.1834-7819.2010.01226.x.
Asthma and oral health: a review.

Thomas MS, Parolia A, Kundabala M, Vikram M.
Source

Department of Conservative Dentistry and Endodontics, Manipal College of Dental Sciences, Mangalore, India.
manuel2dr@gmail.com

Braz J Otorhinolaryngol. 2010 Nov-Dec;76(6):709-12.
Demineralization of teeth in mouth-breathing patients undergoing maxillary expansion.

Bakor SF, Pereira JC, Frascino S, Ladalardo TC, Pignatari SS, Weckx LL.
Source

Feira de Santana State University, Brazil.

4. J Clin Pediatr Dent. 2004 Summer;28(4):285-8.
Prevalence of oral malodor and the relationship with habitual mouth breathing in children.

Kanehira T, Takehara J, Takahashi D, Honda O, Morita M.
Source

Department of Oral Health Science, Hokkaido University, Graduate School of Dental Medicine, Sapporo, Japan.

BBEA https://bbea.clubexpress.com/content.aspx?page_id=22&club_id=174916&module_id=75997

https://bbea.clubexpress.com/content.aspx?page_id=22&club_id=174916&module_id=76001

http://www.buteykoeducation.org/postcontent.php?p1=1212&p2=Buteyko+Validated+by+Evidenced-Based+Best+Practice+Centers+as+Breathing+Technique+for+Asthmatics+that+Reduces+Symptoms+and+Medication+Usage&p3=December+12%2C+2012

Orofacialmyologyoforangecounty.com