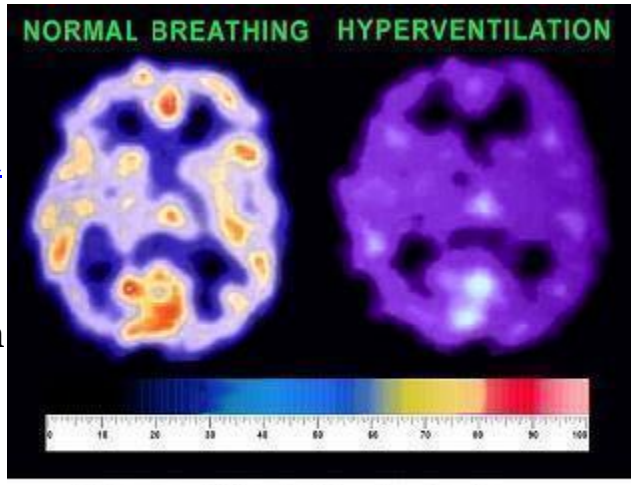
Mouth Breathing vs. Nose Breathing (for Mouth Breather)



Effects of 1 minute of voluntary hyperventilation on brain oxygen levels (vasoconstriction due to a lack of CO2)

If you are a ***mouth breather***, you need to know the following medical facts. Published-western-clinical evidence clearly proved that ***mouth breathing*** is one of 2 immediate leading causes of mortality in the severely sick patients with chronic diseases. Early morning hours (from about 4 to 7 am) have the highest death rates due to coronary-artery spasms, anginas, strokes, asthma attacks, seizures and many other exacerbations. The relevant medical research is considered on the web page "Sleep Heavy Breathing Effect".

This page will answer the following: Why does mouth breathing contribute to deaths? How does it undermine the health of any mouth breather? What are the biochemical effects of mouth breathing on the health of a *mouth breather*?

Mouth breathers were not welcomed in the past

When seeing modern people on Western streets and in public places, one may easily notice that up to 30-40% of them breathe through their mouths when walking or even while standing or sitting. Most people these days are mouth breathers. The same can be easily observed during night sleep. Some decades ago mouth breathing was socially abnormal and unacceptable. For example, one dictionary suggests that a "**mouth-breather = n. a stupid person; a moron, dolt, imbecile**". What are the confirmed **mouth-breathing** effects?

CO2-related biochemical effects of mouth breathing

CO_2 is not a toxic waste gas (see links to studies below). Research articles on respiration often mention dead space, a physiological parameter, which is about 150-200 ml in an average adult person. Dead space is inside the nose, throat, and bronchi. This space helps to preserve additional CO_2 for the human body to invest elsewhere. During inhalations we take CO_2 enriched air from our dead space back into the alveoli of the lungs. When the mouth is used for respiration, the dead space volume decreases, since nasal passages are no longer a part of the breathing route. Consequently, air exchange for mouth breathing is stronger since air goes directly from the outside air to the alveoli. This reduces alveolar CO_2 and arterial blood CO_2 concentrations. Such an effect does not take place with nose breathing.

Furthermore, the nasal-breathing route provides more resistance for respiratory muscles as compared to oral breathing (the route for mouth breathing is shorter and it has a greater cross sectional area).

In their study "*An assessment of nasal functions in control of breathing*" (Tanaka et al, 1988), Japanese researchers discovered that end-tidal-CO_2 concentrations were higher during nose breathing than during oral breathing. This research study revealed that a group of healthy volunteers had an average CO_2 of about 43.7 mm Hg for nose breathing and only around 40.6 mm Hg for oral breathing. In practice, in terms of body oxygenation or the CP, this corresponds to 45 s and 37 s at sea level. Hence, **mouth breathing** reduces oxygenation of the whole body.

Each *mouth breather* needs to know this short summary of immediate negative biochemical effects of mouth breathing related to CO_2:
- Reduced CO_2 content in alveoli of the lungs (hypocapnia)
- Hypocapnic vasoconstriction

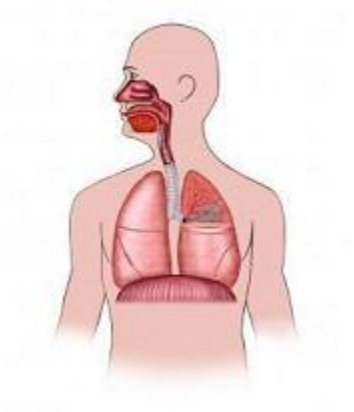
(constrictions of blood vessels due to CO_2 deficiency)
- Suppressed Bohr effect
- Reduced oxygenation of cells and tissues of all vital organs of the human body
- Anxiety, stress, addictions, sleeping problems and negative emotions
- Slouching and muscular tension
- Biochemical stress due to cold, dry air entering into the lungs
- Biochemical stress due to dirty air (viruses, bacteria, toxic and harmful chemicals) entering into the lungs
- Possible infections due to absence of the self-immunization effect
- Pathological effects due to suppressed nitric oxide utilization, including vasoconstriction, decreased destruction of parasitic organisms, viruses, and malignant cells (by inactivating their respiratory chain enzymes) in alveoli of the lungs, inflammation in blood vessels, disruption of normal neurotransmission, hormonal effects.

Nose breathing delivers nitric oxide to lungs, blood and cells

Normal nose breathing helps us to use our own nitric oxide that is generated in the sinuses. The main roles of NO and its effects have been discovered quite recently (in the last 20 years). Three scientists even received a Nobel Prize for their discovery that a common drug, nitroglycerin (used by heart patients for almost a century), is transformed into nitric oxide. NO dilates blood vessels of heart patients, reducing their blood pressure and heart rate. Hence, they can survive a heart attack.

This substance or gas is produced in various body tissues, including nasal passages. As a gas, it is routinely measured in exhaled air coming from nasal passages. Therefore, we can't utilize our own nitric oxide, an important hormone, when we start ***mouth breathing***.

The confirmed functions of nitric oxide are:



1. Destruction of viruses, parasitic organisms, and malignant cells in the airways and lungs by inactivating their respiratory chain enzymes.

2. Regulation of binding - release of O_2 to hemoglobin. This effect is similar to the CO_2 function (the Bohr effect).

3. Vasodilation of arteries and arterioles (regulation of blood flow or perfusion of tissues).

4. Inhibitory effects of inflammation in blood vessels.

5. Hormonal effects. NO influences secretion of hormones from several glands (adrenaline, pancreatic enzymes, and gonadotropin-releasing hormone)

6. Neurotransmission. Memory, sleeping, learning, feeling pain, and many other processes are possible only with NO present (for transmission of neuronal signals).