

Ideal Oxygen Levels

By Dr. Sumaiya Khan

Canadian organization Manitoba Health states as well as eHow Health.com and many others that normal oxygen saturation in healthy people is considered to range between 97% - 99%, yet most US doctors say less is also normal. Most would also agree that 98% is ideal.

Normal Oxygen Level in Blood

Normal oxygen levels denote the levels of oxygen in the blood, Given below are details regarding the normal oxygen levels at night, in children and while sleeping...

Oxygen levels indicate the saturation levels of oxygen in the blood, this is an important indicator of functioning of lungs and also points towards the hemoglobin levels in the body. There are many external and internal factors that can affect the levels of oxygen in the blood. These include a change in pH of blood, presence or absence of an infection, presence of a respiratory disease, etc. Even the altitude at which a person lives can have an effect on the normal oxygen levels of a person.

For most people, an oxygen level of 95-100% is considered to be normal. When the oxygen levels are within this range, then is considered to be optimum for smooth functioning of the cells. A level that is below 95% is a cause for concern and warrants an examination or testing by medical personnel. The level of oxygen in the body can be measured with the help of a variety of ways. The most common way is with the help of a blood test. This test is known as arterial blood gas test and is done by drawing blood. Another and more convenient way of checking for oxygen levels in the blood is by making use of a pulse oximeter. This method measures the blood oxygen levels with the help of an infrared light, sensor.

Normal Oxygen Levels in Children

The method employed to measure the oxygen saturation levels in a child is easy and pain free. A small plastic probe or sensor with a wire attached to it is placed on the child's finger or toe. This probe has a red light on one side and a detector on the other side. This light shines through the veins of a child's finger or toe and is then analyzed by the detector on the other side.

Oxygen saturation levels help to measure the amount of oxygen rich blood that is passing through the bloodstream. The normal oxygen levels for children, according to the University of Hawaii, needs to be at least 97%. This means that at least 97% of the bloodstream needs to be oxygen saturated, 97% is in fact considered to be borderline to normal. The ideal oxygen saturation needs to be between 98-10%. If the reading is 96% or below, then it is considered to be abnormal.

Normal Oxygen Levels During Sleep

The normal oxygen level of a person during sleep is slightly lesser than normal, this is because, when a person is sleeping, as he is not doing any physically exerting activity, the oxygen saturation levels drop. However, some people tend to get sudden and abnormal drops in their oxygen levels. This leads to a condition known as sleep apnea. In this condition, the person becomes very breathless at night, so much so, that he gets disturbed and awakened from his sleep.

Abnormal oxygen levels indicate the presence of a disease or disorder, like pneumonia, anemia, and other respiratory diseases. For low levels of oxygen in the blood, the person will need to get treatment in the form of oxygen therapy. It is important to take this condition seriously, as extreme shortness of breath can lead to irreversible damage to various organs.

The Brain and Oxygen

(from Wikipedia)

The brain requires approximately 3.3 ml of oxygen per 100 g of brain tissue per minute, 1300 to 1400 grams is the weight of the average brain for an adult. However, if blood flow cannot be increased or if doubled blood flow does not correct the problem, symptoms of cerebral hypoxia will begin to appear. Mild symptoms include difficulties with complex learning tasks and reductions in short-term memory. If oxygen deprivation continues, cognitive disturbances and decreased motor control will result. The skin sometimes may also appear bluish and heart rate increases. Continued oxygen deprivation results in fainting, long term loss of consciousness, coma, seizures, cessation of brain stem reflexes, and brain death.

Objective measurements of the severity of cerebral hypoxia depend on the cause. Blood oxygen saturation may be used for hypoxic hypoxia but is generally meaningless in other forms of hypoxia.

It should be noted that cerebral hypoxia refers to oxygen levels in brain tissue, not blood. Blood oxygenation will usually appear normal in cases of hypemic, ischemic and hystoxic cerebral hypoxia. Even in hypoxic hypoxia blood measures are only an approximate guide - the oxygen level in the brain tissue will depend on how the body deals with the reduced oxygen content of the blood.

Signs & Symptoms of a Lack of Oxygen to the Brain

By Rene F. Najera, eHow Health Contributor

The brain is the most important organ in the body because it controls all the body's functions, while a person can be technically "alive" without her brain, she cannot experience life without it. Oxygen is very important to the brain in order to use glucose (sugar) as fuel. A lack in a sufficient supply of oxygen will prevent the brain from working properly. This leads to all sorts of neurological signs and symptoms and, if the oxygen is absent for a few minutes or more, death,

Changes in Behavior

A person whose brain is being deprived of oxygen will change his or her behavior. This is because the brain controls behavior, thought and alter personality functions. Changes in behavior are seen in people that are intoxicated with carbon monoxide or a chemical that impairs the brain's oxygen use. These changes include acting lethargic, losing interest and not properly responding to a stimulus.

Loss of Memory

One of the functions of the brain is to make and store memories. As hypoxia, or lack of oxygen, progresses, the brain is no longer able to create memories. This is why people who drown, are intoxicated with carbon monoxide, or receive a strong blow to the head, may not remember the event if they survive. Another reason for loss of memory is death of brain tissue that does not receive oxygen for an extended period of time, (a few minutes in most people). As the tissue dies, the memories stored in it are permanently lost since brain tissue cannot be regenerated.

The Signs of Low Oxygen When Sleeping

By Cindi Pearce, eHow Contributor

Low oxygen intake during the night can have serious ramifications. You may be experiencing low oxygen levels at night while you sleep and not be aware of those suffering from lung tissue or lung blood-vessel disorders often experience insufficient oxygen intake at night. Another disease that can cause this to

happen is sickle cell anemia. A common cause of low oxygen at night can be diseases that agitate the lungs, causing inflammation, such as interstitial pneumonitis. Obesity and sleep apnea are other culprits when it comes to preventing efficient oxygen intake while you sleep.

The Dangers

When low oxygen is a nightly problem, this can result in brain damage, memory loss, high blood pressure, cardiovascular disease, brain damage, becoming comatose and it increases your risk of developing diabetes II and various metabolic disorders. When oxygen levels stay too low for too long, this can result in heart failure,

Symptoms

Symptoms of extremely low oxygen levels include blue-colored toes and fingers and swollen ankles. Other symptoms that you aren't getting enough oxygen at night include being extremely tired during the day, feeling as though you are choking while you sleep, heavy snoring, extreme restlessness during sleep and waking up in the middle of the night gasping for breath.

Behavioral Changes

Lack of oxygen can change a person's behavior during the day. He may not, respond to stimulus or has bouts of fainting. If a person is suddenly no longer interested in things he previously enjoyed, this may be an indication of oxygen deprivation, or a number of other ailments.

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Lack of Oxygen effects brain function.

Your brain controls:

- thoughts
- moods
- memory
- emotions
- attention
- vision
- taste
- touch
- hearing
- smell
- pain perception
- balance
- posture
- muscle tone
- digestion
- heart rate
- blood pressure
- breathing
- bladder function
- sexual function
- hormone production
- immune response

We could add many more.

Oxygen retards the aging of human cells

Oxygen helps relieve headaches

Oxygen alleviates tiredness

Oxygen boosts the immune system

Oxygen supports breathing of air in cases of asthma and allergies

Oxygen helps in cases of depression

Oxygen improves physical performance by up to 25%

Oxygen retards the aging of Your brain controls your human cells

Oxygen alleviates tiredness

Oxygen helps relieve headaches

Oxygen plays a part in your:

- thoughts

- moods

-memory

- emotions

- attention

- hearing

- smell

- pain perception

- hormone production

- immune response