

Difference Between Hyperventilation and Tachypnea

www.differencebetween.com

Key Difference – Hyperventilation vs Tachypnea

Hyperventilation and tachypnea are two interchangeably used terms. Although they are used alternatively most of the time, there is a slight difference between hyperventilation and tachypnea. Hyperventilation is the excessive rate and depth of [ventilation](#) which leads to the loss of [carbon dioxide](#) from the blood whereas tachypnea refers to the abnormally rapid breathing. **In tachypnea, the breaths are shallow unlike in hyperventilation, which has characteristically deep breaths.** This is the key difference between hyperventilation and tachypnea.

What is Hyperventilation?

Hyperventilation is the excessive rate and depth of ventilation, leading to the loss of carbon dioxide from the blood. Ventilation is the process of taking [oxygen](#) in and expelling carbon dioxide out. In hyperventilation, this process happens at an unnecessarily rapid rate with an excessive depth, increasing the amount of carbon dioxide that is expired.

Carbon dioxide gets dissolved in the blood and releases hydrogen ions through a series of chemical reactions. Thus, this helps to maintain the acidity of the blood, and the decrease in the level of carbon dioxide decreases the acidity of the blood, ultimately resulting in [alkalosis](#).

Causes

- Hypovolemia due to loss of blood or fluid
- [Anxiety](#) and other psychiatric illnesses
- Drug overdose
- Heart diseases
- Pulmonary pathologies such as pneumothorax
- Pregnancy
- Acclimatization

Although hyperventilation occurs as a physiological response to some other ailment that impairs the normal ventilation, it is important to seek medical attention

when the symptoms recur frequently or when the symptoms persist for a more than usual duration. The presence of symptoms such as a headache, faintishness, and numbness or tingling sensation in the extremities is alarming.

Treatment

- Alleviation of the anxiety usually improves the symptoms.
- Breathing through pursed lips and holding the breath for few seconds can minimize the rate of loss of carbon dioxide.
- In the most disturbing cases, doctors prescribe drugs such as alprazolam.
- Counseling can also be useful if any psychiatric disorder is suspected.

What is Tachypnea?

Abnormally rapid breathing is identified as tachypnea. The limit of normal respiratory rate varies depending on the age. In infants, a rate as high as 44 breaths per minute is considered as normal. In adults, the widely accepted range for the normal rate of respiration is 8-16 breaths per minute.

Causes

- [Asthma](#)
- heart diseases
- [COPD](#)
- Any obstruction in the pulmonary arterial tree
- Psychiatric illnesses
- Lung infections

Treatment

Treatment of tachypnea varies according to the underlying condition. Actually, it is not the tachypnea that is treated but the cause that gives rise to tachypnea.

FORCEFUL BREATHING

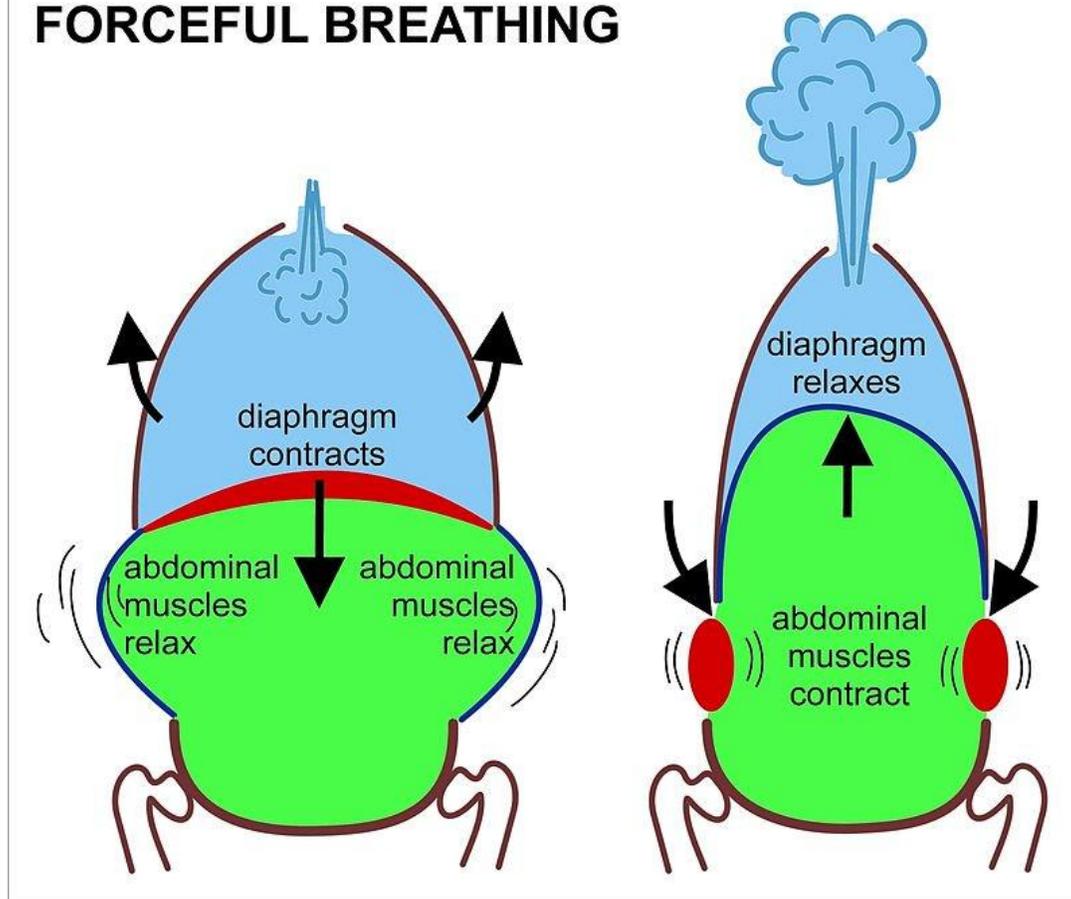


Figure 01: Forceful Breathing

What are the similarities between Hyperventilation and Tachypnea?

- The rate of respiration is increased in both hyperventilation and tachypnea.
- They have some common causes such as anxiety and heart diseases.

What is the difference between Hyperventilation and Tachypnea?

Hyperventilation vs Tachypnea

Hyperventilation is the excessive rate and depth of ventilation leading to the loss of carbon dioxide from the blood.

Abnormally rapid breathing is identified as tachypnea.

Breath

Deep breaths are taken by the patient.

The patient takes shallow breaths.

Summary – Hyperventilation vs Tachypnea

The rate of respiration is increased in both hyperventilation and tachypnea. But the difference between hyperventilation and tachypnea depends on the depth of the breaths taken. In tachypnea, the patient takes shallow breaths whereas in hyperventilation the patient takes deep breaths.

References:

1. Glynn, Michael, and William M. Drake. *Hutchisons Clinical Methods An Integrated Approach to Clinical Practice*. Edinburgh, Elsevier Health Sciences UK, 2017.

Image Courtesy:

1. "Forceful breathing" By Cruithne9 – Own work (CC BY-SA 4.0) via [Commons Wikimedia](#)

How to Cite this Article?

APA: Difference Between Hyperventilation and Tachypnea. (2017, September 06). Retrieved (date), from <http://differencebetween.com/difference-between-hyperventilation-and-vs-tachypnea/>

MLA: "Difference Between Hyperventilation and Tachypnea" *Difference Between.Com*. 06 September 2017. Web.

Chicago: "Difference Between Hyperventilation and Tachypnea." *Difference Between.Com*. <http://differencebetween.com/difference-between-hyperventilation-and-vs-tachypnea/> accessed (accessed [date]).



Copyright © 2010-2017 Difference Between. All rights reserved