

Breathing

Overbreathing (sometimes called hyperventilation) can damage your health.

Clues to overbreathing are if you can hear someone's breathing, if you can see the upper chest or shoulders moving as they breathe, if there are sighs and yawns or if they are breathing through their mouth and if their mouth is dry. Overbreathing is very common.

But why should it cause a problem? After all, we get oxygen into our bodies by breathing. We know that we breathe more when we exercise so it seems only natural that by if we breathe more rapidly we will get more oxygen into our bodies. However this is not the way the body works.

The reason for this is that our blood is already highly efficient at pulling oxygen from our lungs so we don't get any more oxygen when we breathe rapidly.

But how could it make us worse?

Carbon dioxide is crucial to maintaining the right acidity in the body. Carbon dioxide (CO₂) is the waste gas we breathe out. If we breathe more heavily, then naturally, we lower our CO₂. Now here is where the unexpected twist comes.

To release oxygen from the blood into the tissues we need to have a high enough level of CO₂. If we breathe too rapidly, we lower the CO₂ and not enough oxygen gets released from the blood. In this situation oxygen then sticks to haemoglobin instead of being released. So paradoxically as we breathe more our cells get less oxygen. This has been known since 1904.

Too little CO₂ causes other harmful effects. With regular breathing the partial pressure of carbon dioxide is 40mm. Each 1mm drop reduces blood flow to the brain by 2% (people who overbreathe often look pale because of this reduction in blood flow). Carbon dioxide also relaxes muscles including those of the airways so too little CO₂ can make the airways tight. Low levels of CO₂ can cause the brain to be over-excitabile.

Now in the common situation of overbreathing, the person involved typically thinks they are not getting enough oxygen and in fact they are right. Unfortunately this can make a person breathe more rapidly, compounding the problem. This can make them tingly, dizzy, spacey and

panicky. This happens in the harmless but distressing syndrome known as hyperventilation syndrome, but it can aggravate respiratory illnesses such as asthma as well, making the symptoms worse.

The way forward is to breathe more deeply and slowly through the nose or even to hold the breath for a time allowing carbon dioxide to build up and the oxygen to be released.

The need to breathe less was first discovered by a Russian doctor, Konstantin Buteyko. There are many books and YouTube videos on his method, particularly by Patrick McKeown.

Correct breathing has the potential to improve many illnesses, especially asthma and anxiety.