

HYPERVENTILATION INFORMATION SHEET

Overview:

- Hyperventilation syndrome affects about 10 percent of people
- Symptoms include shortness of breath, chest pain & rapid breathing and heart rate
- Hyperventilation may be a response to emotional or environmental factors
- The condition can cause changes to bodily organs, tension and headaches
- Treatment involves breathing retraining and medication in some cases

This condition is quite common, especially in casualties who are young and / or female. It does not usually require hospital treatment. It can be precipitated by hysteria, pain, or a drug reaction; some tablets can cause hyperventilation if taken with alcohol in susceptible individuals.

What is it?

Hyperventilation results from the **"Flight-Fight" response** which is designed to be triggered by exposure to a potentially dangerous or harmful situation. Where this is short-lived and where there is resolution, the body does not suffer as a result of the significant changes brought about by the sudden rush of adrenalin. However, where the situation is not life threatening, such as someone pinching your long-sought parking spot, or living or working in a situation of conflict, the body is unaware of the severity of the threat and still acts according to the natural "Fight-Flight" response.

The balance between the oxygen-rich air we breathe in and the carbon-dioxide rich air breathed out is balanced by the lungs. In chronic hyperventilators, too much carbon dioxide is breathed out, altering normal body chemistry and disturbing the body's pH (acid/alkaline balance), producing unpleasant body changes. Even slight falls or fluctuations in carbon dioxide levels will directly effect nerve cells, as well as blood flow to the heart and brain, producing a wide variety of symptoms in any organ or system in the body.

The normal pattern of breathing often changes from abdominal breathing to upper chest breathing, often through the mouth, leading to musculo-skeletal changes of upper chest and neck muscles which in turn causes pain, tension and headaches. Natural anxiety over symptoms leads to further over-breathing, creating a vicious circle. Hyperventilation becomes a major stress in itself.

Why does this happen?

This is the body's way of signaling distress, and there are many triggers, involving physical, emotional and environmental factors:

- Especially at risk are people who push themselves too hard at work, study, or sport. Or simply burn the candle at both ends.
- Dusty or noisy workplaces.

- Chronic mouth-breathers are particularly prone, as are people with asthma.
- Anaemia (not enough red oxygen carrying cells in the blood) stimulates breathing rates.
- Hormonal triggers. CO2 levels drop by up to 25% post ovulation, during pregnancy, and menopause.
- After surgery, or illness, or prolonged social or physical stress

What can be done to help?

An accurate diagnosis, recognition of causes or triggers, and an expert assessment by a respiratory specialist is the first step. Fifty percent of the cure is knowledge of the disorder. Fifty percent is hard graft, undergoing breathing pattern retraining.

This will provide a structured plan of attack - in breathing retraining, upper respiratory health assessment, postural and upper chest musculo-skeletal balancing, stress recognition, physical coping strategies, sleep hygiene and a graduated fitness regimen/lifestyle appraisal.

Counselling for anxiety and depression if required. Medication such as anti-anxiolytics / muscle relaxants if indicated. It takes time, patience, and practice, practice, practice. There is no instant cure.

Management of an Acute Attack

The casualty may well be upset or anxious. The classic sign is rapid, deep breathing, often at a rate of over 40 breaths per minute. Her heartbeat will be high. The hyperventilation causes the blood to become more alkaline, due to insufficient carbon dioxide being taken in. Tingling or coldness in the hands and face can result, along with chest pains and dizziness. The most important thing to do is to calm the casualty down with reassurance. Remove them from crowds if possible. Getting them to rebreathe their air by breathing into a paper bag will push up her intake of carbon dioxide and correct the alkalinity of the blood.

It can also be helpful to distract the individual, for example, by getting them to bite into a lemon. The body is unable to process all these assaults and takes over by reacting to the more immediate assault caused by the sourness of the lemon.

BREATHING EXERCISES / MANAGEMENT STRATEGIES FOR HYPERVENTILATION AND/OR VOCAL CORD DYSFUNCTION

1 Exhaling through pursed lips

Try exhaling through slightly pursed lips, like gently blowing out a candle whilst whispering a gentle 'ffffffffffffffffffff' sound. Keep lips symmetrical about teeth rather than puckered and do not have lower lip touching upper teeth as it would be if you were to say 'Frank'. Some people prefer to make a hissing sound. Others prefer to whisper an exhaled 'fffff', 'fffff', 'fffff' sound in the same breath in short bursts.

2 The 7:11 Breathing Pattern - the opposite of hyperventilation

Sit down and close your eyes for a little while. Just become aware of your breathing...and breathe in to the count of seven... and breathe out to the count of eleven. You can hold for a couple of seconds at the bottom of the out breath if that's comfortable for you. It may be a little difficult at first, but doing this **regularly** causes your general anxiety level to come down. You may also find that you begin to breathe this way automatically if you feel anxious. Regular relaxation actually starts to inhibit the production of stress hormones in the body so it actually becomes harder and harder to panic. As you become more generally relaxed the 'baseline' of arousal from which you are starting lowers. It becomes harder to get stressed! Hyperventilation responds very well to this technique. If you practice this daily,

hyperventilating should cease to be a problem very quickly. It can also give you much more control over panic attacks.

3 Abdominal / Diaphragmatic Breathing

Focus attention on the lower abdominal muscles, place one hand gently on the abdomen with the thumb on the navel and the fingers below the thumb. Whilst exhaling, bring the abdomen “in” towards the back making the tummy appear smaller, then just let the tummy out whilst inhaling. Try not to use chest or throat muscles. If the hand is placed on the chest during abdominal breathing it should not be moving. Practice these techniques several times daily until you are familiar with them so that you will be able to use them more effectively when necessary.

Other Advice

- Make sure you get regular exercise. Exercise is a good way of helping you to feel less anxious and give you more energy to cope.
- Eat regular, well-balanced meals. Missing meals or having an inadequate diet can increase anxiety and reduce energy levels. A good breakfast is essential, as is not eating too many sugary snacks, to avoid the ups and downs of blood sugar levels that can lay the ground for an attack.
- Too much caffeine can exacerbate the problem.