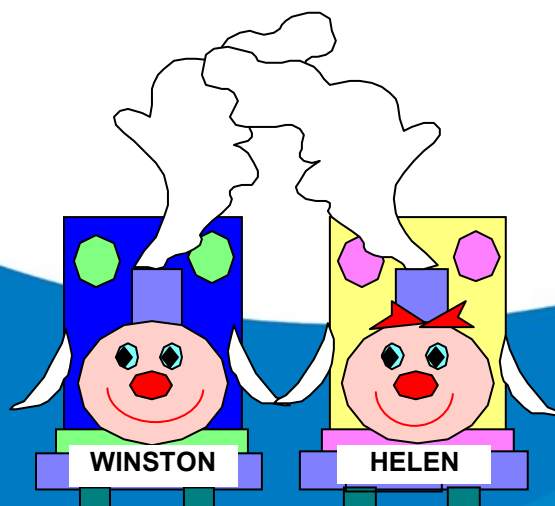


Hyperventilation

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What is Hyperventilation?

Hyperventilation occurs when you over breathe, i.e. if you breathe in excess of your body's needs.

Acute hyperventilation - is common at times of stress or excitement when your breathing rate increases. This may cause feelings of anxiety and physical symptoms such as breathlessness or palpitations.

Chronic hyperventilation - if your breathing pattern does not return to normal after an acute event, chronic changes in breathing pattern may occur. It may produce a variety of symptoms that may be intermittent, or continuous. Minor stresses may trigger these changes.

What causes Hyperventilation?

This may be difficult to identify. It may be a viral illness, chronic pain, bereavement or some other stress, which may have occurred some time ago.

Often a vicious cycle becomes established and the original cause is often forgotten or becomes no longer recognised.

Over breathing as a result of stress causes the delicate balance of gases (especially carbon dioxide) within our bodies to become disturbed. A rapid, shallow or irregular breathing pattern causes carbon dioxide to be breathed out from the lungs, in turn producing chemical reactions within the body. These chemical changes produce many of the symptoms of hyperventilation such as breathlessness, palpitations, tingling and feelings of anxiety. The body adapts to these changes, so people who have hyperventilation may have shallow, rapid or irregular breathing patterns or the changes are so subtle they are barely noticeable.

Physiotherapy will not solve the cause i.e. the trigger for your hyperventilation but it will allow you to break out of the vicious cycle. You can learn to control it.

How do we breathe?

We are not normally aware of our breathing unless we exercise vigorously or it becomes problematic. As we breathe in, the lungs expand and fill up with air.

When we breathe out, they decrease in size. This gives us the oxygen we need to live and gets rid of waste products such as carbon dioxide.

Any changes in normal breathing patterns may therefore disrupt this fine balance.

The diaphragm is the main muscle of breathing. It sits at the lower end of the breastbone and separates the heart and lungs from the abdominal contents. As we breathe out, the diaphragm relaxes upwards allowing the air to be expelled from the lungs. The rib cage also moves: as we breathe in, the upper chest moves up and forwards whilst the lower chest moves up and out.

People who hyperventilate tend to have excessive upper chest movement - this uses muscles which normally only participate in breathing when you exert yourself. As this is an ineffective way of breathing it can cause neck and shoulder tension. In order to maintain adequate levels of oxygen the breathing rate increases, thus breathing out carbon dioxide.

Our usual form of treatment

This consists of breathing re-education, i.e. relearning a correct pattern of breathing and relaxation. At first this may produce some discomfort, but as you continue to practice this will pass.

Breathing awareness

Assume a half-lying or sitting position, with your head and neck well supported and a pillow under your knees (your physiotherapist will advise you). Place one hand on your abdomen and one hand on your lower chest. Become aware of your breathing: note the size of each breath, the rate and the pattern of your breathing.

Is it fast or slow? Shallow or deep? Irregular or even? Are you using the upper or lower chest?

Does your head, neck and shoulders feel relaxed? How does the rest of your body feel?

Try to wear loose clothing - this will allow your diaphragm and abdomen to move freely.

Pull your shoulders down towards your feet. Check that your neck feels longer. Stretch your fingers and thumbs. Put your head onto the pillow and allow your jaw to drop downwards.

Breathing practice aim is to: achieve gentle, quiet, even breathing, approximately 10-12 breaths per minute when resting.

Try to: let your upper chest relax, then take a slightly deeper breath in through your nose, letting your tummy swell forward and out. Let the air sigh out as you breathe out. Try to get a steady rhythm, taking the same size of breath each time. When you have got it right in lying and sitting positions, practice while in standing, walking and other activities such as bending, stair-climbing, eating and talking.

As you exercise your breath rate will increase. Remember this is normal when you stop, check it has returned to a steady rhythm. Try to talk slowly; do not say too much with one breath. Pause to take a gentle breath from your tummy before continuing. It does take some practice to master, but you can do it! These exercises should only be carried out following instruction from your physiotherapist. He/she will advise you on when and how often they should be carried out.

In an acute attack (when you are having difficulty breathing):

Put your 'cupped hands' over your mouth and nose and breathe deeply and slowly for approximately 20 breaths. This is called re-breathing. Stop and breathe normally for a few minutes in between the 20 breath cycle.

Repeat this re-breathing activity if you still feel unwell and you are breathing faster than usual. If you have a Blue Reliever Asthma Inhaler you can take this while you are resting between re-breathing episodes.

If you have any further questions, please contact your child's consultant via their secretary via the hospital switchboard. The secretaries are available Monday to Friday, 9.00 am to 5.00 pm

If you need to contact the Department outside of these hours, please phone either:

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