

*Calm, rhythmic breathing and moderate exercise are known to invoke the Relaxation Response and to help us to manage the effects of stress. Relaxation reduces tension, improves sleep, improves concentration and reduces anxiety. Overall, relaxation helps us to cope better with our work and life.*

## THE IMPORTANCE OF THE RELAXATION RESPONSE

The 'Relaxation Response,' the opposite of the "fight-or-flight" response, was described by Dr. Herbert Benson approximately 30 years ago.

The Relaxation Response is important as a Stress Management Technique as it produces a decreased metabolism, a slower heart rate, lower blood pressure, and a slower rate of breathing. Examples of activities that produce the relaxation response include meditation, yoga, repetitive physical exercise such as running or walking, and progressive muscle relaxation. However, in a practical sense, we cannot always walk away from our commitments when we feel the effects of stress in order to practise yoga or to go running.

There are many ways in which we can invoke the relaxation response and cause our body and mind to switch from the Stress Response (or Sympathetic Nervous System) to the Parasympathetic Nervous System; that is, to relax.

Methods used by people will vary enormously according to our likes and dislikes, our physical and mental state of health and the amount of time available to us. Methods that are popular at the current time are:

**Taking part in sport** – Dr Benson noted that sport puts the body into the fight or flight response in a minor way. When the sports session is over, the body switches into relaxation mode as the Parasympathetic Nervous System regains control.

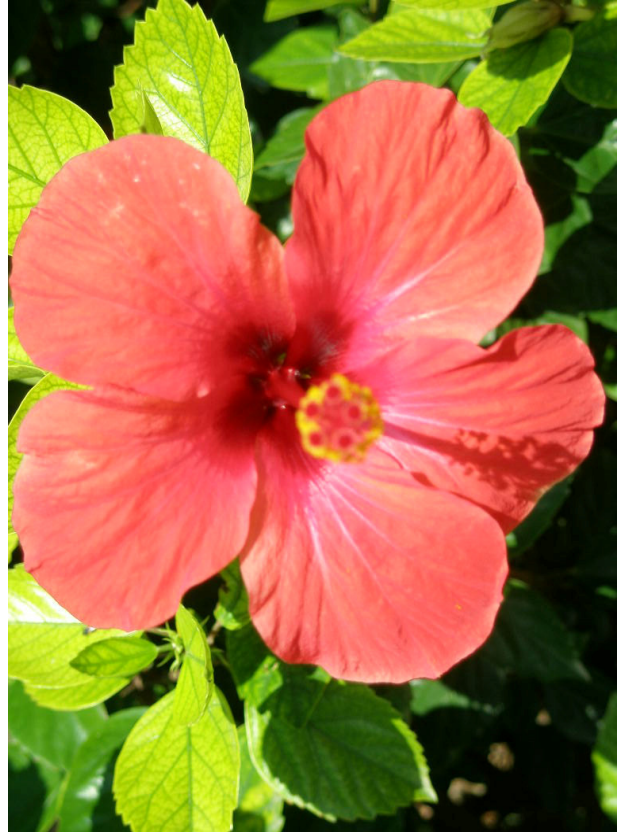
Less physical methods include:

**Listening to music** – this can range from classical to pop or rock, dependent upon personal preferences. Many CDs and cassettes have been produced that claim to aide relaxation. These may be very helpful but, like stress itself, what invokes the relaxation response is unique to each individual. Soothing music may work for some of us, jazz for others and rock may be the best for some people.

**Reading a book** – curling up with a good book is an excellent way to relax whether it is a good novel or just a book that takes us to places we have not visited before, thus broadening our horizons.

**Yoga and Pilates** – two popular methods of physical exercise which are known to be good mediums for relaxation. Both provide slow and gentle exercise and encourage good breathing patterns. In the case of Pilates, it is essential to concentrate on the movements in order to ensure that back muscles support the movement adequately. This is achieved by moving in time with breathing and focussing the brain in this way can effectively shut out worries and anxieties.

**Watching Television or listening to the radio** can help us to unwind at the end of a busy day but is not as effective in terms of stress management as many people think.



**Going out for a walk** – brisk walks to build cardiovascular capacity are good for maintaining an essential level of physical fitness. Three brisk walks a week of approximately 20 minutes duration on each occasion is the current health service recommendation. For relaxation purposes walking is excellent, too, but in order to relax and reap the benefits it is necessary to take a slow and gentle walk, perhaps in the countryside, particularly if you spend time to notice the birds singing, horses and cattle grazing, squirrels scampering up trees, lambs running and jumping, and especially the changes in the trees and hedgerows as the seasons change.

**Gardening** - is a very relaxing pastime and it can be especially rewarding to see the garden blossom, as well as helping to keep the body fit through the movement associated with digging and tending the garden.

**'Pampering'** – is excellent for relaxing and promoting the 'feel good' factor. A massage, Reiki therapy or aromatherapy session can be particularly helpful for banishing stress at the end of a stressful day or week.

## THE MECHANISM OF BREATHING

We all recognise that breathing is essential to life but as it is controlled by the autonomic nervous system we rarely need to give it a second thought. When we breathe in our rib cage moves upwards and outwards, increasing the size of the chest cavity. At the same time the diaphragm, a thick band of muscle separating the chest cavity from the abdomen, contracts causing it to flatten and move down (see diagram below). This movement of the diaphragm further expands the capacity of the chest cavity and pulls air into the lungs via the mouth, nose and throat, rather like a vacuum system. When air containing oxygen reaches the lungs it diffuses into the blood supply through millions of tiny cells known as alveoli. At the same time carbon dioxide and other waste products are taken from the blood stream and expelled from the body as we breathe out, or exhale. On average adults tend to breathe 12 – 16 times per minute, children and infants a little faster.

When we breathe out the rib cage moves downwards and inwards again and the diaphragm moves back into its domed position, both actions effectively pushing air out of the lungs through the throat, mouth and nose. The rib cage and diaphragm need to move freely in order for us to breathe freely and effectively.

Poor posture is known to adversely affect breathing by altering the smooth flow of the ribcage as it moves upwards and outwards during inspiration or breathing in, and downwards and in during exhalation.

Signs of poor breathing include:

- Sighing or yawning – reflex reactions of the body in an attempt to gain more oxygen.
- Rapid, shallow breathing involving only the upper part of the chest.
- No expansion of the abdomen during inspiration (breathing in).

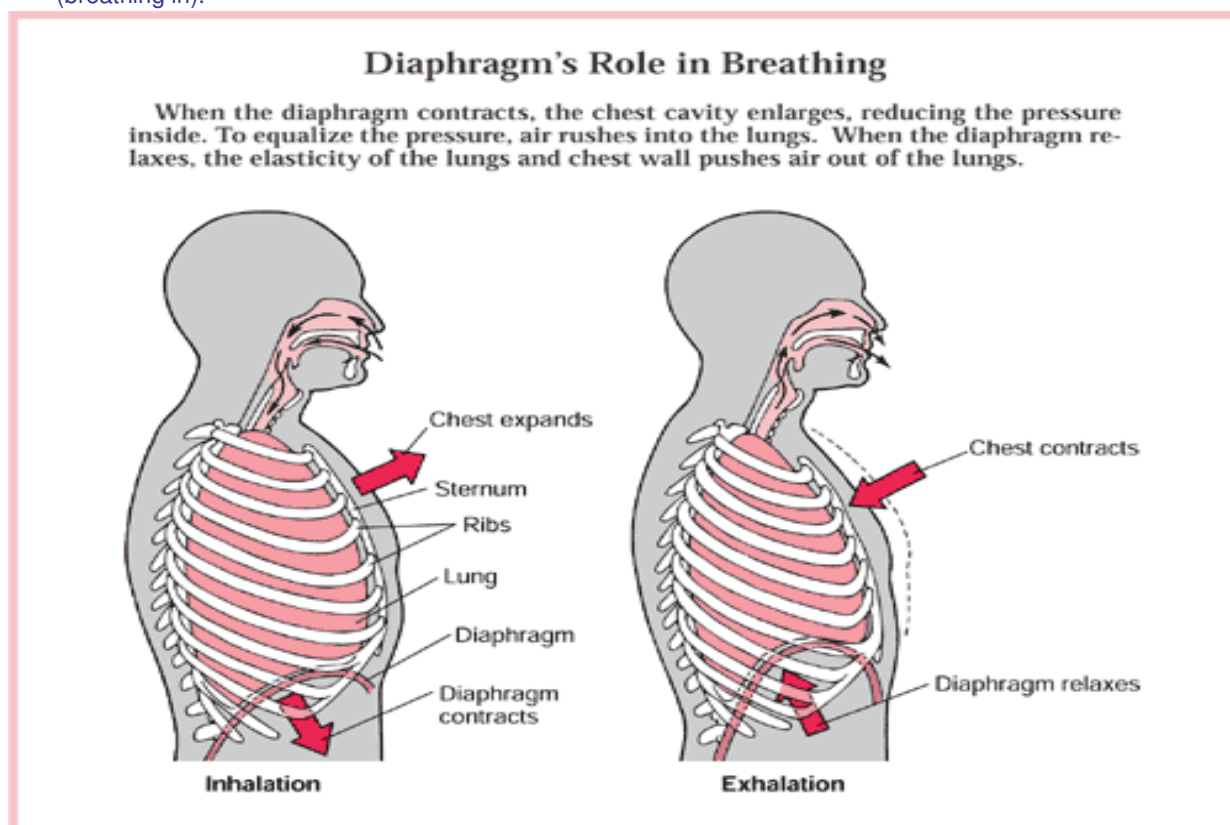
- Irregular breathing
- Breathing in deeply and holding the breath.

As all of the cells in our body require a constant supply of oxygen it is easy to see that poor breathing patterns will starve the body and this, in turn, will lead to fatigue.

## USING BREATHING TO AID RELAXATION

When we are suffering from stress our breathing becomes fast and shallow and we tend to use the chest only, rather than using the chest, diaphragm and abdomen. Shallow breathing allows less air, and thus less oxygen, to enter the lungs for transportation around the body. In addition, in stress, the muscles around our shoulders and chest cavity become tense making effective breathing even more difficult to achieve.

By concentrating on our breathing, slowing down the rate and ensuring that we use the abdomen and diaphragm as well as the chest, we can invoke a sense of calm and relaxation and the muscles in our chest and shoulders will relax. However, in order to be effective it is important to practice relaxation techniques on a regular basis so that they work when we need them most. When we first begin relaxation exercises there is a need for us to concentrate on what we need to do, whether this is focussing on pleasant thoughts, on how we are sitting or even when tensing and relaxing muscle groups in progressive relaxation exercises. Obviously, as we learn these exercises the need to concentrate in this way and, indeed, the newness of the experience as a whole may make it more difficult to relax fully. With time and practice this is easily overcome.



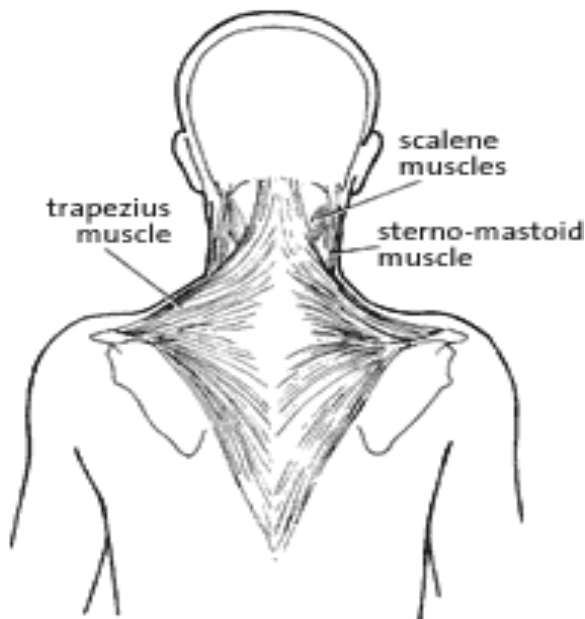
## MUSCLE TENSION

In stressful times we often complain of tension in our muscles, particularly those in our shoulders and neck.

Many of our muscle groups work in pairs to create movement. This effect is easy to experience by placing the palm of our hand over the muscles on the inside or our upper arm. When we bring our fist up to our shoulder the muscles bulge as they become shorter and thicker, with the muscles on the outside of the arm becoming longer and thinner as they stretch to accommodate the movement.

In order to move, muscles require energy in the form of glucose and a good blood supply providing oxygen. When muscles remain in a state of tension the blood vessels supplying them also become cramped, thus reducing the circulation and oxygen supply. In addition, the process by which they function is impaired and levels of lactic acid, a by-product of the chemical reaction that takes place in our muscles, builds up causing aching, pain and stiffness.

In times of stress our muscles become tense, and as energy is expended keeping them in this partially contracted state, the muscles and limbs will appear heavy and difficult to move, causing a feeling of fatigue.



Very often stress causes unnecessary muscle tension in the voluntary muscles in the neck, shoulders, limbs and particularly in the jaw. The triangular-shaped **trapezius** muscle runs across our shoulders and from our neck down into the back. It is this muscle that becomes tense most often and, when we reach back to massage our shoulders it is the trapezius muscle that we are trying to loosen up.

In some people poor posture or lack of attention to the way we stand and sit over many years can cause prolonged tension in parts of the body. Leaning to one side when standing for long periods of time will cause tension in the muscles which are being stretched, and corresponding slackness in those on the opposite side of the body. Over a number of years this can cause permanent disfigurement and may even lead to muscle wasting and an increase in wear and tear on joints.

## SIMPLE EXERCISES TO DO AT YOUR DESK

### Arms and shoulders

- Sit or stand so that your arms can relax at your sides.
- Imagine that you are carrying two heavy suitcases, one in each hand. Feel your arms stretch down to cope with the weight, and the stretch across your shoulder blades.
- Now drop the suitcases and notice the way your shoulders spring up and the release of tension in your shoulder blades and neck.

### The Neck

- Stand, or sit upright in your chair.
- Breathe in slowly.
- As you breathe out slowly and gently tilt your right ear towards your right shoulder making sure you do not allow the shoulder to rise towards your ear.
- Count to three, noticing the tension in the muscles on the side of your neck.
- Breathe in slowly and deeply.
- As you breathe out slowly and gently lift your head back to its central position.
- Repeat the exercise to the left.

### The Shoulders

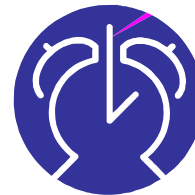
- Sit tall in your chair, with arms relaxed by your sides.
- Move each shoulder in turn.
- Pull the right shoulder up towards the ear, and then relax.
- Repeat with the left shoulder, and relax. Repeat several times with each shoulder.
- Hunch both shoulders towards the ear lobes and relax.
- Pull the shoulders down, lengthening the neck as you do so. Relax and feel the tension in the shoulders disappear.

### Relaxation for the whole body (1)

- Sit in a comfortable position with your arms and legs uncrossed and your spine straight.
- Breathe in deeply into your abdomen. Pause before your exhale.
- As you exhale, count 'one' to yourself. As you continue to inhale and exhale count 'two ... three ... four'.
- Continue breathing and counting in sets of four for four to five minutes.
- As you do so notice that your breathing will gradually slow, your body will relax and your mind will become calm.

## **Relaxation for the whole body (2)**

- Sit comfortably in a chair, arms comfortably relaxed beside you or with your hands in your lap, and soles of the feet flat on the floor.
- Close your eyes.
- Listen to music if you wish.
- Breathe in and out slowly and gently, ensuring that you use your chest, diaphragm and abdomen.
- Starting with your toes, breathe in slowly and, as you do so, curl your toes. Feel the tension in them.
- As you breathe out allow your toes to relax and notice how different they feel now.
- Now breathe in and as you do so tense the muscles in your feet and ankles.
- Gently rotate each foot in both directions.
- Next, tense the muscles in the calves of your legs and relax them, still paying attention to your breathing.
- Tense the muscles in your upper legs by pressing your knees together hard and feeling the tension along the inner thighs.
- Move up through your body, tensing and relaxing each group of muscles as you go, feeling the difference and noting how your muscles feel when they are in a relaxed state.
- Feel the strength and tension in your abdominal muscles.
- Move each shoulder in turn. Pull the right shoulder up towards the ear, and then relax. Repeat with the left shoulder, and relax. Repeat once more, then hunch both shoulders towards the ear lobes, relax and repeat.
- Sit tall in your chair, with arms relaxed by your sides. Pull the shoulders down, lengthening the neck as you do so. Relax and feel the tension in the shoulders disappear.
- Raise your lower arms to shoulder level in front of you with elbows bent. Move your arms back towards your spine, tensing the muscles around your shoulder blades as you do so. Then relax and bring your arms forward again.
- Make a fist and bring your lower arm up towards your shoulder, and lower the arm again.
- Relax the muscles in your hands and fingers by making your hand into a fist, then opening out the hand and stretching the fingers as far as possible.
- Sit tall in your chair with your chin parallel to the floor. Gently tilt your chin towards your chest and then return your head to its normal position.
- Relieve tension in the jaw by clamping your teeth together and then relaxing the jaw muscles. Allow your mouth to open to its fullest extent, stretching and relaxing the muscles of the jaw and mouth as it does so.
- Smile! Smiling relaxes the muscles throughout the face. Force a smile and feel the muscles in the cheeks tense, then relax and bring the lips together. Smile gently, allowing the lips to just part and notice how relaxed the cheeks and facial muscles are.
- Screw the eyes up tightly and feel the tension in your eyebrows. Gradually relax the eyelids and open the eyes slowly, rather as if you are waking up gently from a deep and satisfying sleep. Blink gently and feel the muscles surrounding the eyes relax. Repeat.
- Relieve tension in the forehead by frowning hard then relax and tension in your forehead and scalp disappear as you do so.



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### **“THE 60-SECOND TRANQUILLISER” ©**

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The 60-second tranquilliser is a useful tool to enable us to cope more easily in situations where we are fearful, anxious or in a panic.

CABA wishes to thank Premier Life Skills ([www.premierlifeskills.co.uk](http://www.premierlifeskills.co.uk)) for allowing it to be reproduced here.

It is important to practice this controlled breathing technique regularly, away from stressful or anxious situations, until you become quite skilled at it.

Using positive thoughts activates the parasympathetic nervous system and helps to switch off the fight/flight reaction.

**Say firmly to yourself, ‘ TAKE CONTROL’**

**Repeat, ‘I CAN DO ANYTHING I WANT TO’ and breathe out slowly.**

**Slowly breathe in and allow your abdomen to soften and rise.**

**Pause**

**Slowly breathe out, longer than breathing in.**

**Say to yourself, ‘I AM BREATHING IN PEACE AND BREATHING AWAY TENSION’**

**Each time you breathe out relax your face, jaw, shoulders and hands.**

**Move and talk more slowly.**