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Breathing to reduce stress

The primary role of breathing is gas exchange: our cells need oxygen and their waste product, carbon dioxide, needs to be expelled. Breathing is an automatic body function, controlled by the respiratory centre of the brain. However, we can also deliberately change our rate of breathing.

Different healing systems, from different cultures, have long realised the healing benefits of the breath, including yoga, Tai Chi and some forms of meditation. Many holistic practitioners believe that the breath is the link between the physical body and the ethereal mind, and that spiritual insight is possible through conscious breathing.

Regardless of the philosophy, scientific studies have shown that correct breathing can help manage stress and stress-related conditions by soothing the autonomic nervous system.

A range of disorders

The use of controlled breathing as a means of promoting relaxation can help manage a range of disorders, including:

- Anxiety
- Asthma
- Chronic fatigue syndrome
- Chronic pain
- High blood pressure
- Insomnia
- Panic attacks
- Some skin conditions, such as eczema
- Stress.

How we breathe

To stay inflated, the lungs rely on a vacuum inside the chest. The diaphragm is a sheet of muscle slung underneath the lungs. When we breathe, the diaphragm contracts and relaxes. This change in pressure means that air is 'sucked' into the lungs on inhalation and 'pushed' out of the lungs on exhalation.

The intercostal muscles between the ribs help to change the internal pressure by lifting and relaxing the ribcage in rhythm with the diaphragm. Flexing the diaphragm requires the use of the lower abdominals. If your abdomen gently moves in and out while you breathe, then you are breathing correctly.

Breathing and stress

The brain sets the breathing rate according to carbon dioxide levels, rather than oxygen levels. When a person is under stress, their breathing pattern changes. Typically, an anxious person takes small, shallow breaths, using their shoulders rather than their diaphragm to move air in and out of their lungs. This style of breathing empties too much carbon dioxide out of the blood and upsets the body's balance of gases. Shallow over-breathing - or hyperventilation - can prolong feelings of anxiety by exacerbating physical symptoms of stress, including:

- Chest tightness
- Constant fatigue
- Faintness and lightheadedness
- Feelings of panic
- Headaches
- Heart palpitations
- Insomnia
- Muscular aches, twitches or stiffness
- Tingling, numb and cold hands and face.

The relaxation response

When a person is relaxed, their breathing is nasal, slow, even and gentle. Deliberately mimicking a relaxed breathing pattern seems to calm the autonomic nervous system, which governs involuntary bodily functions. Physiological changes can include:

- Lowered blood pressure and heart rate
- Reduced amounts of stress hormones
- Reduced lactic acid build-up in muscle tissue
- Balanced levels of oxygen and carbon dioxide in the blood

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- Improved immune system functioning
- Increased physical energy
- Feelings of calm and wellbeing.

Abdominal breathing

There are different breathing techniques to bring about relaxation. In essence, the general aim is to shift from upper chest breathing to abdominal breathing. You will need a quiet, relaxed environment where you won't be disturbed for 10 to 20 minutes. Set an alarm if you don't want to lose track of time.

Sit comfortably and raise your ribcage to expand your chest. Place one hand on your chest and the other on your abdomen. Take notice of how your upper chest and abdomen are moving while you breathe. Concentrate on your breath and try to breathe in and out gently through the nose. Your upper chest and stomach should be still, allowing the diaphragm to work more efficiently with your abdomen and less with your chest.

With each breath, allow any tension in your body to slip away. Once you are breathing slowly and with your abdominals, sit quietly and enjoy the sensation of physical relaxation.

Special considerations

Some people find that concentrating on their breath actually provokes panic and hyperventilation. If this is the case, look for another way to relax.

Where to get help

- Your doctor
- Stress management specialist, such as psychologist
- Buteyko Practitioner.

Things to remember

- Shallow, upper chest breathing is part of the typical stress response.
- The stress response can be switched off by consciously breathing with the diaphragm.
- Abdominal breathing plugs into the autonomic nervous system and encourages it to relax, bringing about a range of health benefits.

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