

## The Breath Connection Facts

1. Overbreathing, either by taking larger breaths or more breaths per minute or both leads to low carbon dioxide levels in the lungs.
2. Lowered carbon dioxide levels (less than 5%) lead to spasm of smooth muscles that wrap around airways, blood vessels, bladder and other hollow organs.
3. Lowered carbon dioxide levels lead to the impaired oxygenation of the body as blood holds onto oxygen more strongly not releasing it fully to the tissues. (The Bohr effect)
4. Lowered carbon dioxide levels changes the acid/alkaline balance of the blood thereby impairing the entire chemistry of the body.
5. Chronic long-term over-breathing causes receptors in the brain to accept and maintain lower levels of carbon dioxide in the blood, thereby ensuring the continued state of over-breathing to the detriment of the person's health.
6. The above effects can all contribute to the symptoms experienced by people suffering ME or CFS problems. For more details of these physiological effects visit our website at: <[www.buteykokent.co.uk](http://www.buteykokent.co.uk)>

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## What can breath training do?

Note the common symptoms of CFS & CHHV:

|    | Chronic Fatigue Syndrome | Chronic Hidden Hyperventilation        |
|----|--------------------------|--|
| 1  | Extreme fatigue          | Fatigue/lethargy                       |
| 2  | Poor concentration       | Impaired concentration                 |
| 3  | Headaches                | Headaches/migraines                    |
| 4  | Sore throat              | Inflamed airways                       |
| 5  | Tender lymph nodes       | Impaired immune system                 |
| 6  | Joint aches              | Aching joints/muscles                  |
| 7  | Feverish                 | Recurrent fevers                       |
| 8  | Sleeping difficulties    | Sleep apnoea/nightmares                |
| 9  | Emotional distress       | Panic attacks/anxiety                  |
| 10 | Psychiatric problems     | Depression                             |
| 11 | Allergies                | Hay fever/eczema                       |
| 12 | Abdominal cramps         | Bloating/IBS/Gut problems              |
| 13 | Weight loss or gain      | Weight changes as breathing normalizes |
| 14 | Rash                     | Skin disorders                         |
| 15 | Rapid pulse              | Rapid pulse/irregular heart beat       |
| 16 | Chest pain               | Chest pains not heart related          |
| 17 | Night sweats             | Night sweats                           |

Notes on above: 1. Poor tissue oxygenation, loss of magnesium, impaired body chemistry due to pH rise. 2. Reduced oxygen delivery to higher brain centres due to constriction of vertebral arteries, the Bohr effect and shunting of oxygenated blood to lower centres. 3. Primarily due to hypoxia as for 2. 4. Usual fault of mouth breathing causing irritation & infection of throat arising from bypassing of protection of nasal breathing. 5. Impaired immune system from stress reactions permitting chronic infection. 6. Effect of chronic muscle tension and impaired circulation. 7. Suppressed immune system, recurrent infections 8. Sleep apnoea, in part, body's response to critically low CO2. 9. Effect of inadequate oxygen supply to higher centres of brain. 10. Perhaps combination of above problems. 11. Increased histamine production, reduced blood supply to skin, increased sweating 12. Spasm of smooth muscle in gut, disturbed biochemistry, impaired immune system 13. Hyperventilation causes dysfunctional metabolism. 14. As for 11 15. Hyperventilation & increased pulse rate with irregular heartbeats. 16. Related to upper chest breathing, muscle spasm & strain. 17. Common symptom of hyperventilation at night.



# The Breath Connection

## Chronic Fatigue Syndrome ME

Our breath connects everything in our lives: our health, emotions, our whole being and every living thing in the environment, as we all, plants, animals & fellow humans, breathe the same air.

Good breathing means good health.

[www.TheBreathConnection.com](http://www.TheBreathConnection.com)

## An Introduction to CFS or ME

To find yourself feeling tired almost all the time, that any physical activity causes extreme fatigue that may take hours or even days to recover from and to be exhausted almost as much by even mental activities, is the experience and life for sufferers of ME or CFS.

This has been made worse in the past by the erroneous belief of many people that such patients were malingerers or hypochondriacs.

Diagnosis was difficult because there were no analysis criteria for doctors to rely on, but in 1994 a group of Chronic Fatigue Syndrome researchers (Fukuda et al) set down specific criteria as a diagnostic aid.

## The Criteria Check List

1. The person must have had severe and chronic fatigue for at least six months and no other medical condition found. Conditions that have similar symptoms include: sleep apnoea, hypothyroidism, severe depression, schizophrenia, eating disorders, cancer, autoimmune disease, chronic low grade infection and obesity. These must be ruled out.

2. At least four of the following eight symptoms must have appeared and be present at the same time during this period:

Impairment of short-term memory or concentration.

Waking up tired even after a good sleep.

Tender lymph glands.

Muscle pains.

Pain without swelling or redness in more than one joint.

Headaches of a new type, pattern or severity.

Sore throat.

Not feeling well for more than twenty-four hours after doing physical exercise or exertion.

## Who Suffers from ME or CFS?

ME / CFS mostly affects young adults aged between twenty and forty years of age, but can also be found in children and teenagers. The incidence is not related to any particular social group but women suffer more frequently from this condition than men (Lloyd 1990)

## Why ME or CFS Occurs

A major stress such as an illness, toxic overload or viral infection usually occurs before ME / CFS starts, but there is no one thing common to all sufferers and many people experience similar events without developing the syndrome, which leaves the exact source a mystery to medical science.

Hans Selye (1984), in his book "Stress of Life" may have an explanation for this problem. He explains that stressors deplete an "adaptation energy bank" over time. It is possible that some people have a lower reserve energy than others and are pushed into exhaustion states too easily.

He proposes there are three parts to our dealing with stressors:

1. The alarm reaction
2. The stage of resistance
3. The stage of exhaustion

These stages are repeated time and time again throughout our lifetime and normally we recover each time without long-term problems. This process is also part of our built-in flight or fight response to stressors, and when there are repeated stressors our breathing is increased, blood flow to the brain is lowered along with reduced glucose delivery, creating cognitive problems (Ley 1994) when even simple sums seem difficult. Headaches are often associated with this lack of oxygen or hyperventilation related muscle tension.

## References

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## How effective is breath training?

Chronic over-breathing creates cell hypoxia, elevated lactic acid, constant production of free radicals in cells, free radical damage, possible inflammation in various areas of the body, leading to decreased vagal power (Sisto et al, 1995), blocked nose and chronic sinusitis, digestive problems, face acne, liver inflammation (with abnormal liver test results), and many other pathological effects.

Inflammatory processes and the mental state of chronic stress (fight-or-flight response) exhaust cortisol reserves (cortisol is a steroid hormone or glucocorticoid produced by the adrenal gland). This explains how Adrenal Fatigue Syndrome and chronic insufficiency in cortisol reserves develop. Particularly, for most patients, symptoms of chronic fatigue are worst during early morning hours (Togo et al, 2008; Guilleminault et al, 2008).

### Chronic fatigue syndrome & body-oxygen levels

The degree of chronic fatigue syndrome in an individual can be found using a stress-free body-oxygen test, the Control Pause, which measures one's body oxygenation in seconds

| Body-oxygen level | Symptoms of Chronic Fatigue Syndrome  |
|-------------------|---|
| 1-10 seconds      | Extreme fatigue syndrome; severe chest tightness; night sweats; severe dyspnoea; severe muscle pain; severe chronic headaches |
| 11-20 sec.        | Moderate fatigue; chest pain; weakness; mild chest pain; shortness of breath; muscle pain                                     |
| 20-40 sec.        | Moderate level of energy; possible desire to slouch; light muscle pain; night sweats and headaches are very rare              |
| Over 40 sec.      | Craving and joy of physical exercise; the attention is focused on the outer world instead of bodily pains and aches           |

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Visit <[www.buteykokent.co.uk](http://www.buteykokent.co.uk)> for details on how to measure the Control Pause.