

RELAXATION EXERCISES FOR TREATMENT OF RECURRENT HEADACHES

What has muscle contraction to do with headache?

The blood vessels and nerve fibres of the scalp lie in muscle. Place your fingers on each temple and clench your jaw. You will feel the muscle belly of the temporal muscle swell as it contracts. Let the jaw go loose and the muscle becomes flat again. Many people contract these muscles all day without realising it so they are working continuously, which may set up a constant dull ache in the temples. The vessels which run through the muscles often contract while the muscle is contracting. During sleep the muscles may relax and the vessels dilate so that a person may wake in the middle of the night or the early morning with a throbbing headache in the temples. Some others may grind or clash their teeth at night during sleep and may therefore wake up with aching jaws and a raw tender spot on their upper gum caused by sideways movement of the jaw during sleep. Overcontraction of the jaw muscles is very common in tense or anxious people, who often do not realise that their muscles are not relaxed.

Do you feel the jaw muscles aching at the end of the day, or after an unpleasant or difficult conversation, or after an argument? Do you feel an ache in one or both temples at these times or wake up with a headache in this area? If the headache is in one temple only, check your bite to see if you chew equally and evenly on both sides and can move the jaw freely from side to side. If you have back teeth missing on one side or the other, the strain of chewing is thrown on to the other side which causes an ache in the hinge-joint of the jaw and in the temple. If this is the case you should see your dentist about balancing the bite, as this can be a very important factor in excessive jaw clenching.

Just as chronic jaw clenching is a common cause of aching in the temples, chronic frowning is a common cause of pain in the forehead. Do others say to you that you frown a lot or look worried most of the time? This can be an indication that you are using your scalp muscles without being aware of it.

Pain in the neck can also result from muscle contraction. Some people walk about holding their neck stiffly as though it were a solid block of wood. This may be an attempt to protect the neck because of the sensation of grating in the neck on movement of the discovery on x-ray that some of the discs in the neck have degenerated. Disc degeneration is quite common even in young people and is almost universal in older age groups. If there has been a whiplash injury to the neck or attention is drawn to the neck in any way, The muscles may contract to splint the neck and a vicious cycle is set up of pain leading to muscle spasm which leads to more pain. Muscle contraction or tension headache is usually a constant tight pressing feeling in the forehead, temples or back of the head and may spread all around the head 'like a tight band'.

Because the scalp muscles are linked together by a sheet of strong tissue which passes over the skull, muscle contraction may also cause the feeling of pressure on top of the head. Sharp jabbing pains may also be felt because scalp nerves are compressed by muscle contraction. Over contraction of muscle is a faulty habit which develops over the years and often starts in childhood. About 1 in 5 patients with tension headaches can remember having similar headaches under the age of 10 years. It may be associated with mental tension and anxiety but may have become an automatic reaction which continues even when there are no obvious problems of any sort.

Are you able to relax?

The most natural form of treatment is to train the muscles of the body to relax and the first step is to realise that you are not as relaxed as you think you are. Try these simple tests.

- 1) Sit in a chair and lean back. Ask someone to lift your arm in the air in a comfortable position as though it were resting on the side of an arm chair. Take your time and relax completely. Then ask your friend to take away his hands which have been supporting your arm. When the supporting hands are taken away, what does your arm do?
 - *If it flops lifelessly downwards, you are indeed relaxed.*
 - *If it stays in the air, or you move it slowly downwards, you are not relaxed. Your muscles are contracting continuously without you realising it.*
- 2) Lie on a bed or couch with your head on a pillow and try to relax completely. When you consider that you have achieved this, ask your accomplice to pull the pillow away from under your head.

Does your head drop limply on to the bed?

Or does it stay poised in mid-air as though the pillow was still there?

- *If you are still holding your head in the air above an invisible pillow, your muscles must be contracting without you realising it.*

Once you have acknowledged that excessive muscle contraction is playing a part in the aching of your head or neck and that you do not really know whether the muscles are contracting or not, you are ready to start relaxation exercises.

Paradoxically, you cannot relax about relaxing. It is not a passive process. It is no use saying to someone 'relax' and then do it unless you have carefully practised the art of 'switching off' the nerve supply to the muscles. This is a voluntary action as deliberate as turning off a light switch and must be practised until it can be done at will and done rapidly.

At first it is necessary to set aside at least ten minutes night and morning for the exercises. It is a great help to have someone with you in the early stages to ensure that you are completely relaxed when you think you are. This person will be referred to below as the 'assistant'. It is obviously a great advantage if the assistant can be a trained physiotherapist or occupational therapist but this is not always practicable and a well-motivated husband or wife, relative or friend can be of enormous value in ensuring that the exercises are performed conscientiously and that relaxation is practised until it becomes complete.

The sequence of relaxation exercises

Lie down on a firm surface such as a carpeted floor. A bed with an inner spring mattress will do, but not one with a soft sagging mattress. A pillow can be used to support the head at first but may be discarded later as relaxation becomes easier. For the first few sessions only a short-sleeved shirt and shorts should be worn so that muscle contraction can be seen as well as felt. Lie on the back with the legs slightly separated and the arms comfortably flexed at the elbow so that the elbows are by the sides with the hands resting on the body. Various muscles will be contracted and relaxed in turn.

- 1. Legs:** Contract the leg muscles so that the legs become rigid pillars. The muscle bellies will be seen to stand out as the muscles contract. Concentrate on the sensation set up by the muscles contracting and the feeling of tension in them. Then, suddenly and deliberately, 'switch off the power supply' so that the muscles become limp. Concentrate on whether any sensation is coming from the muscles now. Are they completely relaxed? At this point it is helpful for an assistant to put his hand behind the subject's knees and lift them up sharply to see if the leg is completely floppy and that the muscles do not contract again as soon as the limb is moved passively. If they are not completely relaxed, or if they contract again when the limb is touched or moved, the sequence should be repeated.

Many people only half relax on the first few attempts. This can be detected by watching the muscles closely. After the first relaxation, the muscle bellies are not as prominent as they were but there may be some contraction remaining. Try again to 'switch off' and this second attempt may be rewarded by seeing the muscle become completely flaccid. The legs may then be bent at the knee by the assistant, moved about, or rolled backwards and forwards with the feet flailing 'like a rag doll'. This sequence may be completed by lifting one leg, letting it drop downwards like an inanimate object, then doing the same with the other.

- 2. Arms:** Brace the arms so that the elbows are forced downwards on the couch (or on the assistant's hand if he is checking the degree of relaxation). The arms are held rigidly and the muscle contraction is suddenly stopped so that the arms become limp and lifeless. The assistant should then be able to bounce the elbow up and down without any resistance being offered. This sequence should be repeated until the subject is aware of the sensation of the muscle contraction and the contrast with the feeling relaxation and the assistant is satisfied that the arm becomes truly flaccid.

3. **Neck:** Lift the head from the pillow and then allow it to drop backwards. The assistant may provide resistance by pressing on the forehead until the subject feels the contraction of the muscles in the front of the neck. When the head is dropped backwards, the assistant can rock it gently to and fro to make certain that there is no residual activity in the muscles. Now push the head backwards into the pillow and register the sensation of contraction of the muscles in the back of the neck. Stop the contraction suddenly so that the head may be rotated freely on the neck by the assistant. Repeat this until relaxation is satisfactory.
4. **Forehead:** Frown upwards so that the brow is furrowed. If there is difficulty in doing this, look upwards as far as the eyes will move and the forehead will become creased. Again, feel the sensation of tension in the muscles, then close the eyes and let the forehead muscles relax. The assistant can detect the presence or absence of contraction by seeing whether the skin of the forehead moves freely with his hand.
5. **Eyes:** Screw the eyes up tightly and become aware of the sensation of tension, then relax the muscles and lie with the eyes closed lightly. Make sure that there is no trembling or flickering of the closed eyelids and the eye muscles feel entirely relaxed.
6. **Ears:** Clench the jaw firmly and concentrate on feeling the sense of tightness in the temples as well as in the jaw itself. Then switch off and let the jaw fall open. Push the jaw open perhaps against the pressure of the assistant's hand, then relax completely. Move the jaw sideways to the right as far as it will go and experience the sensation which this gives to the jaw and temple before relaxing. Then do the same to the left. Complete the sequence by clenching the jaw firmly again, and let the jaw drop open loosely. The assistant should then be able to hold the top of the jaw with his fingers and waggle the jaw up and down rapidly without any opposition from the jaw muscles.

This is the hardest of all relaxation procedures to achieve and you must not be disappointed if you are unsuccessful on the first occasion. It may require repeated practice to enable the jaw muscles to cease all activity so that the jaw may be moved easily by the assistant. It is most important that you persevere until you accomplish this because overcontraction of jaw muscles is the most common factor in tension headache and the 'switching-off' process must be thoroughly learned.

7. **Whole body relaxation:** Once you are able to relax the legs, arms, neck, forehead, eye and jaw muscles in order, lie for about five minutes with all muscles relaxed. Once you have achieved total relaxation, the process becomes negative rather than positive. In other words, you permit natural relaxation to continue rather than willing yourself to relax actively. At this stage, it is helpful to think of some beautiful and tranquil scene, to imagine yourself lying on a grassy bank on a warm summer's day with the drowsy sounds of summer in the background. Everyone has some particular sound he or she associates with peace and tranquillity. It may be the rippling of a trout stream, the humming of bees, the song of birds, the sighing of wind in the trees or distant music. Choose your own theme and your own mental picture and live in the scene for a few minutes. As you do so, feel the sensation of heaviness creep over your legs, trunk and arms, then spread to your neck and head, eyes and face. Lie completely inert, with all muscles relaxed, a feeling of heaviness through the

body and a pleasant scene pictured in the mind. Feel the sensation of freedom in the mind and in the head. This can become a permanent freedom if your muscles obey you all the time as well as they do at that moment.

- 8. After relaxation exercises are finished:** The final and most important step is to carry the art of relaxation into your everyday life. Watch the way you stand, the way you sit, the way in which you speak on the telephone, talk to people, write, type or perform any other activity of a typical day. Check that all the muscles which are not essential to the task of the moment are in a state of relaxation. You can handle any situation, irrespective of the degree of mental stress, without physical tension once you become accustomed to the idea. You actually perform more efficiently if you tackle any problem in an orderly fashion without excessive and useless muscle contraction. If you notice any warning sensations of tension in the scalp, jaw or neck, muscles, you must pause a moment to ensure that these muscles are `switched off' in the manner you have practised. In this way you will finish the day feeling much fresher and with much less chance of headache making your day a misery.
- 9. Keep practising:** There is no point in performing the exercise routine religiously for a week and then forgetting the whole thing. If you do, unless you are a very exceptional person, the old habits of muscle contraction will assert themselves again. Keep practising, stay relaxed and free yourself from headache.