MIGRAINE THERAPY BIOFEEDBACK

Two procedures have been established for migraine biofeedback therapy.

» Relaxation training for the reduction in the frequency of migraine attacks (for example: hand warming training, respiratory training etc.)
» Vasoconstriction training for the suppression of attacks and to extend the intervals between attacks (for example with the VasoTrain)

Vasoconstriction training takes place during periods which are free of attacks. If the vessels are consciously influenced, the trained vasoconstriction method should be used at the beginning of a migraine attack.

OPERATING THE VASOTRAIN

- Automatic calibration
- Additional information
- Smoothing
- Volume
- ON/OFF

ABBREVIATED OPERATING INSTRUCTIONS FOR THE VASOTRAIN

1 Insert the batteries and the sensor into the VasoTrain.
2 Position the sensor with the help of the headband on the temporal artery. If necessary first feel the pulse with a finger and note this spot. Important: when doing this place the sensor window on the skin and ensure that there are no hairs between the sensor and skin surface and also that the skin is clean.
3 Switch on the VasoTrain with the ● key. The device starts automatically in the calibration mode (CAL). After a few pulsebeats, check the heart rate and strength of the pulse signal on the right-hand bar in the display. If the signal is weak (fewer than 4 segments in the bar) re-position the sensor and press the **P** key to restart the calibration.
4 Breathe in a relaxed and tranquil manner (think of something which has a calming effect) until the automatic calibration has been completed (CAL changes to MEA in the display).
5 The VasoTrain is now in the training mode (MEA - Measurement). Start the training procedure. The running session time is shown left, down in the display for the purpose of orientation.
6 At the end of the training session switch off the VasoTrain with the ● key. Remove the headband and sensor. We recommend storing the VasoTrain in the case which is provided.

THERAPY GUIDELINES FOR VASOCONSTRICTION TRAINING WITH THE VASOTRAIN

These guidelines are provided as assistance for vasoconstriction therapy training. Individually adapted therapy is advisable for some patients.

Pre-conditions
» Avoid the consumption of coffee, nicotine, triptane for approximately two hours before the start of training sessions.
» Sit comfortably and relaxed before training begins.
» Fix the headband with the sensor underneath and positioned on the temporal artery.
» Think of something which calms and relaxes; if necessary imagine beautiful scenery for example. This will dilate the vessels before training begins.
» During the training session continue to breathe softly and in a relaxed manner. Avoid muscular tension (particularly M. masseter and M. trapezius) and talking.

TRAINING SESSION PROCEDURE

If not otherwise prescribed by the therapist, the following proven procedure is recommended:

» Starting the relaxation process for 3 – 5 minutes (dilating the vessels)

» Then, alternately up to six times:
  » Vasoconstriction 3 minutes
  » Relaxation 1 minute (longer if necessary)
» Conclusion relaxation 5 minutes

For orientation purposes in the VasoTrain training mode there is shown the running time left, down in the display (please see illustration 5).

VASOCONSTRICTION

» Vasoconstriction should only be attained by imagining pictures or situations.
» Changes in the circles via respiration or muscle tension do not cause a constriction of the vessels. This is then an erroneous feedback and will not lead to success.
» At the beginning for at least one vasoconstriction phase (3 min), concentrate intensively on a picture or a situation. If this fails, try to imagine something else in the next phase.
» It can take 1 – 4 sessions before vasoconstriction is attained via the imagination. Don't get frustrated – keep trying!
» Only once the patient has attained conscious vasoconstriction should he or she be permitted to train alone with the VasoTrain in the home environment.
» It might be easier at the beginning to concentrate with the eyes closed. Then use the acoustic feedback:
  high tone ➜ Vasoconstriction
  deep tone ➜ Relaxation

EXAMPLES FOR POSITIVE IMAGINATION

Since the patient usually develops his or her own strategy for vasoconstriction here are just a few alternative suggestions:

» Imagine and gradually shrink a circular ring.
» Imagine the circular ring as a sponge which you then mentally compress.
» Imagine a light which slowly gets smaller at the end of a tunnel.
» Imagine a coldness situation: snow, icy water (shower/lake) etc.
» Imagine biting into a lemon.

Please note:
» Apply only positive imagination/emotion for training. ON NO ACCOUNT think of accidents/catastrophes etc.
» At the beginning of a migraine attack set the emphasis on vasoconstriction.

HELPFUL LITERATURE

Schwartz MS, Andrasik F. Biofeedback: A Practitioner's Guide. 3rd ed. New York: Guilford Press 2003

VasoTrain
The mobile trainer for active migraine therapy