

# Using Earlobe Electrodes

Did you know that with the use of Earlobe Electrodes, your BioStim™ System is a powerful tool for relieving pain in the Head, Neck & Facial region, assisting in Rapid Recovery from Mental & Physical Exertion, Inducing Sleep, and Easing the Stresses of everyday life?

Well, it's true! And you have everything you need to do it, right in your hand. The advanced design of all BioStim™ **Analgesic**, **Analgesic+2** and **Sportsmed** Systems includes two active electrodes for each channel, enabling each earlobe to be stimulated equally, and effectively. Most other brand TENS systems only have one active electrode per channel, rendering them useless for effective Earlobe stimulation.

## Inducing Sleep

Those who suffer with insomnia will find the addition of Earlobe Electrodes invaluable in overcoming the disorder - without the use of sleeping pills or similar medications. Earlobe stimulation is excellent for light sleepers and shift-workers.

Electrodes are positioned on your earlobes and are most beneficial when used in the evening before retiring to bed. It is best to be sitting or lying in a comfortable position, and if necessary, therapy may be applied whilst in bed. You may need to apply stimulation for more than 30 minutes to achieve a good result.

## Inducing Relaxation

Sufferers of stress can rest easy, as Earlobe stimulation is especially useful for those who are experiencing stress from work or personal matters. It is a good way to unwind at the end of the day, and can be combined with relaxing music or meditation techniques.

Earlobe Electrodes are the best choice for this purpose and require at least 30 minutes to take effect, but may be used safely for many hours at a time, if required. Ideally, you should be in a comfortable position, either sitting or lying, in a place free from distractions.

## Obtaining Relief from Neck, Head & Facial Pain

Earlobe stimulation is a great choice for treating acute and chronic pain in the Head, Neck & Facial region. Pain here may be due to tension in the neck muscles (which often causes headaches), changes caused by arthritis in the joints of the neck, whiplash, dental pain, jaw problems, plus a range of other conditions and injuries.

## Rapid Recovery from Mental & Physical Exertion

With the use of Earlobe Electrodes, your BioStim™ is an excellent method of decreasing healing & recovery times after periods of both mental and physical exertion. By accelerating cell healing and inducing a release of Endorphins (the 'happy' hormone), a feeling of wellbeing can be achieved. This is very useful for active bodies involved in sporting activities, or even those just dealing with the physical and mental strains of everyday life.

Earlobe Electrodes are the best choice for this purpose. In this application, you may be sitting, lying down, or going about your daily business. Especially useful for morning athletes who then have to go to work.

**Note:** You may like to try an alternative placement also, which is *Wrist to Wrist*. See page 2 for a photograph.

Analgesic		SLEEP SETTINGS	
Mode	Rate	Intensity	Pattern
n/a	L	around 2	n/a

Analgesic+2			
Mode	Rate	Intensity	Pattern
n/a	4pps	around 2	modulated

Sportsmed			
Mode	Rate	Intensity	Pattern
analgesic	L	around 2	modulated

Analgesic		RELAXATION SETTINGS	
Mode	Rate	Intensity	Pattern
n/a	M	around 2	n/a

Analgesic+2			
Mode	Rate	Intensity	Pattern
n/a	4-8pps	around 2	modulated

Sportsmed			
Mode	Rate	Intensity	Pattern
analgesic	M	around 2	modulated

Analgesic		PAIN RELIEF SETTINGS	
Mode	Rate	Intensity	Pattern
n/a	L	around 2	n/a

Analgesic+2			
Mode	Rate	Intensity	Pattern
n/a	50-100pps	around 2	modulated

Sportsmed			
Mode	Rate	Intensity	Pattern
analgesic	M	around 2	modulated

Analgesic		RAPID RECOVERY SETTINGS	
Mode	Rate	Intensity	Pattern
n/a	M	around 2	n/a

Analgesic+2			
Mode	Rate	Intensity	Pattern
n/a	4-8pps	around 2	modulated

Sportsmed			
Mode	Rate	Intensity	Pattern
analgesic	M	around 2	modulated

# Using Earlobe Electrodes - Cont.

## Endorphin Release

Endorphins are the body's natural pain killing hormones. In addition to analgesia, endorphins can have a relaxing and sedative effect. The body will release endorphins at frequencies of stimulation less than 10 pulses per second. Both the LOW and MEDIUM settings on any BioStim™ device are suitable for inducing an endorphin release.

If one sets a BioStim™ to HIGH and MODULATED (meaning that the output fluctuates between fast and slow), this will also induce an endorphin release. In effect, this means there will be short bursts of 100 pulses per second, followed by a run of slower pulses. As it happens, the body interprets this cluster of fast pulses as being one pulse, meaning the overall pattern falls into the range that will release endorphins *and* block pain. In fact, research suggests that this setting is the most effective for endorphin release.



**ANALGESIC, ANALGESIC+2 & SPORTSMED**



**WRIST TO WRIST**

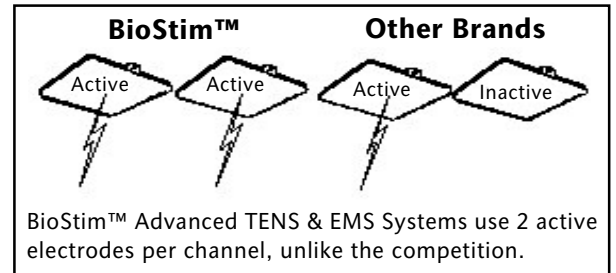


**EAR TO EAR**

## Entrainment of Brain Waves

The frequency of the brain's own electrical activity has a tendency to adopt the same rate as the dominant external source (entrainment). This is seen daily in mood changes experienced when one listens to music. Slower, rhythmic sounds can induce relaxation, as with new age music, for example. The faster, up-tempo beats of dance music can arouse and invigorate. Whereas music stimulates auditory nerves (specialized sensory nerves), BioStim™ advanced TENS acts directly on sensory nerves that supply the skin (as with wrist stimulation).

There are actually four brain 'rhythms' associated with different states of consciousness:



BRAINWAVE TYPE	BRAINWAVE FREQUENCY
Beta	15-35 Hz
Associated with alertness, arousal, concentration, cognition, and anxiety (at very high rates). The HIGH setting on a BioStim™.	
Alpha	8-14 Hz
Associated with a state of general ease and relaxation	
Theta	4-7 Hz
Associated with a deep state of calmness and often drowsiness. Theta is the state between waking and sleep. The MEDIUM setting on a BioStim™.	
Delta	1-3 Hz
Associated with deep sleep. The LOW setting on a BioStim™.	

## Earlobe Electrodes are Simple to Use!

1. Attach Earlobe Electrodes to the pins on the treatment lead.
2. Apply a small amount of conductive TENS gel to the earlobes.
3. Clip the Earlobe Electrodes on the earlobes.
4. Select the required Pulse Rate.
5. Turn ON the BioStim™ unit, & adjust to required Pulse Intensity.
6. Sit back and relax...!



**CONDUCTIVE TENS GEL**