Med-Fit

Wireless TENS Treatment Guidelines & Practical Guide to TENS & EMS Therapy

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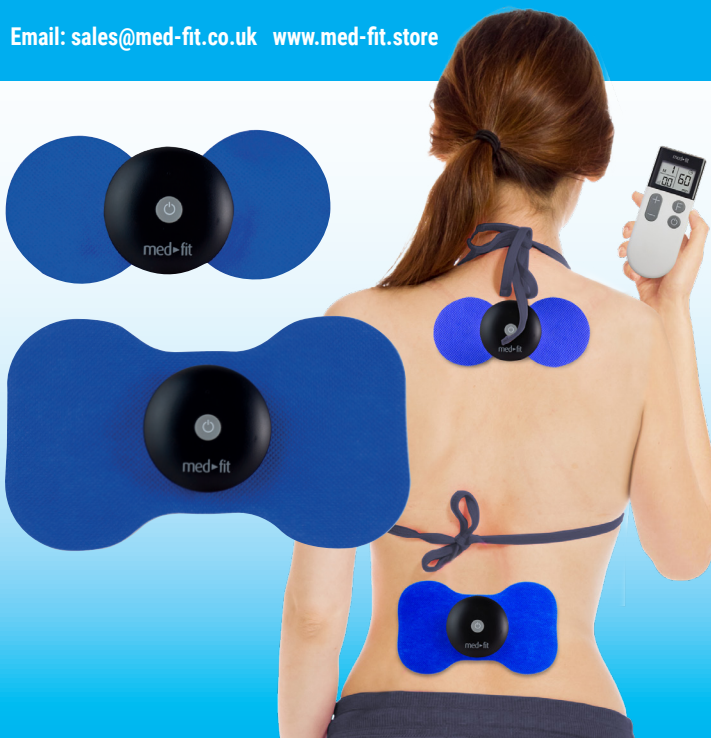


Introduction to TENS

What is TENS?

Transcutaneous electrical nerve stimulation is a pain control treatment. It is often called TENS for short.

A TENS unit is a portable, pocket-sized, battery-powered device.

The TENS unit uses mild, safe electrical signals to help control pain and delivers the electrical signal to the body through self-adhesive conductive electrodes.

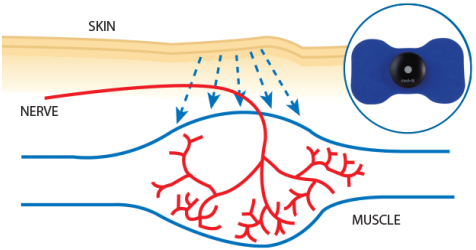
How does TENS work?

The most common TENS programmes use high-frequency stimulation, which is the first choice for both acute and chronic pain. High-frequency stimulation sends impulses to the nervous system's own pain-inhibiting mechanisms, which block the pain.

You can use it as often and as long as you like, but each treatment should last at least 1 hour.

Another type of TENS is low-frequency stimulation. Low-frequency TENS treatment can alleviate pain by stimulating muscles to release the body's own morphine-like substances, endorphins.

Place the electrodes on a muscle in the painful area so that a visible contraction occurs.



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Introduction to TENS

During the TENS treatment

If your muscles start to twitch, this may mean that the TENS signals are too strong or too fast. If you cannot feel any tingling at all, this may mean that the signal is too weak or too slow.

The electrodes should be removed at least once a day if the TENS treatment is used around the clock. The skin under the electrodes must be checked to see if it is red or tender. The skin should also be cleaned and dried while the electrodes are off. Apply lotion to your skin where the electrodes were placed. The electrodes should be applied to a different area for each new treatment. This will help prevent the skin from becoming red or sore.

TENS can be used for

TENS can be used to treat most types of pain where the cause has been determined including:

- Arthritis
- Back Pain Post Herpetic
- Bruising Neuralgia
- Calf Strain
- Dead Leg
- Fibrositis Finger Pain
- Rheumatism
- Sciatica
- Headaches
- Migraines
- Shoulder Pain
- Sleeplessness
- Knee Pain
- Lumbago Muscle
- Stress
- Sports Injuries
- Tennis Elbow
- Neck Pain
- Neuralgia
- Osteoarthritis

Tens Treatment Programmes

Programmes P1 - P6

Programme P1 - 80Hz Constant

This TENS programme is widely used by NHS pain clinics due to its highly effective pain clinics due to its highly effective pain-blocking effects. Ideal for your initial first treatment session and we recommend two or three treatment sessions daily, each session lasting at least one to two hours.

Programme P2 - Mixed frequency TENS

A combination of different pulse rates over 5 cycles. The benefit of mixed frequency stimulation minimises the accommodation factor, which is ideal for long-term treatment for sciatica, lower back pain, and arthritic conditions.

Treatment times

Long treatment times are commonly used with this programme, ideally 90 minutes plus and in some instances depending on the condition being treated, times can be extended to 4 or 5 hours, which can give significant pain relief.

Programme P3 - Mid frequency TENS

Mid-frequency stimulation has a varying pulse duration and creates an undulation sensation causing a massage or pumping effect that can be used to control pain and also increase blood flow.

P3 Lower Mid-frequency - P4 Regular - P5 Mid / High frequency - P6 Higher Mid

These programs are used for muscle pain, Neck Pain, Shoulder Pain and also Joint Pain. Typical treatment times are 60 minutes minimum twice daily.

TENS treatment times vary greatly and this does depend on the longer severity of the pain so longer treatment sessions may be required.

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EMS Treatment Programmes

Programmes P7 - P9

Three EMS programmes which cover strengthening, recovery, massage and toning.

Programme P7

Programme P7 stimulates the muscle with a comfortable sensation which helps to tone and decrease any muscular tension this programme can also be used as a massage stimulation. This programme runs through 4 cycles to create a modulation effect.

Programme P8 - P9

Muscle strengthening muscle re-education these two programmes can be used for muscle strengthening and conditioning alongside exercise programmes and activities. Programme 8 is commonly used by numerous NHS physiotherapy departments.

Which Programme Should I Use

We always recommend you start with programme 1. The Med-Fit Wireless TENS has 9 programmes P1 to P9, Each programme has been shown to reduce and block pain in a wide range of conditions. It is very difficult to know which programme is best for you. It is therefore recommended that over a period of time you try all 9 programmes. To help get you started, we have included some common conditions with suggested electrode placements including treatment times and recommended programmes you may wish to try.

How High Should I Turn the Intensity

Everybody reacts differently to TENS Stimulation so it is important that you increase the intensity (sensation feeling) to the correct level.

Increase the intensity to a sensation which is comfortable and always perceptible; never turn up to a level which is strong and uncomfortable.

You may use TENS if required for long periods of time to combat long term chronic pain; however, please remember to place the electrodes in slightly different areas around the painful site, as this will help reduce skin irritation.

How Long Should a Treatment Last

The most up to date research in TENS treatment times indicates that a minimum of 1 hour to 2 hours is required for effective pain relief. Your TENS may be used for much longer periods and you may find treatment times of 3 to 4 hours may work best for you.

Please remember that the intensity level is always kept at a pleasant sensation, never increase the intensity to uncomfortable levels as this can possibly have a detrimental effect on your results.

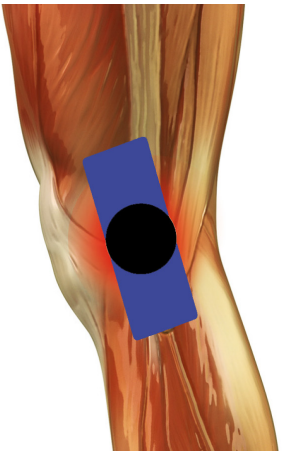
Helpful Tips

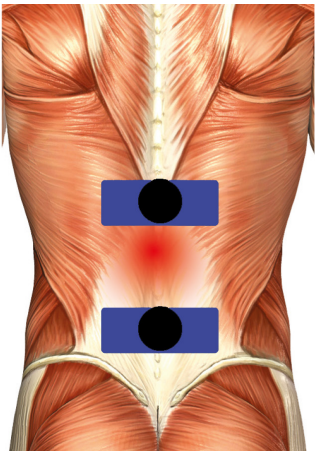
Once you have familiarised yourself with the controls and features of your TENS device, it is important to place the TENS electrodes in a position which gives the most pain relief. This may take 3 or 4 attempts to find the most suitable position, for maximum pain relief.

If you are using two electrodes, place the electrodes directly onto the painful area at a position where you feel the pain starts and where it finishes. You may now position the electrodes around the painful area to locate the most suitable position for maximum pain relief.

The alternative method is to use four electrodes surrounding the painful area see examples below

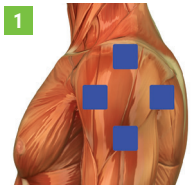
The complete area between the electrodes will now be treated when positioning the electrodes as shown.



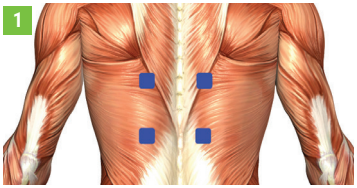


TENS Electrode Placement

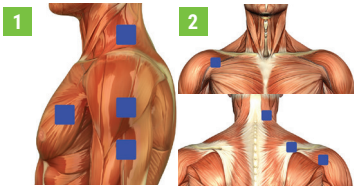
Frozen Shoulder



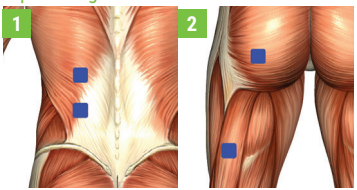
Lower Back Pain



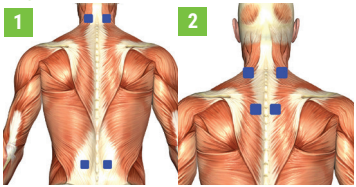
Shoulder Pain



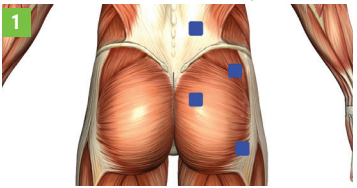
Hip Neuralgia



Degenerative Arthritis: Cervical and Lumbar

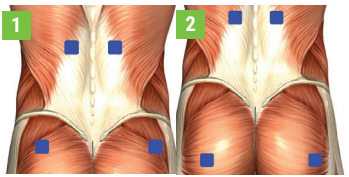


Phantom Limb, Lower Extremity



Chronic Hip Pain

Sciatica



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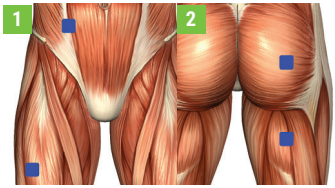
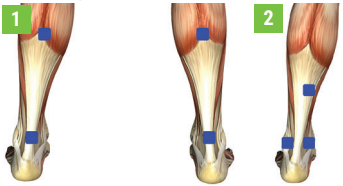
TENS Electrode Placement

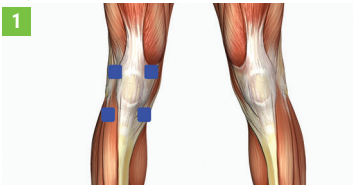
Low Extremity Pain



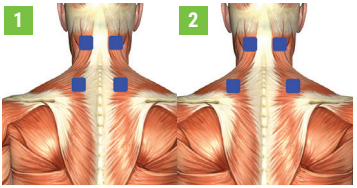
Lower Leg Pain



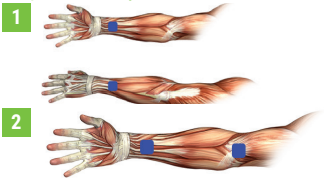
Degenerative Arthritis - Knee Pain



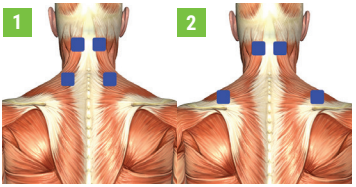
Cervical Placement



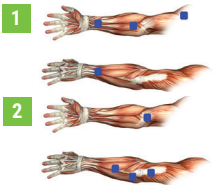
Carpal Tunnel Syndrome



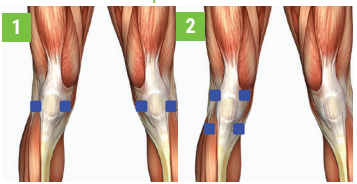
Chronic Cervical Strain



Wrist, Elbow & Forearm Pain



Knee Pain - Post-Op



Introduction to EMS

This EMS unit is used for muscle stimulation. The device is provided with controllable output channels, each independent of the other. A pair of electrodes can be connected to each output channel.

Explanation of EMS

Electrical Muscle Stimulation is an accepted and proven way of treating muscular injuries. It works by sending electronic pulses to the muscle needing treatment: this causes the muscle to contract.

It is derived from the square waveform, originally invented by John Faraday in 1831. It works by directly stimulating motor neurons which causes muscle contraction. It is widely used in hospitals and sports clinics for the treatment of muscular injuries and for the re-education of paralysed muscles, to prevent atrophy in affected muscles and improve muscle tone and blood circulation.

How EMS Works

1. Relaxation of muscle spasms
2. Prevention or retardation of disuse atrophy
3. Increasing local blood circulation
4. Muscle re-education
5. Immediate post-surgical stimulation of calf muscles to prevent venous thrombosis
6. Maintaining or increasing range of motion

The EMS units send comfortable pulses through the skin that stimulate the muscles in the treatment area. When the muscle receives this signal it contracts as if the brain has sent the signal itself. As the signal strength increases, the muscle flexes as in physical exercise. Then when the pulse ceases, the muscle relaxes and the cycle starts over again, (Stimulation, Contraction and Relaxation.) Powered muscle stimulators should only be used under medical supervision for adjunctive therapy for the treatment of medical diseases and conditions.

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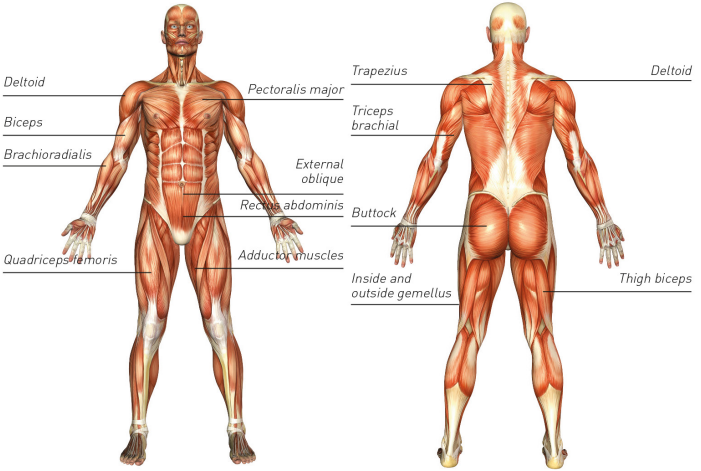
EMS Electrode Placement

There are many questions as to the optimal position for the adhesive electrodes during an electro-stimulation session. Consequently, we are going to try to answer your various questions by setting out below the effective positions for the electrodes for different areas of the body.

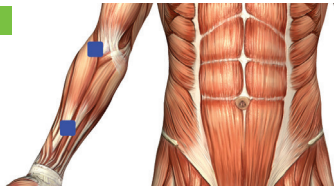
We are definitely not trying to give an anatomy class here but it is necessary to understand the whole muscle system to get a more precise grasp of the human muscle system.

The muscle map of the human body comprises of a large number of muscles with wild names such as manducatory muscles or mime muscles, the thenar muscle, or even the gluteal muscles.

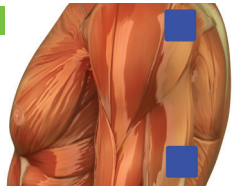


EMS Electrode Placement

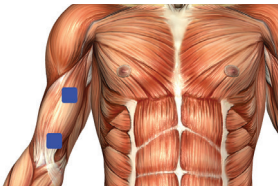
Arms



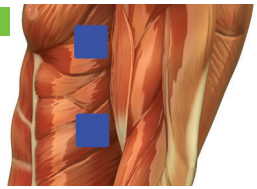
Deltoid Posterior Fascia



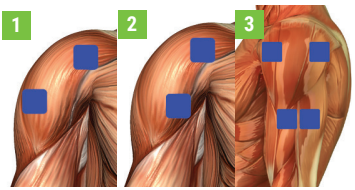
Biceps



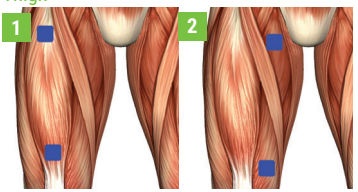
Latissimus



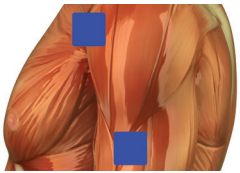
Deltoid



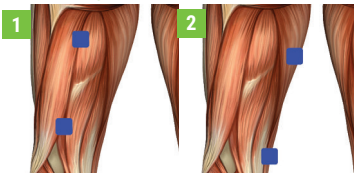
Thigh



Deltoid & Anterior Fascia



Internal Thigh



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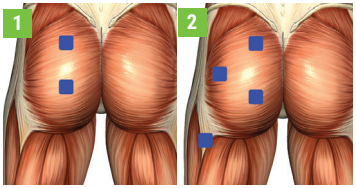
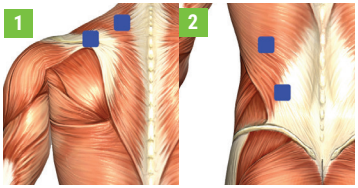
EMS Electrode Placement

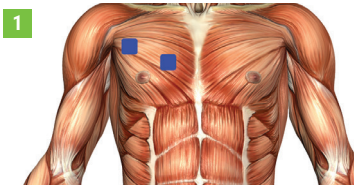
Gluteals



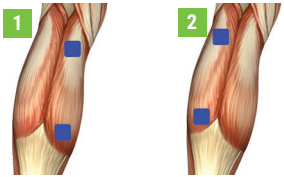
The Trapezius Muscle and Dorsals



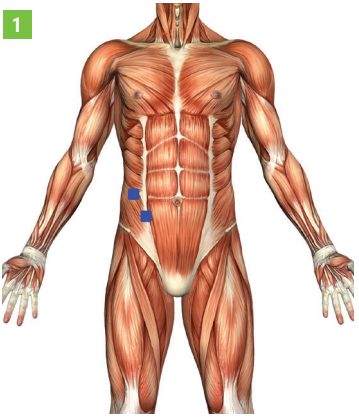
The Pectorals



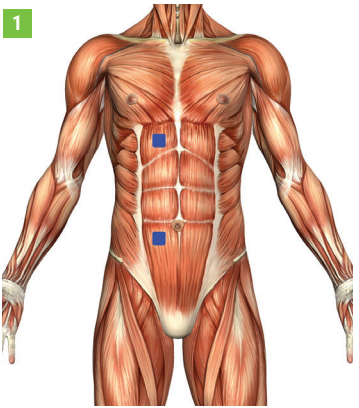
The Legs and Calves



The Abdominals



The Abdominals



Treatment Programmes

Prog No	Phase	Pulse Width µs	Pulse Rate Hz	On Time	Off Time
1	1	120	80		
2	1	120	20	50 sec	0.35 sec
2	2	120	25	9 sec	0.23 sec
2	3	120	30	7.6 sec	1 sec
2	4	120	40	10.5 sec	0.37 sec
2	5	120	50	0.45 sec	0.4 sec
3	1	120	20	50 sec	2 sec
3	2	120	20	80 sec	0.5 sec
3	3	120	20	80 sec	0.2 sec
3	4	120	20	84 sec	0.05 sec
4	1	120	25	5 sec	1 sec
4	2	120	25	9 sec	0.5 sec
4	3	120	25	12.75 sec	0.25 sec
4	4	120	25	16.4 sec	0.1 sec
5	1	120	30	3.8 sec	0.5 sec
5	2	120	30	5.5 sec	0.15 sec
5	3	120	30	7.6 sec	1 sec
5	4	120	30	8 sec	0.5 sec
6	1	120	40	1.75 sec	1 sec
6	2	120	40	6.75 sec	0.3 sec
6	3	120	40	1.25 sec	0.5 sec
6	4	120	40	10.5 sec	0.05 sec
7	1	120	50	0.6 sec	0.5 sec
7	2	120	50	0.45 sec	0.3 sec
7	3	120	50	0.35 sec	0.15 sec
7	4	120	50	0.9 sec	0.05 sec
8	1	120	35	6 sec	6 sec
9	1	120	40	4 sec	4 sec

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Skin Patch Test

It is recommended that you carry out a patch test before applying your first treatment, To do this, remove one electrode from the packaging and place on a part of your body which is both visible and easy to inspect. After 30 minutes, remove the electrode and inspect the area for any redness or irritations. If no change is noticed, proceed with your first TENS treatment following the User Guide and Instructions provided. If skin irritation has been noticed, we recommended the use of sensitive gel electrodes.

FAQs

Question: The sensation is not as strong as when I first received my TENS.

Answer: Apply a small amount of water to the gel pad as described on page 11 of this guide. Each gel pad has a maximum of 10/15 applications before a replacement gel pad is required.

Question: I need to increase the intensity a little higher each day.

Answer: Applying TENS to the same area each day can dry out your skin. It is important to wipe the treatment area with warm water before applying your electrodes

Electrode After Care

The Med-Fit Wireless TENS uses high quality medical grade Self-Adhesive Hydro-Gel pads, which adhere to your skin (please see connecting the self-adhesive electrodes section in this user manual).

Each time you apply the pad to your skin the Hydro-Gel loses a small amount of moisture. After the 3rd or 4th application it is important to smear a small amount of water over the gel pad and wait for approximately one minute for the water to be absorbed into the gel. The process re-activities the gel pad and increases the adhesive properties. It also helps to reduce the skin impedance on applications to the skin giving a more pleasant sensation.

Med-Fit UK Ltd.
Unit 8 Martel Court, S. Park Business Park, Hamilton Road, Stockport, SK1 2AF
Tel: 0161 429 7330 | Fax: 0161 427 0215
Email: sales@med-fit.co.uk | www.med-fit.store
Company registration number 08758741 | Vat registration number 308286105