PRO ORTHOPEDIC MICROCURRENT THERAPY

Directions
1. Identify the area to be treated and choose the appropriate size electrodes for the area.
2. Inspect the treatment area to be sure it is completely clean and free from any topicals like DMSO, liniments, gels, etc. Thoroughly wash the area if necessary and let completely dry.
3. Attach the microcurrent supply to the electrodes using the snaps. Remove the electrodes from the plastic sheet and save the sheet to reapply the electrodes after treatment.
4. Apply the conductivity gel to the back of the entire electrode. Remember there needs to be enough gel to saturate the hair coat so the power supply will be activated and treatment can begin, however this can be achieved with only a thin layer of gel if the hair coat is short.
5. Place the electrodes on the horse. Ideally these are placed on either side of the target/painful area to “frame the pain.” Each electrode needs to make firm, full contact with the horse’s body so pay special attention around the corners. Make sure there is a little bit of slack in the wire that connects the electrodes so they are not pulled out of place.
6. Confirm the unit is on. The red light on the longer pod should be blinking and signifies the current flowing through the body. There is no on/off switch. If there is insufficient contact, the unit will not turn on.
7. Properly secure the microcurrent in place with a PRO quickwrap or Elastikon, whichever works best for the area.

Parts

Microcurrent:
Each kit comes with one microcurrent. On either pod, there are 2 snaps where it is able to attach to the electrodes and treatment can begin.

Electrodes:
The microcurrent kit comes with 2 different sizes of electrodes. All the electrodes have the same functionality. The microcurrent flows underneath the entire surface of each electrode and through all of the soft tissue area framed between the 2 electrodes.

Electrodes are reusable. Store on the plastic square they come on when not in use; this will prevent the electrodes from sticking to unintended targets or collecting dirt and debris. The better care you take of the electrodes, the longer their usable lifespan. To lengthen the lifespan of the electrodes, you can lightly moisten the gel side of the electrode with warm water and then let air dry gel side up. When the electrodes start losing their shape or no longer adhere well to the horse, it is time to replace.

Conductivity Gel:
Some type of conductivity gel is required to activate the microcurrent through the equine hair coat. Generally, the shorter the hair coat, the less gel required. **Helpful tip – if using the microcurrent on yourself, no gel is required**

Treatment

During Treatment:
When the unit is properly applied, a small amount of low level electrical current continuously flows from one electrode to the other through the treatment/painful area. The horse
DOES NOT feel any sensation during the treatment because the currents are approximately the same level as the normal electrical exchanges in the body's cellular system (49 µA microamps). Microcurrent therapy helps restore homeostasis to the cellular system. Healthy cell metabolism creates a healthy and pain free internal environment. Pain relief may be experienced within minutes.

**Treatment Time:**
A typical treatment duration is 12 hours. A common way to use this unit is to treat the horse overnight while in a stall. Microcurrent therapy can continuously be worn for up to 5 days if necessary, which may be beneficial in assisting with long term recovery of serious injuries.

There is also no “down-time” after a treatment period, so the unit can be taken off immediately before competition. Incorporating microcurrent therapy into your horse’s pre-event preparation routine as well as their post-event care plan is very easy.

The built in battery provides up to 300 hours of treatment time. When the red light is not blinking, the battery is not being used. When the light no longer blinks, the battery is used up and the unit can be discarded.

**Areas to Avoid:**
There are specific regions on the horse’s body where microcurrent therapy SHOULD NOT be placed:
- Head, face, eyes, mouth
- Ventral neck
- Poll, keep the placement no further forward than the 2nd cervical vertebrae
- Heart
- Abdominal midline
- Under the base of the tail (anus, vulva)
- Sheath and/or testicles
- Teats

**DO NOT use the microcurrent unit if any of the following conditions are present:**
- Broken skin, open wounds, current/recent bleeding
- Dermatological conditions
- Fever
- Infections
- Laminitis/founder
- Pregnant mare
- Sepsis (whole body inflammation)
- Cancer
- Any local area that has been treated with a steroid injection within the past 7 days
- Horses experiencing colic
- Horses with any type of electrical implant
- Horses diagnosed or suspected to have Lyme Disease
- Horses diagnosed or suspected to have Equine Protozoal Myeloencephalitis (EPM)
- Any area where there is numbness
- Horses being treated with Transdermal Drug Delivery medication patches

**Additional Warnings:**
- Discontinue use if the horse shows signs of discomfort
- Discontinue if skin irritation develops
• Each horse should have its own set of electrode patches, do not reuse electrodes on another horse.
• Do not use more than 6 microcurrent units at one time.
• Units can be used continuously in one location for up to 5 days. After 5 days, remove the unit for one day before reapplying.
• Keep out of reach of children.
• Electronic monitoring equipment may not operate properly when the unit is in use.

**Placement Guidelines**

The general rule of thumb is to “frame the pain.” Electrodes can either be placed above and below the painful area or to the left and right side of the painful area. There are more specific placement guidelines for acute lower leg tendons and ligaments that may be more helpful in treating the area. Please let us know if you require more assistance and we would be happy to help you with a tailored protocol.

The microcurrent will continuously flow through the area of the horse’s body that is between the 2 microcurrent electrodes as well as through the entire length and width of the area directly under the 2 electrodes. Remember, you are able to perform multiple treatments at any one time, just do not exceed 6 units. Effectiveness of microcurrent therapy treatments depends upon selecting the proper placement location(s), applying the unit properly, the severity of the injury, how well the individual horse responds to the therapy, and allowing adequate treatment duration time.

**What You Need to Know**

Microcurrent therapy is the application of very low levels of electrical stimulation to muscles, tendons, and ligaments to provide pain relief and promote tissue healing. Microcurrent therapy for human use was initially developed in the 1970’s and a variety of microcurrent therapy protocols have been developed to treat a wide range of muscular/skeletal conditions, including nonsurgical facelifts.

Microcurrent therapy cannot mask serious pain or aggravated lameness, however it does speed up the healing process within the body which may diminish or reduce the need for NSAIDS. This microcurrent unit is a tool that can be used both to help prevent soft tissue injuries and to noninvasively assist with the recovery when injuries do occur. No harm can result from this unit when the directions and application instructions are followed. Over 630,000 units have been distributed through various outlets as of 12/31/14 with no reports of adverse events. The device has been subjected to all applicable safety testing standards and passed. Please see “treatment areas to avoid” for more information.

**Benefits:**

When cells are injured, they resist the body’s natural electrical current which prevents the supply of blood, oxygen, and vital nutrients from reaching the injured area. Microcurrent therapy actually penetrates the inflamed cells (unlike TENS units), restoring the essential blood supply, removing cell waste, and bringing direct pain relief, while also being affordable and convenient. The average user has a noticeable decrease in pain in less than 24 hours. Benefits include:

• Increase circulation
• Reduces inflammation
• Stimulates natural healing processes within the body
• Speeds up injury healing
• Reduces the need for NSAIDS
• Increases the production of ATP
• Increases protein synthesis
• Increases oxygenation
• Increases ion exchange
• Increases the absorption of nutrients
• Increases the elimination of cellular waste products
• Neutralizes the oscillating polarity of deficient cells

Patents/Approvals/Research

**Patents:**
- US Patent 6,408,211
- US Patent 6,606,519
- European Patent Pending EP1294443 B1
- Canadian Patent Pending 231986
- Brazil Patent P10111738-6

**Approvals:**
- US FDA Class II medical device – K013167
- US FDA Class II medical device – K090042
- US FDA Class II medical device – K130114 – OTC Sales
- European Union EC Directive Reg. No. CE594280
- PR of China SFDA Approval No. 20042261127
- Korea KFDA Approval No. KTC-BAA-140183
- Canada CMDCAS Approval No. 91710
- Brazil Reg. No. 59.053.488/0001-68

**Studies:**
- FDA Approved Protocol Study for Usability completed at Indian Spine Clinic
- IRB: St. Vincent Hospital Research and Regulatory Affairs Review Board
- Aim Shams University – Cairo, Egypt. Effect of Microcurrent Therapy on Post Operative Pain in patients of Total Knee Arthroplasty. Results: 60% reduction in pain on Day 1 and 90% reduction in pain by day 10
- Bradly memorial Hospital – Southington, CT. Open Study for Fibromyalgia Support Group. Results: 73% reported good to significant improvement.
- University of Utrecht Pain Center – Netherland Double Blind, Crossover, Placebo Study. Effects of Microcurrent Therapy on Chronic Back Pain. Results: 100% response to treatment indicating reduction in pain level and dosage and frequency of medication.
- Microcurrent Skin Patches for Postoperative Pain Control in Total Knee Arthroplasty by Timour El-Husseini, et al
- Effect of Microcurrent Skin Patch on the Epidural Fentanyl Requirements for Postoperative Pain Relief of Total Hip Arthroplasty by Tarek M Sarhan, et al.
- SEE MORE ATACHED SUPPORTING ARTICLES
Frequently Asked Questions

How does it work?
Microcurrent therapy is the application of very low levels of electrical stimulation to muscles, tendons, and ligaments to provide pain relief and promote tissue healing. The currents are able to penetrate the injured cells to speed up the body’s natural healing process.

Can the horse feel it?
No, the current generated by the microcurrent unit is the same as the body’s own electrical current and is too low to be felt.

Can the unit create a shock to the horse?
No, the microcurrent is set too low to be felt or create a shock to the horse, or the person handling it.

How do I know the unit is working?
There is a small red indicator light built into the microcurrent. As long as the light is blinking the unit is working.

If your unit is not working, please consider the following:
- If you have previously used the power supply, is the battery life used up? Each unit has a product life of 240-300 hours of use.
- Are the electrodes correctly snapped onto both ends of the unit?
- Is there enough conductivity gel on each electrode? If the horse has a longer hair coat, a great amount of conductivity gel will be required.
- Is the electrode making full, firm contact with the horse’s body?

How long can the unit be left on the horse?
The unit can be left on the horse for up to 5 days. However, monitor the area every 24 hours to make sure it is still working properly and that there is no irritation to the area. After 5 days, remove the unit for 24 hours. Try to slightly change the placement of the electrodes each treatment if reapplying to the same area.

How long is a typical treatment?
The duration of the treatment will vary based upon the specific reason for treatment, but generally will be about 12 hours. Microcurrent therapy is designed to stimulate the body’s natural healing processes; the goal being to restore homeostasis and reestablish normal cell metabolism. Pain relief may be experienced within minutes, but the full healing process requires adequate time. Treatment duration should be decided with the severity of the injury and how well the horse responds to microcurrent therapy in mind.

What if my horse is turned out?
The microcurrent unit needs to be secured with protective bandaging at all times. Typically, it is best that you apply the unit when the horse is in a stall. Turning out in bad weather with the unit is not recommended, as the unit is not waterproof.

How long do the electrodes last?
The usual life span of the electrodes is 5-6 applications. Life span depends on a number of factors, like how well they have been taken care of and where they are stored. When the gel backing on the electrodes begins to break down or they are no longer sticky, they must be discarded.
**How long does the power unit last?**
The microcurrent power supply battery will last up to 300 hours.

**Can I replace the battery?**
No, the unit is designed to be discarded once the battery is fully discharged.

**Why does it blink?**
The blinking light lets you know the unit is “on”. The electrical output from the unit is a pulsating frequency that corresponds to the blinking light.

**Can the unit be used by in foal broodmares?**
No. Do not apply the unit to pregnant mares or foals.

**Can the unit be used in areas with metal screws or plates?**
Yes, no problems.

**Is the unit waterproof?**
No. The power supply is waterproof, but the electrodes are not.

**Can microcurrent therapy be given if the horse is on NSAIDS or other drugs?**
Yes.

**What is the proper usage and storage temperature for the unit?**
Optimal temperature range is between +50°F to +113°F