

Alpha-Stim Therapy For Animals

Veterinary Supplement to the Alpha-Stim M Owner's Manual



Applications in Veterinary Practice

Microcurrent Electrical Therapy

Acute Pain

- Sprains, Trauma, Surgery, Disc

Chronic Pain

- Arthritis, Muscles, Back
- Headaches

Edema Healing

- Post surgical
- Fractures
- Wounds and Granulomas

Neurological Dysfunction

Cranial Electrotherapy Stimulation

Anxiety

- Separation Anxiety Syndrome
- Nervousness
- Fear of storms, fireworks
- Obsessive Compulsive Disorder
- Cognitive Dysfunction
- Sympathetic dominant state

Depression

Upper Motor Neuron Dysfunction

Pain

Treating Animals With Alpha-Stim®

Assess the Pain

- Diagnosis is helpful, but not everything.
- What position(s) exacerbate them?
- Note any obvious signs or any related problems.
- Where are all pain/problems located?
- How bad are they on a 1-10 scale now?
- Note all scars and old injuries as these might need to be treated too.

Prepare the Device

Frequency

- When using the Alpha-Stim, check the to confirm that it is set at 0.5 Hz.

Current

- Current is marked in 100 microamperage increments starting with the number 1 on the LCD.
- Always begin therapy with it set at zero. Gradually increase to the appropriate level over 20 seconds.

Duration

- The timer button allows for time to be set from ten seconds to infinity.
- Treat as directed starting daily then reducing to every other day and then once or twice a week as needed.
- Wean patients off slowly if possible by increasing the intervals between treatments.

Patient Monitoring

You may stop treatment when the pain or specific symptom is gone or greatly reduced. Use behavioral changes, pain score, lameness evaluation and range of motion to assess improvement in animals.

CES might relax or cause dizziness that could not be easily detected in animals. Refrain from riding a horse or racing a dog immediately following application. Allow 30-60 minute rest period before performing.



Basic 5 - Step Protocol When Using Probes & CES



General Treatment Pattern - Alpha-Stim® Treatment Probes

Frequency (0.5 – 100 Hz)

- 0.5 Hz, 100 Hz for the first set only if it is a chronic condition (100 Hz will produce faster results, but treatment must then be readministered at 0.5 Hz for lasting results).

Current (600 microamperes is 6 on the LCD)

- Standard setting is 600 μ A. This works in dogs and most cats, but often will not be tolerated by a horse.
- Always reduce to a comfortable level. Do not force a specific setting, higher current does not produce better results.

Duration

- Generally 10-20 seconds per contact site.

Note: Fur on animals will readily wick the Conducting Solution so you will need to wet the pads every 1-2 minutes of treatment.

1. First treat in a big “X” beyond the area(s) of pain.

- 10-20 seconds for each side of the “X”
- When possible, treat to include area outside of the adjacent joints.
- For back pain, treat from the neck to the pelvis.
- For extremity pain, treat from the most proximal to the most distal point in a lateral/medial or anterior/posterior direction.

2. Then treat through the areas in three dimensions, like a star (e.g., 2 obliques, A - P, M - L).

- 10 seconds each.
- Multiple directions or planes through the affected area.
- 1 to 3 treatment sets.

3. Treat the opposite side even if it is asymptomatic.

- 1 large “X” and 1 star through opposite same joint (this would not apply to spinal treatments).
- Reevaluate pain at completion of a set.

4. Always connect both sides (most important step).

- Connect the two sides at the corresponding anatomy: proximal lateral, proximal medial, distal lateral and distal medial of the pathological site.
- Consider anatomy (e.g., encompass entire muscle) and treat scars and old injuries as necessary as they might function as resistors in bioelectric circuitry.
- To get under the fur, work the probe down to the skin with a circular motion and press fairly hard.

5. Finish with CES.

- Reevaluate pain at completion of treatment.

Note: Remember to reapply Conducting Solution to the felt pads on the probes every minute or two of therapy and work the probe down to a firm contact with the skin using a circular motion.

General Treatment Pattern - Cranial Electrotherapy Stimulation (CES)

Frequency (0.5 Hz)

Current (100 - 600 microamperes is 1– 6 on the LCD)

- Cats: 50-100 μ A
- Dogs: 200-300 μ A
- Horses: 50-150 μ A

Duration

- Initially 20 minutes then adjust as the animal responds over time.
- Once a day for 2 weeks then every other day 2 more weeks.
- With obsessive compulsive disorder or separation anxiety syndrome, and cribbing or anxiety related stress in horses, start at 1 hour per treatment.



- For animals with very thick fur, it might be advantageous to shave a small spot on the outside surface of the external ear.
- Clean skin surface inside and out with alcohol.
- Use a generous amount of Conducting Solution as the fur will wick the moisture away.
- Place the clips at the lower side of the ears for most conditions.

General Treatment Pattern- AS-Trodes™

Frequency (0.5 Hz)

Current (100 - 600 microamperes is 1 - 6 on the LCD)

- Pain treatment at 400 - 600 μ A, younger animals may need the current reduced even further.
- Healing treatment at 100 μ A.

Duration:

- Minimum 1 hour, can run 24/7.

- Area of placement MUST be shaved.
- Clean skin surface with alcohol and dry.
- Place AS-Trodes™ in diagonal across the affected area(s) with enough distance to cover all muscles and tissue involved and to direct the current through the primary site. Too close together or positioned incorrectly could allow the current to run just beneath the skin surface and miss the pathology.
- Prevent the AS-Trodes™ from touching fur as fur will stick to the surface and reduce the amount of usages.

Note: If the AS-Trodes™ become dry, wet with a few drops of Conducting Solution, place on protective backing and store overnight.

Alpha-Stim® Cranial Electrotherapy Stimulation

Dog

Clean ears with alcohol. Apply conduction solution to pads. Connect wires to the device and the clips to the ears. Set to 0.5 Hz and 200-300 μ A intensity. Adjust to comfort. Run for 20 minutes or at least 3 minutes past relaxation. 60 minutes initially for obsessive compulsive disorder or separation anxiety syndrome.

Horse

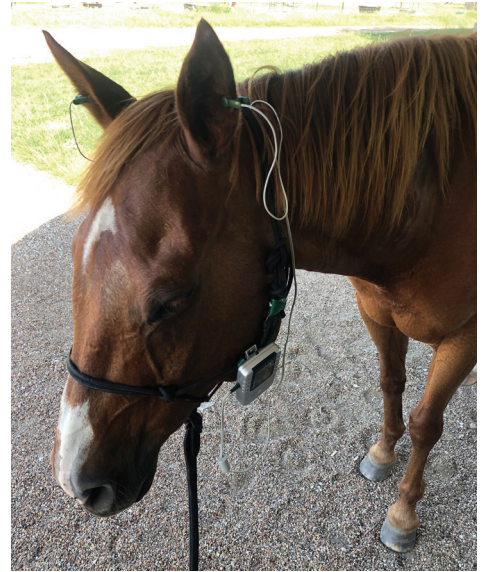
CES clips will work on most horses. Use a cotton ball to clean the ear site with alcohol. Attach the moist clips to the ear and wait a minute for the horse to adapt before turning on the unit. It may take a few times of replacing the clips but be patient. Soon the horse will accept them and stop shaking them loose.

Set the device to 0.5 Hz and 50 μ A. After a few treatments you might be able to gradually increase up to 150 μ A.

Standard treatments start at 20 minutes. For severe conditions, 1 hour may be required.

For horses that are ear sensitive, the AS-Trodes™ are an option but shaving the area may be required. Clean the skin with alcohol then dry the area. Apply the AS-Trodes™ to each side of the head at either the temporal area just in front of the ear or midway between the ear and eye.

Set the Alpha-Stim to 0.5 Hz and 100 μ A current. After a few treatments you might be able to gradually increase to a current level of 200 μ A.



Cats

Cats can be treated in similar patterns as described for the dog when using the probes. For CES, reduce the current. Start at 50 μ A, then you can try gradually to increase the current up to a setting of 150 μ A.



Guinea Pigs

CES can be delivered to guinea pigs in the same manner as other species. They are sensitive animals so keep the current to 200 μ A or less.

Rabbits

Rabbits consume high doses of anesthetics and analgesics. They respond well to incorporating CES as part of a preanesthetic protocol. Start CES 5 minutes after sedation and set at 0.5 Hz and 400 μ A.

Special Considerations

Example of a Treatment: Arthritis or Pain in the Hip

Big X to encompass from an anterior point at lumbosacral joint (probe A) to beyond the hock on posterior point (probe B). Treat 20 seconds. Then finish the Big X by moving Probe B to the ischium and Probe A to the anterior side of the paw. Treat 20 seconds.

Multiple Stars (each 10 seconds) are then directed around and through the coxofemoral joint. Estimate treatment time here 2 minutes.

Opposite Leg: Repeat the Big X and 2 Stars. If it is also symptomatic treat in a like manner as above. Connect to the Diagonal: Apply probe A to the affected rear leg and probe B to the diagonal front leg, treat 30 seconds.

Connect Both Sides: Apply probe A and B directly horizontal lateral-lateral and medial-medial twice each starting outside at the gluteals, inside groin, inside stifle and outside hock. Treating both legs simultaneously per point 10 seconds each for a total of 40 seconds. Remember to rewet the pads every minute or so of treatment and work the probe down to the skin in a circular motion.

CES: Finish with CES for 20 minutes.

Large or Slow Healing Wounds

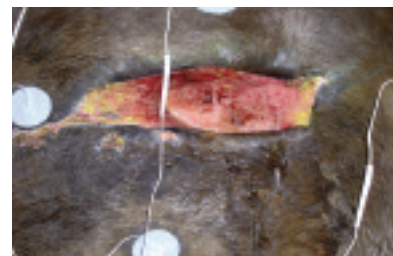
- AS-Trodes™ can be used in a diagonal application across an open wound. This will manage the pain and accelerate the healing of the wound.
- The area under the AS-Trodes™ must be kept shaved.
- Replace pads as necessary and clean the area with alcohol before reapplying.
- Duct tape or other bandage material may be used over them if necessary to maintain the positioning.
- Run as many hours per day as possible. 24/7 is great for severe and deep wounds.



3-8-2004
One month post wound, at initiation of MET therapy.



3-8-2004
At initiation of MET therapy to show proportion of wound. Note also the lack of skin available to cover wound site.



3-18-04
Ten days of MET showing substantial healing and a clean wound.



3-30-04
After three weeks of MET, treatment was completed.



7-1-2004
The horse was returned to training.

Wounds and Lick Granulomas

- Probes can also be used and applied diagonally across the wound with 10 second treatments, encircling the area 3 times. Treat 2 times a day for 2 weeks, then continue once a day until healing is complete.
- Rewet pads approximately every minute of treatment time.

Scars

There are two options for treating scars:

1. **AS-Trodes™ placed at each end of the scar.**
 - 10 minutes per day for 4 days.
 - Current level as high as comfortably tolerable.
2. **Probes placed at each end of the scar.**
 - 3 minutes per day for 4 days. Then repeat in 1 month.
 - Standard probe settings.

Chronic Conditions

- Treat the first 2 to 3 minutes at 100 Hz, then 0.5 Hz.
- Make sure to run both peripheral MET and central CES modalities.
- Remember that a chronic condition may reverse back through a brief acute phase. Symptoms consistent with an acute relapse may appear. Continue treating and that should dissipate over time.

Treating Elbow, Carpus, Stifle, Hock

******These joints need to have the final star be applied directly across the joint while in a flexed position. This is an important step!

Big X

Stars: Diagonal, direct AP, direct ML, and lastly across the flexed joint.

Other side (only need to flex if it is also symptomatic).

Connect both sides including the diagonals.

CES: Finish with CES for 20 minutes.

10-Step Prophylactic Care for the Performance Animal

1. Big X across the neck.
2. Big X across the spine.
3. Big X across each front leg.
4. Big X across each rear leg.
5. Connect the two sides.
6. Two rear legs.
7. Two front legs.
8. Diagonals.
9. Neck and spine.
10. Finish with 10 minutes of CES.

Alpha-Stim® M Technical Specifications

Electrical

Batteries	2 AA 1.5 volt (included). Replace with disposable batteries. Do not use rechargeable batteries. Dispose of batteries safely in accordance with local government regulations.
Timer	10 second Smart Probe activated by skin contact, 10, 20, 40, 60 minute countdown timers, and continuous time elapsed timer.
Current	0 to 600 microamperes (μ A), +/- 5%, adjustable in 50 μ A increments. When load is 1K Ω , maximum output current is 630 μ A (waveform amplitude is 630 mV) and minimum output current is 570 μ A (waveform amplitude is 570 mV).
Frequency	0.5, 1.5, or 100 Hz (pulses per second) combined with a constant 0.4 Hz. The average pulse repetition rate is 0.8 Hz at the most widely used setting of 0.5 Hz.
Pulse Widths	Varying between 0.25, 0.5, 0.75, and 1 second at 0.5 Hz.
Charge Per Pulse	At 600 μ A and 0.5 Hz the charge per pulse varies between 150, 300, 450 and 600 microcoulombs (μ C). Every 10 seconds the total charge is 1.5 millicoulombs (mC) in each direction.
Waveform	The impedance range within which the waveform parameters remain valid are from 100 Ω to 10 K Ω . The waveform is composed of bipolar asymmetric rectangular waves at a 50% duty cycle repeating periodically. At 0.5 Hz it repeats at 10 second intervals. The waveform is balanced to achieve 0 net current in either direction.



The Alpha-Stim® M Device Package Contains:

- 1 set of Earclip Electrodes
- 1 50 ml bottle of conducting solution
- 1 empty bottle for use with conducting solution
- 2 sets of leadwires
- 100 Probe Electrode Pads (PEPS™)
- 4 silver AS-Trode single person multiple use self-adhesive electrodes
- 2 Smart Probes
- 256 Earclip Electrode Pads (EEPS™)
- Owner's Manual
- Lanyard
- Storage case
- 2 AA 1.5 volt lithium batteries

Five Year Warranty: Each Alpha-Stim M is warranted to be free from defects in materials and workmanship under normal use for a period of five years except for replacement of batteries and accessories. See Owner's Manual for complete details.

Care of Equipment

Alpha-Stim devices are durable but it is important to take care of your equipment. Treat them as a medical device. Our patients will not tell us if they don't feel anything so we need to take these simple steps to make certain they are getting the therapy we think we are delivering!

If you are using them daily, check earclips once a week. These can be tested by holding them lateral to your eyes.

Clean the Alpha-Stim M device by gently wiping the surface of the case and screen with a damp cloth when dirty. Use mild soap and water if necessary. Use of other cleaning solutions may damage the case and screen. Never spray cleaners directly on the case and screen. Between treatments, the Probe Electrode Pads (PEPS™) and Earclip Electrode Pads (EEPS™) may be removed and 70% isopropyl alcohol may be used on the Smart Probes and Earclip Electrodes. New PEPS™ and EEPS™ should be placed on the Smart Probes and Earclip Electrodes prior to the next treatment.

Use only Conducting Solution. It is specially designed to allow smooth conduction of the microcurrent across the skin barriers.



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Prescription Information

CE Conformity Statement for Europe

The Alpha-Stim M is a Class IIa, Type BF medical device. They have been independently tested by Underwriter Laboratories (UL) to provide assurance of conformity to applicable standards for medical equipment safety and electromagnetic compliance.

Caution Statement for United States

Federal law (USA only) restricts this device to sale by or on the order of a licensed healthcare practitioner. Outside of the USA it is available world wide without a prescription but consultation with a qualified healthcare professional is recommended for difficult and unresponsive problems or when used with pharmaceuticals or other therapeutic intervention..

Indications

Alpha-Stim M is an effective treatment with broad applications for a variety of syndromes involving pain, and both the M and AID are used for the management of anxiety, insomnia and depression, or for the short term relief of symptoms associated with these indications. In many cases, Alpha-Stim is the sole therapeutic method required. Effective results in pain management have been achieved during and/or subsequent to stimulation over effected body parts, adjacent areas, and areas distant from those in pain. As with any therapeutic intervention, not all animals will respond to Alpha-Stim. The degree of efficacy will vary with the nature of the problem being treated, the overall health of the animal, and with the method of treatment. As much as a one month initial trial may be required to see significant reductions in symptoms.

Contraindications

Caution is advised in cases where other forms of analgesia (pain control) would not be used; such as to retain the beneficial aspects of pain for diagnosis or in cases where people may overuse pain-controlled areas. Safety of stimulation has not been established during pregnancy.

Precautions

For external use only. Do not allow children to use or handle these devices without adult supervision. Safety of stimulation has not been established during pregnancy.

Adverse Effects

Adverse effects are usually mild and self-limiting. Adverse effects from data on approximately 8,972 patients participating in 144 controlled studies, open clinical trials, and uncontrolled conditions, and by physician survey and reasonably associated with the use of CES are dizziness (6 cases, 0.07%), skin irritation/electrode burns (6 cases, 0.07%), and headaches (9 cases, 0.10%). Prolonged CES treatment at currents higher than necessary may cause dizziness or nausea that can last for hours to days. Treatment immediately prior to going to sleep may cause difficulty sleeping. Paradoxical reactions such as increased anxiety, and sleep disturbances may occur, but are rare.