

# Electro Acupuncture

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# What is Electro Acupuncture (EA)

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- Introduction
- History of EA
- Benefits of EA
- Procedure
- Wave pattern
- Precautions
- Indications

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# Electro-Acupuncture

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- The procedure for electro-acupuncture is to insert the acupuncture needle as would normally be done, attain the qi reaction by hand manipulation, and then attach an electrode to the needle to provide continued stimulation.

# History of EA

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- Electro-acupuncture, the application of a pulsating electrical current to acupuncture needles as a means of stimulating the acupoints, was developed in China as an extension of hand manipulation of acupuncture needles around 1934.

# Benefits of EA

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- EA can help physicians to provide the amount of stimulation needed, without tiring the physicians.
- EA may also help reduce total treatment time by providing the continued stimulus each session.
- EA may also reduce the total number of visits since it offers stronger and longer stimulation.
- EA set free some busy physicians who can attend to other patients while one patient is in session .

# Benefits of EA

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- EA can produce a stronger stimulation, if desired, without causing tissue damage associated with twirling and lifting and thrusting the needle.
- EA is easier to control the frequency of the stimulus and the amount of stimulus than with hand manipulation of the needles.
- EA quantifies TCM as a scientific medical modality.
- EA is financially practical since some insurance companies pay more to this procedure.

# Procedures

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- Duration of standard treatment with electro-acupuncture is usually 10-20 minutes and rarely exceeds 30 minutes.
- The electrical pulsing stimulus is used in a few cases for an hour or more, especially for difficult to treat neurological disorders or anesthesia.
- Volume: Normally  $< 40$  volt, 1mA

# Procedures

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- During the stimulation period, the patient may become adapted to the stimulus (this will typically happen after the first minute or two), with a gradual decline in response.
- The electrical output should then be adjusted in frequency and/or intensity to resume the sensation.
- Variable frequency output of the electro-acupuncture device is sometimes utilized in an attempt to circumvent this adaptation

# Wave patterns

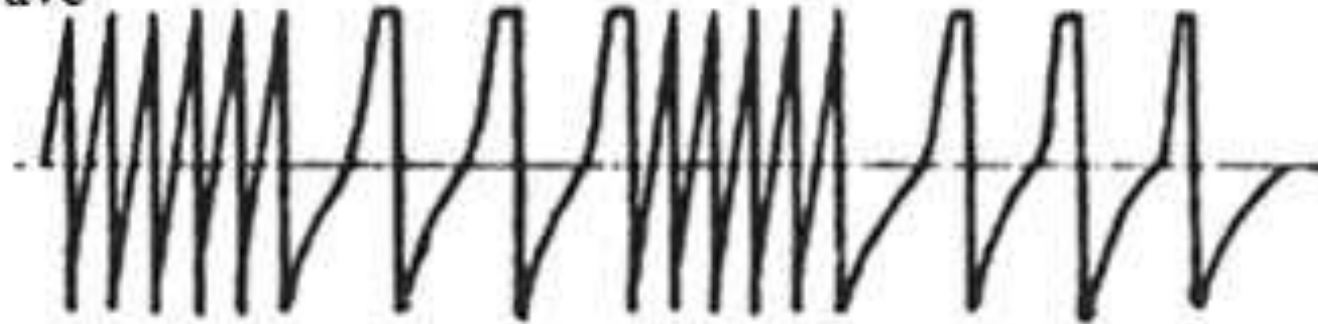
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- squared off or sharp: anesthesia to circumvent adaptation-Burst mode
- Mixed dense and sparse: anti- inflammation, good for pain, local swollen or edema.
- Interrupted: pain management and muscle atrophy- often combined with Burst mode
- Modulate Mode

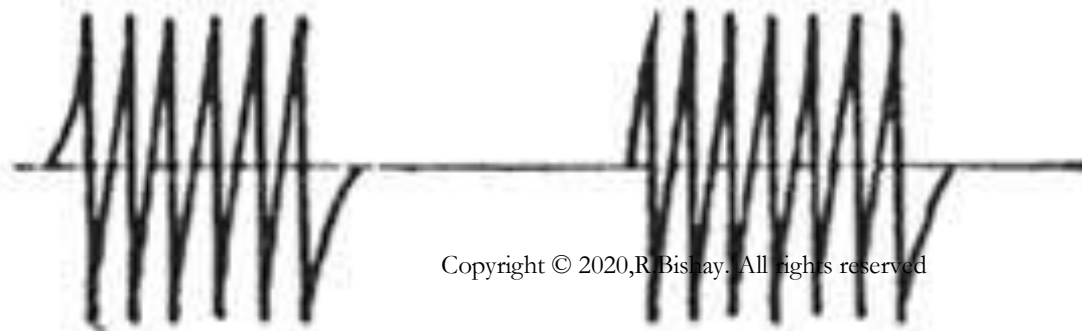
**A Continuous  
Wave**

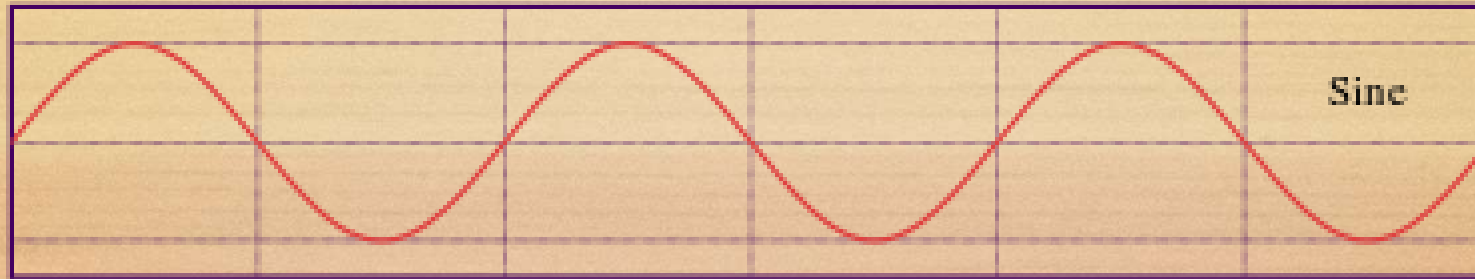
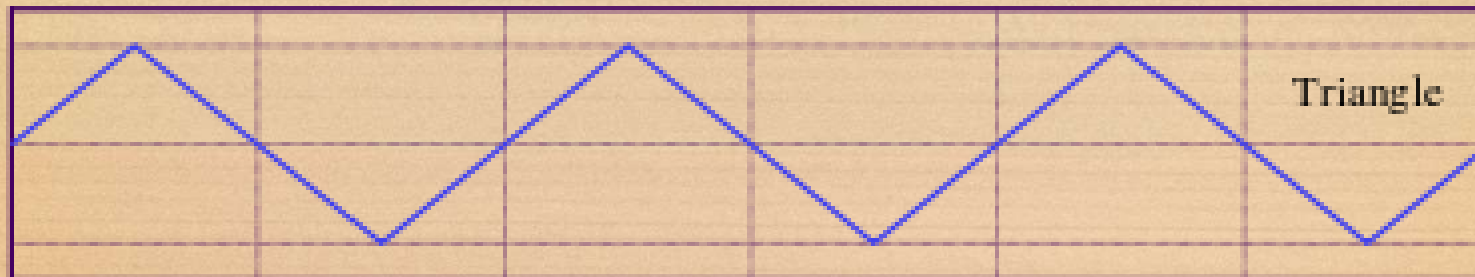
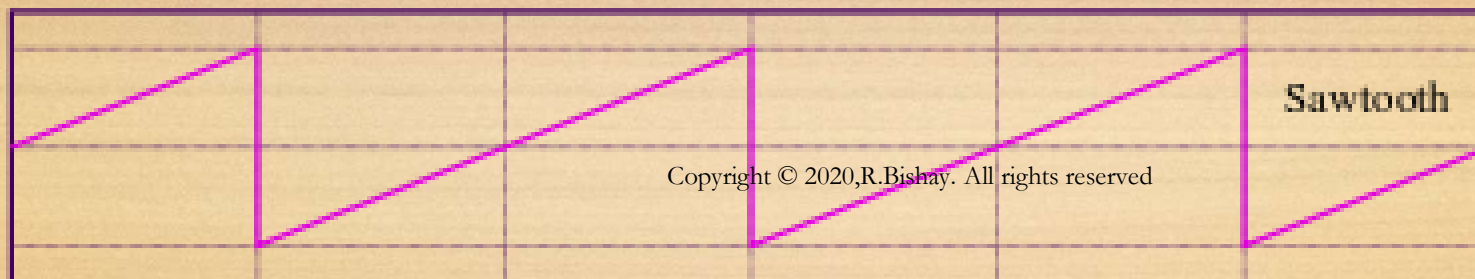


**A Sparse and  
Dense Wave**



**An Intermittent  
Wave**





# Constant

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- High frequency 50-100 Hz (mostly about 30 Hz), decrease vessel or muscle contraction, good for muscle spasm, organ pain.
- Low frequency 2-5 Hz, strong stimulation, can cause muscle spasm, increase muscle tone, good for muscle atrophy, swollen, sports injury (muscle, joint, ligament and tendon injuries, etc ) and chronic pain.

# Positive and Negative

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- Positive electrode increases vessel dilation, thus more blood circulation around positive electrode. Pain and numbness due to blockage.
- Negative electrode decrease vessel dilation, thus less blood circulation around negative electrode. Swelling and edema due to bleeding.
- This rule applies only to devices that use direct current (DC).

# EA Adapted from TENS



# Precautions

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- The device should not be turned on until the acupuncture needles are in place and the electrodes are connected.
- Start of EA: Switch should be at 'off' before stimulation begins, then increase the volume.
- Completion of EA: turn intensity to '0' first, then switch the unit off
- All changes in the electrical stimulus should be carried out gradually
- Be cautious to use EA for particularly sensitive areas such as the face.

# Precautions

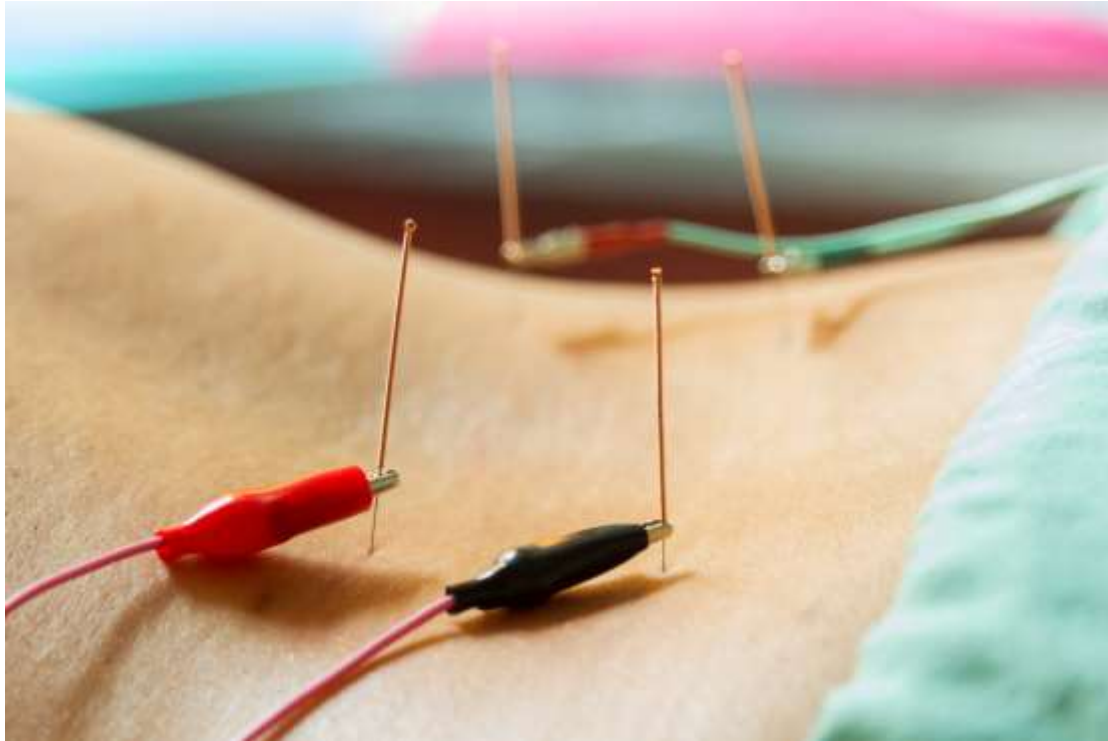
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- No EA for at any stage of pregnancy
- No EA across heart, brain or spinal cord
- No EA near the body part with metal
- No EA for patients with mental illness
- No EA for the initial visit unless patient feels comfortable with it

# Indications

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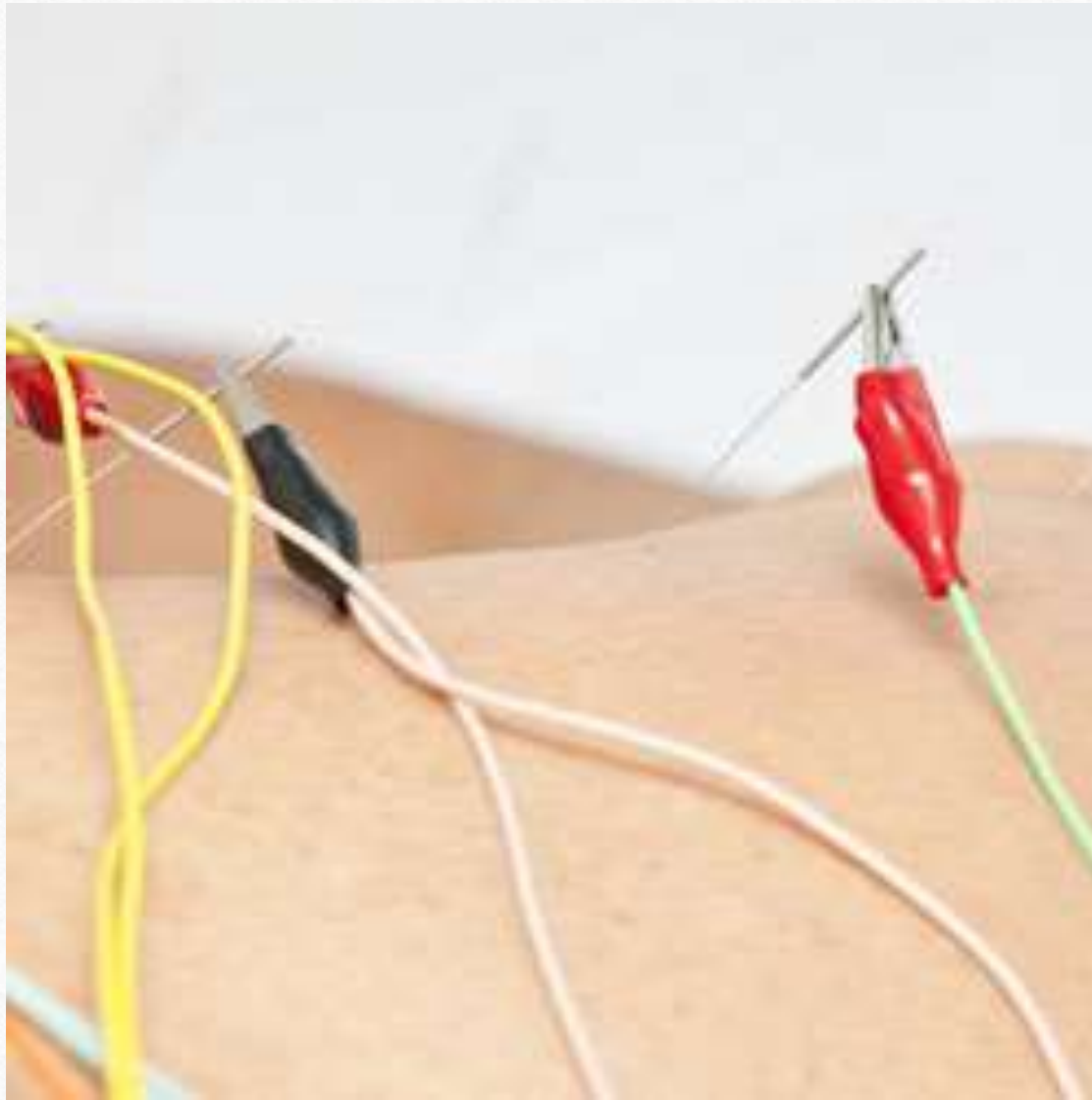
- Pain-organ or muscular
- Numbness
- Fractures
- Muscular atrophy
- Paralysis
- Edema



# Locations

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- Local: ashi points
- Distal: by muscle channel pathways
- Local and distal: beware of the polarity



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