

# ELECTROTHERAPY

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FSC PT 1

FSC PHYSIOTHERAPY TECHNIQUE I

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# Sinusoidal Current

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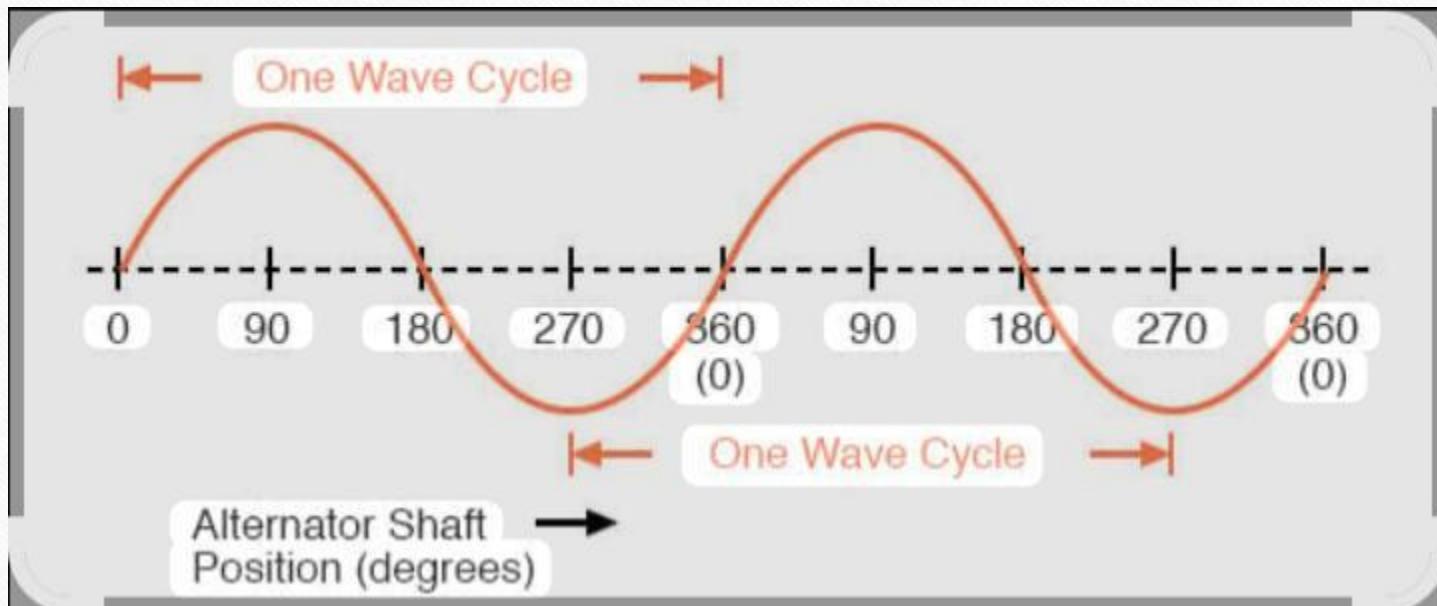
- Definition
- - Sinusoidal currents are evenly sine wave alternating currents.
- - Frequency of 50Hz.

# CHARACTERISTICS

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- Characteristics
- - Produced from mains by reducing voltage to 60-80 volts with a step-down transformer.
- - Gives 100 pulses or phases in each second.
  - - 50 in one direction.
  - - 50 in other direction.

# Continued



# Effects and Uses

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- Relieves pain and reduces edema.
- Causes rhythmical muscle contractions.
- Often used over large areas for sensory stimulation.
- Rarely used for local muscle stimulation.

# Sinusoidal current

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- Sinusoidal Current:
  - - Similar to faradic current
  - - Alternating current that produces mechanical contractions that tone the muscles
  - - Produce impulses on muscles & force them to contract

# Advantages

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- - Supplies greater stimulation, deeper penetration, & is less irritating than faradic current.
- - Soothes the nerves & penetrates into deeper muscle tissue.
- - Is best suited for the nervous client.

# EFFECTS

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- - **stimulation**
- - When applied continuously, it causes a tetanic muscle contraction and tingling sensation due to stimulation of motor and sensory nerves.
- - \*The sensory stimulation help for pain relief by the mechanism same as that of TENS and the rhythmic muscle contraction help in relief of edema.\*
- - **Metabolism:**
- - It also helps for enhancing blood flow and intramuscular metabolism.
- - **reduction of edema\***: - The un-surged sinusoidal current also helps for reduction of inflammatory exudates.

# Application

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- Application of Sinusoidal currents:<sup>\*</sup>
- - Sinusoidal currents can be applied in the same way as other low frequency currents by means of Electrodes and pads.
- - This current is applied to large areas due to marked sensory stimulation.
- - It is rarely used for local muscle stimulation.

# Indications

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- \*Pain:\* For pain control continuous sinusoidal current is applied at intensity close to patient tolerance and applied for approx. 5 min and repeat if there is insufficient immediate side effects.
- **Edema:** For reduction of edema and to increase the limb circulation surged sinusoidal current is suggested; causing rhythmical muscle pumping action.
- - \*Used during scalp & facial manipulations:\* Sinusoidal current is used during scalp & facial manipulations.
- - \*Usage in modern Physiotherapy:\* Sinusoidal current is rarely used in modern Physiotherapy.

# Contraindications

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- Skin lesions
- Unstable fracture
- Impaired cognitive ability
- Pregnancy
- Over carotid sinus
- Cancer ,cardiac pacemakers,superficial metals.

# Any Question

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