FARADIC CURRENT – PHYSIOLOGICAL EFFECTS, THERAPEUTIC EFFECTS & TECHNIQUE OF APPLICATION

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3. Physiological Effects & Therapeutic Effects of Faradic Current

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3.1 Physiological Effects

Depolarization of Motor Nerves:

Faradic current stimulates motor nerves, causing **muscle contraction**.

Enhanced Blood Circulation:

Muscle contractions act as a **pump**, improving local blood flow.

Muscle Re-education:

Improves **motor unit recruitment** leading to better muscle coordination.

Prevention of Muscle Atrophy:

Maintains muscle mass during immobilization or disuse.

Stimulation of Afferent Nerves:

Activation of sensory nerves may contribute to **pain modulation**.

3.2 Therapeutic Effects

Muscle Strengthening:

Useful in weak but innervated muscles to regain strength.

Improved Muscle Tone:

Enhances baseline muscle tension, reducing flaccidity.

Prevention of Venous Stasis:

Muscle pumping prevents pooling of blood and reduces edema risk.

Muscle Re-education After Injury or Surgery:

Assists in restoring voluntary muscle control.

Correction of Neurological Deficits:

Used in conditions such as:

Foot drop

Wrist drop

Facial palsy (lower motor neuron lesions)

Pelvic Floor Muscle Training:

Helps manage urinary incontinence by strengthening pelvic muscles.

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4. Technique of Application of Faradic Current

4.1 Motor Point

Definition:

The motor point is the **specific location on the skin** where the motor nerve enters the muscle.

Minimal electrical stimulation here produces **maximum muscle contraction**.

Usually located near the **muscle belly**.

Identification:

Use a **motor point chart** as a reference.

Apply low-intensity current and **move the electrode** over the muscle surface until a strong contraction is observed.

4.2 Preparation of Apparatus

Assembling the Device:

Ensure proper connection of:

Power supply

Output channels

Electrodes and leads

Testing the Unit:

Turn on the stimulator.

Adjust intensity and surge controls.

Test on self or a tester pad.

Check for **smooth muscle contractions** and safe output.

4.3 Preparation of Patient

Positioning:

Patient should be in a **comfortable and relaxed position**.

Expose the area to be treated fully.

Skin Preparation:

Clean the skin to remove oils, dirt, or lotions.

Use **moistened sponge pads** or apply **conductive gel** for better conductivity.

Contraindications Check:

Pacemaker or cardiac conditions

Epilepsy

Broken or infected skin

Uncontrolled hypertension

4.4 Stimulation of Motor Point

Electrode Placement:

Active Electrode (smaller): Place directly over the identified motor point.

Dispersive Electrode (larger): Place over a less excitable area, typically **proximal** to the active electrode.

Stimulation Procedure:

Set the intensity to **zero** before starting.

Turn on the device and **gradually increase intensity** until visible and comfortable muscle contraction is achieved.

Adjust **surge duration** (on-time) and **surge interval** (off-time) based on therapeutic goals.

Continuously monitor:

Muscle contraction quality

Patient comfort

Skin condition around electrodes

Treatment duration is usually **10 to 20 minutes**, depending on condition and tolerance.

4.5 Post-treatment Care

Inspect skin for any signs of irritation or burns.

Clean the electrode contact areas to prevent infection or residue build-up.

Provide **patient feedback** and advice on sensations or expectations.

Document all treatment parameters including:

Intensity

Frequency

Duration

Electrode placement

Patient response