SNS COLLEGE OF PHYSIOTHERAPY

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai
Coimbatore– 641035

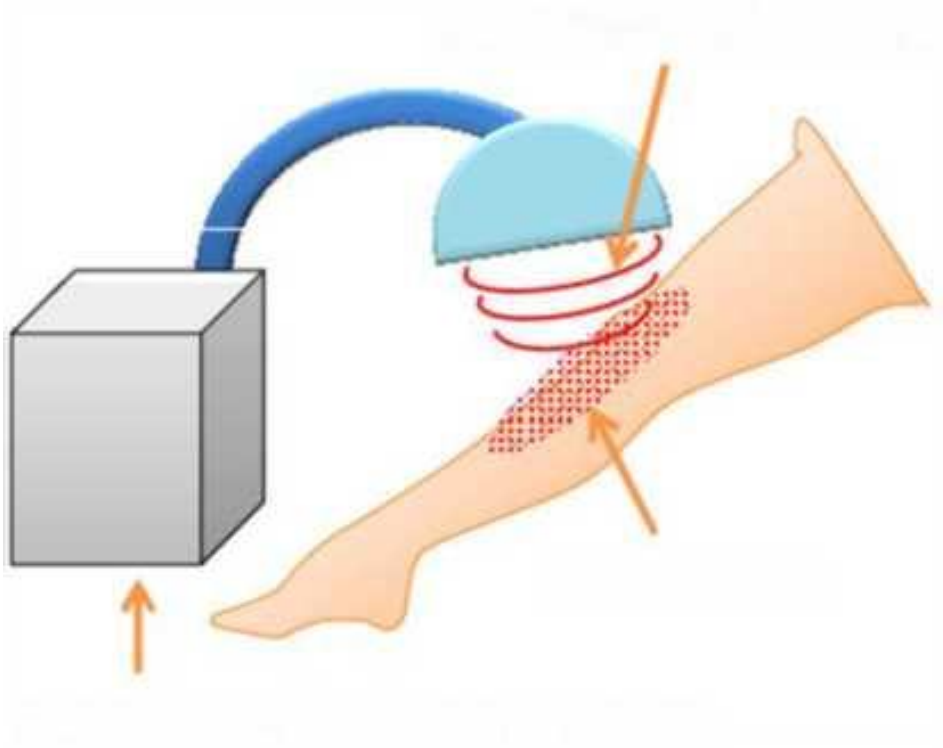
COURSE NAME: ELECTROTHERAPY II

SUBJECT CODE: 6282

TOPIC: MICROWAVE DIATHERMY

Definition

- Microwave Currents / Microwave Diathermy
- Microwave diathermy is a therapeutic modality that uses electromagnetic waves of microwave frequency.
- It produces localized deep heating in body tissues. Common wavelengths used: 12.25 cm and 33 cm.
- Heat is produced due to molecular vibration and dipole rotation.
- Used mainly for musculoskeletal conditions..



Ideate

- Concept:

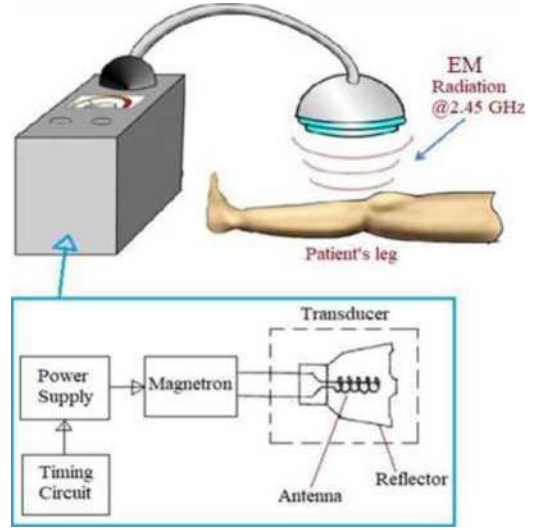
  Deliver selective heating to superficial and moderately deep tissues.

- Why microwave currents?

  More focused heating compared to SWD.

- Useful when:

  Smaller areas require treatment Common in: Sports injuries Localized pain management



Empathize

- Patients suffer from:
  Localized pain Muscle spasm Inflamation
- Need:

  Quick relief
- Comfortable treatment
  Non-contact heating Shorter treatment time
- Therapist empathy ensures:
  Correct positioning Patient safety Effective results

Biophysics of Microwave Currents

- Microwaves are electromagnetic waves.
  Interaction with tissues causes:

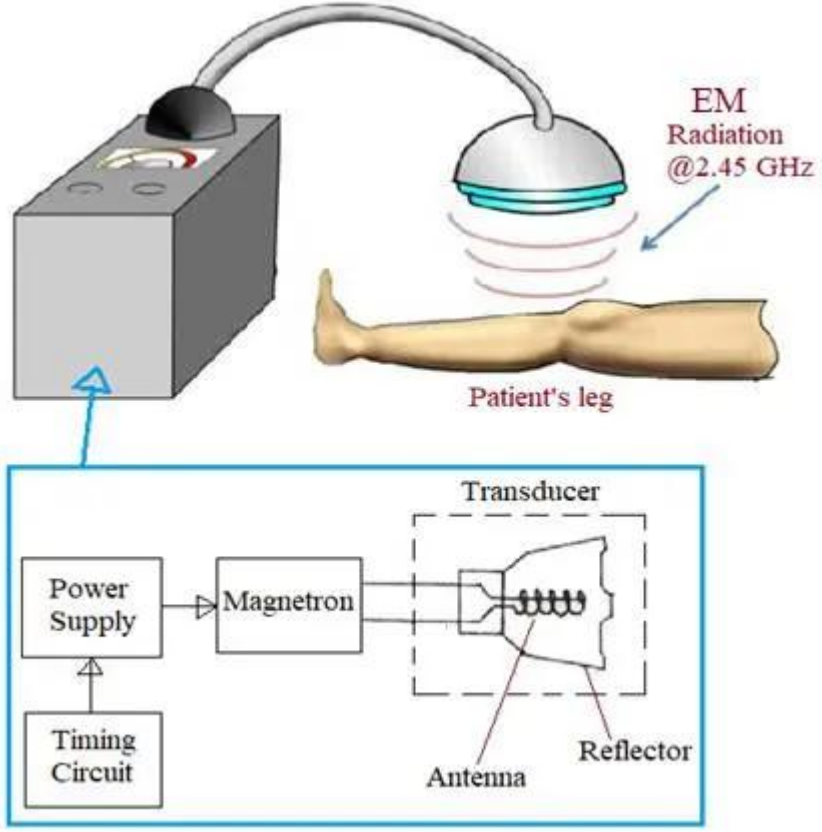
- Dipole rotation (especially water molecules)

- Heat production depends on:

Tissue water content Depth of penetration

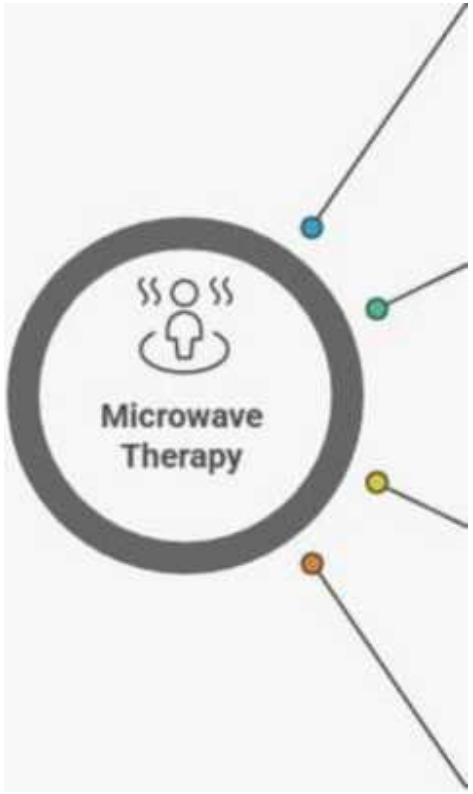
Penetration depth:

Less than SWD
More superficial tissues heated



Flow Chart

Exploring the Dimensions of Microwave Therapy



Indications

- Muscle spasm
- Localized musculoskeletal pain
- Tendinitis
- Bursitis
- Chronic inflammatory conditions
- Post-traumatic stiffness.

Contraindications

- Presence of metal implants
- Pacemakers
- Pregnancy
- Malignancy
- Impaired sensation
- Over eyes, testes, and growing epi.

In class assessment

- 1. Define microwave diathermy.
- 2. Mention the wavelengths used in microwave therapy.
- 3. Explain the biophysical basis of microwave heating.
- 4. List any two indications of microwave currents.
- 5. How does microwave differ from short wave diathermy?

In class assessment

- 6. Mention any three contraindications of microwave diathermy.
- 7. Why is empathy important during microwave treatment?
- 8. Name the tissues most affected by microwave currents.
- 9. Draw and explain the flow chart of microwave currents.
- 10. State two advantages and two limitations of microwave diathermy.

Thank you

MICROWAVE DIATHERMY (MWD)