

SNS COLLEGE OF PHYSIOTHERAPY

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

COURSE NAME : BASIC AND APPLIED PHYSICS

SUBJECT CODE : 6273

TOPIC : DC Basics

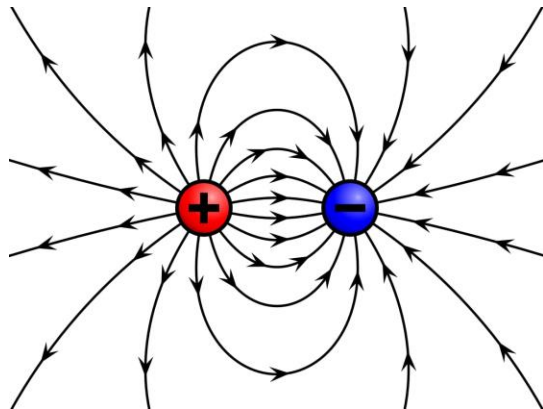
DC Basics – Empathize

- Patient with pain requiring electrotherapy
- Need for safe, controlled current
- Importance of understanding DC before treatment.
- Understanding patient needs ensures safe DC application.



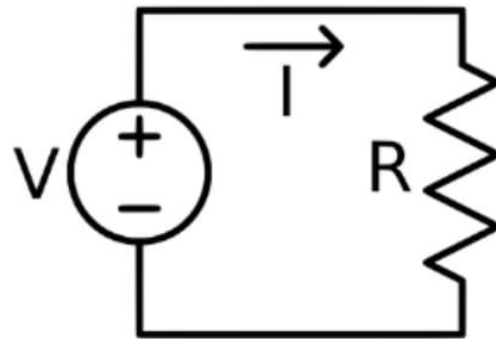
Electric Charge & Current – Define

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- Electric charge movement in tissues
 - Direction of DC flow (positive to negative)
 - Clinical relevance in iontophoresis



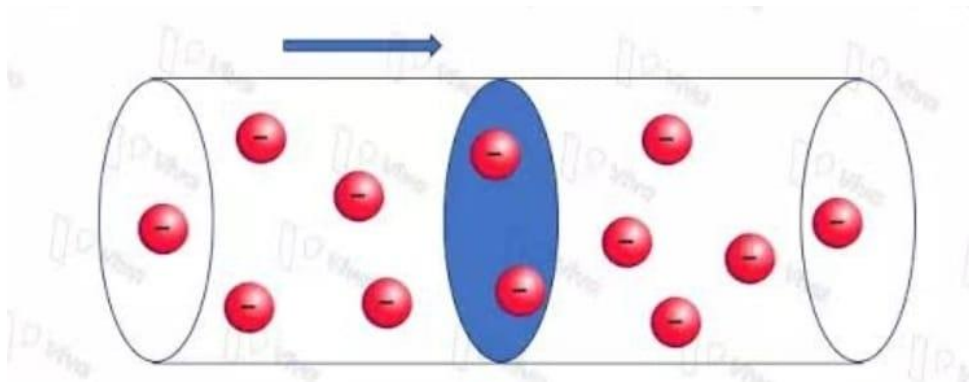
Voltage – Ideate

- Driving force of current
- Low vs high voltage effects
- Selection based on tissue depth
- Voltage choice affects comfort and therapeutic outcome.



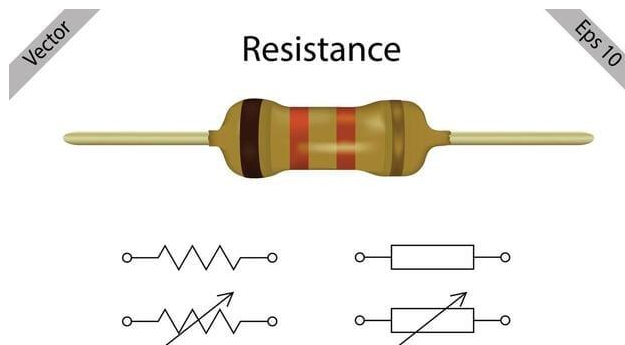
Current Intensity – Prototype

- Measured in milliamperes
- Gradual increase for patient comfort
- Prevents burns and irritation
- Prototype safe dosage for clinical application.



Resistance – Test

- Skin resistance variability
- Effect of sweat, gel, and electrodes
- Exam-focused concept
- Testing resistance ensures predictable DC flow.



Conductors & Insulators – Empathize

- Human tissues as conductors
- Fat and bone as resistors
- Clinical electrode placement
- Helps clinicians understand tissue response.

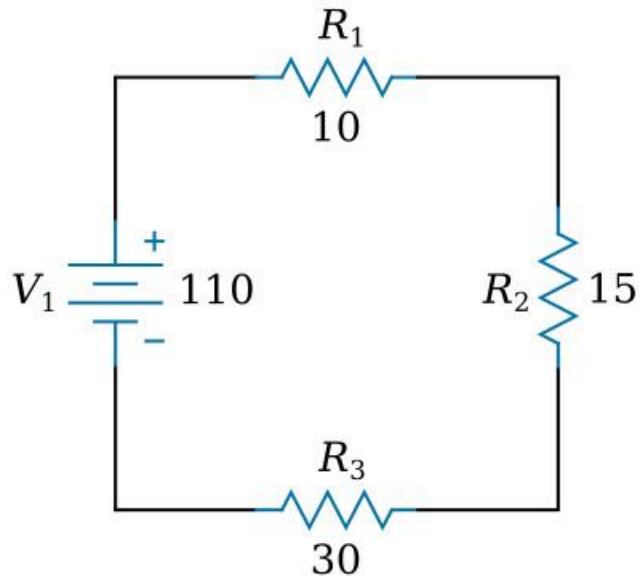


Polarity Effects – Define

- Anode and cathode reactions
- Chemical changes under electrodes
- Risk of skin burns

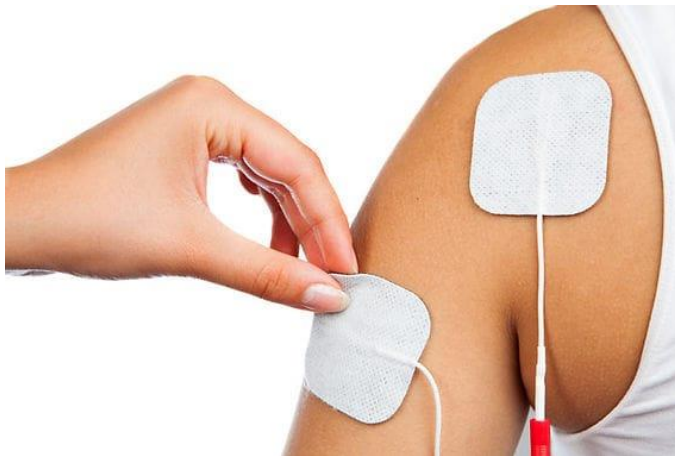
DC Circuits – Ideate

- Closed circuit necessity
- Patient as part of circuit
- Therapy device components
- Ideates effective circuit setup for treatment.



Safety Measures – Prototype

- Check electrodes before use
- Monitor patient feedback
- Use appropriate intensity
- Prototyping safe clinical practice.



Clinical Application & Exam Points – Test

- Used in iontophoresis
- Asked frequently in viva
- Link theory to practice
- Tests understanding through clinical and exam scenarios.