

تقنيات اجهزة تخدير الكورس الاول

SURGICAL DIATHERMY

Sawa University

College of health and medical
techniques

Department of Anesthesia

Four Stage

جامعة ساوة

الاهلية

كلية التقنيات الصحية
والطبية

قسم تقنيات التخدير

المرحلة الرابعة

محاضرة رقم 10

الجانب النظري

¹ Lecture No1o.

Theoretical

استاذ المادة :م.د سامي رحيم حسن

Surgical Diathermy

- Definition: Use of high-frequency electrical current to cut or coagulate tissue.
- Widely used in modern surgery for bleeding control and precise cutting.



Types of Surgical Diathermy

1. Monopolar diathermy
2. Bipolar diathermy



Monopolar Diathermy

- Current flows from active electrode → patient → return plate.
- Used for cutting and coagulation.
- Requires proper **grounding pad placement.**



Bipolar Diathermy

- Current passes between **two tips of forceps**.
- **Safer** in wet fields and near delicate structures.
- Less risk of **patient burns**.



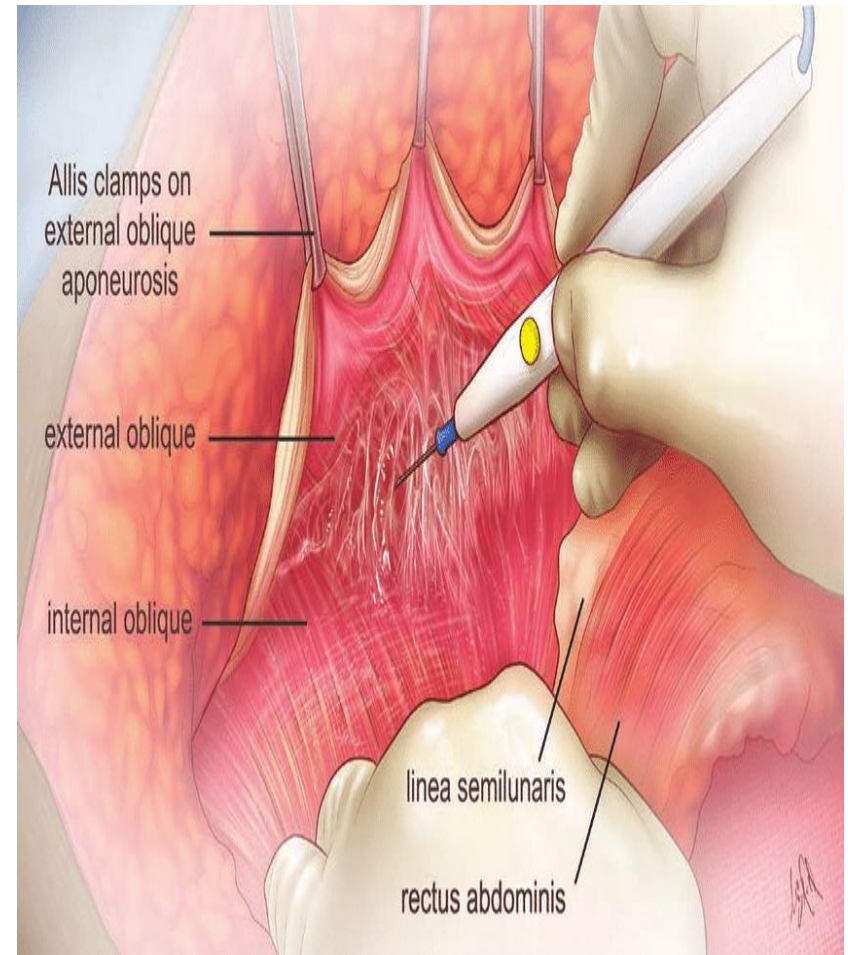
Mechanism of Action

1. High-frequency current causes ion agitation.
2. Heat production → cutting/coagulation.
3. Modes: Cutting (continuous waveform), Coagulation (intermittent waveform).



Indications

1. Control bleeding (hemostasis).
2. Cutting tissue.
3. Dissection of surgical planes.
4. Tumor resection.



Safety Considerations

- Ensure proper grounding pad placement.
- Avoid metal contact.
- Keep flammable substances away.
- Inspect insulation of instruments.
- Use lowest effective power setting.

Complications

1. Burns at grounding site.
2. Interference with pacemakers.
3. Accidental tissue damage.
4. Smoke production → needs suction.



Return Electrode (Grounding Pad)

1. Must have full contact with patient skin.
2. Applied to well-vascularized, muscular areas.
3. Avoid bony prominences and scars.



Smoke Evacuation

- Surgical smoke contains toxins.
- Use suction and filtration systems.
- Protect staff and patient.



A bouquet of several light pink roses with green leaves is arranged in a circular pattern. In the center, a white rectangular card with a thin gold border is placed. A red and white checkered ribbon is tied into a bow on top of the card. The text "Thank You!" is printed in a black serif font on the card.

Thank You!