



Defibrillator

By

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Defibrillator

It is a medical device used to treat serious heart rhythm disorders (arrhythmias) such as ventricular fibrillation and ventricular tachycardia, and by giving an electric shock that ends the disturbance in the transmission of the electrical signal in the heart.



Device Component

1. Paddles

There is three type of paddles :

- Internal electrodes
- Disposable electrodes (use in AED)
- External electrodes

2. Control Panel

- Power:
- Selector switch: Voter energy in joules, energy ranges between (9-200) joules.
- Charge: It is used to charge the capacitor.
- Charge indicator light.
- Discharge: A button placed on the paddle presses simultaneously .
- Synchronizer: In order to synchronize the discharge of charge with the ECG signal.
- Alarm
- ECG
- Battery Charge Indicator

3. ECG Board.

- 6 Chest electrode

4. Screen .

5. Power Supply.

6. Battery

- It is one of the most important parts in the device, and it must be permanently charged .

7. Printer

How to use the shock device

1. The electrodes are painted with gel with high conductivity and the patient's skin is cleaned for two purposes:

- Minimizing skin resistance and increasing the proportion of useful energy discharged through the heart muscle
- Wasted energy is thermal energy whose increase leads to skin burns.

2. The energy to be delivered to the patient's heart is selected by the voter in the interface of the device.

3. Turn on the charging switch.

4. Pressing the paddles on the patient's chest strongly to obtain contact and good conduction reduces resistance through the skin.
5. Waiting for the signal of the end of charging process.
6. Discharge the charge by pressing the discharge buttons located on the electrodes (paddles).

Device malfunctions:

1. Battery failure.
2. Paddle malfunction.
3. Electronic malfunctions.
- 4- Malfunction of the ECG signal cable.
5. Malfunction of one of the control buttons.
- 6- Malfunction in the main power supply.