

WEARABLE CARDIOVERTER DEFIBRILLATOR (WCD)

- A. Assessing and Treating a Patient utilizing a WCD:
1. Recognize that you have a patient with an WCD.
 2. Determine if your patient has an WCD problem, an unrelated illness, or injury.
 3. When preparing your patient for transport, be sure the WCD is under their clothing and applied directly to their skin per manufacturers labeling.
 4. If the patient has a cardiac event indicating the patient could be unconscious, an alarm will sound. The device will respond with treatment in one (1) minute if not overridden by deactivating the alarm per manufacturers requirements.
 5. If the patient is unresponsive and requires treatment, the device will warn bystanders prior to administering a shock.
 6. Once the device has administered treatment, the provider should do the following:
 - a. Perform an assessment
 - b. Secure the airway
 - c. Check for a pulse
 - d. Obtain a complete set of vitals
 - e. Call for ALS if you are a BLS provider
 7. If the heart rate does not return to normal and the WCD treatment cycles repeat, follow protocol 4205, 5205, and 6205 treatment for cardiac arrest.
 8. If you are on scene and the patient regains consciousness and refuses to go to the hospital; contact Medical Command, document the refusal, and ask that they follow up with their primary care physician.
 9. In the event that the vest has not administered treatment and the patients exhibits with chest pain, The vest can be removed, and the patient treated per protocol including obtaining a 12 lead EKG.
- B. Overview of a WCD:

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Patients at high risk for sudden cardiac death (SCD) may benefit from wearable cardioverter defibrillators (WCD) by avoiding immediate implantable cardioverter defibrillator (ICD) implantation. The WCD is an external device capable of automatic detection and defibrillation of ventricular tachycardia (VT) or ventricular fibrillation (VF). The approved devices do not have pacing capabilities and therefore are unable to provide therapy for bradycardic events or antitachycardic pacing.

The WCD is composed of four dry, nonadhesive monitoring electrodes, three defibrillation electrodes incorporated into a chest strap assembly, and a defibrillation unit carried on a waist belt. The monitoring electrodes are positioned circumferentially around the chest, held in place by tension from an elastic belt, and provide two surface electrocardiogram (ECG) leads. The defibrillation electrodes are positioned in a vest assembly for apex-posterior defibrillation. Proper fitting is required to achieve adequate skin contact to avoid noise and frequent alarms.

A wearable cardioverter-defibrillator (WCD) is a vest that has a defibrillator built into it. A defibrillator is a device that fixes serious changes in your heartbeat. The device is always checking your heart rate and rhythm. If it detects a life-threatening, rapid heart rhythm, it sends an electric shock to the heart. This can restore a normal rhythm. A WCD helps control abnormal heart rhythms.

Patients may wear the WCD for about 2 to 6 weeks or longer. They will be measured so the vest will be the right size. The vest is worn under your clothes. It has electrodes and wires that lie against the skin and a monitor that is worn around the waist or over the shoulder. The WCD should be worn all the time except when you bathe. Patients can perform your normal activities while wearing it. Providers need to be aware of the alert sounds and pay attention to the messages on the monitor. You need to follow the monitor's instructions exactly.

Like all therapies, the WCD is most effective when used as prescribed, but this requires continuous adherence for up to 90 days as well as constant attention towards the various device alarms that may become activated at any given moment. Developments are underway to improve the garments, monitors and overall patient experience, but adherence will likely limit the patient population who will actually benefit from this cumbersome device. In the meantime, it will remain up to the cardiologist to decide which patients are the most appropriate candidates to receive the WCD.

