

WEARABLE CARDIOVERTER DEFIBRILLATOR (WCD)

The Wearable Cardioverter Defibrillator (WCD) is a non-invasive device for patients at high risk of sudden cardiac arrest (SCA). The device requires no family, bystander, or EMS intervention.

The WCD consists of two main components - a garment and a monitor. The garment, worn under the clothing, detects arrhythmias, including before and after treatment. The monitor records the arrhythmias and is worn around the waist or from a shoulder strap. It weighs only about 1.8 pounds, allowing for easy adaptability to a patient's lifestyle.

The WCD continuously monitors the patient's heart with dry, non-adhesive electrodes. If a life-threatening heart rhythm is detected, the device alerts the patient prior to delivering a shock treatment. The device releases a conductive gel onto the therapy electrodes to protect the skin, and then delivers a shock to restore normal heart rhythm. The entire event, from detecting a life-threatening arrhythmia to automatically delivering a defibrillation shock, usually occurs in less than a minute. Timely defibrillation is the single most important factor in saving a SCA victim's life.



Additionally, patients can connect the WCD monitor to a telephone modem and transmit their heart monitoring data, allowing their physician to review the data. Patients wear the WCD almost continuously, excluding time when bathing or showering.

The WCD was pioneered by ZOLL Lifecor, a division of ZOLL Medical, and received FDA approval in 2002 and is marketed as the LifeVest. At this point, there are no comparable medical products on the market. To date, more than 13,000 patients have been prescribed a WCD to protect them from SCA while their long-term arrhythmic risk is assessed or if implant surgery is not an option.

The WCD is considered a treatment option for patients who meet certain criteria, including but not limited to:

- Immediately after a heart attack during the recovery and evaluation process to determine if the patient should receive an ICD
- Before and after some coronary bypass and angioplasty procedures to allow for recovery and evaluation for the need of an ICD

- Patients awaiting a heart transplant or patients with terminal diseases
- Recently diagnosed or suspected conditions such as cardiomyopathy which might require additional follow-up and evaluation
- After an ICD is removed due to complications or other medical reasons

The WCD also may be prescribed by a physician for patients who are awaiting surgery for an implantable cardioverter defibrillator (ICD), until their heart gets stronger or their physician decides on another course of treatment.

The patient who is prescribed the WCD for the above-mentioned reasons may leave the hospital, not only improving quality of life but potentially reducing hospitalization costs. The LifeVest is covered under most insurance plans in the United States as Durable Medical Equipment (DME) and is covered by Medicare and most Medicaid plans.

How is the WCD different from an automatic external defibrillator (AED)?

An AED requires a bystander to witness an arrhythmia event (such as ventricular fibrillation) and take action to operate the device and administer the treatment shock to the patient. In order to be effective, the treatment must be delivered within a few minutes after the event. For each minute that a patient's heart is in cardiac arrest, the chance of survival decreases by about ten percent.

By contrast, the WCD requires no bystander intervention. The WCD protects the patient when alone or asleep. The WCD provides constant monitoring and immediate protection with lifesaving therapy (if required), creating peace of mind for patients and family members who otherwise would worry about having to resuscitate a loved one or wait for EMS to arrive.

Note: SCAA does not endorse products, but supports public education and access to new technology and therapies approved by the U.S. Food and Drug Administration (FDA) to treat patients at risk of sudden cardiac arrest. This information is provided by SCAA as a public service related to its mission of saving lives from sudden cardiac arrest and SCAA has received no compensation for providing this information.