Cardiac Monitoring: The Importance of Detecting Heart Rhythm Disorders

Heart rhythm disorders, also called cardiac arrhythmias, occur when there is a malfunction in the heart’s electrical impulses that coordinate how it beats. As a result, the heart can beat too quickly, too slowly or irregularly. In some cases, abnormal heart rhythms are not serious or life threatening and can be addressed with simple lifestyle changes. In other cases—such as when a patient experiences recurrent fainting, palpitations, unexplained stroke or atrial fibrillation—arrhythmias can be more serious and potentially life threatening.

Importance of Cardiac Monitoring

- Because abnormal heart rhythms and their accompanying cardiac symptoms often come and go in a transient manner, they may be difficult to detect. Tests such as electrocardiograms only allow a doctor to look at the heart’s activity at one point in time. Until a patient is diagnosed with an arrhythmia, he or she may be at risk for future symptoms or events.
- To determine the cause of recurrent fainting, palpitations, unexplained stroke or atrial fibrillation, a patient’s heart must be monitored effectively over time so the doctor can diagnose the disorder accurately.

Types of Cardiac Monitors

Cardiac monitors are battery-powered devices that record the heart’s electrical activity. There are two categories of cardiac monitors: external monitors, and implantable or insertable monitors.

- **External Monitors** – Designed for short-term use, traditional heart monitors—known as Holter or event monitors—are the most common monitors for diagnosing heart rhythm problems. They are typically attached to the outside of a patient’s body for between 24 hours to 30 days. Other types of external monitors may include Mobile Cardiac Outpatient Telemetry (MCOT) devices or patches.
- **Implantable or Insertable Monitors** – Designed for long-term use, insertable cardiac monitors are the gold standard for determining causes of infrequent, unexplained arrhythmias. The small device is placed just under the skin of the chest during an outpatient procedure. The device detects and records abnormal heart rhythms over long periods of time (up to three years) to help determine whether a patient has an abnormal heart rhythm.

Benefits of Long-Term Cardiac Monitoring

- **Continuous Monitoring:** By continuously tracking a patient’s heart rhythms, doctors are more likely to discover whether an arrhythmia is causing a patient’s symptoms, and then can use the monitors to help manage the patient’s condition.
- **Patient Compliance:** Because insertable cardiac monitors are placed just under the skin for long-term use, they are discreet and do not require patients to deal with bulky monitors, sticky recording pads or wires that are visible under clothing. Patients with insertable cardiac monitors can continue with normal daily activities—such as swimming, bathing and physician-approved exercise—without the monitor getting in the way.
- **Results:** A recent study showed that patients with implantable long-term heart monitors who experienced arrhythmias received diagnoses much faster than non-implantable cardiac monitors; the time to diagnosis was reduced by 79 percent.¹
- **Cost:** Long-term monitors may reduce the need for other diagnostic tests that can be unnecessary, inconclusive and costly. Long-term monitors also have proven to be cost-effective for patients who are experiencing unexplained fainting and palpitations, based on clinical guidelines.²

The Future of Cardiac Monitoring

- Currently under investigation, a new miniaturized heart monitor – the Reveal LINQ™ Insertable Cardiac Monitor – is designed to help physicians more quickly diagnose irregular heartbeats. The smallest ICM available (1.2 cc), the LINQ ICM has the same battery life, and more data memory, than other ICMs. It continuously and wirelessly monitors the heart, and sends information to a patient’s physician to help them make an accurate diagnosis and determine a treatment plan.
Although many patients benefit from the use of long-term monitoring, results may vary. Individuals should speak with their physicians to determine the treatment that is right for them.

The Medtronic Reveal LINQ™ Insertable Cardiac Monitor (ICM) is an investigational device and is not approved for commercial use.

---
