St. Elizabeth's Medical Center
A STEWARD FAMILY HOSPITAL
Steward

Heart Rate Monitors 101

Many people who own Fitbits, Garmins and other consumer heart-rate monitors may wonder why they need a separate heart-rate monitor recommended by their cardiologist. The reason is simple – accuracy. When it comes to accurate diagnostics and monitoring for health care purposes, there's no room for error – your life may depend on the accuracy of your results. A Fitbit may be effective at giving you a ballpark estimate of your heart rate during workouts, but it won't be nearly as reliable as a more advanced, medical-grade heart-rate monitor used for real medical diagnostics.

Fitbit acknowledges this – their packaging literally states that it is "not a medical device." Garmin has a similar disclaimer – "for recreational purposes."

Most consumer heart-rate monitoring devices work by bouncing a light signal through the skin from an emitter. The light signal bounces off arteries near the skin's surface back into a detector on the device. The intensity of the light the detector receives varies depending on how much the arteries are swollen or contracted by blood flow. The device bases its heart-rate reading on the variations in light intensity the heartrate monitor's detector sensor receives.

There are many factors that can lead to wildly inaccurate heart rate results. Even the movements associated with vigorous exercise can prevent accurate readings, which somewhat defeats the purpose of the devices in the first place.

Some newer commercially available devices do record an actual electrical signal. Examples of this include the Apple Watch and the Kardia device. In certain patients these devices can be very useful in monitoring patients with known or suspected cardiac arrhythmias, and our physicians often integrate them into their treatment plan for patients as part of our cutting edge care.