



BCMS REPORT

BALTIMORE CITY MEDICAL SOCIETY FOUNDATION

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Tools to Test Your Heart



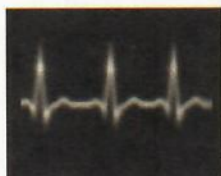
Donald H. Dembo, M.D.

Heart tests are often used to help doctors diagnose and treat heart problems. The most common non-invasive (does not require surgery) tests used by cardiologists (heart specialists) today are electrocardiograms, Holter monitors, echocardiograms, and stress tests. These tests can be performed alone or with one another, to help doctors detect various heart problems.

The test most often used is the **electrocardiogram**. An electrocardiogram gives a picture in a graph form of the heart's electrical activity. This picture can suggest many conditions and/or problems within the heart, including heart enlargement, heart damage (past or present), circulation problems (the way blood flows through the heart), disturbances in rhythm (heartbeat), for example, too fast, too slow, irregular, or whether or not the heart is under strain. But, the electrocardiogram shows the doctor what is happening to the heart for a brief time only – 10 seconds or so.

An extension of the electrocardiogram is the **Holter Monitor**, a device worn to record the electrocardiogram over 24 to 48 hours. Problems in heartbeat may cause palpitations, dizziness or fainting spells. The Holter monitor can help doctors track those symptoms and learn more about symptoms of chest pain. It can help pick up problems that may not have clear-cut symptoms, such as brief rhythm disorders, or other changes suggesting poor circulation. These conditions may warn doctors of problems which may develop in the future.

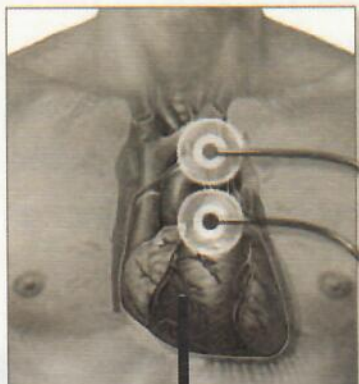
The **echocardiogram** uses high pitched sound waves, which allow doctors to see a 3-sided view of the heart on a TV-like screen while it is in action. Through this test, doctors can tell exactly how well the heart is performing, or how badly the heart has been damaged in the past. It can detect birth defects, including holes in parts of the heart, heart valve defects, or damage from a heart attack. The addition of another sound instrument, known as the Doppler Effect, allows doctors to tell how well blood flows through the heart.



Electrocardiogram



Echocardiogram



Heart

Holter Monitor

An electrocardiogram tells very little when it is recorded with the patient at rest. Symptoms or other problems may only show up when the heart is placed under stress, such as physical activity. Therefore, doctors use stress tests to watch a patient's electrocardiogram under pressure.

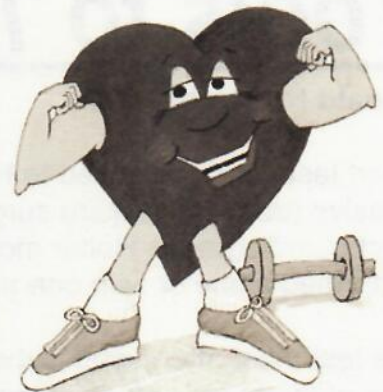
During a **stress test**, the patient walks on an exercise treadmill while the

electrocardiogram monitors his or her heart. As exercise is increased and more strain is placed upon the heart, the electrocardiogram may show added problems with circulation or heart rhythm. Sometimes, medication is used to stress the heart when patients cannot exercise. Stress tests can be falsely positive or negative, and may be combined with an echocardiogram or an injection into a vein that collects in the heart muscle to improve accuracy.

The four tests described above are important tools in helping cardiologists decide on the best treatment for a heart problem or determine results of treatment. Although heart testing may be expensive, early detection and treatment of a heart problem saves lives and money in the long run.

10 Amazing Heart Facts

Sure, you know how to steal hearts, win hearts, and even break hearts. But how much do you really know about your heart and how it works?



- Your heart does the most physical work of any muscle during your lifetime. Your heart works twice as hard as the leg muscles of an athlete sprinting (short run).
- Your heart beats about 100,000 times in one day and about 35 million times a year. During your lifetime, your heart may beat more than 2.5 billion times.
- Your body contains about 3 gallons of blood that circulates throughout the body about three times per minute. In one day, blood travels a total of 12,000 miles, which is four times the distance across the United States from coast to coast.
- During your lifetime, your heart will pump about 1.5 million gallons of blood. That's enough to fill 200 train tank cars.
- The heart pumps blood to almost all of the body's 75 trillion cells. Only the corneas (the part of the eye that covers your pupil and iris) receive no blood supply.
- A woman's heartbeat (about 78 times per minute) is typically faster than a man's heartbeat (about 70 times per minute).
- The heart rate of a fetus (unborn child) is twice as fast as an adult's.
- When you place two fingers at the neck or wrist, the pulse you feel is not your actual heart beat. It is blood stopping and starting as it moves through your arteries.
- A child's heart is almost the size of his/her fist. An adult's heart is nearly the size as two fists.
- The aorta (the largest artery in your body) is larger than the opening of a garden hose. On the other hand, capillaries (the smallest blood vessels in your body) are smaller than a strand of human hair.

Source: www.pbs.org

As always, talk with your doctor if you have any questions about these topics. To request additional copies of this publication, please contact Baltimore City Medical Society Foundation, 410-625-0022 or info@bcmsdocs.org.

THE HEALTHIER YOU WILL BE!