

## Diagnostic Tests

*For patients at the Heart Institute at UWMC*

*This section of the Congenital Heart Conditions notebook describes some of the diagnostic tests you may have. When you come for your clinic visit, your doctor may order one or more of these diagnostic tests.*

### Electrocardiogram

An *electrocardiogram* (EKG or ECG) test shows the electrical activity of your heart. It can help find abnormalities in the rhythm and structure of your heart.

This test uses *leads*, which are like stickers. The leads are placed on your arms, legs, and chest.

### Echocardiogram

An *echocardiogram* checks the structure and function of your heart chambers and valves. It uses *ultrasound* (sound waves) to produce a picture of your heart.

During the test, the technician will move a hand-held wand across your chest to produce pictures of the different parts of your heart.

### Heart Monitors

A heart monitor is a device that you wear for 24 hours up to 30 days. The device shows changes in your heart's rhythm. You may not have any symptoms when your heart rhythm changes. But, you may also feel *palpitations* (rapid or strong heartbeat), dizziness, shortness of breath, or chest pressure.

You may want to keep a log of your symptoms while you are wearing the monitor. This can help your provider know if any rhythm changes occurred at the times you felt symptoms.



*An EKG test shows the electrical activity of your heart.*

There are 3 main types of heart monitors. **All monitors can be mailed back to UWMC when the test is over.**

- A **Holter monitor** has 7 leads that attach to your chest. It records all of your heart rhythms over a 24-hour period. **Please do not bathe or shower during the 24-hour test.**
- A **CAM monitor** is worn for 48 hours up to 7 days. It records all of your heart rhythms during that time. It is OK to take a shower during this time, but do not put the device under water.
- A **30-day event monitor** records your heart rhythm only when you activate it. Your doctor will tell you to push a button when you have palpitations, dizziness, shortness of breath, chest pressure, or other symptoms that cause you concern. You can remove this monitor when you want to shower or bathe.

## Stress Testing and Pulmonary Diagnostics

A stress test checks how your heart responds to physical stress, when your body needs more oxygen and blood flow. During the test, we will monitor your heart rate and electrical activity, blood pressure, and respiratory (breathing) rate.

Stress testing can be done with:

- Physical exercise on a treadmill or a stationary bike
- An echocardiogram before, during, and after stress (*stress echo*)
- A *cardiopulmonary exercise test* (CPET) or a *pulmonary function test* (PFT) to check your lungs

## Computed Tomography (CT) Scan

A CT scan uses special X-rays to create images of your heart and large blood vessels. If your doctor wants to use *contrast* (X-ray dye) for the test, it will be injected through an *intravenous* (IV) line in your arm.

## Magnetic Resonance Imaging (MRI)

An MRI uses a strong magnetic field and radio waves to create detailed images of your heart. It takes pictures from many different angles. You may need sedation (medicine to help you relax) or contrast through an IV for this test. MRI may not be the best test for you, or it may require extra planning, if you have an implanted device such as a pacemaker or implantable cardioverter defibrillator (ICD). Ask your doctor if you have any questions.

## Cardiac Catheterization

This procedure uses a small catheter (tube) that is placed into an artery or vein in the top of your leg, in your neck, or in your wrist. From there, the tube is threaded through a blood vessel and into your heart. Through this catheter, the doctor measures heart pressures and takes an X-ray video of injected contrast as it pumps through your heart.

### Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

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