Second (Mobitz Type II) and Third Degree Heart Block

Normal Heart
Sinus Rhythm: The heart works like an electrical pump. The sinoatrial (SA) or sinus node is the heart’s natural pacemaker. It controls the heart rate. The sinus node sends an electrical signal to the top chambers of the heart called the atria. This causes them to contract. The atroventricular (AV) node is like an electrical conduction cable. It sends the signal to the lower chambers of the heart called the ventricles. This causes them to contract.

Second-Degree Heart Block
Second-degree AV Block, also called Mobitz type II, causes some electrical signals from the atria not to reach the ventricles. Some atrial signals reach the ventricles while others are blocked. Your cardiology provider will decide if your child needs more evaluation and follow-up.

Third-Degree Heart Block
Third degree heart block, also called complete AV block, happens when none of the electrical signals from the atria reach the ventricles. When complete heart block happens, the heart rate is slower. This is because back-up pacemaker cells in the AV node or ventricle control the heart rate. It is rare (1 in 10,000 newborns).

What are the Signs and Symptoms?
- fatigue
- decreased ability to exercise
- problems breathing, also called shortness of breath
- dizziness
- fainting

Signs and symptoms depend on the type of heart block and the heart rate. Some infants and children may not have any symptoms. In complete heart block, your child may have bradycardia which means the heart rate is slower than normal.

If your child has these symptoms call your cardiology provider. If your child faints, call 911.

What Causes Heart Block?
- Mother of the child has an autoimmune disease, such as lupus
- Infection
- Some types of congenital or structural heart disease
- Heart muscle disease
- Genetic abnormality

How it is Diagnosed?
A member of the health care team does a complete exam and a health history.

An electrocardiogram (ECG or EKG) is done to look at the heart’s electrical activity. Normal numbers for the heart’s electrical conduction system depend on your child’s age. Electrical conduction in the heart gradually slows with age.

A Holter monitor is a 24 or 48 hour recording done to help evaluate the heart’s conduction system.

An exercise treadmill test may be performed in older children and teenagers.
An **echocardiogram** is an ultrasound of the heart and may be done to assess heart structure and function.

**How is it Treated?**
It depends on the cause of the heart block. Some children who have complete heart block may need surgery to place a permanent pacemaker to regulate the heart rate. Your child’s health care team will discuss the testing and treatment of your child’s heart block.

**Who Do I Call With Questions?**
Your child’s doctor, nurse or clinic staff can answer your questions. Our phone number is **(608) 263-6420**. Ask for pediatric cardiology.

AFCH Pediatric Cardiology Website: [www.uwhealth/kidshearts](http://www.uwhealth/kidshearts)