

suspicious. The patient should be placed on a cardiac monitor with recording capabilities. A 12-lead ECG yields more information than the monitor recording and should be done as soon as possible.

The basic diagnostic procedure is the ECG, including 24-hour Holter monitoring. **Electrophysiologic cardiac catheterization** allows for identification of the conduction disturbance and immediate investigation of drugs that may control the dysrhythmia. Another procedure that may be used is **transesophageal recording**. An electrode catheter is passed to the lower esophagus and, when in position at a point proximal to the heart, is used to stimulate and record dysrhythmias.

Dysrhythmias can be classified according to various criteria, such as effect on heart rate and rhythm, as follows:

Bradydysrhythmias: Abnormally slow rate

Tachydysrhythmias: Abnormally rapid rate

Conduction disturbances: Irregular heart rate

Bradydysrhythmias

Sinus bradycardia (slower than normal rate) in children can be attributed to the influence of the autonomic nervous system, as with hypervagal tone, or in response to hypoxia and hypotension. Sinus bradycardias are also known to develop after some complex cardiac surgical repairs involving extensive atrial suture lines, such as atrial baffle repairs (Mustard and Senning repairs) and the Fontan procedure.

Complete atrioventricular (AV) block is also referred to as **complete heart block**. This can be either congenital (occurring in children with structurally normal hearts) or acquired after surgery to repair cardiac defects. AV blocks are most often related to edema around the conduction system and resolve without treatment. Temporary epicardial wires are placed in most patients at surgery; if a rhythm disturbance occurs, temporary pacing can be used. Several days after surgery, the health practitioner removes the wires by pulling slowly and deliberately down on them from the site of insertion.

Some children may need a permanent pacemaker. The