

Departments -> Electrophysiology

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Electrophysiology is used in the diagnosis and treatment of cardiac rhythm disorders. While a normal heart beats at a regular rate and with a steady rhythm, certain conditions can cause the heart to beat too rapidly or irregularly. These abnormal rhythms are diagnosed in our clinic using noninvasive methods such as electrocardiograms (EKGs), Holter monitors (twenty-four hour EKGs) and other "event monitors." Treadmill testing can be used to evaluate conditions triggered by exercise. Finally, some children with fainting spells may be diagnosed using "tilt table" testing, which can mimic sudden positional changes that often lead to fainting spells.

Electrophysiologic testing uses long, thin flexible tubes (catheters) that are passed through veins and arteries into the heart. These catheters are used to test the heart's electrical system and to look for arrhythmias (irregular rhythms) and their causes.

Certain fast heart rhythms can be cured using a procedure called **catheter ablation**, during which the few cells responsible for the rapid rate are destroyed. This allows the remaining normal heart cells to beat regularly. Successful catheter ablation can prevent the need for life-long medications. Depending on the mechanism of the abnormal heart rhythm under treatment, success rates of ablation approach 90%.

The electrophysiology department also performs pacemaker implantations. Pacemakers are small battery-powered devices that are implanted in the body in order to treat slow heart rates (bradycardias). They stimulate the heart to beat at a higher rate. In other cases, implantable defibrillators can be used to interrupt dangerous fast heart rhythms.

What to Expect

Electrophysiology procedures are performed in the cardiac catheterization laboratory. Parents are allowed to accompany their children as far as the door of the room, but then will need to wait in the waiting room. A mild sedative is given by mouth to calm the patient prior to entering the catheterization laboratory.

After administration of anesthesia the procedure lasts from three to five hours. Afterwards the patient will spend an hour in the recovery room and then be admitted to the ward for four to six hours of observation. Many patients are discharged home on the day of the procedure.

A follow-up visit with the cardiologist will be arranged one week following the procedure. Children are allowed to resume all regular activities including bathing and swimming two days following discharge.

Further details including timing, risks, and benefits of the procedure will be discussed beforehand with the cardiologist. All questions regarding electrophysiology procedures should be directed to Dr. Kishor Avasarala.



Disclaimer: The information provided here is intended to educate the reader about certain medical conditions and certain possible treatment. It is not a substitute for examination, diagnosis, and medical care provided by a licensed and qualified health professional. If you believe you, your child, or someone you know, suffer from the conditions described herein, please see your health care provider immediately. Do not attempt to treat yourself, your child or anyone else without proper medical supervision.

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