



Patient Guide to an  
**Electrophysiology Study  
with Ablation**

**UW**Health  
American Family  
Children's Hospital



School of Medicine  
and Public Health  
UNIVERSITY OF WISCONSIN-MADISON

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## What is an Electrophysiology Study with Ablation?

An electrophysiology (EP) study is a cardiac catheterization which checks the electrical system of the heart. It can help discover the cause of palpitations, abnormal heart rhythms or fainting. It may also be used to check patients for possible life-threatening heart rhythms (arrhythmias).

An ablation is a procedure that treats the abnormal heart rhythm by burning or freezing the tissue causing the abnormal rhythm. An ablation can be done at the same time as an EP study.

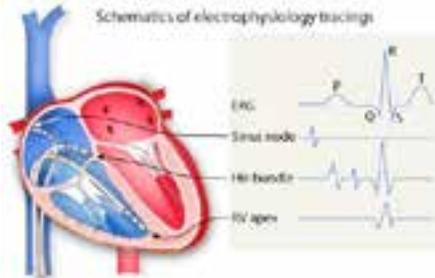
## Preparing for an EP study

- The patient will be asked not to eat or drink for 6 to 8 hours before the procedure.
- The patient may be asked to stop taking heart medicine a few days before the procedure.
- Patients usually leave the same day, but should be ready to stay overnight after the procedure, if necessary.
- Complete preparation instructions are available from the physician or nurse.

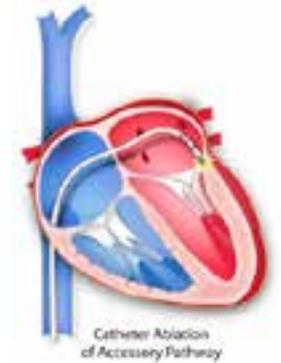
## What happens during an EP study?

An EP study is an outpatient procedure that can last 2 to 5 hours. It can last longer if the arrhythmia is more complex. During an EP study patients often receive general anesthesia and are “asleep” during the procedure.

- Catheters (long flexible wires) are advanced through veins into the heart. They usually pass through the femoral veins near the crease between the leg and pelvic area.
- Once in the heart, the catheters record the heart's electrical signals (electrograms). The catheters can also pace the heart to cause the heart to beat faster and to find abnormal heart rhythms. The catheters can then be used to locate the normal and the abnormal electrical signals of the heart.
- At American Family Children's Hospital, we use 3-D mapping equipment to map the normal and abnormal tissue in the heart. This can eliminate the use of radiation in the majority of our procedures.



- An ablation can be done to freeze (cryotherapy) or burn (radiofrequency energy) the tissue causing the abnormal heart rhythms. For certain patients, freezing therapy may be safer than heat. Dr. Nicholas Von Bergen, a pediatric cardiologist who specializes in this procedure, typically chooses freezing therapy if the arrhythmia is near tissue that should not be damaged, as it may add safety to the ablation in delicate areas of the heart.



- Once the arrhythmia has been treated (ablated), the heart is retested to evaluate for other arrhythmias.
- After repeat testing, the catheters are removed from the body. Nothing will remain in the body and no stitches are needed.

## Recovery after an EP study

- The patient will be asked to lie flat in bed for 4 to 6 hours to decrease the risk of bleeding from the catheter insertion sites.
- The patient will be allowed to eat and drink shortly after the procedure, starting slowly at first.
- After 4 to 6 hours the patient may be discharged to home if there are no concerns. If the patient's discharge from the hospital would be late in the evening, an overnight stay is possible.
- The patient can gradually return to full activity over the next 5 days.
- There is usually only mild discomfort at the site of catheter insertion, often like a bruise.

## Risks associated with an EP procedure

- Electrophysiology procedures are generally safe and effective.
- A small percentage of patients may have some bleeding from the catheter insertion site after the procedure.
- For most types of arrhythmias there is a 2- to 10-percent chance that the arrhythmia could return after the ablation.
- For details about the risks with an EP procedure for your arrhythmia, please talk to your physician.

The goal of the Electrophysiology Program at UW Health's American Family Children's Hospital is to give the highest quality and safest patient care possible.



## Meet Dr. Nicholas Von Bergen

Nicholas Von Bergen, MD, is a pediatric cardiac electrophysiologist, a physician who specializes in the treatment of abnormal heart rhythms in children and adults with congenital heart disease.

### **How much experience does Dr. Von Bergen have performing these procedures?**

Dr. Von Bergen performs the majority of his procedures in Wisconsin, but also performs procedures in Iowa, South Dakota and Nevada. Dr. Von Bergen has one of the higher procedural volumes in the nation among pediatric electrophysiologists.

### **Does Dr. Von Bergen use 3-D mapping equipment to reduce or eliminate the use of radiation?**

Although radiation is used by most electrophysiologists when performing an EP study with ablation, Dr. Von Bergen uses 3-D mapping to eliminate the use of radiation in the majority of his patients. He currently trains other physicians on this radiation-free and radiation-limited technique.

### **Does Dr. Von Bergen use cryotherapy?**

Dr. Von Bergen typically uses cryotherapy (cold therapy) instead of radiofrequency (heat) for arrhythmias such as atrioventricular nodal reentrant tachycardia (AVNRT), the most common type of arrhythmia in children and younger adults. Although cryotherapy takes slightly longer, he feels that the use of this therapy is safer in certain cases, such as in AVNRT, reducing the risk of a complication requiring a pacemaker from approximately 1 percent (with radiofrequency energy) to almost zero (using cryotherapy).

## For more information

If you have any questions, please contact our Pediatric Interventional Cardiology Nurse, Martine Moran, RN, at (608) 263-6420, and then select Option 2.



*Martine Moran, RN*