Patent Foramen Ovale
(Repair without Open-Heart Surgery)

Before birth, babies receive their oxygen from the mother's placenta. This blood travels to the baby's heart and passes through an extra opening in the wall between the two top chambers of the heart (right and left atria). This opening is called the foramen ovale. It allows oxygen-rich blood to bypass the baby's lungs and flow directly to the baby's body. After birth, when the baby can supply its own oxygen by breathing, the foramen ovale should close within a few days. In up to 25% of babies, the foramen ovale remains open (patent). When the foramen ovale remains open it allows a small amount of blood to leak from one atrium to another.

Most babies and children do not experience any symptoms from a patent foramen ovale (PFO). However, because the blood from the two chambers may mix, there is an increased risk of complications. There is a chance of breathing problems in adults, but more importantly, there is a significant risk of stroke (blood clot in the brain). The risk is greater in younger patients, sometimes even teenagers.

A PFO can easily be diagnosed with an echocardiogram (ultrasound of the heart). If your doctor is concerned that you are having symptoms or problems from a PFO, they may recommend that the PFO be closed. This procedure is called a cardiac catheterization.

THE PROCEDURE

Cardiac catheterization is performed via a large vein, either at the base of the neck, or, more commonly, in the leg. A catheter (a narrow flexible tube) is advanced from the vein up to the heart, where the cardiologist can check blood pressures in the heart and lungs, as well as perform an angiogram (X-ray movie) of the heart. This is often accompanied by a transesophageal echocardiogram to confirm presence of a PFO and to guide the cardiologist.

Once a PFO is found, the cardiologist will close it with a special device. This device is made of flexible metal and can fit inside of the catheter. The device has two umbrellas (one sits on the left side of the wall and the other on the right). These umbrellas attach in the middle and close around the hole. The cardiologist will use the echocardiogram to confirm that the device is in a good position before releasing the device. They will then remove the catheter, leaving the device in place.

After the procedure is done, many cardiologists will admit the patient overnight to monitor for any possible complication. These complications include pain, bleeding, bruising, allergic reaction, infection, heart rhythm disturbances, and/or blood clots on the device or in the vein. These complications are rare. Most patients are discharged within 1-2 days of the procedure without any complications at all.

LET YOUR CAREGIVER KNOW ABOUT:

- Allergies to food or medications.
- Medications taken including herbs, eye drops, over the counter medications, and creams.
- Possible pregnancy.
- Previous problems with anesthetics or novocaine.
- History of bleeding or blood problems.
- Other health problems.

HOME CARE INSTRUCTIONS

- Only take over-the-counter or prescription medicines for pain, discomfort, or fever as directed by your caregiver.
- Shower as instructed by your caregiver.

- For a week after the procedure, you should refrain from heavy lifting or hard physical exercise.

SEEK MEDICAL CARE IF:

- A large bruise develops at the site where the needle was placed.
- Redness, tenderness or rash develop around the site where the needle was placed.

SEEK IMMEDIATE MEDICAL CARE IF:

- Bleeding from the site develops and will not stop even after pressure is applied for 10 minutes.
- There is numbness or loss of sensation that develops in the leg and/or foot on the side where the needle was placed.
- Red streaking develops above and/or below the site.
- Your leg becomes cold, blue, numb or tingles.
- You develop a fever of 101.5° F (38.6° C) or greater.
- There is intense pain in the leg where the needle had been placed.
- You experience chest pain, palpitations (irregular heartbeats), shortness of breath, or the sensation that you are going to faint.
- You experience a fainting spell or near fainting.
- There is yellow or pus-like drainage from the site.

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