Atrial Septal Defects and Patent Foramen Ovale
What You Need to Know

What is an atrial septal defect?
The normal heart has four chambers. The two upper chambers are the right and left atrium. The lower chambers are the right and left ventricles. These chambers are connected with valves and blood vessels. Sometimes there is a hole or passage between chambers that is not normal. An opening in the septum (wall) between the two atria is called an atrial septal defect (ASD). This defect happens when the septum never fully closes before a baby is born.

What is a patent foramen ovale?
In the unborn baby, there is a normal hole between the two upper chambers. It acts like a trap door, so that blood can bypass the unborn baby’s lungs and get oxygen from the mother. Shortly after birth, this hole, called the foramen ovale, closes due to pressure changes in the heart. If it fails to close and stay closed within the first year of life, it is called a patent foramen ovale (PFO). A PFO is different from an ASD because it is usually not open all of the time. It opens and closes with pressure changes in the chest (such as when holding your breath while lifting a heavy object).

What does it mean to have a PFO or ASD?
People who have a PFO or ASD are at a higher risk of stroke, transient ischemic attack (TIA), and some forms of heart failure. This is due to the movement of blood and possibly clots between the left and right sides of the heart.

Usually, PFO and ASD are suspected in young people who have syncope (sudden loss of consciousness, fainting) or in people with high blood pressure in the pulmonary arteries (pulmonary hypertension).

An atrial septal defect or patent foramen ovale is diagnosed through an ultrasound test of the heart (transesophageal echocardiogram). During this test, the doctor can find out whether or not there is a shunt or fluid shift between the right and left heart chambers.

Talk with your doctor about your risk factors. Many people who have this kind of defect must be on some form of “blood thinning” medicine (usually warfarin) to reduce the risk of stroke.
What can be done to fix an ASD or PFO?
Depending on the type of defect you have and your other medical problems, your doctor will recommend different treatment options. Some options include:
• Open heart surgery to repair the defect
• Medical management with medication and watching for symptoms of a fluid shunt or heart failure
• Closure of the defect with a procedure in the cardiac catheterization lab. This procedure involves inserting a catheter into the femoral vein and placing a metal mesh closure device over the defect. Your doctor can explain this procedure in detail if it is an option for you.

What to watch for if you have an ASD or PFO
People with a septal defect are at higher risk of stroke and heart failure. Let your doctor know right away or call for emergency help if you have symptoms such as:
• Numbness or tingling in your extremities
• Sudden loss of consciousness
• Dizziness
• Shortness of breath
• Swelling in your ankles
• Chest pain
• Change in your activity tolerance

If you have any questions or concerns, please discuss this with your doctor.