Patent Foramen Ovale Fact Sheet

What is a Patent Foramen Ovale?
A Patent Foramen Ovale (PFO) is a flap-like opening between the two upper chambers of the heart (the right and left atria). All people are born with this flap-like hole, but for most, the hole closes by itself after birth. However, for roughly 1 out of every 5 people, this hole does not seal itself, resulting in a PFO. In fact, many people have a PFO and do not know it because there are no signs or symptoms.

How is a PFO related to stroke?
Blood normally flows through the right atrium and into the lungs prior to moving into the left atrium. If blood flows straight through the PFO, then it avoids the lungs. The job of the lungs is to rid the blood of debris and break up clots prior to passing through the left atrium of the heart. Without this step, a clot can cross through the PFO and travel up to the brain where it can cause a stroke.

How is PFO diagnosed?
An Echocardiogram is one way to test for a PFO. This color Doppler Effect (using sound waves) shows images of blood flow between the left and right atria. A Saline Contrast Study (also known as a bubble study) is a test in which a salt solution is shaken up until bubbles are formed. This harmless solution is then injected into a vein in the arm. Doctors can then see where the bubbles flow to on an Echocardiogram. If the bubbles go to the lungs, there is no PFO. If they go to the left side of the heart, there is a PFO. A Transesophageal Echocardiography is a detailed picture of how blood flows through the heart. A small camera on a tube is inserted down the esophagus to get a clear picture of the heart. This method may be used with an echocardiogram or a saline contrast study.

How is a PFO treated?
There are three different ways that a PFO can be treated:
The first method is medication. Antiplatelet therapy or blood thinners can help to thin the blood and decrease clots to prevent stroke or heart attack. A transcatheter intervention is the most common method used to treat a PFO. With this method, a catheter is inserted into a vein in the groin and is threaded up into the heart. The end of the catheter is shaped like an umbrella. When it is placed in the PFO, the device is opened up. Over time, tissue will grow around the device, closing up the PFO. Surgery is only advised if a patient is already planning to have heart surgery. In this case, the PFO is stitched up directly by a surgeon.
Resources:

**Texas Heart Institute**
1(832) 355-3792
[www.texasheartinstitute.org](http://www.texasheartinstitute.org)

**Cleveland Clinic**
866.289.6911 (nurse hotline)
[my.clevelandclinic.org](http://my.clevelandclinic.org)