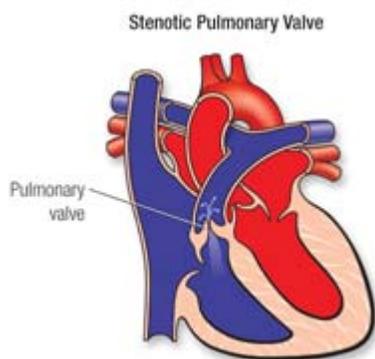


Pulmonary Valve Stenosis and Regurgitation



What is it?

The pulmonary valve opens to let blood flow from the right ventricle to the lungs. Narrowing of the pulmonary valve, known as valvular pulmonary stenosis (PS) causes the right ventricle to pump harder to get blood past the blockage. Normally the pulmonary valve has three cusps. If these cusps are malformed, the valve may become narrowed (stenotic) or leaky (regurgitant or insufficiency). Pulmonary valve stenosis is much more common than regurgitation. The stenosis and regurgitation or both can be mild, moderate or severe.

What causes it?

In most cases, the cause isn't known. It's a common type of heart defect. Babies born to mothers who had rubella (German measles) during pregnancy were more likely to develop pulmonary stenosis along with deafness and patent ductus arteriosus. Some patients can have other heart defects along with PS.

How does it affect the heart?

Normally the right side of the heart pumps blood to the lungs. In a person with PS, the pressure in the right-heart pumping chamber (right ventricle) is much higher than normal and the heart must work harder to pump blood out into the lung arteries. Over time this can cause damage to the overworked heart muscle. When the valve is regurgitant it can cause the right ventricle to enlarge.

How does the PS affect me?

If the PS is severe, adults may complain of chest pain, exercise intolerance or have no symptoms. Cyanosis is rare and usually occurs only when there is an atrial or ventricular septal defect as well.

What if the defect is still present? Should it be repaired in adulthood?

The valve can be treated to improve the obstruction, but the valve can't be made normal.

Treatment is needed when the pressure in the right ventricle is high (even though there may be no symptoms). In most patients the obstruction can be relieved during cardiac catheterization (referred to as interventional or therapeutic catheterization) by balloon valvuloplasty. In this procedure, a special catheter containing a balloon is placed across the pulmonary valve. The balloon is inflated for a short time to stretch open the valve.

In some cases the valve cannot be treated by balloon valvuloplasty. Then surgery is needed to relieve/correct the narrowing.

If I still have PS, what activities can I do?

If the PS is mild, or if the PS has mostly been relieved with a balloon or surgery, you may not need any special precautions, and can participate in normal activities without increased risk.

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What will I need in the future?

The long-term outlook after balloon valvuloplasty or surgery is excellent, and usually no medicines are needed. Your cardiologist will examine you regularly to look for problems such as worsening of the obstruction or leakage of the pulmonary valve.

Ongoing Care:

Medical follow-up

If your PS is severe, you'll need ongoing care to check for symptoms or problems related to PS and you may need further procedures to correct the problem. If it's mild or moderate, you'll need ongoing follow-up so your cardiologist can check any signs of strain or weakening of your right ventricle. You should also consult a cardiologist with expertise in caring for adults with congenital heart disease before you undergo any type of non-heart surgery or invasive procedure.

Activity Restrictions

If you have mild-to-moderate PS, you probably won't need to limit your physical activity. If it's severe, you may need to limit your activity until the valve is dilated or replaced because of strain on the right ventricle or risk of arrhythmias. Ask your cardiologist for exercise recommendations.

Endocarditis Prevention

If you have PS, you don't need to take antibiotics to prevent endocarditis unless you've had prior endocarditis or you've had valve replacement.

Problems You May Have:

Symptoms

If you have mild PS, you probably won't have any symptoms. If it's moderate or severe, you may not tolerate exercise well and may have shortness of breath or palpitations.

Pregnancy

You'll likely handle pregnancy well if you have mild or moderate PS. If your PS is severe, pregnancy may be a higher risk. In these cases your cardiologist should be involved in your care during pregnancy and delivery.

Will I need more procedures?

The pulmonary valve may leak, known as pulmonary regurgitation (PR), after surgical or balloon intervention. If you develop symptoms or problems with your right ventricle due to PR, you may need surgery to replace the pulmonary valve. If the valve becomes more obstructed catheterization to dilate the pulmonary valve may be required.