



Valvular Heart Surgery

The heart has four valves: tricuspid, pulmonic, mitral and aortic. While all are key to normal heart function, the mitral and aortic valves are of primary importance in that they are the valves which let blood flow in and out of the left ventricle (*the heart's main pumping chamber*). Therefore, these two valves have the greatest influence on mortality if they are not functioning properly.

Generally, the first indication of a heart valve disorder is a heart murmur. This is an abnormal sound produced by the flow of blood through a malfunctioning heart valve. Typically, heart valve disorders causing the murmur(s) are diagnosed as one (*or more*) of the following:

- * **Mitral Stenosis** is a narrowing of the opening of the mitral valve, most often due to rheumatic fever.
- * **Mitral Insufficiency** (*i.e. Mitral Regurgitation*) is the failure of the mitral valve to close properly, thus allowing blood to flow abnormally back into the left atrium.
- * **Mitral Valve Prolapse** (*MVP*), also known as “Barlow’s Syndrome” and “floppy valve syndrome”, is a condition in which floppy valve leaflets (*i.e. cusps*) fail to close properly.
- * **Aortic Stenosis** is a narrowing of the valve opening. The cause can be congenital or acquired. A bicuspid aortic valve (*i.e. only two valve cusps instead of three*) is an example of a congenital condition.
- * **Aortic Insufficiency** (*i.e. Aortic Regurgitation*) is the failure of the aortic valve to close properly, thus allowing blood to flow abnormally back into the left ventricle.

When the valve deteriorates to the point where it presents a significant likelihood of premature death, surgery is necessary. It is possible to repair some valves while others require surgical replacement with a prosthetic valve. The first successful valve replacements were done in the 1960’s. Since then, at least 30 models of substitute valves (*both mechanical and tissue types*) have been used in the U.S.

Prosthetic valves themselves are very durable, typically having a functional life of up to 20 years. However, in any instance where an artificial valve is implanted, use of anticoagulation therapy (*i.e. blood thinners*) is required. This is necessary because of the increased risk of thromboembolic complications (*i.e. blood clots*). Despite such treatment, complications occur at a rate of 1 to 2 percent per year. Mortality overall is highest in the younger ages (*i.e. 50 and below*) and steadily decreases thereafter.

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Overall mortality is further impacted when valvular problems are accompanied by such abnormalities as arrhythmias, heart enlargement, and/or compromised heart function. Mortality has also been proven to be higher in those instances requiring multiple valve replacements as well as regurgitant vs. stenotic lesions and where tissue valves (*i.e. pig valves*) were used rather than mechanical prosthetic valves. Repaired valves have a better prognosis than replaced valves.

Ratings for histories involving heart valve replacements generally are as follows:

within 6 months of surgery.....postpone
ages less than 15.....individual consideration
ages 15 - 39.....Table F plus \$5 x 20 yrs.
ages 40 - 59.....Table D plus \$2.50 x 20 yrs.
ages 60 & over.....Table A plus \$2.50 x 20 yrs.

This presumes there is no related history of arrhythmia, heart enlargement, or decreased heart function. Further, in those instances where a tissue valve is used or multiple valves replaced, the ratings shown above would be increased by two table rating classes. The Ross procedure is rated as a single valve replacement.

Other surgical procedures for stenotic heart valves disorder are commissurotomy or vavuloplasty. Repairs are also commonly done in regurgitant mitral valves. The ultimate rating for those having undergone repairs (*and not replacement*) is based on the significance of the underlying valve disorder and success of repair, but no less than Table B.

Prior issues of "Rx for Success" have addressed many of the heart murmurs referenced above. Please reference the issues on the website.

To get an idea of how a client with a history of Valvular Heart Surgery would be viewed in the underwriting process, feel free to use the attached *Ask "Rx" pert underwriter* for an informal quote.

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Prudential  Financial

Valvular Heart Surgery - Ask "Rx" pert underwriter
(ask our experts)

Producer _____ Phone _____ FAX _____
Client _____ Age/DOB _____ Sex _____

If your client has had Valve Replacement or surgery, please answer the following:

- ① When was the surgery completed? _____ (date)
- ② Please note type of valve surgery:
 Valve replacement Valvuloplasty
 Commissurotomy Other _____
- ③ Please check the type(s) of Valve Disorder:
 Aortic Stenosis Mitral Stenosis
 Aortic Insufficiency Mitral Insufficiency
 Mitral Valve Prolapse
- ④ Please note type of valve used if replaced:
 prosthetic (mechanical) tissue (porcine or pig)
- ⑤ Have any of the following occurred?
chest pain yes no heart failure yes no
palpitations yes no dizziness/fainting yes no
trouble breathing yes no
- ⑥ Is there a history of any other heart disease in addition to the valve disorder (coronary artery disease, etc.)?
 yes, please give details _____
 no
- ⑦ Is your client on any medications?
 yes, please give details _____
 no
- ⑧ Has your client smoked cigarettes in the last 12 months?
 yes
 no
- ⑨ Does your client have any other major health problems (ex: cancer, etc.)?
 yes, please give details _____
 no

After reading the *Rx for Success* on Valvular Heart Surgery, please feel free to use this *Ask "Rx" pert underwriter* for an informal quote.

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