The heart has four valves: tricuspid, pulmonary, mitral, and aortic. While all are important to normal heart function, the mitral and aortic valves control blood flow in and out of the left ventricle, which is the heart's main pumping chamber. Problems with these two valves include:

- **Mitral stenosis** is a narrowing of the valve opening, most often due to rheumatic fever.

- **Mitral insufficiency** (aka regurgitation) is the failure of the valve to close properly, thus allowing blood to flow abnormally back into the left atrium.

- **Mitral valve prolapse (MVP)** 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 the normal three) is an example of a congenital condition.

- **Aortic insufficiency** (aka regurgitation) is the failure of the valve to close properly, thus allowing blood to flow abnormally back into the left ventricle.

Significant valve disease usually requires surgical intervention. It is possible to repair some valves while others need replacement with a prosthetic valve. Prosthetic valves of artificial material, such as metal or carbon, are durable and can last decades. These valves require on-going anti-coagulation (i.e., blood thinners) to prevent thromboembolic complications (i.e., blood clots).

Replacement valves can be made of organic tissues as well (i.e., pig valve, cadaver valve, bovine pericardium). They don't last as long as artificial valves (8-15 years), but anti-coagulant therapy is not necessary. Anti-coagulation itself adds a level of risk.

Surgical repair (rather than replacement) for stenotic valves involves commissurotomy (opening of tight valve with a balloon) or valvuloplasty (tightening a loose valve). Repair is commonly done for the regurgitant mitral valve, thus avoiding mitral valve replacement. Repaired valves have a better prognosis than replaced valves.
Mortality risk is increased when valve disease is accompanied by additional problems, such as arrhythmias, heart enlargement, or compromised heart function. These problems lead to additional ratings. A higher rating also may be given if a valve is replaced more than once, if multiple valves are replaced, or if there is disease of the aorta. Rating for valve repair (rather than replacement) is based on the residual valve impairment, but no less than Table B.

- Postpone 12 months from surgery
- No more than mild residual stenosis or regurgitation
- Normal LV size and LVEF by echocardiogram
- Using age at most recent post-op echocardiogram
- Must have echocardiogram within past 5yr for mechanical valve
- Must have echocardiogram within past 5yr for bioprosthetic (cadaver or animal tissue) valve that is <10yr old and within past yr for valve that is ≥10yr old

<table>
<thead>
<tr>
<th>Rating</th>
<th>&lt;25 years</th>
<th>25–39</th>
<th>40–49</th>
<th>50–59</th>
<th>60–69</th>
<th>70+</th>
<th>Other cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decline</td>
<td></td>
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<td></td>
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<td>Table C</td>
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<tr>
<td>Table D</td>
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<td></td>
<td></td>
<td></td>
<td>Table B</td>
</tr>
</tbody>
</table>

To get an idea of how a client with a history of Valvular Heart Surgery would be viewed in the Underwriting process, use the Ask “Rx”pert Underwriter on the next page for an informal quote.
Ask “Rx”pert Underwriter (Ask Our Expert)

After reading the Rx for Success on Mitral or Aortic Valve Surgery, use this form to Ask “Rx”pert Underwriter for an informal quote.

<table>
<thead>
<tr>
<th>Producer ___________________________</th>
<th>Phone ___________________________</th>
<th>Fax ___________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client ___________________________</td>
<td>Age/DOB ___________________________</td>
<td>Sex ___________________________</td>
</tr>
</tbody>
</table>

If your client has had valve surgery, please answer the following questions and enclose the most recent echocardiogram.

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, bovine, cadaver)

5. **Have any of the following occurred?**
   
<table>
<thead>
<tr>
<th>Chest pain</th>
<th>Yes</th>
<th>No</th>
<th>Heart enlargement</th>
<th>Yes</th>
<th>No</th>
<th>Palpitations</th>
<th>Yes</th>
<th>No</th>
<th>Dizziness/fainting</th>
<th>Yes</th>
<th>No</th>
<th>Trouble breathing</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

6. **Is there a history of any other heart disease in addition to the valve disorder (e.g., 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. Please give details. ______________________________________
   □ No

9. **Does your client have any other major health problems (e.g., cancer, etc.)?**
   
   □ Yes. Please give details. ______________________________________
   □ No