Appendix 2: The Parsonnet score

The Parsonnet score was the first simple, validated, additive scoring system for predicting risk in cardiac surgery. It is widely used in the UK, but its weakness is that it allows subjective scoring (shaded variables). These have been omitted for the centrally calculated score used in this report.

<table>
<tr><td colspan="4" align="center">**Parsonnet score**
A method of Uniform Stratification of Risk for evaluating the
results of surgery in acquired adult heart disease
Circulation (1989) **79**: Suppl I: 3-12</td></tr>
<tr><td colspan="4">In the original paper, an additive score of 0-4 translated to an average operative mortality of 1% (*low risk*); a score of 5-9 an operative mortality of 5% (*elevated risk*); a score of 10 – 14 a mortality of 9% (*significantly elevated risk*), a score of 15 – 19 a mortality of 17% (*high risk*) and a score of over 19 a mortality of 31% (*very high risk*).</td></tr>
<tr><td colspan="2" align="center">*Factor*</td><td align="center">*Definition*</td><td align="center">*Score*</td></tr>
<tr><td rowspan="15">*Patient-related factors*</td><td>*Gender*</td><td>Female</td><td>1</td></tr>
<tr><td>*Morbid obesity*</td><td>Body mass index >35</td><td>3</td></tr>
<tr><td>*Diabetes*</td><td>Any history of diabetes regardless of duration or treatment. Latent diabetes of pregnancy excluded</td><td>3</td></tr>
<tr><td>*Hypertension*</td><td>A history of blood pressure greater than 140/90mmHg on two occasions, or lower if on medication</td><td>3</td></tr>
<tr><td>*LV dysfunction*</td><td>Good (≥50%)
Fair (30-49%)
Poor (<30%)</td><td>0
2
4</td></tr>
<tr><td>*Age*</td><td>70-74 years old
75-79 years old
> 80 years old</td><td>7
12
20</td></tr>
<tr><td>*Re-operation*</td><td>Second operation
Third (or more)</td><td>5
10</td></tr>
<tr><td>*Intra aortic balloon pump*</td><td>Prior to surgery. Do NOT include IABP's inserted prophylactically just prior to surgery because these represent post-operative support.</td><td>2</td></tr>
<tr><td>*Left ventricular aneurysm*</td><td>Aneurysmectomy</td><td>5</td></tr>
<tr><td>*Recently failed intervention*</td><td>Within 24 hours of operation
> 24 hours, op on same admission</td><td>10
5</td></tr>
<tr><td>*Renal*</td><td>Dialysis dependency</td><td>10</td></tr>
<tr><td>*Catastrophic states*</td><td>*e.g.* acute structural defect, cardiogenic shock, acute renal failure</td><td>10-50</td></tr>
<tr><td>*Other rare circumstances*</td><td>*e.g.* paraplegia, pacemaker dependency, congenital heart disease in adults, severe asthma</td><td>2-10</td></tr>
<tr><td rowspan="5">*Surgery-related factors*</td><td rowspan="2">*Mitral valve surgery*</td><td>Systolic PA pressure <60 mmHg</td><td>5</td></tr>
<tr><td>Systolic PA pressure ≥60 mmHg</td><td>8</td></tr>
<tr><td rowspan="2">*Aortic valve surgery*</td><td>AV pressure gradient ≤120 mmHg</td><td>5</td></tr>
<tr><td>AV pressure gradient >120 mmHg</td><td>7</td></tr>
<tr><td colspan="2">*CABG at the time of valve surgery*</td><td>2</td></tr>
</table>

In addition, the impact of the variables used in the Parsonnet score has changed over time. Consequently there is a tendency to over predict operative risk, hence the move to develop newer scoring systems such as the *EuroSCORE* and the UK Bayes scores illustrated overleaf.