

Pre-operative Calculation of Risk of Fatal Low Cardiac Output in CABG Patients		
For use in patients having isolated CABG surgery; not valve or aortic surgery.		
Variable	Fatal LOF Score	Example
Age 70-79	1.5	80 yr. old
Age $\geq$ 80	3.0	Female, 1st time CABG,
Female sex	1.5	Elective,
Prior CABG	1.5	EF<40,
Emergency	6.0	Diabetes
Urgent	2.0	Total score=
EF<40	2.5	3+1.5+2.5+1.5
3 Vessel Disease	1.5	= 8.5, High
Diabetes	1.5	Risk for Fatal
PVD	2.5	Low Cardiac
Renal Failure	3.0	Output
Risk Score and Predicted Probability		
Fatal LOF Score	Percentiles	Risk Category
0-3	Bottom 45.5% of risk	Low Risk
4-6	Middle 44.5% of risk	Medium Risk
$\geq$ 7	Top 10% of risk	High Risk
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**Definitions:**

**Emergent:** Medical factors relating to the patient's cardiac disease dictate that surgery should be performed within hours to avoid unnecessary morbidity or death.

**Urgent:** Medical factors require patient to stay in hospital to have operation before discharge. The risk of immediate morbidity and death is believed to be low.

**EF <40% (Left ventricular ejection fraction):** The patient's current EF is less than 40%.

**Diabetes:** Currently treated with oral medications or insulin.

**PVD (Peripheral vascular disease):** Cerebrovascular disease, including prior CVA, prior TIA, prior carotid surgery, carotid stenosis by history or radiographic studies, or carotid bruit. Lower extremity (LE) disease, including claudication, amputation, prior lower extremity bypass, absent pedal pulses or lower extremity ulcers

**Renal failure prior to surgery:** On peritoneal or hemo-dialysis.

Pt. Risk Group	Pre-operative Care	Intra-operative Care	Post-operative Care
<b>All risk groups</b> (general care)	<ul style="list-style-type: none"> <li>Calculate risk of anemia on bypass.</li> <li>Continue ASA</li> <li>Adequate <i>b</i>-blockade.</li> <li>Improved hand-off - cardiology and surgeon.</li> <li>Avoid hyperglycemia</li> </ul>	<ul style="list-style-type: none"> <li>Avoid anemia</li> <li>Use IMA</li> <li>Improved separation from bypass.</li> <li>Avoid hyperglycemia</li> </ul>	<ul style="list-style-type: none"> <li>Improved hand-offs between anesthesia and ICU nurse</li> <li>Early recognition and prompt treatment(Tx) of low output heart failure.</li> <li>Avoid hyperglycemia</li> </ul>
<b>Low risk</b> (Risk score 0-3)	<ul style="list-style-type: none"> <li>No PA catheter.</li> </ul>	<ul style="list-style-type: none"> <li>General care,</li> <li>No inotrope use at separation</li> </ul>	<ul style="list-style-type: none"> <li>General care</li> </ul>
<b>Medium risk</b> (Risk score 4-6)	<ul style="list-style-type: none"> <li>General care.</li> <li>PA catheter</li> <li>Tx for unstable angina and/or CHF</li> </ul>	<ul style="list-style-type: none"> <li>General care.</li> <li>No inotrope use at separation</li> </ul>	<ul style="list-style-type: none"> <li>General care.</li> <li>Patient identified as medium risk to ICU</li> </ul>
<b>High Risk</b> (Risk score $\geq$ 7)	<ul style="list-style-type: none"> <li>General and medium risk care.</li> <li>PA catheter</li> <li>Consider pre-op IABP.</li> </ul>	<ul style="list-style-type: none"> <li>General and medium risk care</li> <li>Retrograde cardioplegia</li> <li>GIK and /or IABP</li> </ul>	<ul style="list-style-type: none"> <li>General care.</li> <li>Patient identified as high risk to the ICU staff</li> </ul>

