Pre-operative Estimation of Risk of CABG, Mitral or Aortic Valve Mortality

Directions: Locate outcome of interest. Use the score in that column for each relevant pre-op variable; then sum these scores to get the total score. Take the total score and look up the approximate preoperative risk in the table.

Patient or Disease Characteristic	CABG Mortality Score	Aortic Valve Mortality Score	Mitral Valve Mortality Score
Age 60-69	1.5	1.5	1.5
Age 70-75	2.5	1.5	2.5
Age 76-79	2.5	2	2.5
Age ≥80	6.5	2.5	2.5
Female sex	2		1.5
EF<40%	2		
NYHA IV		1.5	2
3-Vessel Disease	1.5		
LM 50-89%	1.5		
LM≥90%	2		
WBC>12K	2.5		
MI≤7days	1.5		
Urgent surg.	2	1.5	1.5
Emergency surg.	5	5	5.5
Prior CVA			2
Prior CABG	2.5	1.5	
PVD	1.5		
CHF		1.5	1.5
Afib		1.5	
CAD			1.5
Diabetes	1		1.5
Dialysis	4		
Creatinine ≥1.3		2	1.5
Creatinine ≥2.0	2		
COPD	2		
BSA <1.70		1.5	
Concomitent CABG		1.5	
Mitral replace.			1.5
Total Score			

Preoperative Risk			
Total Score	CABG %	Aortic %	Mitral %
0	0.2		
1	0.2	1	<1.0
2	0.3	1.5	1.0
3	0.3	2.0	1.5
4	0.5	3.0	2.0
5	0.7	4.0	2.5
6	1.0	6.0	3.0
7	1.3	7.0	5.0
8	1.8	9.0	6.0
9	2.3	13.0	8.0
10	3.0	17.0	11.0
11	4.0	20.0	14.0
12	5.3	25.0	18.0
13	6.9	≥35.0	25.0
14	8.8		≥35.0
15	11.5		
16	14.1		
17	18.7		
18	≥23.0		

Pre-operative Estimation of Risk of Cerebrovascular Accident and Mediastinitis

For use only in isolated CABG surgery

Patient or Disease Characteristic	CVA Score	Mediastinitis Score
Age 55-59		
Age 60-64	1.5	1
Age 65-69	1.5	1
Age 70-74	2.5	1.5
Age 75-79	2.5	1.5
Age ≥80	3	2
Female sex	1.5	
EF<40%	1.5	1.5
Urgent surgery	1.5	2
Emergency surgery	3.5	2
Vascular disease	1.5	
Diabetes	1.5	1.5
Dialysis or creatinine ≥2	2	3
COPD		2
Obesity (BMI 31-36)		2
Severe Obesity (BMI ≥37)		4.5
Total Score		

Preoperative Risk		
Total Score	CVA %	Mediastinitis %
0	0.4	0.3
1	-	0.3
2	0.6	0.4
3	0.9	0.5
4	1.3	0.7
5	1.4	0.9
6	2.0	1.3
7	2.7	1.7
8	3.4	2.5
9	4.2	3.2
10	5.9	4.2
11	7.6	5.6
12	≥10.0	≥7.3
13		
14		

Definitions:

EF <40%: The patient's current EF is less than 40%.

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.

Emergency: Patient's cardiac disease dictates that surgery should be performed within hours to avoid unnecessary morbidity or death.

Atrial fibrillation: Sustained atrial fibrillation requiring treatment with digoxin, beta/calcium channel blockers, anti-arrhythmics or cardioversion.

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

Diabetes: currently treated with oral medications or insulin.

Dialysis or creatinine ≥2: peritoneal or hemodialysis dependent renal failure or creatinine ≥2 mg./dl.

COPD: treated with bronchodilators or steroids.

CAD: Angina, previous MI or >50% stenosis of a major vessel

CHF: During admission or prior to surgery

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