

EACTS Adult Cardiac Database

Quality Improvement Programme

Database Dictionary

Version 1.1, 15 May 2014



Improving Outcomes for Patients

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Patient demographics and other identifiers

Patient identifier

Mandatory

String: can contain any value as long as it is unique to the patient.

Age at operation

Highly Desirable

Integer: enter a whole number.

Indicate the patient's age in years at the time of surgery.

Gender

Mandatory

SingleChoice: the code only.

1 - Male

2 - Female

Race

Highly Desirable

SingleChoice: the code only.

1 - Asian

2 - Black

3 - White

4 - Other

5 - Unknown

Country code

Mandatory

TableSingleChoice: see table **CTY** in the File Specification document.

Hospital code

Mandatory

TableSingleChoice: see table **HSP** in the File Specification document.

Hospitalisation

Date of admission

Highly Desirable **Date:** ODBC date with format yyyy-mm-dd.

Valid date after 1800-01-01 and <= today and <=Date of surgery.

Date of surgery

Mandatory **Date:** ODBC date with format yyyy-mm-dd.

Valid date after 1800-01-01 and <= today

Date of discharge / death

Highly Desirable **Date:** ODBC date with format yyyy-mm-dd.

Valid date after 1800-01-01 and <= today and >=Date of surgery.

Cardiac history

Angina

Highly Desirable

SingleChoice: the code only.

1 - CCS 0

2 - CCS 1

3 - CCS 2

4 - CCS 3

5 - CCS 4

Definition

- | | |
|--------------|--|
| CCS 0 | no angina. |
| CCS 1 | angina only during strenuous or prolonged physical activity. |
| CCS 2 | slight limitation, with angina only during vigorous physical activity. |
| CCS 3 | symptoms with everyday living activities, i.e., moderate limitation. |
| CCS 4 | inability to perform any activity without angina or angina at rest, i.e., severe limitation. |

Dyspnoea

Highly Desirable

SingleChoice: the code only.

Indicate the patient's highest New York Heart Association (NYHA) classification within 2 weeks prior to surgery. NYHA classification represents the overall functional status of the patient in relationship to both heart failure and angina. Choose one of the following:

1 - NYHA 1

2 - NYHA 2

3 - NYHA 3

4 - NYHA 4

Definition

- | | |
|---------------|--|
| NYHA 1 | patient has cardiac disease but without resulting limitations of ordinary physical activity. Ordinary physical activity (e.g., walking several blocks or climbing stairs) does not cause undue fatigue, palpitation, dyspnoea, or anginal pain). Limiting symptoms may occur with marked exertion. |
| NYHA 2 | patient has cardiac disease resulting in slight limitation of ordinary physical activity. Patient is comfortable at rest. Ordinary physical activity such as walking more than two blocks or climbing more than one flight of stairs results in limiting symptoms (e.g., fatigue, palpitation, dyspnoea, or anginal pain). |
| NYHA 3 | patient has cardiac disease resulting in marked limitation of physical activity. Patient is comfortable at rest. Less than ordinary physical activity (e.g., walking one to two level blocks or climbing one flight of stairs) causes fatigue, palpitation, dyspnoea, or anginal pain. |
| NYHA 4 | patient has dyspnoea at rest that increases with any physical activity. Patient has cardiac disease resulting in inability to perform any physical activity without discomfort. Symptoms may be present even at rest. If any physical activity is undertaken, discomfort is increased. |

Cardiac history continued

Symptomatic status at admission**Highly Desirable** **SingleChoice:** the code only.

- 0** - No symptoms or angina
- 1** - Symptoms unlikely to be ischaemia
- 2** - Stable angina
- 3** - Unstable angina
- 4** - Non-ST elevation MI
- 5** - ST elevation MI

Definition

Symptoms unlikely ...	pain, pressure or discomfort in the chest, neck or arms not clearly exertional or not otherwise consistent with pain or discomfort of myocardial ischaemic origin. This includes patients with non-cardiac pain (e.g., pulmonary embolism, musculoskeletal, or oesophageal discomfort), or cardiac pain not caused by myocardial ischaemia (e.g., acute pericarditis).
Stable angina	angina without a change in frequency or pattern for the six weeks prior to this surgical intervention. Angina is controlled by rest and / or oral or transcutaneous medications.
Unstable angina	there are three principal presentations of unstable angina: <ul style="list-style-type: none"> i. rest angina, ii. new-onset (less than 2 months) angina, and, iii. increasing angina (in intensity, duration and / or frequency).
Non-ST elevation MI	the patient was hospitalized for a non-ST elevation myocardial infarction as documented in the medical record. Non-STEMIs are characterized by the presence of both criteria: <ul style="list-style-type: none"> i. cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I, and / or myoglobin) exceed the upper limit of normal according to the individual hospital's laboratory parameters with a clinical presentation which is consistent or suggestive of ischaemia. ECG changes and / or ischaemic symptoms may or may not be present. ii. ii absence of ECG changes diagnostic of a STEMI (see STEMI).
ST elevation MI	the patient presented with a ST elevation myocardial infarction as documented in the medical record. STEMI are characterized by the presence of both criteria: <ul style="list-style-type: none"> i. ECG evidence of STEMI: New or presumed new ST-segment elevation or new left bundle branch block not documented to be resolved within 20 minutes. ST-segment elevation is defined by new or presumed new sustained ST-segment elevation (0.1 mV in magnitude) in two or more contiguous electrocardiogram (ECG) leads. If no exact ST-elevation measurement is recorded in the medical chart, physician's written documentation of ST elevation is acceptable. If only one ECG is performed, then the assumption that the ST elevation persisted at least the required 20 minutes is acceptable. Left bundle branch block (LBBB) refers to LBBB that was not known to be old on the initial ECG. For purposes of the Registry, ST elevation in the posterior chest leads (V7 through V9), or ST depression in V1 and V2 demonstrating posterior myocardial infarction is considered a STEMI equivalent and qualifies the patient for re-perfusion therapy. ii. ii cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I, and / or myoglobin) exceed the upper limit of normal according to the individual hospital's laboratory parameters a clinical presentation which is consistent or suggestive of ischaemia which is consistent or suggestive of ischaemia.

Cardiac history continued

Number of previous MIs**Highly Desirable****SingleChoice:** the code only.

0 - None

1 - One

2 - Two or more

9 - Unknown

Definition

Patient hospitalised with a myocardial infarction (MI) documented in the medical record. Two of the following four criteria are necessary:

- a. prolonged (>20 min-1) typical chest pain not relieved by rest and / or nitrates.
- b. enzyme level elevation; either:
 - i. CK-MB >5% of total CPK,
 - ii. CK greater than twice normal,
 - iii. LDH subtype 1 > LDH sub-type 2,
 - iv. troponin >0.2 µg ml-1
- c. any wall motion abnormalities as documented by LV Gram, Echo, Muga Scan and or EF <45%.
- d. serial ECG (at least two) showing changes from baseline or serially in ST-T and / or Q waves that are 0.03 seconds in width and / or > or + one-third of the total QRS complex in two or more contiguous leads.

Type of most recent MI**Highly Desirable****SingleChoice:** the code only.

1 - STEMI

2 - Non-STEMI

Most recent MI**Highly Desirable****SingleChoice:** the code only.

0 - No previous MI

1 - MI <6 hours before operation

2 - MI 6-24 hours before operation

3 - MI 1-7 days before operation

4 - MI 8-30 days before operation

5 - MI 31-90 days before operation

6 - MI >90 days before operation

Congestive heart failure

Optional

SingleChoice: the code only.

0 - No

1 - Yes

Definition

Congestive heart failure is when there has been documentation in the clinical notes that the patient has been in heart failure in the 2 weeks prior to surgery.

Previous interventions

Previous PCI

Optional

SingleChoice: the code only.

0 - No previous PCI

1 - PCI <24 hours before surgery

2 - PCI >24 hours before surgery; same admission

3 - PCI >24 hours before surgery; previous admission

Date of last PCI

Optional

Date: ODBC date with format yyyy-mm-dd.

Valid date after 1800-01-01 and <= today and <=Date of surgery

Previous cardiac surgery

Highly Desirable

MultiChoice: the code(s) only.

0 - No

1 - Previous CABG

2 - Previous valve

3 - Previous other

Date of last cardiac surgery

Optional

Date: ODBC date with format yyyy-mm-dd.

Valid date after 1800-01-01 and <= today and <=Date of surgery

Pre-operative risk factors

Weight

Highly Desirable

Floating point: enter a numeric value.

Units in kg

Height

Highly Desirable

Integer: enter a whole number.

Units in cm.

Smoking history

Optional

SingleChoice: the code only.

0 - Never smoked

1 - Ex-smoker

2 - Current smoker

Definition

Never smoked the patient has never smoked cigarettes.

Ex-smoker the patient has smoked one or more cigarettes per day in the past.

Current smoker the patient regularly smokes one or more cigarette per day.

Diabetes treatment

Highly Desirable

SingleChoice: the code only.

0 - None

1 - Diet

2 - Oral alone

3 - Insulin (with or without oral)

Definition

None the patient does not have diabetes.

Diet the patient has received dietary advice appropriate to their condition, but is not receiving medication.

Oral alone the patient uses oral medication to control their condition.

Insulin the patient uses insulin treatment, with or without oral therapy, to control their condition

Hypertension

Highly Desirable

SingleChoice: the code only.

0 - No hypertension

1 - Hypertension

9 - Not known

Definition

Indicate whether the patient has a diagnosis of hypertension, documented by one of the following:

- a. documented history of hypertension diagnosed and treated with medication, diet and / or exercise;
- b. prior documentation of blood pressure >140 mmHg systolic or 90 mm Hg diastolic for patients without diabetes or chronic kidney disease, or prior documentation of blood pressure >130 mmHg systolic or 80 mmHg diastolic on at least 2 occasions for patients with diabetes or chronic kidney disease;
- c. currently on pharmacologic therapy to control hypertension.

Pre-operative risk factors continued

Hypercholesterolaemia

Optional

SingleChoice: the code only.

0 - No

1 - Yes

9 - Not measured / unknown

Definition

Hypercholesterolaemia is defined as elevation of serum cholesterol requiring dietary or drug treatment.

Renal disease

Highly Desirable**MultiChoice:** the code(s) only.

0 - No renal disease

1 - Functioning transplant

2 - Creatinine >200 µmol l-1

3 - Dialysis for acute renal failure

4 - Dialysis for chronic renal failure

Definition

Renal failure is defined as an impairment of kidney function as evidenced by increased creatinine level or renal intervention therapy.

Last pre-operative creatinine

Highly Desirable**Integer:** Enter a whole number.

Units of µmol l-1.

Where data have been recorded in any other units, the data will need to be converted to µmol l-1 before uploading to the QUIP Adult Cardiac Database.

Chronic lung disease

Highly Desirable**SingleChoice:** the code only.

0 - No

1 - COPD / emphysema / ashtma

Definition

COPD / emphysema / asthma is when the patient requires medication (inhalers, aminophylline or steroids) for chronic pulmonary disease, has an FEV1 less than 75% predicted value; venous pO2 <60 mmHg, pCO2 >50 mmHg, or has intermittent or allergic reversible airways disease treated with bronchodilators or steroids.

Degree of COPD

Highly Desirable**SingleChoice:** the code only.

1 - Mild

2 - Moderate

3 - Severe

Definition

Mild	FEV1 60% to 75% of predicted, and / or on chronic inhaled or oral bronchodilator therapy.
Moderate	FEV1 50% to 59% of predicted, and / or on chronic steroid therapy aimed at lung disease.
Severe	FEV1 <50% predicted, and / or room air pO2 < 60 or room air pCO2 > 50.

Pre-operative risk factors continued

Extra-cardiac arteriopathy**Highly Desirable****MultiChoice:** the code(s) only.

- 0 - No
- 1 - Peripheral vascular disease
- 2 - Cerebro-vascular disease
- 3 - Yes (type unknown/not coded)

Definition

Peripheral vascular disease as indicated by claudication either with exertion or rest; amputation for arterial insufficiency; aorto-iliac occlusive disease reconstruction; peripheral vascular bypass surgery, angioplasty, or stent; documented AAA, AAA repair, or stent; positive non-invasive testing.

Cerebro-vascular disease documented by any one of the following: unresponsive coma > 24 hours; CVA (symptoms > 72 hours after onset); RIND (recovery within 72 hours); TIA (recovery within 24 hours); non-invasive carotid test with > 75% occlusion; prior carotid surgery.

Peripheral vascular disease details

Optional

MultiChoice: the code(s) only.

- 1 - Claudication
- 2 - Amputation for arterial disease
- 3 - Documented aortic aneurysm with or without repair
- 4 - Positive non-invasive test
- 5 - Previous or planned intervention on the abdominal aorta; limb arteries

Definition

Positive non-invasive test e.g., ankle brachial index <0.9, ultrasound, magnetic resonance or computed tomography imaging of >50% diameter stenosis in any peripheral artery, i.e., renal, subclavian, femoral, iliac.

Type of cerebrovascular disease

Optional

MultiChoice: the code(s) only.

- 0 - Not applicable
- 1 - CVA
- 2 - TIA
- 3 - Previous carotid surgery
- 9 - Unknown

CVA when

Optional

SingleChoice: the code only.

- 1 - CVA within 2 weeks
- 2 - CVA >2 weeks ago

TIA when

Optional

SingleChoice: the code only.

- 1 - TIA within 2 weeks
- 2 - TIA >2 weeks ago

Pre-operative risk factors continued

Neurological dysfunction

Highly Desirable **SingleChoice:** the code only.

0 - No

1 - Yes

Definition

Neurological dysfunction is defined as any neurological problem that severely affects ambulation or day-to-day functioning.

Poor mobility due to any non-cardiac reason

Highly Desirable **SingleChoice:** the code only.

0 - No

1 - Yes

Definition

Poor mobility is defined as a severe impairment of mobility secondary to musculoskeletal or neurological dysfunction.

Carotid bruits

Optional **SingleChoice:** the code only.

0 - No

1 - Yes

Definition

Carotid bruits are defined as an audible murmur on clinical auscultation over the carotid arteries.

Pre-operative heart rhythm

Highly Desirable **SingleChoice:** the code only.

0 - Sinus rhythm

1 - VT / VF

2 - Atrial fibrillation / flutter within 2 weeks prior to surgery

3 - Complete heart block

9 - Other abnormal rhythm

Definition

Please record any abnormal rhythm present within two weeks of the procedure.

VT / VF sustained ventricular tachycardia or ventricular fibrillation requiring cardioversion and / or IV amiodarone.

Atrial fibrillation / flutter requiring therapy.

Other abnormal rhythm any abnormal rhythm that does not conform to the definitions of VT / VF, Atrial fibrillation / flutter or Complete heart block.

Pre-operative haemodynamics and catheterisation

Left main stem disease

Highly Desirable **SingleChoice:** the code only.

- 0 - No LMS disease / LMS disease <50% diameter stenosis
- 1 - LMS disease >50% diameter stenosis
- 9 - Not investigated

Coronary artery disease - LAD

Highly Desirable **SingleChoice:** the code only.

- 0 - No or system with <50% narrowing pre-operatively
- 1 - System with ≥50% narrowing pre-operatively

Coronary artery disease - Circumflex

Highly Desirable **SingleChoice:** the code only.

- 0 - No or system with <50% narrowing pre-operatively
- 1 - System with ≥50% narrowing pre-operatively

Coronary artery disease - Right

Highly Desirable **SingleChoice:** the code only.

- 0 - No or system with <50% narrowing pre-operatively
- 1 - System with ≥50% narrowing pre-operatively

Carotid artery disease

Optional **SingleChoice:** the code only.

- 0 - No or <50% stenosis
- 1 - Yes - 50-79% stenosis
- 2 - Yes - 80-99% stenosis
- 3 - Yes - carotid occlusion
- 4 - Prior carotid surgery

Endocarditis

Highly Desirable **SingleChoice:** the code only.

- 0 - None
- 1 - Active
- 2 - Previous

Definition

Active patient still on antibiotic treatment for endocarditis at time of surgery.
Previous no longer on antibiotic treatment.

Left- or right-heart catheterisation

Optional **MultiChoice:** the code(s) only.

- 0 - Never
- 1 - This admission
- 2 - Previous admission

Date of last catheterisation

Optional **Date:** ODBC date with format yyyy-mm-dd.

Pre-operative haemodynamics and catheterisation

Ejection fraction category

Highly Desirable **SingleChoice:** the code only.

1 - Good (> 49%)

2 - Fair (30-49%)

3 - Poor (20-29%)

4 - Very Poor (< 20%)

9 - Not investigated

Expressed as a percentage (1 - 100)

Ejection fraction value

Highly Desirable **Integer:** enter a whole number.

Units in mmHg

PA systolic

Highly Desirable **Integer:** enter a whole number.

Units in mmHg

Pulmonary Hypertension

Highly Desirable **SingleChoice:** the code only.

0 - No

1 - Yes (PA systolic >60)

AV gradient mean

Optional **Integer:** enter a whole number.

Units in mmHg

AV gradient peak

Optional **Integer:** enter a whole number.

Units in mmHg

LVEDP

Optional **Integer:** enter a whole number.

Units in mmHg

Mean PAWP / LA

Optional **Integer:** enter a whole number.

Units in mmHg

Pre-operative status and support

IV nitrates**Highly Desirable****SingleChoice:** the code only.**0** - No**1** - Yes**IV inotropes****Highly Desirable****SingleChoice:** the code only.**0** - No**1** - Yes**Ventilated****Highly Desirable****SingleChoice:** the code only.**0** - No**1** - Yes**Cardiogenic shock****Highly Desirable****SingleChoice:** the code only.**0** - No**1** - Yes**Definition**

Indicate whether the patient was, at the time of procedure, in a clinical state of hypoperfusion sustained for greater than 30 minutes, according to either of the following criteria:

- a. Systolic BP < 80 and / or Cardiac Index < 1.8 despite maximal treatment;
- b. IV inotropes and / or IABP necessary to maintain Systolic BP > 80 and / or CI > 1.8.

Immunosuppressive therapy within 30 days of operation**Highly Desirable****SingleChoice:** the code only.**0** - No**1** - Yes**Resuscitation / cardiac massage within 1 hour of operation****Highly Desirable****SingleChoice:** the code only.**0** - No**1** - Yes

Operation

Operation urgency

Highly Desirable

SingleChoice: the code only.

- 1 - Elective
- 2 - Urgent
- 3 - Emergency
- 4 - Salvage

Definition

Indicate the clinical status of the patient prior to entering the operating room.

- | | |
|------------------|---|
| Elective | the patient's cardiac function has been stable in the days or weeks prior to the operation. The procedure could be deferred without increased risk of compromised cardiac outcome. Routine admission for operation. |
| Urgent | procedure required during same hospitalization in order to minimize chance of further clinical deterioration. Examples include but are not limited to -worsening, sudden chest pain, CHF, acute myocardial infarction (AMI), anatomy, IABP, unstable angina (USA) with intravenous (IV) nitroglycerin (NTG) or rest angina. |
| Emergency | operation before the beginning of the next working day after decision to operate. Patients requiring emergency operations will have ongoing, refractory (difficult, complicated, and / or unmanageable) unrelenting cardiac compromise with or without haemodynamic instability, and not responsive to any form of therapy except cardiac surgery. An emergency operation is one in which there should be no delay in providing operative intervention. The patient's clinical status includes any of the following: <ul style="list-style-type: none"> a. ischaemic dysfunction (any of the following): <ul style="list-style-type: none"> i. ongoing ischaemia including rest angina despite maximal medical therapy (medical and / or IABP); ii. acute evolving myocardial infarction within 24 hours before surgery; or iii. pulmonary oedema requiring intubation. b. mechanical dysfunction (either of the following): <ul style="list-style-type: none"> i. shock with circulatory support; or ii. shock without circulatory support. |
| Salvage | the patient is undergoing cardio-pulmonary resuscitation en route to the operating theatre or prior to anaesthetic induction. |

Operation continued

Main reason for urgency

Optional

SingleChoice: the code only.

- 1 - Anatomy
- 2 - Acute evolving MI
- 3 - Cardiogenic shock
- 4 - Aortic dissection
- 5 - Unstable or worsening angina / ongoing ischaemia
- 6 - Pulmonary oedema
- 7 - Valve dysfunction

Definition

Anatomy	critical pathology necessitating urgent intervention.
Cardiogenic shock	patient in shock prior to operation; BP<100 mm Hg, pulse >100 bpm, patient cool, clammy, or requiring inotropes, intra-aortic balloon pump or CPS to support circulation.
Aortic dissection	an acute dissection of the thoracic aorta.
Unstable or worsening ...	requiring escalating medical therapy.
Valve dysfunction	acute valvular regurgitation, critical valvular stenosis, or prosthetic valve dysfunction.

Number of previous heart operations**Highly Desirable****SingleChoice:** the code only.

- 0 - None
- 1 - One
- 2 - Two
- 3 - Three
- 4 - Four
- 5 - Five

Definition

Previous heart operations are defined as any previous heart surgery involving opening the pericardium.

Procedure group**Mandatory****SingleChoice:** the code only.

- 1 - CABG alone
- 2 - CABG & valve
- 3 - CABG & valve & other
- 4 - CABG & other
- 5 - Valve alone
- 6 - Valve and other
- 7 - Other

CABG procedure**Highly Desirable****MultiChoice:** the code(s) only.

- 1 - Main LAD
- 2 - Main RCA
- 3 - LAD branches
- 4 - RCA branches
- 5 - Circumflex branches

Operation continued

Other cardiac procedures**Highly Desirable** **MultiChoice:** the code(s) only.

- 0 - No other cardiac procedures
- 1 - Left ventricular aneurysm repair
- 2 - Ventricular septal defect repair
- 3 - Atrial septal defect repair
- 4 - SVR
- 5 - Congenital
- 6 - Cardiac trauma
- 7 - Cardiac transplant
- 8 - Permanent pacemaker
- 9 - AICD
- 10 - AF ablation surgery
- 19 - Other procedure

Other non-cardiac procedures**Highly Desirable** **MultiChoice:** the code(s) only.

- 0 - None
- 1 - Surgery on the aorta
- 2 - Carotid endarterectomy
- 3 - Other thoracic surgery
- 4 - Other vascular surgery

Definition

- Other thoracic surgery** thoracic surgical procedures other than those defined elsewhere.
- Other vascular surgery** surgery on arterial vessels other than those described elsewhere.

Segments of the aorta treated**Highly Desirable** **MultiChoice:** the code(s) only.

- 1 - Root
- 2 - Ascending
- 3 - Arch
- 4 - Descending
- 5 - Abdominal
- 6 - TEVAR

Aortic procedure**Highly Desirable** **MultiChoice:** the code(s) only.

- 0 - Not applicable
- 1 - Interposition tube graft
- 2 - Tube graft and separate AVR
- 3 - Root replacement (composite valve graft & coronary reimplantation)
- 4 - Root replacement (preservation native valve & coronary reimplantation)
- 5 - Homograft root replacement
- 6 - Ross procedure for aortic root pathology
- 7 - Aortic patch graft
- 8 - Sinus of valsalva repair
- 9 - Reduction aortoplasty
- 10 - Other

Operation continued

Aortic root enlargement

Highly Desirable **SingleChoice:** the code only.

0 - No

1 - Yes

Coronary surgery

DCAs - number of arterial conduits

Optional **Integer:** enter a whole number.

DCAs - number of venous conduits

Optional **Integer:** enter a whole number.

Conduits used as grafts

Optional **MultiChoice:** the code(s) only.

0 - No conduits used

1 - Right IMA

2 - Left IMA

3 - Radial

4 - Long SV

5 - Short SV

6 - Other

Valve surgery

Note: Repeat the valve surgery details for each valve treated

Valve treated

Highly Desirable

SingleChoice: the code only.

- 1 - Aortic
- 2 - Mitral
- 3 - Tricuspid
- 4 - Pulmonary

Valve pathology

Highly Desirable

SingleChoice: the code only.

- 1 - Stenosis
- 2 - Regurgitation
- 3 - Mixed
- 4 - Annular dilation with no regurgitation
- 5 - Normal

Pathology grade

Highly Desirable

SingleChoice: the code only.

- 1 - Mild
- 2 - Moderate
- 3 - Severe
- 9 - Not applicable/unknown

Insufficiency

Highly Desirable

SingleChoice: the code only.

- 0 - None
- 1 - Trivial
- 2 - Mild
- 3 - Moderate
- 4 - Severe

Explant type

Optional

SingleChoice: the code only.

- 0 - Native valve
- 1 - Mechanical
- 2 - Biological
- 3 - Homograft
- 4 - Autograft
- 5 - Ring

Valve surgery continued

Native valve pathology

Optional

SingleChoice: the code only.

- 0 - Native valve not present
- 1 - Congenital
- 2 - Degenerative
- 3 - Active infective endocarditis
- 4 - Previous infective endocarditis
- 5 - Rheumatic
- 6 - Annuloaortic ectasia
- 7 - Ischaemic
- 8 - Functional regurgitation
- 19 - Other native valve pathology

Reason for repeat valve surgery

Optional

SingleChoice: the code only.

- 0 - Not applicable
- 1 - Thrombosis
- 2 - Dehiscence
- 3 - Embolism
- 4 - Infection
- 5 - Intrinsic failure
- 6 - Haemolysis
- 7 - Failure of previous valve repair
- 9 - Other reason

Valve procedure

Highly Desirable

SingleChoice: the code only.

- 1 - Replacement
- 2 - Repair
- 3 - Isolated commissurotomy
- 4 - Excision only
- 5 - Inspection
- 6 - Other

Valve repair

Highly Desirable

SingleChoice: the code only.

- 0 - Not applicable
- 1 - Repair with ring
- 2 - Repair without ring
- 9 - Unknown

Valve surgery continued

Implant type

Optional **SingleChoice:** the code only.

- 0 - None
- 1 - Mechanical
- 2 - Biological
- 3 - Homograft
- 4 - Autograft
- 5 - Ring
- 6 - Other

Implant code

Optional **TableSingleChoice:** see table [IMP](#)

Implant code other

Optional **String:** can contain any value.

Valve / ring size

Optional **Integer:** enter a whole number.

Perfusion and myocardial protection

Cardio-pulmonary bypass

Optional **SingleChoice:** the code only.

- 0 - No
- 1 - Yes (planned)
- 2 - Yes (conversion from off-pump)

Predominant form of myocardial protection

Optional **SingleChoice:** the code only.

- 1 - Cardioplegic
- 2 - Non-cardioplegic

Cardioplegia - solution

Optional **SingleChoice:** the code only.

- 0 - Not applicable
- 1 - Blood
- 2 - Crystalloid

Cardioplegia - temperature

Optional **MultiChoice:** The code(s) only.

- 0 - Not applicable
- 1 - Warm
- 2 - Cold

Cardioplegia - infusion mode

Optional **MultiChoice:** the code(s) only.

- 0 - Not applicable
- 1 - Antegrade
- 2 - Retrograde

Cardioplegia - timing

Optional **SingleChoice:** the code only.

- 0 - Not applicable
- 1 - Continuous
- 2 - Intermittent

Non-cardioplegia myocardial protection

Optional **SingleChoice:** the code only.

- 0 - Not applicable
- 1 - Fibrillation with perfusion
- 2 - Cross-clamp and beating heart
- 3 - Aortic cross-clamp
- 4 - Cross-clamp with direct coronary perfusion
- 5 - Beating heart without cross-clamp

Perfusion and myocardial protection

Intra-aortic balloon pump used

Highly Desirable

SingleChoice: the code only.

- 0 - Not used
- 1 - Used pre-operatively
- 2 - Used intra-operatively
- 3 - Used post-operatively

Reason for IABP use

Highly Desirable

SingleChoice: the code only.

- 0 - Not applicable
- 1 - Haemodynamic instability
- 2 - PTCA support
- 3 - Cardio-pulmonary bypass wean
- 4 - Unstable angina
- 5 - Prophylactic

Ventricular Assist Device used

Highly Desirable

SingleChoice: The code only.

- 0 - Not used
- 1 - Used pre-operatively
- 2 - Used intra-operatively
- 3 - Used post-operatively

Bypass time

Optional

Integer: enter a whole number.

Total bypass time in minutes.

Cumulative cross-clamp time

Optional

Integer: enter a whole number.

Cumulative cross-clamp time in minutes.

Total circulatory arrest time

Optional

Integer: enter a whole number.

Total circulatory arrest time in minutes.

Post-operative course

Re-operation

Optional

MultiChoice: The code(s) only.

- 0** - No re-operation required
- 1** - Re-operation for graft problems
- 2** - Re-operation for valve problems
- 3** - Re-operation for bleeding or tamponade
- 4** - Sternal resuturing for any reason
- 4** - Sternal resuturing for any reason
- 5** - Re-operation for other cardiac problems

Definition

Graft problem	problems with the coronary artery bypass graft requiring re-intervention.
Valve problem	problems with a cardiac valve requiring re-intervention.
Bleeding / tamponade	requiring re-operation.
Other cardiac problems	any other cardiac problem not defined above requiring re-operation

New post-operative stroke

Optional

SingleChoice: the code only.

- 0** - None
- 1** - Transient
- 2** - Permanent

Definition

Transient	new neurological deficit lasting less than 24 hours.
Permanent	new neurological deficit lasting >24 hours.

New post-operative dialysis

Optional

SingleChoice: the code only.

- 0** - No
- 1** - Yes

Multi-system failure

Optional

SingleChoice: the code only.

- 0** - No
- 1** - Yes

Definition

Multi system failure is dysfunction or more than one of the major organ systems requiring critical care support.

Discharge details

Patient status at discharge

Mandatory

SingleChoice: the code only.

0 - Alive

1 - Deceased

Primary cause of death

Optional

SingleChoice: the code only.

0 - Not applicable

1 - Cardiac

2 - Neurological

3 - Renal

4 - Vascular

5 - Infection

6 - Pulmonary

7 - Valvular

9 - Other cause

Discharge destination

Optional

SingleChoice: the code only.

0 - Not applicable - patient deceased

1 - Home

2 - Convalescence / nursing home

3 - Another unit within the same hospital

4 - Another hospital



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