

**CALIFORNIA CABG OUTCOMES REPORTING PROGRAM  
CLINICAL ADVISORY PANEL MEETING**

**MAY 7, 2002**

**APPROVED MINUTES**

**In Attendance:**

*Clinical Advisory Panel Members:*

Robert Brook, M.D., Sc.D.  
Andrew Bindman, M.D.  
Ralph Brindis, M.D.  
Cheryl Damberg, Ph.D.  
Timothy Denton, M.D.  
Coyness Ennix, Jr., M.D.  
Keith Flachsbart, M.D.  
Fredrick Grover, M.D.

*Panel Members Absent:*

James MacMillan, M.D.

*From OSHPD:*

David Carlisle, M.D., Ph.D.  
Loel Solomon, Ph.D.  
Joseph Parker, Ph.D.  
Mary MacDonald  
Beth Herse, J.D.

*Other Attendees:*

Anthony Steimle, M.D., OSHPD  
consulting cardiologist  
Jacquelyn Paige, Executive Director,  
California Health Policy and Data  
Advisory Commission  
Audrey Fischer, California Society of  
Thoracic Surgeons

**Introduction**

The meeting was called to order by Chairman Robert Brook, M.D. at 9:10 A.M. Clinical Advisory Panel (CAP) members in attendance were read the oath of office and sworn in by Dr. David Carlisle, director of the California Office of Statewide Health Planning and Development.

Legal Counsel explained the ramifications of being a public body. The CAP is a state body established by California statute. As such, the Bagley-Keene Open Meeting Act (Government Code Sections 11120 – 11132) provides that CAP meetings and all business conducted by the Panel be open to the public. Meeting dates must be published 10 days prior to CAP meetings. All materials given to members before or during meetings must be made public and supplied upon request. It is a violation of the law for Panel business to be discussed by a majority of members at a gathering not open to the public and sufficiently noticed.

Panel members expressed concerns regarding how discussion of confidential materials could take place at open meetings, and liability involved with inadvertent violation of the open meeting rules. The chairman directed staff to

find out how other advisory bodies serving the state discuss sensitive matters without violating the Act.

Follow-up item: Further review of latitude provided for in law to conduct confidential 'executive sessions' and guidance on personal liability associated with unintentional violations of the Open Meetings Act.

## **Program Background and Timeline**

Staff presented the highlights of Senate Bill 680 (Figueroa), which created the California CABG Outcomes Reporting Program (CCORP). CCORP requires that non-federal and non-childrens' hospitals submit data on all CABG surgeries and that OSHPD generate risk-adjusted outcome reports based on those data. The law further specifies that reports be generated at both the hospital level (annually) and physician level (biannually), and that data be periodically audited to ensure data integrity and accuracy. The law also includes a number of procedural safeguards for surgeons including multiple data correction opportunities, a mandatory 30-day review of scores, a formal appeals process and authority to exclude individual providers from the reports for "statistical or technical considerations."

Under SB 680, the CAP has the following statutory responsibilities: 1) recommending data elements; 2) reviewing and approving the risk adjustment model; 3) reviewing physician appeals, and; 4) consulting the Office on report materials.

The CAP will also review voluntary reports prepared under the California CABG Mortality Reporting Program (CCMRP) for data years 2000-2002. CCMRP is a voluntary program undertaken jointly by OSHPD and the Pacific Business Group on Health. CCMRP has collected CABG data from two-thirds of the approximately 120 hospitals performing CABG surgeries in the state since 1997. Analyses show that non-participants in the voluntary program have, on average, lower volume than CCMRP participants. The unadjusted mortality rate at the 79 participating hospitals is 2.65% compared to a raw mortality rate of 3.62% for the 40 hospitals that do not participate in the program.

Staff discussed the program's timeframe, emphasizing the short period of time to begin data collection in order to meet statutory deadline for the publication of reports. Some CAP members expressed concern about adequately notifying all hospitals performing CABG about their reporting requirements under SB 680. Questions and concerns were also raised about the tension between timeliness of reports and reliability of data given the extensive data cleaning processes that are being proposed for data submitted to CCMRP. CAP members also expressed concerns about the statistical methods used to identify outlier hospitals and surgeons. Some members expressed concern that a hospital

could move from being a poor performing outlier to average by upcoding its data. Staff indicated that future meetings would address these issues.

Follow-up item: Develop an outreach plan to get hospitals not currently submitting data up to speed.

### **Surgeon Certification**

Staff sought input from CAP members on the advisability of requiring individual surgeons to certify the completeness and accuracy of data submitted by hospitals on their behalf. Individual surgeon certification was commended to California by several other states that have reported surgeon-level CABG data as a means to engage physicians early on in the process and improve the accuracy of submissions. Some physicians involved in an working group that has been advising the Office on SB 680 programmatic issues raised concerns that physician certification could be too burdensome, and that individual physicians were not necessarily in a position to attest to the accuracy of their data. A secondary question is whether this certification process should occur early on in the submission of data, or after the data have been cleaned and immediately prior to the computation of final risk-adjusted mortality rates.

CAP members agreed that surgeons should sign a certification form, and that the best timing would be upon initial submission rather than after data cleaning. The point was made that surgeon certification will foster increased surgeon involvement in the program and encourage data managers to code more accurately. Some panel members suggested that a proviso be added to the text of the certification that assures surgeons that certification does not preclude their right to contest the results of the reports.

CAP members suggested the development of a letter from the Panel to their colleagues, encouraging their active participation in the program and highlighting the importance of these data in profiles of physician performance.

Follow-up item: Develop and send a memo to colleagues to advise them of the need for their involvement and to relay the CAP members' opinions on physician certification.

### **Definition of Isolated CABG**

Staff pointed out that while SB 680 requires the submission of all CABG cases, the current plan is to publish public reports only on isolated CABG cases, consistent with what is done in CCMRP and in other states. This is because risk models for non-isolated cases have not been validated. As a result, it is necessary to have a working definition of "isolated CABG." It is the Office's intention to further develop and test models for non-isolated cases with data

submitted to CCORP. If such models perform well, OSHPD could release reports on non-isolated CABG as well.

Staff proposed a definition of isolated CABG based on the working definition currently used in the voluntary program. The CAP recommended a revision of that definition by adding coronary artery fistula and Maze procedures to the list of procedures that when done concurrently with CABG render the CABG non-isolated. The CAP also discussed the appropriateness of continuing to include as isolated CABGs cases in which a Transmyocardial Laser Revascularization (TMR) has been performed. The consensus of the group was that TMRs should be considered isolated, as such procedures do not necessarily increase the risk of mortality. The approved definition of isolated CABG appears as Appendix A.

### **Identification and Classification Variables**

Staff presented the 11 proposed data elements that will be used for identification of providers and cases. Discussion focused on the definition of responsible surgeon, which is the individual physician to whom outcomes will be attributed in the physician-level reports. If there is any ambiguity about who the responsible surgeon is, the definition makes clear that the responsible surgeon listed on the CCORP data submission is the surgeon who bills for the procedure.

The CAP voted unanimously to approve identification and classification data elements 1 –11 (Appendix B), with the above referenced modification to the definition of isolated CABG.

### **Risk Variables**

Staff described the risk modeling approach used by the voluntary program and proposed an approach for the mandatory program emphasizing: 1) adjustment only for pre-operative risk factors (vs. intra-operative factors that may improve predictive power by inappropriately adjusting for quality differences); 2) clinical logic vs. a purely empirical approach to identifying variables for inclusion; and 3) evaluation of model performance based on both discrimination and calibration. Staff also emphasized the goal of remaining as consistent as possible with national Society of Thoracic Surgeons (STS) data element definitions so as not to create an undue burden on providers who are STS reporters.

The CAP reviewed a pool of potential risk factors for mortality. Sources included a 1996 article in the Journal of the American College of Cardiology by Jones et al., the variables used in the voluntary program and risk factors collected by other leading reporting programs including the STS CABG reporting program and public reporting programs in New York, Pennsylvania and New Jersey. Discussion focused on promising variables included in one or more of these models and not included in the most recent CCMRP model, which serves as a

starting point for the mandatory program. These elements include CVA/timing, hepatic failure and immunosuppressive treatment.

CVA and CVA/timing is used in risk models by STS, New York and New Jersey. It is distinct from the cerebrovascular disease variable currently used in CCMRP. In NY and NJ, these variables had significant odds ratios of 1.61 and 2.09, respectively. Hepatic failure is a variable used in New York, and mentioned in the Jones article as a Level 2 variable. Although very few patients meet the New York definition, it has the highest OR of any variable in their model.

Immunosuppressive treatment is part of the Pennsylvania model and is a Level 2 variable in Jones et al. The Panel endorsed collection of all three variables for the CCORP program.

The Panel also discussed modifications to current CCMRP data elements. They advised CCORP to return to the STS definition of NYHA Classification rather than keep the CCMRP definition that only encompasses heart failure. Panel members stated that even though separating out angina and heart failure (CCMRP definition) may be preferable conceptually than the standard definition, using the STS definition will minimize confusion, and be less labor intensive for data collectors. Some panel members doubted whether the program could get coders to conform to coding rules directing them to distinguish between heart failure and angina when assigning NYHA class.

Panel members voted to modify the data element Left Main Disease (LMD) from a dichotomous variable to a continuous variable capturing actual percentage of occlusion. Dr. Steimle, CCORP's consulting cardiologist, explained that in the CCMRP model the severity of LMD modeled as an actual percent stenosis yielded higher discriminatory power relative to a model including LMD as a dichotomous variable. Dr. Grover added that STS could consider modifying this field to collect percentage stenosis in future versions of the STS tool.

Panel members also suggested replacing the data element Minimally Invasive Surgery with four distinct variables: Cardiopulmonary Bypass Used, Conversion to Cardiopulmonary Bypass, Primary Incision, and Cardioplegia (all STS elements). Minimally Invasive was found to have uncertain coding reliability. The four data elements used in combination are thought to be more informative.

The CAP voted unanimously to adopt data elements 12 – 45, as modified above (Appendix B).

The next CAP meeting was set for September 17 in Oakland, CA.

Dr. Brook adjourned the meeting at: 1:45 PM.

## **Appendix: A**

### **Proposed Revised Definition of Isolated CABG for CCORP**

When any of the procedures listed in section A is performed concurrently with the coronary artery bypass surgery, the case will be considered non-isolated and the data element coded 'No'. It is not possible to list all procedures because cases can be complex and clinical definitions are not always precise. Only cardiac procedures have been listed. When in doubt, the data abstractor should first seek an opinion from the responsible surgeon and then consult CCORP.

#### Section A

- **Valve repairs or replacements**
- **Operations on structures adjacent to heart valves (papillary muscle, chordae tendineae, trabeculae carneae cordis, annuloplasty, infundibulectomy)**
- **Ventriculectomy**
- **Repair of atrial and ventricular septa**
- **Excision of aneurysm of heart**
- **Head and neck, intracranial endarterectomy**
- **Other open heart surgeries, such as aortic arch repair, pulmonary endarterectomy**
- **Endarterectomy of aorta**
- **Thoracic endarterectomy (endarterectomy on an artery outside the heart)**
- **Heart transplantation**
- **Repair of certain congenital cardiac anomalies (e.g., tetralogy of fallot, atrial septal defect (ASD), ventricular septal defect (VSD), valvular abnormality)**
- **Implantation of cardiomyostimulation system (Note: Refers to cardiomyoplasty systems only, not other heart-assist systems such as pacemakers or internal cardiac defibrillators (ICDs))**
- **Any aortic aneurysm repair (abdominal or thoracic)**
- **Aorta-subclavian-carotid bypass**
- **Aorta-renal bypass**
- **Aorta-iliac-femoral bypass**
- **Caval-pulmonary artery anastomosis**
- **Extracranial-intracranial (EC-IC) vascular bypass**
- **Coronary artery fistula**
- **Maze procedures, surgical or catheter**

If a procedure listed in section B is performed concurrently with the coronary artery bypass surgery, the case will be considered an isolated CABG and the data element coded 'Yes', unless a procedure listed in section A is performed during the same surgery. These particular procedures are listed because the Office has received frequent questions regarding their coding.

#### Section B

- **Transmyocardial laser revascularization (TMR)**
- **Pericardiectomy and excision of lesions of heart**
- **Repair/restoration of the heart or pericardium**
- **Coronary endarterectomy**
- **Pacemakers**
- **Internal cardiac defibrillators (ICDs)**

**Appendix: B**

**Data Elements and Definitions for California CABG Outcomes Reporting Program Approved by CABG  
Clinical Advisory Panel on 5/7/2002**

**(Note: Definitions from STS Data Year 2002 (Ver. 2.41) except as indicated by shading)**

<b>IDENTIFICATION AND CLASSIFICATION</b>	
1	<b>Hospital Identification Number</b> The last six digits of the 9-digit identification number assigned by the Office shall be reported as part of each patient record
2	<b>Isolated CABG:</b> yes; no Answer yes if no other major excluded procedure (see Definition of Isolated CABG) was performed during coronary artery bypass surgery.
3	<b>Responsible Surgeon Name</b> (combined field) Surgeon Last Name: Text Length 25 Surgeon First Name: Text Length 20 Surgeon Middle Initial: Text Length 1 The responsible surgeon is the principal surgeon who performs the coronary artery bypass procedure. If this procedure is performed by a trainee, then the responsible surgeon is the physician responsible for supervising the procedure performed by the trainee. In situations in which the responsible surgeon cannot be determined, the responsible surgeon is the surgeon who bills for the coronary artery bypass procedure.
4	<b>Responsible Surgeon CA License Number</b> Text Length 10 (prelim.)
5	<b>Insurer Payment Source (Payor):</b> name of insurer
6	<b>Medical Record Number (MRN)</b> Number at hospital where surgery occurred. Format: Text Length 11
7	<b>Date of Birth:</b> mm/dd/yyyy
8	<b>Date of Surgery:</b> mm/dd/yyyy
9	<b>Date of Discharge:</b> mm/dd/yyyy
10	<b>Patient Status at Discharge:</b> Mortality Discharge Status: Alive; Dead Specify whether the patient was alive or dead at discharge from the hospitalization in which surgery occurred.
11	<b>Date of Death:</b> mm/dd/yyyy
<b>RISK FACTOR: DEMOGRAPHIC</b>	
12	<b>Race:</b> Caucasian; Black; Hispanic; Asian; Native American; Other
13	<b>Gender:</b> male; female
14	<b>Patient age:</b> patient age in years, at time of surgery. This should be calculated from the date of birth and the date of surgery.
15	<b>Height:</b> 3.2 digit number in centimeters
16	<b>Weight:</b> 3.2 digit number in kilograms
<b>RISK FACTOR: OPERATIVE</b>	
17	<b>Priority of Operation (NOTE: name changed from "Acuity"):</b> Elective, Urgent, Emergent, Emergent/Salvage Select one of the status that best describes the clinical status of the patient at the time of surgery. Elective: The procedure could be deferred without increased risk of compromised cardiac outcome Urgent: ALL of the following conditions are met: a. Not elective status b. Not emergent status c. Procedure required during same hospitalization in order to minimize chance of further clinical deterioration d. Worsening, sudden chest pain, CHF, acute myocardial infarction (AMI), anatomy, IABP, (sic) Emergent: The patient's clinical status includes any of the following: a. Ischemic dysfunction (any of the following): (1) Ongoing ischemia including rest angina despite maximal medical therapy (medical and/or IABP); (2) Acute Evolving Myocardial Infarction within 24 hours before surgery; or (3) pulmonary edema requiring intubation.

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	<p>b. Mechanical dysfunction (either of the following): (1) shock with circulatory support; or (2) shock without circulatory support. Emergent/Salvage: The patient is undergoing CPR en route to the OR or prior to anesthesia induction.</p>
<b>RISK FACTOR: COMORBIDITY/OTHER</b>	
18	<p><b>Last Creatinine Level:</b> Real number 2.1 digits e.g. 99.9 Most recent prior to day of surgery. A creatinine level should be collected on all patients for consistency, even if they have no prior history. A creatinine value is a high predictor of a patient's outcome and used in the Predicted Risk Models.</p>
19	<p><b>Dialysis:</b> yes; no (STS Parent Field: Renal Failure) Is the patient on dialysis preoperatively?</p>
20	<p><b>Diabetes:</b> yes; no A history of diabetes, regardless of duration of disease or need for anti-diabetic agents.</p>
21	<p><b>Peripheral Vascular Disease:</b> yes; no PVD 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 documented.</p>
22	<p><b>Cerebrovascular Disease:</b> 1=yes; 2=no Whether the patient has Cerebro-Vascular Disease, documented by any one of the following: Unresponsive coma &gt; 24 hrs; CVA (symptoms &gt; 72 hrs after onset); RIND (recovery within 72 hrs); TIA (recovery within 24 hrs); Non-invasive carotid test with &gt; 75% occlusion.; or Prior carotid surgery.</p>
23	<p><b>Chronic Lung Disease:</b> No; Mild; Moderate; Severe Specify if the patient has chronic lung disease, and the severity level according to the following classification: No; Mild: FEV1 60% to 75% of predicted, and/or on chronic inhaled or oral bronchodilator therapy Moderate: FEV1 50-59% of predicted, and/or on chronic steroid therapy aimed at lung disease. Severe: FEV1 &lt;50% predicted, and/or Room Air pO2 &lt; 60 or Room Air pCO2 &gt; 50.</p>
24	<p><b>Hypertension:</b> yes; no Does the patient have a diagnosis of hypertension, documented by one of the following: a. Documented history of HTN diagnosed and treated with medication, diet and/or exercise b. Blood pressure &gt; 140 systolic or &gt; 90 diastolic on at least 2 occasions. c. Currently on antihypertensive medication.</p>
<b>RISK FACTOR: CARDIAC</b>	
25	<p><b>Arrhythmia:</b> yes; no Is there a preoperative arrhythmia present within two weeks of the procedure, by clinical documentation of any one of the following: Atrial fibrillation/flutter requiring Rx; Heart block; Sustained Ventricular Tachycardia or Ventricular Fibrillation requiring cardioversion and/or IV amiodarone.</p>
26	<p><b>Arrhythmia Type:</b> Sustained VT/VF; Heart Block; Afib/flutter Which arrhythmia is present within two weeks of the procedure? Choose one of the above.</p>
27	<p><b>Myocardial Infarction:</b> 1=yes; 2=no. Patient hospitalized for an MI documented in the medical record. Two of the following four criteria are necessary: a. Prolonged (&gt;20 min) typical chest pain not relieved by rest and/or nitrates. b. Enzyme level elevation: either (1) CK-MB &gt; 5% of total CPK; (2) CK greater than 2x normal; (3) LDH subtype 1 &gt; LDH subtype 2; or (4) troponin &gt; 0.2 micrograms/ml. c. Any wall motion abnormalities as documented by LV Gram, Echo, Muga Scan and or EF&lt;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 &gt; or + one third of the total QRS complex in two or more contiguous leads.</p>
28	<p><b>MI-When:</b> &lt;=6 hrs; &gt;6 hrs but &lt;24 hrs; 1 to 7 days; 8 to 21 days; &gt;21 days. Time period between the last documented myocardial infarction and surgery.</p>
29	<p><b>Cardiogenic Shock:</b> yes; no Is the patient, at the time of procedure, in a clinical state of hypoperfusion according to either of the following criteria: 1. Systolic BP &lt; 80 and/or Cardiac Index &lt; 1.8 despite maximal treatment; 2. IV inotropes and/or IABP necessary to maintain Systolic BP &gt; 80 and/or CI &gt; 1.8.</p>
30	<p><b>Angina:</b> yes; no</p>

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	Whether the patient has angina pectoris present leading to or during the hospitalization within 24 hours prior to surgical intervention.
31	<p><b>Angina Type:</b> stable; unstable</p> <p>Indicate the type of angina present within 24 hours of the surgical procedure:            Stable: Angina which is controlled by oral or transcutaneous medication.            Unstable: The presence of on-going refractory (difficult, complicated, and/or unmanageable) ischemia which necessitates the increase or initiation of angina control therapies that may include: nitroglycerin drip, heparin drip, IABP placement.</p>
32	<p><b>CCS (Canadian Cardiovascular Society) Angina Class:</b> No Angina = Class 0; Class I; Class II; Class III; Class IV</p> <p>This classification represents level of functional status related to frequency and intensity of angina. The CCS may not be the same as the NYHA classification for same evaluation time period. Code the highest class leading to episode of hospitalization and/or intervention:            0=No angina.            I = Ordinary physical activity, such as walking or climbing the stairs does not cause angina. Angina may occur with strenuous, rapid or prolonged exertion at work or recreation.            II= There is a slight limitation of ordinary activity. Angina may occur with moderate activity such as walking or climbing stairs rapidly, walking uphill, walking or stair climbing after meals or in the cold, in the wind, or under emotional stress, or walking more than two blocks on the level, and climbing more than one flight of stairs at normal pace under normal conditions.            III= There is marked limitation of ordinary physical activity. Angina may occur after walking one or two blocks on the level or climbing one flight of stairs under normal conditions at a normal pace.            IV= There is inability to carry on any physical activity without discomfort; angina may be present at rest.</p>
33	<p><b>Congestive Heart Failure:</b> yes; no</p> <p>If patient has symptoms, have they occurred within 2 weeks prior to surgery? This does not include patients with chronic or stable non-symptomatic compensated CHF. Does the patient have one or more of the following:            Paroxysmal nocturnal dyspnea (PND)            Dyspnea on exertion (DOE) due to heart failure            Chest X-Ray (CXR) showing pulmonary congestion            Pedal edema or dyspnea and receiving diuretics or digoxin.</p>
34	<p><b>NYHA (New York Heart Association) Functional Class:</b> Class I; Class II; Class III; Class IV</p> <p>New York Heart Association (NYHA) Classification represents the overall functional status of the patient in relationship to both congestive heart failure and angina. The NYHA may not be the same as the CCS classification for the same evaluation period. Code the highest level leading to episode of hospitalization and/or procedure.            I = Patients with cardiac disease but without resulting limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea or anginal pain.            II = Patients with cardiac disease resulting in slight limitation of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitations, dyspnea or anginal pain.            III = Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary physical activity results in fatigue, palpitations, dyspnea, or anginal pain.            IV = Patients with cardiac disease resulting in inability to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased.</p>
<b>RISK FACTOR: PREVIOUS INTERVENTIONS</b>	
35	<p><b>Number of prior cardiac operations requiring cardiopulmonary bypass:</b></p> <p>1 digit number (STS Parent Field: Previous CV Intervention)            Prior to this operation, how many cardiac surgical operations were performed on this patient utilizing cardiopulmonary bypass</p>
36	<p><b>Number of prior cardiac operations without cardiopulmonary bypass:</b> 1 digit number (STS Parent Field: Previous CV Intervention)</p> <p>Prior to this operation, how many cardiac surgical operations were performed on this patient <i>without</i> cardiopulmonary bypass</p>
37	<p><b>PTCA/Atherectomy:</b> Yes; No</p> <p>Was Percutaneous Transluminal Coronary Angioplasty and/or Coronary Atherectomy done at any time prior to this surgical procedure (which may include during the current admission).</p>
38	<p><b>PTCA to surgery time interval:</b> &lt;=6 hrs; &gt; 6 hrs.</p>

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	The time between PTCA/Atherectomy and surgical repair of coronary occlusion: <=6 hours, > 6 hours.
<b>RISK FACTOR: HEMODYNAMIC</b>	
39	<b>Ejection Fraction (5 to 100%):</b> 2 digit number The percentage of blood emptied from the ventricle at the end of the contraction. Use the most recent determination prior to intervention. Enter a percentage in the range of 5-90.
40	<b>Method for measuring ejection fraction</b> (LV gram, radionuclide, or echocardiogram) None; LV Gram; Radionuclide; Estimate; ECHO Was the ejection fraction measured, and how was this information obtained? None: No measurement of Ejection Fraction LV Gram: Left Ventriculogram Radionuclide: MUGA Scan Estimate: From other calculations, based upon available clinical data ECHO: Echocardiogram
41	<b>Left Main Disease &gt; 50%:</b> yes; no Left Main Coronary Disease is present when there is >50% compromise of vessel diameter in any angiographic view
42	<b>Number of Diseased Vessels:</b> None, One; Two; Three The number of major coronary vessel systems (LAD system, Circumflex system, and/or Right system) with >50% narrowing in any angiographic view. NOTE: Left main disease (>50%) is counted as TWO vessels (LAD and Circumflex). For example, left main and RCA would count as three total.
43	<b>Mitral Insufficiency (VD-Insuff-Mitral):</b> None; Trivial; Mild; Moderate; Severe Is there evidence of mitral valve regurgitation?
New	<b>Cerebrovascular Accident:</b> Yes; No Has a history, at any time prior to surgery, of a central neurologic deficit persisting more than 72 hours. (i.e. extremity weakness or loss of motion, loss of consciousness, loss of speech, field cuts). Chart documentation of a prior diagnosis of CVA or stroke is sufficient.
New	<b>Cerebrovascular Accident Timing:</b> <=2 weeks; >2 weeks Events occurring within two weeks of the surgical procedure are considered recent (<=2 weeks); all others are considered remote (>2 weeks).
New	<b>Immunosuppressive Treatment:</b> Yes; No Patient has used any form of immunosuppressive therapy (i.e., systemic steroid therapy) within 30 days preceding the operative procedure. Does not include topical applications and inhalers.
New	<b>Hepatic Failure:</b> Yes; No The patient has cirrhosis, hepatic failure, acute hepatitis or "shock liver" and has a bilirubin greater than 2mg/dl and a serum albumin less than 3.5 grams/dl.
<b>PROCESS</b>	
New	<b>Cardiopulmonary Bypass Used: Yes; No</b> Use of cardiopulmonary bypass (CPB) at any time during the procedure.
New	<b>Conversion to Cardiopulmonary Bypass: Yes; No</b> The patient needed to be placed on cardiopulmonary bypass (CPB) after the off-pump procedure was attempted.
New	<b>Primary Incision:</b> Full Sternotomy; Partial Sternotomy; Transverse Sternotomy; Right Vertical Parasternal; Left Vertical Parasternal; Right Anterior Thoracotomy; Left Anterior Thoracotomy; Posterolateral Thoracotomy; Xiphoid; Epigastric; Subcostal The primary incision used as the initial intention for treatment:: Full Sternotomy; Partial Sternotomy; Transverse Sternotomy; Right Vertical Parasternal; Left Vertical Parasternal; Right Anterior Thoracotomy; Left Anterior Thoracotomy; Posterolateral Thoracotomy; Xiphoid; Epigastric; Subcostal.
New	<b>Cardioplegia:</b> Yes; No Cardioplegia was used.
45	<b>IMA (Internal Mammary Artery) used:</b> Specify which, if any, Internal Mammary Arteries were used for grafts. Left IMA, Right IMA; Both IMAs; No IMA