Building the Foundation of a Great Cardiac Program
Leveraging Guidelines to Improve Care

David A. D’Alessandro, MD
Associate Professor of Surgery
Harvard Medical School
Massachusetts General Hospital
• No Disclosures
Clinical Guideline

What is it?

• A document created to guide decision making in the treatment of patients
• Generally formulated on the basis of available evidence
• Updated as needed
Clinical Guideline

Why are they useful?

- Standardize practice
- Improve quality
- Reduce risk
- Improve efficiency/reduce cost
- Bundled payments will reward efficiency/quality
2017 AHA/ACC Focused Update of the 2014 AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

Developed in Collaboration With the American Association for Thoracic Surgery, American Society of Echocardiography, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Anesthesiologists, and Society of Thoracic Surgeons

WRITING GROUP MEMBERS*

Rick A. Nishimura, MD, MACC, FAHA, Co-Chair
Catherine M. Otto, MD, FACC, FAHA, Co-Chair
Robert O. Bonow, MD, MACC, FAHA†
Blase A. Carabello, MD, FACC*†
John P. Erwin III, MD, FACC, FAHA†
Lee A. Fleisher, MD, FACC, FAHA‡
Hani Jneid, MD, FACC, FAHA, FSCAI§

Michael J. Mack, MD, FACC*¶
Christopher J. McLeod, MBChB, PhD, FACC, FAHA†
Patrick T. O’Gara, MD, FACC, FAHA†
Vera H. Rigolin, MD, FACC¶
Thoralf M. Sundt III, MD, FACC#

Annemarie Thompson, MD**

ACC/AHA TASK FORCE MEMBERS

Glenn N. Levine, MD, FACC, FAHA, Chair
Patrick T. O’Gara, MD, FACC, FAHA, Chair-Elect
Jonathan L. Halperin, MD, FACC, FAHA, Immediate Past Chair††
Sana M. Al-Khatib, MD, MHS, FACC, FAHA
Kim K. Birtcher, PharmD, MS, AACC
Bykem Bozkurt, MD, PhD, FACC, FAHA
Ralph G. Brandis, MD, MPH, MACC††
Joaquin E. Cigarroa, MD, FACC
Lesley H. Curtis, PhD, FAHA
Lee A. Fleisher, MD, FACC, FAHA
Federico Gentile, MD, FACC
Samuel Gidding, MD, FAHA
Mark A. Hlatky, MD, FACC
John Ikonomidis, MD, PhD, FAHA
José Joglar, MD, FACC, FAHA
Susan J. Pressler, PhD, RN, FAHA
Duminda N. Wijeysundera, MD, PhD
A recommendation with Level of Evidence B or C does not imply that the recommendation is weak. Many important clinical questions addressed in the guidelines do not lend themselves to clinical trials. Although randomized trials are unavailable, there may be a very clear clinical consensus that a particular test or therapy is useful or effective.

Linda Shore-Lesserson, MD, Robert A. Baker, PhD, CCP, Victor A. Ferrarini, MD, Philip E. Greilich, MD, David Fitzgerald, MPH, CCP, Philip Roman, MD, MPH, John H. Hammon, MD

Department of Anesthesia, Zuckerman School of Medicine at Hofstra Northwell, Hempstead, New York; Cardiac Surgery, Perlmutter Health System Cardiac Surgical Center, Adelphia, New Jersey; South-American Thoracic Surgery, University of Kentucky, Lexington, Lexington; Department of Anesthesiology and Pain Management Temple University Hospital, Philadelphia, Pennsylvania; Temple University Medical Center, Philadelphia, Pennsylvania; Department of Anesthesiology and Perioperative Medicine, Emory University, Atlanta, Georgia; Department of Cardiothoracic Surgery, Wake Forest University School of Medicine, Winston-Salem, North Carolina

Background. Practice guidelines reflect published literature. Because of the ever-changing literature base, it is necessary to update and revise guideline recommendations from time to time. The Society of Thoracic Surgeons (STS) recognizes this need and prepares periodic updates of previously published guidelines at least every three years. This summary is an update of the blood coagulation guidelines published in 2007.

The International Consensus on Venous Blood Flow Perfusion Formally endorses these guidelines.

The Society of Thoracic Surgeons Clinical Practice Guidelines are intended to provide practicing physicians with a comprehensive framework for making decisions—describing a range of generally acceptable approaches to diagnosis, management, and treatment of specific diseases or conditions. These guidelines should not be considered inclusive of all possible methods of care or as exhaustive of all available methods of care. They are intended to serve as a general reference for decision-making by the individual practitioners responsible for the patient.

For the full text of the new and old STS Practice Guidelines, visit https://www.pts.org/guidelines. Education resources are available at https://www.pts.org/education/ptscourses/602721. Address correspondences to Dr Ferrarini, Department of Cardiothoracic Surgery, Zuckerman School of Medicine at Hofstra Northwell, 100 Northwell Dr, Great Neck, NY 11020-3010, e-mail: lferrarini@northwell.org.

© 2013 by The Society of Thoracic Surgeons. Published by Elsevier Inc.
This app is only available on the App Store for iOS devices.

STS Practice Guidelines
Clinical Practice Guidelines
Indico Solutions Pty Ltd
Free
# Adult Cardiac Surgery Checklist

## Before Induction – SIGN IN

<table>
<thead>
<tr>
<th>Patient has confirmed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Identity</td>
</tr>
<tr>
<td>☐ Site</td>
</tr>
<tr>
<td>☐ Procedure</td>
</tr>
<tr>
<td>☐ Consent</td>
</tr>
<tr>
<td>☐ Site marked/not applicable</td>
</tr>
<tr>
<td>☐ Anesthesia safety check completed</td>
</tr>
<tr>
<td>☐ Pulse oximeter on patient and functioning</td>
</tr>
<tr>
<td>☐ UNOS ID# (If applicable)</td>
</tr>
</tbody>
</table>

**Does patient have a known allergy?**

- ☐ No
- ☐ Yes
  - ☐ Drugs
  - ☐ Latex
  - ☐ Other: ____________________________

**Difficult airway or aspiration risk?**

- ☐ No
- ☐ Yes, and equipment/assistance available

**Risk of >500 mL blood loss**

- ☐ No
- ☐ Yes, and adequate intravenous access and fluids planned

**Blood bank notified and blood available?**

- ☐ No
- ☐ Yes
- ☐ Not applicable

**Conversion equipment readily available?**

(Robotic, minimally invasive cases)

- ☐ No
- ☐ Yes
- ☐ Not applicable

**SIGN (NURSING):** ____________________________

**SIGN (ANESTH):** ____________________________

## Before Skin Incision – TIME OUT

**Confirm all team members have introduced themselves by name and role.**

**Surgeon, anesthesia professional, and nurse verbally confirm:**

- ☐ Patient
- ☐ Procedure
- ☐ Perfusion temp.
- ☐ Prep protocol
- ☐ Site/Side
- ☐ Position
- ☐ Blood born path.
- ☐ Implants and equip.

**Anticipated Critical Events**

**Surgeon reviews:**

- ☐ Critical or unexpected steps, airway or ventilatory issues
- ☐ Operative duration, anticipated blood loss, fluid management

**Anesthesia team reviews:**

- ☐ Any patient-specific concerns

**Nursing team reviews:**

- ☐ If sterility (including indicator results) has been confirmed
- ☐ If there are any equipment issues or concerns

**Has antibiotic prophylaxis been given within the last 60 minutes?**

- ☐ Yes
- ☐ No
- ☐ Not applicable

**DVT prophylaxis?**

- ☐ Compression stockings
- ☐ Medication

**Is essential imaging displayed?**

- ☐ Yes
- ☐ No
- ☐ Not applicable

**SIGN (SURG):** ____________________________

## Before Patient Leaves Room – SIGN OUT

**Nurse verbally confirms with the team:**

- ☐ Name of the procedure
- ☐ That instrument, sponge, and needle counts are correct or not applicable

- ☐ Post pump antibiotic
- ☐ Medication/Drips

**Specimen labeling:**

- ☐ Verify patient name
- ☐ Number of specimens
- ☐ Specimen location description

**Are there any equipment problems to be addressed?**

- ☐ No
- ☐ Yes:

**Surgeon, anesthesia professional, and nurse:**

- ☐ Review the key concerns for recovery and management of this patient

**SIGN (NURSING):** ____________________________

**SIGN (SURG):** ____________________________

---

*Image from AmSect International 2018.*
Surgery for aortic dilation in patients with bicuspid aortic valves

A statement of clarification from the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines


Loree F. Hirakata, MD, FACC, FAHA, Chair, Mark A. Creager, MD, FACC, FAHA, Eric M. Iselbacher, MD, FACC, and Lars G. Svensson, MD, PhD, FACC


Writing Committee Members:*

Stephan D. Fihn, MD, MPH, Chair,1
James C. Blinkenship, MD, MHCM, MACC, FAHA, Vice Chair,2 Karen P. Alexander, MD, FACC, FAHA,3 John A. Bitt, MD, FACC,1
John G. Byrne, MD, FACC,1 Barbara J. Fletcher, RN, MN, FAHA,1
Gregg C. Fonarow, MD, FACC, FAHA,2 Richard A. Lange, MD, FACC, FAHA,3
Thomas N. Maddox, MD, MSc, FACC,3 F. Sibai S. Naid, MD, FACC, FSCAI,1 E. Magnus Ohman, MD, FACC,4 and Peter K. Smith, MD, FACC6

ACCA/AHA Task Force Members:

Jeffrey L. Anderson, MD, FACC, FAHA, Chair,1
Jonathan L. Halperin, MD, FACC, FAHA, Chair-Elect,2
Nancy M. Albert, PhD, RN, FAHA, Biyenkotzur, MD, FACC, FAHA,3 Ralph G. Brindis, MD, MPH, MACC, Lesley H. Curtis, PhD, MD, FACC,4
David D. Metes, PhD,5 Robert A. Guyton, MD, FACC,6
Judith S. Hochman, MD, FACC, FAHA,隼 Richard J. Kovacs, MD, FACC, FAHA,2
E. Magnus Ohman, MD, FACC, FAHA, Susan J. Plessier, PhD, RN, FAHA,2
Frank W. Sellke, MD, FACC, FAHA,7 and Win-Huang Shen, MD, FACC, FAHA,8

*Writing group members are required to receive themselves from voting or actions in which their specific relationships with industry and other entities may apply, see Appendix I for disclosure information. ACC/AHA Representatives: American Association for Thoracic Surgery Representative; Preventive Cardiovascular Nurses Association Representative; ACC/AHA Task Force on Performance Measurement Liaison; Society for Cardiovascular Angiography and Interventions Representative; ACC/AHA Task Force on Practice Guidelines Liaison; Society for Thoracic Surgery Liaison; and Transcatheter Valve Therapy Liaison. Members: American College of Cardiology, American Heart Association, American Society of Echocardiography, American College of Radiology, and American Society of Hyperthermia.


This document was approved by the American College of Cardiology Board of Trustees and Executive Committee, the American Heart Association Science Advisory and Coordinating Committee and the American Heart Association and Executive Committee in August 2013, and by the TCT peer review process.

The only comprehensive tab of author relationships with industry and other entities is available at http://www.cardio.org/clinical_guideline/TAD_VHID/ Cardio13/AuthorConflicts/AuthorConflicts.html.


http://www.cardio.org/clinical_guideline/TAD_VHID/Cardio13/AuthorConflicts/AuthorConflicts.html.


This document has been approved by the American College of Cardiology Board of Trustees and Executive Committee, the American Heart Association Science Advisory and Coordinating Committee and the American Heart Association and Executive Committee in August 2013, and by the TCT peer review process.

The only comprehensive tab of author relationships with industry and other entities is available at http://www.cardio.org/clinical_guideline/TAD_VHID/Cardio13/AuthorConflicts/AuthorConflicts.html.


This document has been approved by the American College of Cardiology Board of Trustees and Executive Committee, the American Heart Association Science Advisory and Coordinating Committee and the American Heart Association and Executive Committee in August 2013, and by the TCT peer review process.

The only comprehensive tab of author relationships with industry and other entities is available at http://www.cardio.org/clinical_guideline/TAD_VHID/Cardio13/AuthorConflicts/AuthorConflicts.html.


The only comprehensive tab of author relationships with industry and other entities is available at http://www.cardio.org/clinical_guideline/TAD_VHID/Cardio13/AuthorConflicts/AuthorConflicts.html.


The only comprehensive tab of author relationships with industry and other entities is available at http://www.cardio.org/clinical_guideline/TAD_VHID/Cardio13/AuthorConflicts/AuthorConflicts.html.


The only comprehensive tab of author relationships with industry and other entities is available at http://www.cardio.org/clinical_guideline/TAD_VHID/Cardio13/AuthorConflicts/AuthorConflicts.html.

Goal Statement

The goal of this project was to provide Perfusionists with a framework to guide safe and effective extracorporeal support care to their patients. AmSECT recommends that clinical teams use this document as a guide for developing institution-specific protocols for patients receiving extracorporeal support.

<table>
<thead>
<tr>
<th>Standard 7:</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 8:</td>
<td>Anticoagulation</td>
</tr>
<tr>
<td>Standard 9:</td>
<td>Gas Exchange</td>
</tr>
<tr>
<td>Standard 10:</td>
<td>Blood Flow</td>
</tr>
<tr>
<td>Standard 11:</td>
<td>Blood Pressure</td>
</tr>
<tr>
<td>Standard 12:</td>
<td>Protamine and Cardiotomy Suction</td>
</tr>
<tr>
<td>Standard 13:</td>
<td>Blood Management</td>
</tr>
<tr>
<td>Standard 14:</td>
<td>Level of Readiness</td>
</tr>
<tr>
<td>Standard 15:</td>
<td>Staffing</td>
</tr>
<tr>
<td>Standard 16:</td>
<td>Duty Hours</td>
</tr>
<tr>
<td>Standard 17:</td>
<td>Quality Assurance and Improvement</td>
</tr>
<tr>
<td>Standard 18:</td>
<td>Maintenance</td>
</tr>
</tbody>
</table>
The American Society of Extracorporeal Technology (AmSECT) has created the following document.

**Goal Statement**

The goal of this project was to provide perfusionists with a framework to guide safe and effective MCS care to their patients. AmSECT recommends that clinical teams use this document as a guide for developing institution-specific protocols for patients receiving MCS.

**Approach**

In 2012, the AmSECT Board of Directors (BOD) requested the MCS Committee to generate a MCS Standards and Guidelines document. In 2013, the MCS committee submitted a proposed MCS Standards and Guidelines to the BOD for review. Following that review, the document was shared with the perfusion community at AmSECT’s International conference in 2014. Based on feedback from conference attendees, the MCS Committee submitted a revised document to the membership for public comment. In December of 2015 the BOD requested the International Consortium for Evidence-Based Perfusion (ICEBP) Committee review the document. The feedback from the public comment and ICEBP review were incorporated into the document and again presented to the membership at AmSECT’s 54th International Conference in 2016. These Standards and Guidelines will be reviewed and updated as necessary or as deemed appropriate by AmSECT’s BOD.
Jointly Authored Standards and Guidelines

Click on the links below to access each jointly authored Clinical Practice Guidelines document. These documents were co-authored with the Society of Thoracic Surgeons (STS) and The Society of Cardiovascular Anesthesiologists (SCA).


STS/SCA/AmSECT: Clinical Practice Guidelines-- Inflammatory Response to Adult Cardiopulmonary Bypass (2014)

STS/SCA/AmSECT-- Blood Conservation (2011)
STS Clinical Practice Guidelines are intended to assist physicians and other health care providers in clinical decision-making by describing a range of generally acceptable approaches for the diagnosis, management, or prevention of specific diseases or conditions. These guidelines should not be considered inclusive of all proper methods of care or exclusive of other methods of care reasonably directed at obtaining the same results. Moreover, these guidelines are subject to change over time, without notice. The ultimate judgment regarding the care of a particular patient must be made by the physician in light of the individual circumstances presented by the patient.
Types of Guidelines

- National/Global
- Institutional
Types of Guidelines

- National/Regional
- Institutional
Institutional

- Ideally derived from national guidelines
- Tailored to fit institutional experience/culture
- Should be vetted/debated and agreed upon
- Success depends on buy-in and commitment
“The First Law of Improvement”

“Every system is perfectly designed to achieve exactly the results it gets.”

“Quality is a system property”

Don Berwick
2004 Men's Olympic Basketball Team

(Dream Team IV)

Best Players + Bad System = Bronze Medal
• Parts must be predictable

• Parts must be reliable
Cardiac Surgery System

Team approach
Cardiac Surgery System

Team approach

- Universal protocols and
- Treatment strategies
Patient Care Pathways

- Quality assessment
- Continuity of care
- Consistency of care
Cardiothoracic Surgery Service Manual
Principles and Practices

A Guide to Patient Management
Standards of Service Excellence

2010 - 2011 Edition

Edited by
David A. D’Alessandro, MD
Michael Gardocki, PA
Robert E. Michler, MD
Chairman, Department of Cardiothoracic Surgery
Montefiore Medical Center
Albert Einstein College of Medicine

Montefiore-Einstein
Heart Center | MONTEFIORE
**Division of Cardiac Surgery Clinical Practice Guidelines**

**Bedside Thoracotomy**

**Note:** Procedural guidelines describe the division standard of care and as such should never be deviated from unless specifically directed to do so by the Attending Surgeon or Intensivist.

- **Equipment:** ultrasound machine with curvilinear probe, Thoracostitis kit, sterile gown, gloves, and mask
- **Prerequisite lab/studies:** CXR or Chest CT confirming effusion, PT/INR, PTT, Platelets
- **Relative Contraindications:** Loculated pleural effusion, INR > 2.2, Platelet count < 100, presence of cutaneous infection of posterior trunk.
  - For INR > 2.2 or platelet count < 100 consider giving pre-procedural FFP or Platelets.
  - Discussion with surgeon or intensivist is required for any patient meeting any of the relative contraindications

**Details of the Procedure:**

1. **Review** CXR or Chest CT & labs
2. **Obtain consent for procedure**
3. **Position Patient:**
   - Sitting on the bed with legs dangling over the side
   - Leaning forward with arms resting on a tray table with 1-2 pillows for support
4. Utilize ultrasound probe to assess effusion and determine point of access
5. With a skin marking pen, mark the patient at site of intended entry. This should be 5-10 cm lateral to the spine on the affected side and should not be below the 9th rib.
6. Complete a pre-procedural time out confirming patient identity, the procedure, and the site of the procedure
7. Put on mask then gown and glove maintaining sterile technique
8. Clean the area with CHG and apply the sterile drape as well as the sterile ultrasound cover.
9. Using 25 gauge needle, place a wheal of 1% lidocaine along the superior edge of the rib that lies below the selected ICS. Switch to a 22 gauge needle and insert perpendicular to the rib. Find the rib with the needle and “walk” the needle up and over the rib, being careful not to penetrate the pleura more than 1-2 mm. Once you’ve cleared the rib thoroughly anesthetize the parietal pleura with lidocaine and withdraw the needle.
10. Attach the 8 French catheter over 18 gauge needle to the 60 cc syringe and advance the needle into the pleural space ensuring that you are directly over the rib, drawing back on the syringe until pleural fluid is seen. Advance the catheter into the pleural space

**Placement**

**Problem this policy addresses:** While air is seen in the duodenum, these tubes have been placed. Lung perfusion has occurred and has t

**Goal:** The goal of this policy is to eliminate not having tubes advanced blindly.

**At risk population:** This policy applies to intubated patients who cannot cough or s

**Patient assessment:** The need for a feeder and/or surgeon. Feeding tubes may omitted.

**Caution should be taken for patients with or other bleeding, Methods to reduce t

**Required by:**
- Lubrication
- Enteral feeding tube

**Mandatory Parts of the Procedure:**

1. Consent should be obtained for the patient, alternatives with the patie

2. Select a nostril for tube placement or

3. Advance the tube gently through the tape.

4. Obtain a portable chest x-ray. The airway. At 35 cm, if the tube were 2 cm and the tip would be within one of the main midline and not in the right or left main procedure.

5. For patients at INR > 2.0, disc

6. For patients at time intervals
   - IV HCG remov

**General F**

**Objective:** To define the indications for their removal.

**Note:** The guidelines below are for preclude or exclude "rule of practice.

**1. Management:**
   - a. When in use w
   - b. Once it is deemed
   - c. Once a patient
   - d. For patients w

2. **Removal Criteria:**
   - a. Media
   - b. Media
   - c. Hem
   - d. Plate
   - e. Activ
   - f. Activ
   - g. Activ
   - h. Activ

3. **Initiation & I:**
   - a. DVT
   - b. Activ

4. **Contraindications:**
   - a. Histi
   - b. Activ
   - c. Activ
   - d. Plate
   - e. Activ
   - f. Activ
   - g. Activ
   - h. Activ

5. **For patients:**
   - a. Fond
   - b. Activ
   - c. Activ
   - d. Plate
   - e. Activ
   - f. Activ
   - g. Activ
   - h. Activ

**Objective:** To assist clinical pro-epicardial pacing wires followi

**Note:** The guidelines below are for preclude or exclude "rule of practice.

**1. Management:**
   - a. When in use w
   - b. Once it is deemed
   - c. Once a patient
   - d. For patients w

2. **Removal Criteria:**
   - a. Media
   - b. Media
   - c. Hem
   - d. Plate
   - e. Activ
   - f. Activ
   - g. Activ
   - h. Activ

3. **Initiation & I:**
   - a. DVT
   - b. Activ

4. **Contraindications:**
   - a. Histi
   - b. Activ
   - c. Activ
   - d. Plate
   - e. Activ
   - f. Activ
   - g. Activ
   - h. Activ

5. **For patients:**
   - a. Fond
   - b. Activ
   - c. Activ
   - d. Plate
   - e. Activ
   - f. Activ
   - g. Activ
   - h. Activ

**Date Issued: September 2015**
**Date Revised: January 2017**

**Date Issued: December 2017**
**Date Revised: September 2015**

**Date Issued: October 2017**
**Date Revised: September 2015**

**Date Issued: September 2015**
**Date Revised: September 2015**

**Date Issued: September 2015**
**Date Revised: September 2015**

**Date Issued: September 2015**
**Date Revised: September 2015**

**Date Issued: September 2015**
**Date Revised: September 2015**

**Date Issued: September 2015**
**Date Revised: September 2015**

**Date Issued: September 2015**
**Date Revised: September 2015**
SUBJECT: Clinical Practice Guidelines for Cardiopulmonary Bypass (CPB) with Deep Hypothermic Circulatory Arrest (DHCA) in the Adult Patient


TITLE: Clinical Practice Guidelines for Cardiopulmonary Bypass (CPB) with Deep Hypothermic Circulatory Arrest (DHCA) in the Adult Patient

PURPOSE: To provide guidelines for the conduct of CPB utilizing DHCA. DHCA is used commonly for aortic arch and pulmonary thromboendarterectomy procedures. (See Appendix A) These guidelines are designed to supplement the guidelines “Cardiopulmonary Bypass (CPB) Clinical Practice Guidelines for the Adult Patient”. These guidelines include the following aspects of care:

I. Monitoring  
II. Dual arterial lines  
III. Cooling procedures  
IV. Warm beating heart  
V. Circulatory arrest procedures  
VI. Antegrade cerebral perfusion procedures  
VII. Retrograde cerebral perfusion procedures  
VIII. Visceral perfusion procedures  
IX. Rewarming procedures  
X. Definition of times

RESPONSIBILITY/AUTHORITY:
A board certified or board-eligible licensed cardiovascular perfusionist who demonstrates competency will provide perfusion services for CPB procedures. The Director of Perfusion Services under the guidance and direction of the Division Chief of Cardiac Surgery will provide immediate supervision.

GUIDELINES:

SUBJECT: Cardiopulmonary Bypass (CPB) Clinical Practice Guidelines for the Adult Patient

DATE ISSUED: March 27, 2013    DATE REVISED: November, 2017   DATE REVIEWED: November, 2017

TITLE: Cardiopulmonary Bypass (CPB) Clinical Practice Guidelines for the Adult Patient

PURPOSE: To provide guidelines for the conduct of mild or moderately hypothermic and normothermic CPB. These guidelines are reviewed and revised annually or more frequently when necessary. This guideline includes the following aspects of care:

I. Pre-CPB Procedures  
II. Initiation of CPB  
III. Management of CPB  
IV. Weaning from CPB

RESPONSIBILITY/AUTHORITY:
A board certified or board-eligible licensed cardiovascular perfusionist who demonstrates competency will provide perfusion services for CPB procedures. Competency will be assessed annually to evaluate compliance with departmental guidelines. The Director of Perfusion Services under the guidance and direction of the Division Chief of Cardiac Surgery will provide immediate supervision.

The “n+1” staffing model will be utilized at all times, where “n” equals the number of operating/procedure rooms in use at any given time.

GUIDELINES:
Red Rules
(“the new ABC’s of Cardiac Surgery”)

*These are the absolute indications (but not the only indications) for contacting the ATTENDING SURGEON, regardless of role or intensivist involvement. When an Intensivist is present they will contact the Surgeon or delegate a representative to do so on their behalf.

A. ACUTE NEUROLOGICAL CHANGES: (Seizure, stroke, new motor or sensory signs or symptoms)

   ACIDOSIS: Any pH < 7.25

B. BREATHING: Initiation of BiPAP or Intubation, RR > 30 or Sat < 90% x 15 minutes

   BLEEDING: Chest tube output >300 ml in 1 hr, > 200 ml/hr for 2 consecutive hours, 1 liter total in 6 hours, or first time receiving any blood product.

C. CARDIOVASCULAR: CI <2.0 x 2, an increase in Levophed of 10 mcg/min over a period of up to 2 hours, or the addition of a new Pressor or Inotrope.

CONCERN: any member of the team is concerned.
Note: The guidelines below are for the majority of our patients and as such the Attending Surgeon may elect to deviate from them if they so choose. Additionally this protocol does not preclude nor exclude sound clinical judgment and should not be misinterpreted as a standing “rule” of practice.
Preoperative

- Variability among surgeons
- Delays in surgery
- Extended preoperative LOS
- Unnecessary extractions/morbidity

Dental Evaluation
Preoperative

Review of national guidelines
Review of available data
Faculty discussion
New Policy
How do we measure quality?

- Mortality
- Morbidity
- Length of stay
- Use of mammary
- Preoperative use of B Blocker
- Postoperative use of BB, ASA, statin
- Patient satisfaction
- Referring satisfaction
How do we improve?

Must continually examine each step of the process
Summary

• Clinical guidelines are a resource for practitioners and should be carefully considered in the development of Institutional guidelines
• High performing clinical teams utilize universal care pathways and treatment algorithms
• Good systems and standardization of practice drives quality