



## Complete Summary

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### GUIDELINE TITLE

Gender-specific practice guidelines for coronary artery bypass surgery.

### BIBLIOGRAPHIC SOURCE(S)

Society of Thoracic Surgeons (STS). Gender-specific practice guidelines for coronary artery bypass surgery. Chicago (IL): Society of Thoracic Surgeons (STS); 2004. 20 p. [48 references]

### GUIDELINE STATUS

This is the current release of the guideline.

## COMPLETE SUMMARY CONTENT

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## SCOPE

### DISEASE/CONDITION(S)

Conditions requiring CABG (coronary artery bypass graft) surgery

### GUIDELINE CATEGORY

Management

### CLINICAL SPECIALTY

Anesthesiology  
Cardiology  
Thoracic Surgery

## **INTENDED USERS**

Physicians

## **GUIDELINE OBJECTIVE(S)**

- 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
- To present gender-specific practice guidelines for coronary artery bypass surgery (CABG)

## **TARGET POPULATION**

Female patients requiring CABG (coronary artery bypass graft) surgery

## **INTERVENTIONS AND PRACTICES CONSIDERED**

1. Use of internal mammary artery in CABG (coronary artery bypass graft surgery)
2. Management of hyperglycemia
3. Management of anemia
4. Off-pump coronary artery bypass graft surgery
5. Management of anesthetic and sedation medications
6. Optimization of thyroxine treatment
7. Preoperative hormone replacement therapy (HRT) (not recommended)

## **MAJOR OUTCOMES CONSIDERED**

Morbidity and mortality associated with coronary artery bypass surgery (CABG)

## **METHODOLOGY**

### **METHODS USED TO COLLECT/SELECT EVIDENCE**

Searches of Electronic Databases

### **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

Not stated

### **NUMBER OF SOURCE DOCUMENTS**

Not stated

### **METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE**

Weighting According to a Rating Scheme (Scheme Given)

## **RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE**

### **Level of Evidence**

**Level A:** Data derived from multiple randomized clinical trials

**Level B:** Data derived from a single randomized trial or from nonrandomized trials

**Level C:** Consensus expert opinion

## **METHODS USED TO ANALYZE THE EVIDENCE**

Review

## **DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE**

Not stated

## **METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Expert Consensus

## **DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Not stated

## **RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS**

### **Classification of Recommendations**

**Class I:** Conditions for which there is evidence and/or general agreement that a given procedure is useful and effective.

**Class II:** Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure.

II.a.: Weight of evidence favors usefulness/efficacy

II.b.: Usefulness/efficacy is less well established by evidence

**Class III:** Conditions for which there is evidence and/or general agreement that the procedure is not useful/effective.

## **COST ANALYSIS**

A formal cost analysis was not performed and published cost analyses were not reviewed.

## **METHOD OF GUIDELINE VALIDATION**

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

The levels of evidence (A-C) and classification of recommendations (I-III) are defined at the end of the "Major Recommendations" field.

1. **Use of the Internal Mammary Artery**
  - **Guideline Panel Conclusion:** Use of the internal mammary artery is underutilized in women undergoing coronary artery bypass graft (CABG) procedures. The internal mammary artery confers a protective effect that is associated with a significant reduction in CABG mortality as compared to surgical revascularization with venous conduits alone.
  - **Ideal Clinical Practice:** Whenever it is technically possible, at least one internal mammary artery is used in every coronary artery bypass graft (CABG) procedure to bypass a stenotic coronary artery. **Class I, Level B**
2. **Management of Hyperglycemia**
  - **Guideline Panel Conclusion:** Perioperative blood glucose levels > 150 mg/dl are associated with increased operative morbidity and mortality.
  - **Ideal Clinical Practice:** Perioperative blood glucose levels are maintained in the range of 100-150 mg/dl. **Class I, Level B**
3. **Management of Anemia**
  - **Guideline Panel Conclusion:** Intraoperative hematocrit levels below 22% are associated with an increased incidence of adverse events.
  - **Ideal Clinical Practice:** Efforts are made to ensure adequate intraoperative hematocrit levels. **Class IIa, Level B**
4. **Use of Off-Pump CABG (off-pump coronary artery bypass [OPCAB])**
  - **Guideline Panel Conclusion:** There is no evidence to firmly establish the superiority of OPCAB over conventional CABG in the female patient
  - **Ideal Clinical Practice:** The indications for off-pump coronary artery bypass surgery are the same for women as for men. **Class IIa, Level B**
5. **Adjustment of anesthetic and sedation medications**
  - **Guideline Panel Conclusion:** Failure to account for body size when administering anesthetic and sedative drugs may over-medicate smaller patients.
  - **Ideal Clinical Practice:** Anesthetic management and sedative utilization during the perioperative period are tailored to body size. **Class IIb, Level C**
6. **Optimization of thyroxine treatment for women with hypothyroidism**
  - **Guideline Panel Conclusion:** Low intraoperative levels of levothyroxine and free thyroxin are associated with a high CABG mortality in hypothyroid women.

- **Ideal Clinical Practice:** Hypothyroid women undergoing CABG are maintained in a euthyroid state during surgery. **Class IIa, Level C**
7. **Consideration of preoperative hormone replacement therapy (HRT)**
- **Guideline Panel Conclusion:** HRT is linked to several complications including serious thromboembolic events. Its use in CABG procedures is of questionable value.
  - **Ideal Clinical Practice:** Hormone replacement therapy is not used for postmenopausal women undergoing CABG. **Class III, Level B**

**Definitions:**

**Level of Evidence**

**Level A:** Data derived from multiple randomized clinical trials

**Level B:** Data derived from a single randomized trial or from nonrandomized trials

**Level C:** Consensus expert opinion

**Classification of Recommendations**

**Class I:** Conditions for which there is evidence and/or general agreement that a given procedure is useful and effective.

**Class II:** Conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of a procedure.

II.a. Weight of evidence favors usefulness/efficacy

II.b. Usefulness/efficacy is less well established by evidence

**Class III:** Conditions for which there is evidence and/or general agreement that the procedure is not useful/effective.

**CLINICAL ALGORITHM(S)**

None provided

**EVIDENCE SUPPORTING THE RECOMMENDATIONS**

**TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS**

The type of evidence supporting the recommendations is specifically stated for each recommendation (see 'Major Recommendations' field).

**BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS**

**POTENTIAL BENEFITS**

Appropriate perioperative management to improve coronary artery bypass graft (CABG) outcomes, particularly in women

#### **POTENTIAL HARMS**

Not stated

### **CONTRAINDICATIONS**

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The use of the internal mammary artery should be avoided when confronted with a soft, friable sternum that predisposes to sternal dehiscence.

### **QUALIFYING STATEMENTS**

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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.

### **IMPLEMENTATION OF THE GUIDELINE**

#### **DESCRIPTION OF IMPLEMENTATION STRATEGY**

An implementation strategy was not provided.

### **INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES**

#### **IOM CARE NEED**

Getting Better

#### **IOM DOMAIN**

Effectiveness

### **IDENTIFYING INFORMATION AND AVAILABILITY**

#### **BIBLIOGRAPHIC SOURCE(S)**

Society of Thoracic Surgeons (STS). Gender-specific practice guidelines for coronary artery bypass surgery. Chicago (IL): Society of Thoracic Surgeons (STS); 2004. 20 p. [48 references]

**ADAPTATION**

Not applicable: The guideline was not adapted from another source.

**DATE RELEASED**

2004

**GUIDELINE DEVELOPER(S)**

Society of Thoracic Surgeons - Medical Specialty Society

**SOURCE(S) OF FUNDING**

Society of Thoracic Surgeons

**GUIDELINE COMMITTEE**

Workforce on Evidence-Based Surgery

**COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE**

Not stated

**FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST**

Not stated

**GUIDELINE STATUS**

This is the current release of the guideline.

**GUIDELINE AVAILABILITY**

Electronic copies: Available in Portable Document Format (PDF) from the [Society of Thoracic Surgeons Web site](#).

Print copies: Available from The Society of Thoracic Surgeons, 633 N. Saint Clair St., Suite 2320, Chicago, IL, USA 60611-3658

**AVAILABILITY OF COMPANION DOCUMENTS**

None available

**PATIENT RESOURCES**

None available

## **NGC STATUS**

This NGC summary was completed by ECRI on March 25, 2005. The information was verified by the guideline developer on April 18, 2005.

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