Complete Summary

GUIDELINE TITLE

Acute coronary syndromes: 2005 International Consensus Conference on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations.

BIBLIOGRAPHIC SOURCE(S)

Acute coronary syndromes. In: 2005 International Consensus Conference on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Circulation 2005 Nov 29;112(22 Suppl):III55-72. [354 references]

GUIDELINE STATUS

This is the current release of the guideline.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- February 28, 2008, Heparin Sodium Injection: The U.S. Food and Drug Administration (FDA) informed the public that Baxter Healthcare Corporation has voluntarily recalled all of their multi-dose and single-use vials of heparin sodium for injection and their heparin lock flush solutions. Alternate heparin manufacturers are expected to be able to increase heparin production sufficiently to supply the U.S. market. There have been reports of serious adverse events including allergic or hypersensitivity-type reactions, with symptoms of oral swelling, nausea, vomiting, sweating, shortness of breath, and cases of severe hypotension.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Acute coronary syndromes/acute myocardial infarction

GUIDELINE CATEGORY

Management
Prevention
Treatment

CLINICAL SPECIALTY

Cardiology
Emergency Medicine
Family Practice
Internal Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Emergency Medical Technicians/Paramedics
Health Care Providers
Hospitals
Nurses
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

To review the evidence and provide guidance on the diagnosis and treatment of acute coronary syndromes (ACS)/acute myocardial infarction (AMI) in the out-of-hospital setting and the first hours of care in the in-hospital setting, typically in the emergency department

TARGET POPULATION

Individuals with acute coronary syndromes (ACS)/acute myocardial infarction (AMI)

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. Assessment of signs and symptoms
2. Cardiac biomarker measurement
3. Assessment of risk factors
4. Interpretation of 12-lead electrocardiogram (ECG) for ST-segment elevation myocardial infarction

Treatment

1. Oxygen therapy
2. Aspirin
3. Low-molecular-weight heparin (LMWH)
4. Unfractionated heparin (UFH)
5. Clopidogrel
6. Glycoprotein IIb/IIIa inhibitors
7. Fibrinolytics (out-of-hospital and emergency department)
8. Percutaneous coronary intervention (PCI) versus emergency department or out-of-hospital fibrinolytics
9. Beta-blockers
10. Anti-arrhythmics (considered but not recommended routinely)
11. Angiotensin-converting enzyme (ACE) inhibitors
12. 3-Hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors (statins)

Management

1. 12-Lead out-of-hospital ECG and advance Emergency Department notification
2. Interfacility transfer for primary PCI
3. Out-of-hospital triage for PCI

MAJOR OUTCOMES CONSIDERED

- Mortality rate
- Rate of major adverse cardiovascular events (reinfarction, stroke, ventricular fibrillation, supraventricular arrhythmias)
- Risk of hemorrhage
- Sensitivity and specificity of diagnostic tests

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

All reviewers were instructed to search their allocated questions broadly. Reviewers documented their search strategies to ensure reproducibility of the

search. The minimum electronic databases searched included the Cochrane database for systematic reviews and the Central Register of Controlled Trials (http://www.cochrane.org/), MEDLINE (http://www.ncbi.nlm.nih.gov/PubMed/), EMBASE (www.embase.com), and the master reference library collated by the American Heart Association (AHA). To identify the largest possible number of relevant articles, reviewers were also encouraged to perform hand searches of journals, review articles, and books as appropriate.

The reviewers documented the mechanism by which studies relevant to the hypothesis were selected. Specific study inclusion and exclusion criteria and study limitations were documented. Inclusion of all relevant evidence (from animal and manikin/model studies as well as human studies) was encouraged.

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

Levels of Evidence

Level 1: Randomized clinical trials or meta-analyses of multiple clinical trials with substantial treatment effects

Level 2: Randomized clinical trials with smaller or less significant treatment effects

Level 3: Prospective, controlled, nonrandomized cohort studies

Level 4: Historic, nonrandomized cohort or case-control studies

Level 5: Case series; patients compiled in serial fashion, control group lacking

Level 6: Animal studies or mechanical model studies

Level 7: Extrapolations from existing data collected for other purposes, theoretical analyses

Level 8: Rational conjecture (common sense); common practices accepted before evidence-based guidelines

Note: In the evaluation of evidence for diagnostic accuracy the reviewers used the Centre for Evidence-Based Medicine (CEBM) levels of evidence for diagnostic tests (http://www.cebm.net/levels_of_evidence.asp), which are different from those given above.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

A worksheet template was provided with step-by-step directions to help the experts document their literature review, evaluate studies, and determine levels of evidence. When possible, 2 expert reviewers were recruited to undertake independent evaluations for each topic.

Assessing the Quality of Evidence

In this step reviewers were asked to determine the level of evidence of relevant studies (Step 2A), assess the quality of study research design and methods (Step 2B), determine the direction of results (Step 2C), and cross-tabulate assessed studies (Step 2D).

The levels of evidence used for the 2005 consensus process were modified from those used in 2000. In many situations summary conclusions were based on lower levels of evidence because human clinical trial data was not available. The reviewers assessed the quality of research design and methods and allocated each study to 1 of 5 categories: excellent, good, fair, poor, or unsatisfactory. Studies graded as poor or unsatisfactory were excluded from further analysis.

Reviewers evaluated the direction of the study results as supportive, neutral, or opposed and then depicted the data in 1 of 2 grids. The grids were 2-dimensional, showing quality and levels of evidence. The reviewers completed a Supporting Evidence grid and a Neutral or Opposing Level of Evidence grid.

Controversies Encountered

Studies on Related Topics (Level of Evidence [LOE] 7)

Many reviewers identified studies that answered related questions but did not specifically address the reviewer's initial hypothesis. Examples include the extrapolation of adult data for pediatric worksheets and extrapolation of the results of glucose control in critically ill patients to the postresuscitation setting. Worksheet reviewers were instructed to clearly designate evidence that represented extrapolations. Reviewers could designate such studies as LOE 7, or they could assign a level of evidence based on the study design but include terms such as "extrapolated from" with specific relevant details in the draft consensus on science statements to indicate clearly that these were extrapolations from data collected for other purposes.

Animal Studies and Mechanical Models

Animal studies can be performed under highly controlled experimental conditions using extremely sophisticated methodology. Irrespective of methodology, all animal studies and all studies involving mechanical models (e.g., manikin studies)

were classified as LOE 6. Specific details about these studies (including methodology) are included in the summary of science where appropriate.

Studies Evaluating Diagnosis or Prognosis

The default levels of evidence used for the 2005 consensus process were not designed for the review of studies that evaluate diagnosis or prognosis. For these studies other methods of assigning levels of evidence were considered (such as those proposed by the Oxford Centre for Evidence-Based Medicine [http://www.cebm.net/]). Worksheet reviewers planning to include alternative levels of evidence were asked to define such levels clearly and to retain the default levels of evidence.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus
Expert Consensus (Consensus Development Conference)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Worksheet reviewers created a summary of the science. In the summary format reviewers were encouraged to provide a detailed discussion of the evidence, including the outcomes evaluated and the strengths and limitations of the data.

The final step in the science summary process was the creation of draft consensus on science statements and treatment recommendations. Statement templates were provided to standardize the comprehensive summary of information. Elements of the consensus on science statement template included the specific intervention or assessment tool, number of studies, levels of evidence, clinical outcome, population studied, and the study setting. Elements of the treatment recommendation template included specific intervention or assessment tool, population and setting, and strength of recommendation.

The statements drafted by the reviewers in the worksheets reflect the recommendations of the reviewers and may or may not be consistent with the conclusions of the 2005 Consensus Conference.

All 380 participants at the 2005 Consensus Conference received a copy of the worksheets on CD-ROM. Expert reviewers presented topics in plenary, concurrent, and poster conference sessions. Presenters and participants then debated the evidence, conclusions, and draft summary statements. Each day the most controversial topics from the previous day, as identified by the task force chairs, were presented and debated in one or more additional sessions. The International Liaison Committee on Resuscitation (ILCOR) task forces met daily during the conference to discuss and debate the experts' recommendations and develop interim consensus science statements. Each science statement summarized the experts' interpretation of all the relevant data on a specific topic. Draft treatment recommendations were added if a consensus was reached.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

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

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Completed worksheets were posted on the Internet for further review. The initial process involved posting the worksheet to a password-protected area of the American Heart Association Intranet (accessible to worksheet reviewers). In December 2004 the completed worksheets were posted on an Internet site that could be accessed by the public for further review and feedback before the 2005 Consensus Conference in Dallas (www.C2005.org).

Wording of science statements and treatment recommendations was refined after further review by International Liaison Committee on Resuscitation (ILCOR) member organizations and the international editorial board. This format ensured that this final document represents a truly international consensus process.

The manuscript was ultimately approved by all ILCOR member organizations and by an international editorial board. The American Heart Association (AHA) Science Advisory and Coordinating Committee and the editor of *Circulation* obtained peer reviews of this document before it was accepted for publication. The document is being published simultaneously in *Circulation* and *Resuscitation*, although the version in *Resuscitation* does not include the sections on stroke and first aid.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Diagnostic Tests in Acute Coronary Syndromes (ACS) and Acute Myocardial Infarction (AMI)

Diagnostic and Prognostic Test Characteristics of Signs and Symptoms of ACS/AMI

Signs and symptoms of ACS/AMI may be useful in combination with other important information (biomarkers, risk factors, electrocardiogram [ECG], and other diagnostic tests) in making triage and some treatment and investigational decisions in the out-of-hospital setting and the Emergency Department (ED). Signs and symptoms are not independently diagnostic of ACS/AMI.

Diagnostic and Prognostic Test Characteristics of Cardiac Biomarkers for ACS/AMI

Emergency physicians should obtain cardiac biomarkers for all patients with suspected ACS/AMI. Serial time points (increasing interval from onset of symptoms to testing), and multimarker strategies greatly improve sensitivity for detection of myocardial ischemia or infarction but are insensitive for ruling out these diagnoses in the out-of-hospital setting or within the first 4 to 6 hours of evaluation in the ED.

ED Interpretation of 12-Lead ECG for ST-Elevation Myocardial Infarction (STEMI)

Out-of-Hospital

Trained out-of-hospital personnel can accurately identify acute STEMI in prehospital 12-lead ECGs obtained in patients with ACS. The ECG is used in combination with chest pain symptoms, assessment of risk factors, and other diagnostic tests to rule out alternative diagnoses. Out-of-hospital interpretation of a single 12-lead ECG with stringent inclusion criteria (i.e., ST elevation >0.1 mV in 2 or more adjacent precordial leads or 2 or more adjacent limb leads and with reciprocal depression) has a high specificity for the diagnosis of STEMI.

ED

In the ED the interpretation of a single 12-lead ECG with rigid inclusion criteria (see above) is discriminating for the diagnosis of STEMI with a relatively low sensitivity but a high specificity for this diagnosis.

Acute Therapeutic Interventions

Adjunctive Therapies

Oxygen Therapy

Supplementary oxygen should be given to patients with arterial oxygen desaturation (arterial oxygen saturation [SaO2] <90%). Given the safety profile of oxygen in this population and the potential benefit in the patient with unrecognized hypoxia, it is reasonable to give supplementary oxygen to all patients with uncomplicated STEMI during the first 6 hours of emergency management.

Aspirin (Acetylsalicylic Acid)

It is reasonable for dispatchers to advise the patient with suspected ACS and without a true aspirin allergy to chew a single dose (160 to 325 mg) of aspirin (ASA). It is also reasonable for emergency medical services (EMS) providers to administer ASA because there is good evidence that it is safe and that the earlier ASA is given, the greater the reduction in risk of mortality. Limited evidence from several very small studies suggests that the bioavailability and pharmacologic

action of other formulations of ASA (soluble, IV) may be as effective as chewed tablets.

Heparins

Unstable angina (UA)/Non-STEMI (NSTEMI). In the ED giving low-molecular-weight heparin (LMWH) instead of unfractionated heparin (UFH) in addition to aspirin to patients with UA/NSTEMI may be helpful. There is insufficient evidence to identify the optimal time for administration after onset of symptoms. In-hospital administration of UFH is recommended if reperfusion is planned within the first 24 to 36 hours after onset of symptoms. There is insufficient evidence to recommend for or against treatment with LMWH in UA/NSTEMI in the out-of-hospital setting. Changing from one form of heparin to another (crossover of antithrombin therapy) during an acute event is not recommended.

STEMI. LMWH is an acceptable alternative to UFH as ancillary therapy for patients with STEMI who are <75 years of age and receiving fibrinolytic therapy. LMWH should not be given if significant renal dysfunction (serum creatinine >2.5 mg/dL in men or 2 mg/dL in women) is present. UFH is recommended for patients ≥75 years of age as ancillary therapy to fibrinolysis. Heparin may be given to STEMI patients who do not receive reperfusion therapy. These include patients at high risk for cardioembolic events and those on prolonged bedrest. UFH or LMWH may be used. Patients receiving LMWH should have no significant renal dysfunction.

Clopidogrel

Give a 300-mg oral loading dose of clopidogrel in addition to standard care (ASA, heparin) to patients with ACS within 4 to 6 hours of contact if they have:

- A rise in serum cardiac biomarkers or new ECG changes consistent with ischemia when a medical approach or percutaneous coronary intervention (PCI) is planned in the absence of ST-segment elevation
- STEMI in patients up to 75 years of age receiving fibrinolysis, ASA, and heparin

Although in one large trial (Budaj et al., 2002) preoperative clopidogrel administration was associated with increased postoperative reoperation for bleeding, the recent CLARITY TIMI 28 trial (Sabatine et al., 2005) did not document increased bleeding in patients undergoing coronary artery bypass graft (CABG) within 5 to 7 days of receiving clopidogrel. Current American College of Cardiology/American Heart Association (ACC/AHA) recommendations (Antman et al., 2004) advise withholding clopidogrel for 5 to 7 days before planned CABG.

It is reasonable to give clopidogrel 300 mg orally to patients with suspected ACS (without ECG or cardiac marker changes) who have hypersensitivity to or gastrointestinal intolerance of ASA.

Glycoprotein (GP) IIb/IIIa Inhibitors

High-risk UA/NSTEMI. If revascularization therapy (PCI or surgery) is planned, it is safe to give GP IIb/IIIa inhibitors in addition to standard therapy (including ASA

and heparin) to patients with high-risk UA/NSTEMI in the ED. This therapy may reduce the risk of death or recurrent ischemia. High-risk features of UA/NSTEMI are defined in the consensus on science statement in the original guideline document. If revascularization therapy is not planned, the recommendation for use of GP IIb/IIIa varies by drug. Tirofiban and eptifibatide may be used in patients with high-risk UA/NSTEMI in conjunction with ASA and LMWH if PCI is not planned. But abciximab can be harmful in patients with high-risk UA/NSTEMI if early (e.g., 24 hours) PCI is not planned.

STEMI. Abciximab is not currently recommended in patients receiving fibrinolytics for STEMI. In patients treated with PCI without fibrinolysis, abciximab may be helpful in reducing mortality rates and short-term reinfarction. There is no evidence documenting a better outcome by giving GP IIb/IIIa inhibitors out of hospital or early in the ED.

Reperfusion Strategies

Out-of-Hospital Fibrinolytics for STEMI

Out-of-hospital administration of fibrinolytics by paramedics, nurses, or physicians using an established protocol is safe and feasible for patients with STEMI and no contraindications. This requires adequate provisions for the diagnosis and treatment of STEMI and its complications, including strict treatment directives, fibrinolytic checklist, ECG acquisition and interpretation, defibrillators, experience in advanced cardiac life support (ACLS) protocols, and the ability to communicate with medical control. Physicians may give out-of-hospital fibrinolytics to patients with symptoms compatible with ACS and signs of true posterior infarctions (no ST elevation).

Fibrinolytics in the ED Management of STEMI

In the ED patients with symptoms of ACS and ECG evidence of either STEMI, (presumably) new left bundle branch block (LBBB), or true posterior infarction should be given fibrinolytics if fibrinolysis is the treatment of choice and there are no contraindications. The emergency physician should give fibrinolytics as early as possible according to a predetermined protocol.

Primary PCI Compared With ED or Out-of-Hospital Fibrinolysis

All patients presenting with STEMI within 12 hours of the onset of symptoms should be evaluated for reperfusion therapy (i.e., fibrinolysis or PCI).

Primary PCI is the preferred reperfusion strategy in STEMI with symptom duration >3 hours if a skilled team can perform primary PCI in $\leq$90 minutes after first medical contact with the patient or if there are contraindications to fibrinolysis.

If the duration of symptoms is $\leq$3 hours, treatment is more time-sensitive, and the superiority of out-of-hospital fibrinolysis, immediate in-hospital fibrinolysis, or transfer for primary PCI is not established (see below for recommendation concerning transfer).

Early revascularization (i.e., surgery, primary or early PCI, defined as PCI $\leq$24 hours after fibrinolysis) is reasonable in patients with cardiogenic shock, especially for patients <75 years of age.

Primary and Secondary Prevention Interventions

Antiarrhythmics

There is insufficient evidence to support the routine use of any antiarrhythmic drug as primary prophylaxis within the first 4 hours of proven or suspected AMI. This conclusion does not take into account the potential effect of beta-beta-blockers (see below).

Beta-Blockers

In the ED treat ACS patients promptly with IV beta-blockers followed by oral beta-blockers. Beta-blockers are given irrespective of the need for revascularization therapies. Contraindications to beta-blockers include hypotension, bradycardia, heart block, moderate to severe congestive heart failure, and reactive airway disease.

Angiotensin-Converting Enzyme (ACE) Inhibitors

Start an oral ACE inhibitor within 24 hours after onset of symptoms in patients with MI whether or not early reperfusion therapy is planned. Do not give an ACE inhibitor if the patient has hypotension (systolic blood pressure <100 mm Hg or more than 30 mm Hg below baseline) or if the patient has a known contraindication to these drugs. ACE inhibitors are most effective in patients with anterior infarction, pulmonary congestion, or left ventricular ejection fraction <40%.

There is no evidence to recommend for or against starting ACE inhibitors in the out-of-hospital setting. Avoid giving IV ACE inhibitors within the first 24 hours after onset of symptoms because they can cause significant hypotension during this phase.

HMG CoA (3-Hydroxy-3-Methylglutaryl-Coenzyme A) Reductase Inhibitors (Statins)

It is safe and feasible to start statin therapy early (within 24 hours) in patients with ACS or AMI; once started, continue statin therapy uninterrupted.

Healthcare System Interventions for ACS/AMI

12-Lead Out-of-Hospital ECG and Advance ED Notification

Routine use of the 12-lead out-of-hospital ECG with advance ED notification may benefit STEMI patients by reducing the time interval to fibrinolysis.

Advance ED notification may be achieved with direct transmission of the ECG itself or verbal report (via telephone) of the ECG interpretation by out-of-hospital personnel.

Interfacility Transfer for Primary PCI

For patients with STEMI presenting >3 hours but <12 hours from the onset of symptoms, interfacility transfer from hospitals that lack primary PCI capability to centers capable of providing primary PCI is indicated if such a transfer can be accomplished as soon as possible. Optimally PCI should occur ≤90 minutes from first medical contact (i.e., contact with a healthcare provider who can make the decision to treat or transfer).

In patients with STEMI presenting ≤3 hours from onset of symptoms, treatment is more time-sensitive, and there is inadequate data to indicate the superiority of out-of-hospital fibrinolysis, immediate hospital fibrinolysis, or transfer for primary PCI.

The time recommendations do not apply to patients in cardiogenic shock. In such patients the evidence supports early revascularization therapy (primary PCI, early PCI, or surgery) compared with medical therapy.

Out-of-Hospital Triage for PCI

There is some limited evidence to recommend out-of-hospital triage for primary PCI for patients with uncomplicated STEMI who are ≤60 minutes away from a PCI site in systems that use Mobile Intensive Care Unit (MICUs) with physicians on board with the proviso that the delay from decision to treat to balloon inflation is ≤90 minutes. Further studies are required to define appropriate triage and transport criteria.

Interfacility Transfer for Early PCI

There is inadequate evidence to recommend the routine transfer of patients for early PCI after successful fibrinolysis in community hospital EDs or out of hospital.

Transfer for early PCI is recommended as one strategy for early revascularization for patients with cardiogenic shock, especially patients <75 years of age; or with hemodynamic instability or persistent symptoms of ischemia after fibrinolysis.

CLINICAL ALGORITHM(S)

The International Liaison Committee on Resuscitation (ILCOR) Universal Cardiac Arrest Algorithm is provided in the "Introduction" section of the original guideline document (see "Availability of Companion Documents" field).

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is not specifically stated.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate treatment of acute coronary syndromes, resulting in an improved survival rate and decrease risk of reinfarction

POTENTIAL HARMS

Side effects of therapy

CONTRAINDICATIONS

CONTRAINDICATIONS

Contraindications to beta-blockers include hypotension, bradycardia, heart block, moderate to severe congestive heart failure, and reactive airway disease.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This document summarizes current evidence for the recognition and response to sudden life-threatening events, particularly sudden cardiac arrest in victims of all ages. The broad range and number of topics reviewed and the inevitable limitations of journal space require succinctness in science statements and, where recommendations were appropriate, brevity in treatment recommendations. This is not a comprehensive review of every aspect of resuscitation medicine; some topics were omitted if there was no evidence or no new information.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Clinical Algorithm

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Timeliness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Acute coronary syndromes. In: 2005 International Consensus Conference on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Circulation 2005 Nov 29;112(22 Suppl):III55-72. [354 references]

ADAPTATION

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

DATE RELEASED

2005 Nov 29

GUIDELINE DEVELOPER(S)

American Heart Association - Professional Association

SOURCE(S) OF FUNDING

American Heart Association

GUIDELINE COMMITTEE

International Liaison Committee on Resuscitation (ILCOR)

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

A robust conflict of interest policy was developed to ensure full disclosure of potential conflicts and to protect the objectivity and credibility of the evidence

evaluation and consensus development process. This policy is described in detail in an editorial companion document (see "Availability of Companion Documents" field). Representatives of manufacturers and industry did not participate in this conference.

Potential conflicts of interest of the editorial board are listed in Appendix 3 of the original guideline document (see "Availability of Companion Documents" field). Potential conflicts of interest of the worksheet authors are noted in the worksheets and can be accessed through the links to the worksheets contained in the original guideline document. All 380 attendees were required to complete forms in order to document their potential conflicts of interest. Most attendees were also worksheet authors. The information from the conflict of interest forms completed by all conference attendees, including worksheet authors, can also be accessed at the website http://circ.ahajournals.org/content/vol112/22_suppl/#APPENDIX. Readers of the print version can also access the statements at the American Heart Association website: www.C2005.org.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Heart Association Web site.

Print copies: Available from the American Heart Association, Public Information, 7272 Greenville Ave, Dallas, TX 75231-4596; Phone: 800-242-8721

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Introduction. 2005 International Consensus Conference on Cardiopulmonary Consensus Conference on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Circulation 2005 Nov 29;112(22 Supplement):III-1-III-4.
- The evidence evaluation process for the 2005 International Consensus Conference on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Circulation 2005 Nov 29;112(22 Supplement):III-128-III-130.
- Conflict of interest management before, during, and after the 2005 International Consensus Conference on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Circulation 2005 Nov 29;112(22 Supplement):III-131-III-132.
- Controversial topics from the 2005 International Consensus Conference on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Circulation 2005 Nov 29;112(22 Supplement):III-133-III-136.
- Appendix 1: Worksheet topics and authors. Circulation 2005 Nov 29;112(22 Supplement):B1-B14.

- Appendix 3: Conflict of interest for editors, editorial board, special contributors and reviewers, and honorees. Circulation 2005 Nov 29;112(22 Supplement):B16-B18.

Electronic copies: Available from the American Heart Association Web site.

Print copies: Available from the American Heart Association, Public Information, 7272 Greenville Ave, Dallas, TX 75231-4596; Phone: 800-242-8721

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on February 3, 2006. The information was verified by the guideline developer on March 7, 2006. This summary was updated by ECRI Institute on June 22, 2007 following the U.S. Food and Drug Administration (FDA) advisory on heparin sodium injection. This summary was updated by ECRI Institute on March 14, 2008 following the updated FDA advisory on heparin sodium injection.

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Date Modified: 9/22/2008