Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

Best evidence statement (BESt). The use of a warm vs. room temperature irrigation among pediatric patients undergoing urologic endoscopy.

Bibliographic Source(s)

Cincinnati Children's Hospital Medical Center. Best evidence statement (BESt). The use of a warm vs. room temperature irrigation among pediatric patients undergoing urologic endoscopy. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2012 May 8. 6 p. [17 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

The strength of the recommendation (strongly recommended, recommended, or no recommendation) and the quality of the evidence (1aâ€'5b) are defined at the end of the "Major Recommendations" field.

It is recommended that pediatric patients undergoing urologic endoscopy receive warmed (38°C/100°F) irrigation to help prevent perioperative hypothermia (Okeke, 2007 [2a]; Moore et al., 1997 [2a]; Kim et al., 2009 [2a]; Board & Srinivasan, 2008 [3a]).

Note: 37°C to 39°C/98.6°F to 102.2°F is the temperature range recurring throughout the literature as optimal for irrigation (Okeke, 2007 [2a]; Kim et al., 2009 [2a]; Moore et al., 1997 [2a]; Board & Srinivasan, 2008 [3a]).

Definitions:

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain

Quality Level	Definition
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local consensus

†a = good quality study; b = lesser quality study

Table of Recommendation Strength

Strength	Definition
It is strongly recommended that… It is strongly recommended that…not…	When the dimensions for judging the strength of the evidence are applied, there is high support that benefits clearly outweigh risks and burdens *(or vice versa for negative recommendations)*
It is recommended that… It is recommended that…not…	When the dimensions for judging the strength of the evidence are applied, there is moderate support that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation…	

See the original guideline document for the dimensions used for judging the strength of the recommendation.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Conditions requiring urologic endoscopic procedures

Guideline Category

Management

Prevention

Clinical Specialty

Family Practice

Internal Medicine

Pediatrics

Urology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To evaluate, among pediatric patients undergoing urologic endoscopy, if the introduction of warmed irrigation fluid compared to room temperature irrigation fluid maintains perioperative body temperature in an acceptable range

Target Population

Pediatric patients from birth through age 18 years receiving intraoperative irrigation of the genitourinary (GU) system during endoscopic procedures

Interventions and Practices Considered

Warmed irrigation fluid (38°C/100°F) during urologic endoscopy

Major Outcomes Considered

Perioperative body temperature

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Search Strategy

Keywords used: irrigant, irrigating fluid, irrigation, intraoperative hypothermia, normothermia, surgical, cystoscopy, pediatric, endoscopic, intraoperative irrigation, temperature

Databases searched: Cochrane, CINAHL and PubMed

Filters: English

Limits: None

Date range: All dates included

Date of last search: 2/2/2012

Listservs contacted included: National Association of Children's Hospitals and Related Institutions (NACHRI) and Association of Perioperative Registered Nurses (AORN) with no response from hospitals/nursing (AORN) boards.

As a result of surgeon contact: 15 "academic/university based pediatric urology practices" nationally were contacted, all replied. Of these surgeon groups, 11 currently warm their irrigation fluid.

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

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local consensus

†a = good quality study; b = lesser quality study

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic 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

Table of Recommendation Strength

Strength	Definition
It is strongly	When the dimensions for judging the strength of the evidence are applied, there is high support that benefits clearly

Strength	Definition
It is strongly recommended that… not…	
It is recommended that… It is recommended that…not…	When the dimensions for judging the strength of the evidence are applied, there is moderate support that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation…	

See the original guideline document for the dimensions used for judging the strength of the recommendation.

Cost Analysis

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

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

This Best Evidence Statement has been reviewed against quality criteria by 2 independent reviewers from the Cincinnati Children's Hospital Medical Center (CCHMC) Evidence Collaboration.

Evidence Supporting the Recommendations

References Supporting the Recommendations

Board TN, Srinivasan MS. The effect of irrigation fluid temperature on core body temperature in arthroscopic shoulder surgery. Arch Orthop Trauma Surg. 2008 May;128(5):531-3. PubMed

Kim YS, Lee JY, Yang SC, Song JH, Koh HS, Park WK. Comparative study of the influence of room-temperature and warmed fluid irrigation on body temperature in arthroscopic shoulder surgery. Arthroscopy. 2009 Jan;25(1):24-9. PubMed

Moore SS, Green CR, Wang FL, Pandit SK, Hurd WW. The role of irrigation in the development of hypothermia during laparoscopic surgery. Am J Obstet Gynecol. 1997 Mar;176(3):598-602. PubMed

Okeke L. Effect on warm intravenous and irrigating fluids on body temperature during transurethral resection of the prostate gland. BioMed Cent Urol. 2007;7:15.

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Acceptable range of perioperative body temperature in pediatric patients undergoing urologic endoscopy

Potential Harms

Verification of appropriate temperature (no over warming) is essential to prevent injury/burn.

Qualifying Statements

Qualifying Statements

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The clinician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Audit Criteria/Indicators

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

Staying Healthy

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

Cincinnati Children's Hospital Medical Center. Best evidence statement (BESt). The use of a warm vs. room temperature irrigation among pediatric patients undergoing urologic endoscopy. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2012 May 8. 6 p. [17 references]

Adaptation

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

Date Released

2012 May 8

Guideline Developer(s)

Cincinnati Children's Hospital Medical Center - Hospital/Medical Center

Source(s) of Funding

Cincinnati Children's Hospital Medical Center

Guideline Committee

Not stated

Composition of Group That Authored the Guideline

Team Leader/Author: Mary Hotko, MSN, RN, CNOR, Perioperative Coordinator

Support/Consultants: Carolyn Smith, MSN, RN, Evidence-Based Practice Mentor; Paul Noh, MD (Urology); Shumyle Alam, MD (Urology); James Spaeth, MD (Anesthesia); Kahne Springborn, MSN, RN, Director Operating Room

Ad Hoc/Content Reviewer: Mary Ann Coulson, RN, PACU Educator

Financial Disclosures/Conflicts of Interest

No financial conflicts of interest were found.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the Cincinnati Children's Hospital Medical Center Web site .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

Availability of Companion Documents

The following are available:

- Judging the strength of a recommendation. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2008 Jan. 1 p. Available from the Cincinnati Children's Hospital Medical Center Web site .
- Grading a body of evidence to answer a clinical question. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 1 p. Available from the Cincinnati Children's Hospital Medical Center Web site .
- Table of evidence levels. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2008 Feb 29. 1 p. Available from the Cincinnati Children's Hospital Medical Center Web site .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

In addition, suggested process or outcome measures are available in the original guideline document .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on August 30, 2012.

Copyright Statement

This NGC summary is based on the original full-text guideline, which is subject to the following copyright restrictions:

Copies of this Cincinnati Children's Hospital Medical Center (CCHMC) Best Evidence Statement (BESt) are available online and may be distributed by any organization for the global purpose of improving child health outcomes. Examples of approved uses of the BESt include the following:

- Copies may be provided to anyone involved in the organization's process for developing and implementing evidence based care.
- Hyperlinks to the CCHMC website may be placed on the organization's website.
- The BESt may be adopted or adapted for use within the organization, provided that CCHMC receives appropriate attribution on all written or electronic documents.
- Copies may be provided to patients and the clinicians who manage their care.

Notification of CCHMC at EBDMInfo@cchmc.org for any BESt adopted, adapted, implemented or hyperlinked by the organization is appreciated.

Disclaimer

NGC Disclaimer

The National Guideline Clearinghouseâ„¢ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion-criteria.aspx.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.