Updating Infection Control Guidelines

Erin Stone, MA
Division of Healthcare Quality Promotion
Healthcare Infection Control Practices Advisory Committee (HICPAC)
November 15, 2018
Overview

- Background
- Revisit: Previous Updates
- New Updates
- Feedback and Discussion
Thank you!

Evidence Review Team
- Jamesa Hogges
- Kristin Roberts
- Srila Sen

HICPAC Team
- Koo Chung
- Kendra Cox
Background: CDC’s First Infection Control Guidelines

- 1981: Urinary Tract Infections
- 1981: Environmental Control
- 1981: Intravascular Infections
- 1982: Surgical Wound Infections
- 1982: Nosocomial Pneumonia
- 1983: Isolation Precautions
- 1983: Infection Control for Hospital Personnel
- 1985: Handwashing and Hospital Environmental Control
- 1985: Surgical Wound
- 1988: Surveillance Definitions for Nosocomial Infections

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Background: The HICPAC Era

- **1991:** HICPAC chartered as a federal advisory committee of DHQP, CDC, and HHS
  - Committee activities include providing advice and guidance on the development and evaluation of healthcare infection prevention and control guidelines and guidance; development of policy statements regarding the prevention and surveillance of HAIs and healthcare-related conditions; and updated surveillance methodologies related to HAIs.

- **1992:** First Meeting
Background: The HICPAC Era

HOSPITAL INFECTION CONTROL PRACTICES ADVISORY COMMITTEE
Auditorium A
Centers for Disease Control and Prevention (CDC)
Atlanta, Georgia

December 14, 1992

8:30 a.m.    Welcome Remarks and Introductions of HICPAC Members, CDC Staff, and Attendees    Dr. Walter J. Hierholzer
            HICPAC Chairman

            Review of the Pneumonia Guideline

3:45 a.m.    Overview of the Pneumonia Guideline    Dr. Walter J. Hierholzer
            Dr. Ofelia C. Tablan

9:00 a.m.    Bacterial Pneumonias    Dr. Ofelia C. Tablan

9:15 a.m.    Selective Decontamination of the Digestive Tract    Dr. Donald E. Craven

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Background: Recent CDC and HICPAC Guidelines

- 2002 Hand Hygiene (Isolation Precautions, 2007)
- 2003 Environmental Infection Control
- 2003 Pneumonia
- 2006 Multidrug-Resistant Organisms
- 2007 Isolation Precautions
- 2008 Disinfection and Sterilization
- 2009 Catheter-associated Urinary Tract Infections
- 2011 Intravascular Catheter-Related Infections
- 2011 Norovirus Gastroenteritis Outbreaks in Healthcare Settings
- 2017 Guideline for Prevention of Surgical Site Infection (Updates 1999 Guideline)

- In progress: Prevention of Infections in Neonatal Intensive Care Units
- In progress: Infection Control in Healthcare Personnel (Updates Guideline for infection control in healthcare personnel, 1998)

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Background: the Evidence-based Era

- 2002 Hand Hygiene (Standard Precautions, 2007)
- 2003 Environmental Infection Control
- 2003 Pneumonia
- 2006 Multidrug-Resistant Organisms
- 2007 Isolation Precautions
- 2008 Disinfection and Sterilization
- 2009 Catheter-associated Urinary Tract Infections
- 2011 Intravascular Catheter-Related Infections
- 2011 Norovirus Gastroenteritis Outbreaks in Healthcare Settings
- 2017 Guideline for Prevention of Surgical Site Infection (Updates 1999 Guideline)
- In progress: Prevention of Infections in Neonatal Intensive Care Units
- In progress: Infection Control in Healthcare Personnel (Updates *Guideline for infection control in healthcare personnel, 1998*)

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Background: Evidence-based Guidelines

- Are rigorous and supported by systematic review of relevant evidence
  - Conflicts of interest disclosed and managed
  - Develop in 18-24 months (*goal*)
  - Involve stakeholders throughout process
  - Transparent process
  - Multiple opportunities for public comment

- Used for:
  - Standards of care
  - Education/training
  - Provider and surveyor ‘checklists’
  - Federal prevention initiatives (e.g., CUSP, QIOs)
  - Define research gaps (e.g., Prevention EpiCenters)

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Determine Topic, Update, or Question of Interest

HICPAC INPUT, Committee, Liaison & Ex-Officio Members, and Public input provided during meetings

Draft document

CDC Clearance

Draft document

Federal Register

Public Comments

Final Draft Document

HICPAC Vote

CDC Clearance

Final Guideline

Guideline Methods:

Guideline & Scoping Search

Develop & Refine Key Questions

Literature Search

Abstract and Full–Text Screening

Data Extraction and Synthesis

Draft Recommendations

Work Group:

HICPAC Members

HICPAC Liaisons

Additional External Experts

CDC Technical Advisors

DHQP Support Staff

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Background: Streamlining Evidence-based Updates

- Targeted Updates:

Special Communication

August 2017

Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017

Sandra I. Berrios-Torres, MD¹; Craig A. Umscheid, MD, MSCE²; Dale W. Bratzler, DO, MPH³; et al

Author Affiliations | Article Information

Abstract

Importance The human and financial costs of treating surgical site infections (SSIs) are increasing. The number of surgical procedures performed in the United States continues to rise, and surgical patients are initially seen with increasingly complex comorbidities. It is estimated that approximately half of SSIs are deemed preventable using evidence-based strategies.

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Background: Streamlining Evidence-based Updates

- Targeted Updates:

- Core Practices:

Special Communication
August 2017

Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017

Sandra I. Berrios-Torres, MD1; Craig A. Umschuld, MD, MBCE2; Dale W. Bratzler, DO, MPH3; et al.

Healthcare Infection Control Practices Advisory Committee (HICPAC)

Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings – Recommendations of the HICPAC


Preface

The Healthcare Infection Control Practices Advisory Committee (HICPAC) is a federal advisory committee chartered in 1991 to provide advice and guidance to the Centers for Disease Control and Prevention (CDC) and the Secretary of the Department of Health and Human Services (HHS) regarding the practice of infection control and strategies for surveillance, prevention, and control of healthcare-associated infections, antimicrobial resistance and related events in United States healthcare settings. CDC has been developing recommendations for healthcare infection control to prevent infections in

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Background: Streamlining Evidence-based Updates

- **Targeted:**

- **Core Practices:**
  - Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings
  - Recommendations of the HICPAC

- **Single Recommendation:**
  - Updated Recommendations on Chlorhexidine-Impregnated (C-I) Dressings
  - Updated Recommendations on the Use of Chlorhexidine-Impregnated Dressings for Prevention of Intravascular Catheter-Related Infections (2017)

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Background: Streamlining Evidence-based Updates

- **Exploratory Literature Reviews, AKA “Desk Reviews”**
  - Search for current guidelines and recommendations.
    - Determine if current recommendations capture concerns using recent literature.
  - Develop a short list of relevant MESH terms and keywords from the Key Question(s) with experts.
    - Use these terms to search
      - The systematic review database PROSPERO
      - The Cochrane Central Register of controlled trials
      - Cochrane Library
      - PubMed/Medline
  - Use desk review results to estimate extent of literature
  - Determine if subsequent full literature review is warranted

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Background: Streamlining Evidence-based Updates

Guideline for Infection Control in Healthcare Personnel Update

- Sunset recommendations under the purview of another CDC Group
  - Narrative will refer to *ACIP 2011 Recommendations for Immunization of Healthcare Personnel* and to HICPAC Core Practices Document.

- Harmonize recommendations with other, updated CDC Recommendations

- Exploratory Literature Review where applicable: e.g. Influenza

- Systematic Literature Review where necessary: e.g. *S. aureus*

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Guideline for Infection Control in Healthcare Personnel Update

- Delete Recommendations under the purview of another CDC Group
  - Narrative will refer to ACIP 2011 Recommendations for Immunization of Healthcare Personnel and to HICPAC Core Practices Document.

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- Exploratory Literature Review where applicable: e.g. Influenza

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Guideline for Isolation Precautions (2007)

- Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions
  - Most “hit” page

- Changes / Updates / Corrections
  - Clarity and readability
  - Corrections
  - Updates
    - Literature
    - Other CDC Guidelines

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Guideline for Isolation Precautions (2007): Mumps

- As published in 2007:

<table>
<thead>
<tr>
<th>Mumps (infectious parotitis)</th>
<th>D</th>
<th>U 9 days</th>
</tr>
</thead>
</table>

- February 2008:
  - HICPAC voted to approve an update to the duration of isolation precautions from 9 to 5 days based on data on mumps in healthcare settings, mumps viral load, and mumps virus isolation.

- October 2008: CDC published *Updated Recommendations for Isolation of Persons with Mumps* in the MMWR

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Guideline for Isolation Precautions (2007): Mumps

- Appendix A updated October 2017:

<table>
<thead>
<tr>
<th>Mumps (infectious parotitis)</th>
<th>Droplet + Standard</th>
<th>Until 5 days</th>
</tr>
</thead>
</table>

**Mumps [October 2017]**

*Update:* The Healthcare Infection Control Practices Advisory Committee (HICPAC) voted to change the recommendation of isolation for persons with mumps from 9 days to 5 days based on this [2008 MMWR report](https://www.cdc.gov/mmwr/). After onset of swelling, susceptible HCWs should not provide care if immune caregivers are available.

The below note has been superseded by the above recommendation update

Note: Recent assessment of outbreaks in healthy 18-24 year olds has indicated that salivary viral shedding occurred early in the course of illness and that 5 days of isolation after onset of parotitis may be appropriate in community settings; however, the implications for healthcare personnel and high-risk patient populations remain to be clarified.

- Updates are compiled on the Guideline “updates” webpage
- Previous versions are archived at CDC Stacks ([www.stacks.cdc.gov](http://www.stacks.cdc.gov))

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Thank you!

DHQP Leadership & SMEs
- Michael Bell
- Jeff Hageman (formerly DHQP)
- Ryan Fagan
- David Kuhar
- Cliff McDonald

Guideline Migration Effort
- Sonya Arundar
- Kathleen Irwin
- Jan Ratterree
But wait.... There’s more!

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### Guideline for Isolation Precautions (2007): Varicella

- As published in 2007 Isolation Guideline:

<table>
<thead>
<tr>
<th>Varicella Zoster</th>
<th>A,C</th>
<th>Until lesions dry and crusted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Susceptible HCWs should not enter room if immune caregivers are available; no recommendation for face protection of immune HCWs; no recommendation for type of protection, i.e., surgical mask or respirator for susceptible HCWs. In immunocompromised hosts with varicella pneumonia, prolong duration of precautions for duration of illness. Post-exposure prophylaxis: provide post-exposure vaccine ASAP but within 120 hours; for susceptible exposed persons for whom vaccine is contraindicated (immunocompromised persons, pregnant women, newborns whose mother’s varicella onset is ≤5 days before delivery or within 48 hours after delivery) provide VZIG, when available, within 96 hours; if unavailable, use IVIG, Use Airborne Precautions for exposed susceptible persons and exclude exposed susceptible healthcare workers beginning 8 days after first exposure until 21 days after last exposure or 28 if received VZIG, regardless of postexposure vaccination.</td>
</tr>
</tbody>
</table>

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Guideline for Isolation Precautions (2007): Varicella - Change in CDC Recommendations

- **Immunization of Health-Care Personnel, Recommendations of the ACIP (2011)**

  “For HCP at risk for severe disease for whom varicella vaccination is contraindicated (e.g., pregnant or immunocompromised HCP), varicella-zoster immune globulin after exposure is recommended. The varicella-zoster immune globulin product currently used in the United States, VariZIG (Cangene Corporation, Winnipeg, Canada), is available under an Investigational New Drug Application Expanded Access protocol; a sample release form is available at [http://www.fda.gov/downloads/BiologicsBloodVaccines/SafetyAvailability/UCM176031.pdf](http://www.fda.gov/downloads/BiologicsBloodVaccines/SafetyAvailability/UCM176031.pdf).”

- **July 2013: Updated Recommendations for Use of VariZIG — United States, 2013**

  In December 2012, the Food and Drug Administration (FDA) approved VariZIG, a varicella zoster immune globulin preparation (Cangene Corporation, Winnipeg, Canada) for use in the United States for postexposure prophylaxis of varicella for persons at high risk for severe disease who lack evidence of immunity to varicella* and for whom varicella vaccine is contraindicated (1). Previously available under an investigational new drug (IND) expanded access protocol, VariZIG, a purified immune globulin preparation made from human plasma containing high levels of anti–varicella-zoster virus antibodies (immunoglobulin G), is the only varicella zoster immune globulin preparation currently available in the United States. VariZIG is now approved for administration as soon as possible following varicella-zoster virus exposure, ideally within 96 hours (4 days) for greatest effectiveness (2). CDC recommends administration of VariZIG as soon as possible after exposure to the varicella-zoster virus and within 10 days. CDC also has revised the patient groups recommended by the Advisory Committee on

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“For HCP without evidence of immunity who have a contraindication to varicella vaccination and are at increased risk for severe disease (e.g., pregnant, immunocompromised), varicella zoster immune globulin should be administered as soon as possible (within 10 days) after exposure to VZV.” (Citations: ACIP 2011 and July 2013 Update)

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- 2007: “for susceptible exposed persons for whom vaccine is contraindicated (immunocompromised persons, pregnant women, newborns whose mother’s varicella onset is <5 days before delivery or within 48 hours after delivery) provide VZIG, when available, within 96 hours; if unavailable, use IVIG. Use Airborne for exposed susceptible persons and exclude exposed susceptible healthcare workers beginning 8 days after first exposure until 21 days after last exposure or 28 if received VZIG, regardless of postexposure vaccination.”

- Update: “for susceptible exposed persons for whom vaccine is contraindicated, provide varicella zoster immune globulin as soon as possible after exposure and within 10 days.”
  - “Use Airborne … until 21 days after last exposure or 28 if received varicella zoster immune globulin, regardless of postexposure vaccination.”

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Recommendation q: In units with high rates of endemic Clostridium difficile infection or in an outbreak setting, use dilute solutions of 5.25%–6.15% sodium hypochlorite (e.g., 1:10 dilution of household bleach) for routine environmental disinfection. Currently, no products are EPA-registered specifically for inactivating *C. difficile* spores. Category II. 257-259

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LIST K: EPA’s Registered Antimicrobial Products Effective against Clostridium difficile Spores

Notes about this list:

- All EPA-registered pesticides must have an EPA registration number, which consists of a company number and a product number (e.g., 123-45). Alternative brand names have the same EPA registration number as the primary product.
- When purchasing a product for use against a specific pathogen, check the EPA Reg. No. versus the products included on this list.

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2008 Recommendation q. In units with high rates of endemic Clostridium difficile infection or in an outbreak setting, use dilute solutions of 5.25%–6.15% sodium hypochlorite (e.g., 1:10 dilution of household bleach) for routine environmental disinfection. Currently, no products are EPA-registered specifically for inactivating C. difficile spores. Category II. 257-259

UPDATE: Use an EPA-approved sporicidal disinfectant for environmental disinfection in rooms where C. difficile patients are treated. Category II. (https://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium)
<table>
<thead>
<tr>
<th>Gastroenteritis</th>
<th>Standard</th>
<th>Noroviruses</th>
</tr>
</thead>
</table>

Institutional Outbreaks

Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks. Persons who clean areas heavily contaminated with feces or vomitus may benefit from wearing masks since virus can be aerosolized from these body substances [142, 147 148]; ensure consistent environmental cleaning and disinfection with focus on restrooms even when apparently unsoiled [273, 1064]). Hypochlorite solutions may be required when there is continued transmission [290-292]. Alcohol is less active, but there is no evidence that alcohol antiseptic handrubs are not effective for hand decontamination [294]. Cohorting of affected patients to separate airspaces and toilet facilities may help interrupt transmission during outbreaks.

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2007 Appendix A:

| Gastroenteritis Noroviruses | Standard | Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks. Persons who clean areas heavily contaminated with feces or vomitus may benefit from wearing masks since virus can be aerosolized from these body substances [142, 147 148]; ensure consistent environmental cleaning and disinfection with a chlorine-based solution. Soiled linens should be managed. Should be used in areas where patients are infected. Isolation contact precautions [142]. Alcohol and alcohol-containing hand rubs are required. 

Patient Cohorting and Isolation Precautions

1. Avoid exposure to vomitus or diarrhea. Place patients on Contact Precautions in a single occupancy room if they have symptoms consistent with norovirus gastroenteritis. (Category IB) (Key Question 1.A.1)

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2007 Appendix A:

| Gastroenteritis | Standard | Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks. Persons who clean areas heavily contaminated with feces or vomitus may benefit from wearing masks since virus can be aerosolized from these body substances [142, 147 148]; ensure consistent environmental cleaning and disinfection with a suitable product. 

2011 Norovirus in Healthcare Settings:

- **Patient Cohorting and Isolation Precautions**
  1. Avoid exposure to vomitus or diarrhea. Place patients on Contact Precautions in a single occupancy room if they have symptoms consistent with norovirus gastroenteritis. (Category IB) (Key Question 1.A.1)

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On the horizon

- What is the threshold to migrate towards timelessness?
- Standardize the process for updating agency and regulatory changes.
- Innovating other ways to keep CDC and HICPAC Guidelines evergreen.
Questions?