



Reassessing MRSA and VRE Contact Precautions





Please note: Poll questions for
will be interspersed
throughout the presentation.
Polling for each question will
be open for 1 minute.

We welcome your responses
and appreciate your
participation.



Program Overview

Session	Topic	Speaker
March 1, 2024	Introduction to “Rethinking CPs for MRSA/VRE”	Dr. Pamela Lee (ID Faculty, Harbor-UCLA Medical Center) Dr. Zachary Rubin (LACDPH)
March 8, 2024	Implementing the change in the hospital: How do you do it and what are the data for long-term risk?	Dr. Elise Martin (Assistant Professor of ID, University of Pittsburgh) Dr. Daniel Uslan (Professor of ID, Geffen School of Medicine at UCLA)
March 15, 2024	Horizontal infection control measures	Dr. Loren Miller (Chief, Division of ID at Harbor-UCLA Medical Center)
March 22, 2024	Interactive discussion and Q & A session	LACDPH infection preventionists and physicians



Rethinking contact precautions for MRSA & VRE

- What is the purpose of contact precautions (CP)?
- How effective are contact precautions for MRSA and VRE?
- Are there any costs associated with contact precautions?
- Which agencies/organizations requires contact precautions?
- What does LACDPH recommend?



POLL QUESTIONS 1 & 2

Look in the sidebar for the poll question



What is the purpose of Contact Precautions?



Contact Precautions

- **Middle ages** Protective gear to protect from plague
- **1970** Modern precautions first codified in by CDC in *Isolation Techniques for Use in Hospitals, 1st ed.*
 - 7 isolation types (strict, respiratory, protective, enteric, wound and skin, discharge and blood)
- **1985** Universal Precautions
- **1996** HICPAC: simplified precautions: airborne, droplet and contact
- **2007** HICPAC: current regime (with some 2018 additions)



Engraving of plague doctor in Marsailles, by Paul Furst, 1656



Theoretical Support for Transmission Based Precautions

- Implementation of *Standard Precautions* constitutes the primary strategy for the prevention of healthcare-associated transmission of infectious agents among patients and healthcare personnel.
- Transmission-Based Precautions are for patients who are known or suspected to be infected or colonized with infectious agents, including certain **epidemiologically important pathogens**, which require additional control measures to **effectively** prevent transmission.

Theoretical Support for Transmission Based Precautions

- Epidemiologically important
 - High morbidity/mortality (Ebola, GNRs)
 - Resistant to antibiotics (CRE, CRAB, CRPA)
- Contact Precautions *effectively* prevents transmission (above Standard Precautions)
 - High risk of environmental transmission (*C.diff*, *C. auris*)
 - Evidence shows that contact precautions is more effective than standard.
- Benefit outweighs the adverse effects of contact precautions.



POLL QUESTION 3

Look in the sidebar for the poll question

Cambridge Core

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Home > Journals > Infection Control & Hospital Epidemiology > Volume 37 Issue 1 > Routine Use of Contact Precautions for Methicillin-Resistant...



Routine Use of Contact Precautions for Methicillin-Resistant *Staphylococcus aureus* and Vancomycin-Resistant Enterococcus: Which Way Is the Pendulum Swinging?

Published online by Cambridge University Press: 21 October 2015

> *Infect Control Hosp Epidemiol.* 2015 Oct;36(10):1163-72. doi: 10.1017/ice.2015.156. Epub 2015 Jul 3.

Reconsidering contact precautions for endemic methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant Enterococcus

Daniel J Morgan¹, Rekha Murthy², L Silvia Munoz-Price³, Marsha Barnden⁴, Bernard C Camins⁵, B Lynn Johnston⁶, Zachary Rubin⁷, Kaede V Sullivan⁸, Andi L Shane⁹, E Patchen Dellinger¹⁰.

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Major Article

Discontinuing contact precautions for multidrug-resistant organisms: A systematic literature review and meta-analysis

Alexandre R. Marra MD, MS^{1,2*}, Michael B. Edmond MD, MPH, MPA^{3,4}, Marin L. Schweizer PhD^{5,6}, Grace W. Ryan MPH⁷, Daniel J. Diekema MD, MS^{4,8,9}

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HHS Public Access

Author manuscript

Infect Control Hosp Epidemiol. Author manuscript; available in PMC 2019 October 09.

Published in final edited form as:

Infect Control Hosp Epidemiol. 2016 November ; 37(11): 1323–1330. doi:10.1017/ice.2016.156.

Elimination of Routine Contact Precautions for Endemic MRSA and VRE: A Retrospective Quasi-Experimental Study

Elise M. Martin, MD¹, Dana Russell, MPH², Zachary Rubin, MD¹, Romney Humphries, PhD³, Tristan R. Groogan, MS, David Elashoff, PhD⁴, Daniel Z. Uslan, MD, FIDSA FSHEA^{4,1}

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Major Article

Does the removal of contact precautions for MRSA and VRE infected patients change health care-associated infection rate?: A systematic review and meta-analysis

Robert Kleyman DO^{1,2*}, Sophia Cupril-Nilson DO³, Kent Robinson DO⁴, Shaival Thakore MD⁵, Furqan Haq PhD, MPH⁶, Liwei Chen PhD, MPH⁷, Olugbenga Oyesanmi MD⁸, Kimberly Browning BSN⁹, Inesuh Dinn MD¹⁰, Rahul Mhaskar PhD, MPH¹¹

> *Infect Control Hosp Epidemiol.* 2022; 43(11):1323-1330. doi:10.1017/ice.2021.193. Epub 2021 Dec 1.

Discontinuing MRSA and VRE contact precautions: Defining hospital characteristics and infection prevention practices predicting safe de-escalation

Elise M Martin^{1,2}, Bonnie Colaianne³, Christine Bridge³, Andrew Bilderback³, Colleen Tanner⁴, Suzanne Wagester³, Mohamed Yassin^{2,5}, Raymond Pontzer⁶, Graham M Snyder^{1,2}

<https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6783805/pdf/nihms-1043025.pdf>
<https://pubmed.ncbi.nlm.nih.gov/34847970/>
<https://www.sciencedirect.com/science/article/pii/S0196655317310374?via%3DiHub>
<https://www.sciencedirect.com/science/article/pii/S0196655320310294?via%3DiHub>

S. aureus infections usually due to pre-hospital colonization

RESEARCH ARTICLE



Absence of Patient-to-Patient Intrahospital Transmission of *Staphylococcus aureus* as Determined by Whole-Genome Sequencing

S. Wesley Long,^{a,b} Stephen B. Beres,^{a,b} Randall J. Olsen,^{a,b} James M. Musser^{a,b}

Center for Molecular and Translational Infectious Diseases, Houston Methodist Research Institute,^a and Department of Pathology and Genomic Medicine, Houston Methodist Hospital,^b Houston, Texas, USA

- Houston Methodist Hospital (mBio 2014)
- WGS testing of 398 *S. aureus* (192 MRSA, 206 MSSA in 305 patients)
- Tried to identify relatedness/transmission
- “In our study of invasive *S. aureus* disease across a multihospital system, we could identify no closely related isolates with an obvious intrahospital transmission path.”

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4196229/pdf/mBio.01692-14.pdf>

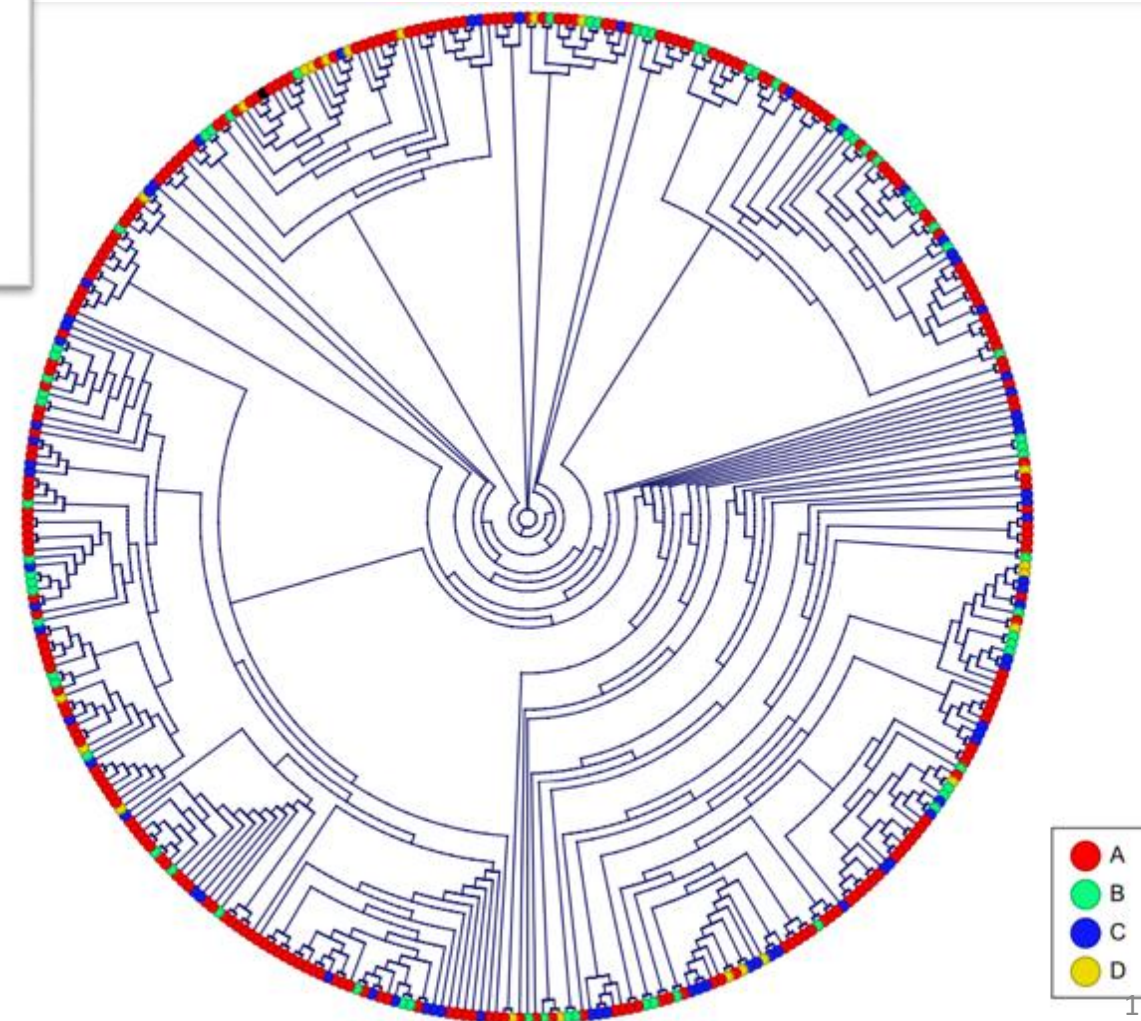


FIG 6 Cladogram showing no significant clustering based on hospital of origin. Small clusters of isolates from hospital B, C, or D represent multiple isolates collected from the same patient at that hospital.

Whole-Genome Sequencing Shows That Patient-to-Patient Transmission Rarely Accounts for Acquisition of *Staphylococcus aureus* in an Intensive Care Unit

James R. Price,¹ Tanya Golubchik,² Kevin Cole,³ Daniel J. Wilson,^{4,5} Derrick W. Crook,^{4,6} Guy E. Thwaites,⁷ Rory Bowden,⁵ A. Sarah Walker,^{4,6} Timothy E. A. Peto,^{4,6} John Paul,^{1,3} and Martin J. Llewelyn^{1,8}

- ICU admissions were serially screened in UK over 14 months
- 275 *S. aureus* in 185/1109 (5.3%) MRSA
- 680 patients stays, 44 acquisitions
- SPA typing vs WGS
- 7 total transmissions identified by WGS

Conclusions: Only a minority of *S. aureus* acquisitions can be explained by patient-to-patient transmission. Whole-genome sequencing provides the resolution to disprove transmission events indicated by conventional methods and also to reveal otherwise unsuspected transmission events. Whole-genome sequencing should replace conventional methods for detection of nosocomial *S. aureus* transmission.

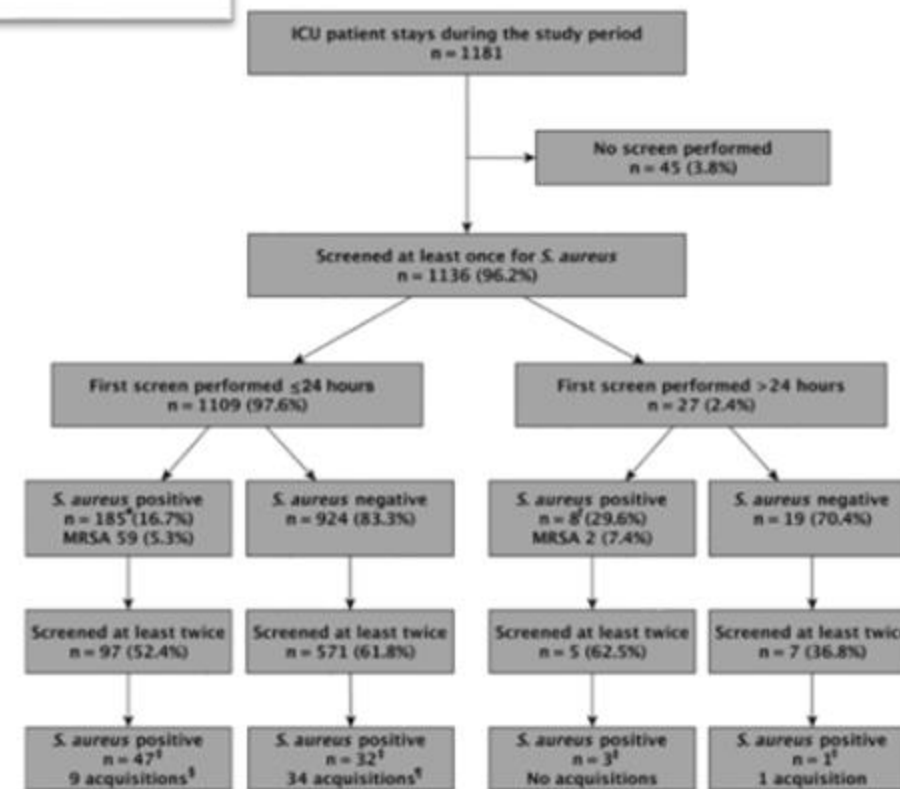


Figure 1. Sampling of patients involved in the study. Including nasal and extranasal samples and serial samples, *Staphylococcus aureus* was isolated 329 times as follows: 206 isolates (*), 8 isolates (†), 115 isolates (‡). Includes 1 patient who changed strains twice (§) and 1 patient who experienced 2 strain changes after acquiring *S. aureus* (§). Abbreviations: ICU, intensive care unit; MRSA, methicillin-resistant *Staphylococcus aureus*.

VRE is a bit complicated....but in-hospital transmission is rare

- Germany has the highest rate of VRE carriage in Europe
- Study by Nurnberger, et al. found significant diversity of strains of VRE in 2 hospitals.
 - 2 outbreaks were confirmed, but “in-hospital transmission is rare”.
- Comparative study by Cimen, et al. looked at VRE in hospitals in Netherlands vs. Germany.
 - VRE rates much higher in Germany
 - Germany has lower hospital staffing levels, longer LOS, higher bed occupancy rate
 - Outpatient antibiotic use much higher in Germany
 - Germany has more laxity on CP, Netherlands more strict with screening & CPs



What happens when you do away with contact precautions for MRSA and VRE?



POLL QUESTIONS 4 & 5

Look in the sidebar for the poll question

> Infect Control Hosp Epidemiol. 2022 Nov;43(11):1595-1602. doi: 10.1017/ice.2021.457.
Epub 2021 Dec 1.

Discontinuing MRSA and VRE contact precautions: Defining hospital characteristics and infection prevention practices predicting safe de-escalation

Elise M Martin^{1 2}, Bonnie Colaianne³, Christine Bridge³, Andrew Bilderback³, Colleen Tanner⁴,
Suzanne Wagester³, Mohamed Yassin^{2 5}, Raymond Pontzer⁶, Graham M Snyder^{1 2}

- Retrospective observational quasi-experimental study
- Feb 2017-Feb 2019
- 15 hospitals (3 controls)
- No statistical difference between groups
- Hand Hygiene rate 90-92%
- UV Disinfection

Variable	Preintervention Period Rate (95% CI)	Postintervention Period Rate (95% CI)	Difference (95% CI)	P Value
MRSA HAI rate				
Intervention hospitals	0.14 (0.09-0.19)	0.15 (0.10-0.20)	0.01 (-0.03 to 0.04)	.74
Nonintervention hospitals	0.23 (0.15-0.31)	0.24 (0.16-0.32)	0.01 (-0.05 to 0.06)	.78
Difference in difference			-0.002 (-0.07 to 0.06)	.94
VRE HAI rate				
Intervention hospitals	0.05 (0.03-0.08)	0.05 (0.03-0.08)	-0.00 (-0.02 to 0.02)	.96
Nonintervention hospitals	0.22 (0.16-0.30)	0.24 (0.17-0.31)	0.01 (-0.05 to 0.07)	.73
Difference in difference			-0.01 (-0.07 to 0.05)	.74
MRSA LabID rate				
Intervention hospitals	0.04 (0.03-0.05)	0.04 (0.03,0.06)	0.004 (-0.01 to 0.02)	.57
Nonintervention hospitals	0.07 (0.05-0.10)	0.08 (0.05-0.10)	0.003 (-0.02 to 0.03)	.79
Difference in differences			0.0004 (-0.03 to 0.03)	.98

Impact of Discontinuing Contact Precautions for Methicillin-Resistant Staphylococcus aureus and Vancomycin-Resistant Enterococcus: An Interrupted Time Series Analysis

Gonzalo Bearman¹, Salma Abbas¹, Nadia Masroor², Kakotan Sanogo², Ginger Vanhoozer², Kaila Cooper², Michelle Doll¹, Michael P Stevens¹, Michael B Edmond³

- Single center 2011-2016
- D/C isolation + 7 horizontal interventions
 - CHG bathing
 - Bare below the elbows
 - UV-C disinfection
 - 72h auto Foley D/C & cath bundle & CHG perineal care
- No increase in MRSA or VRE

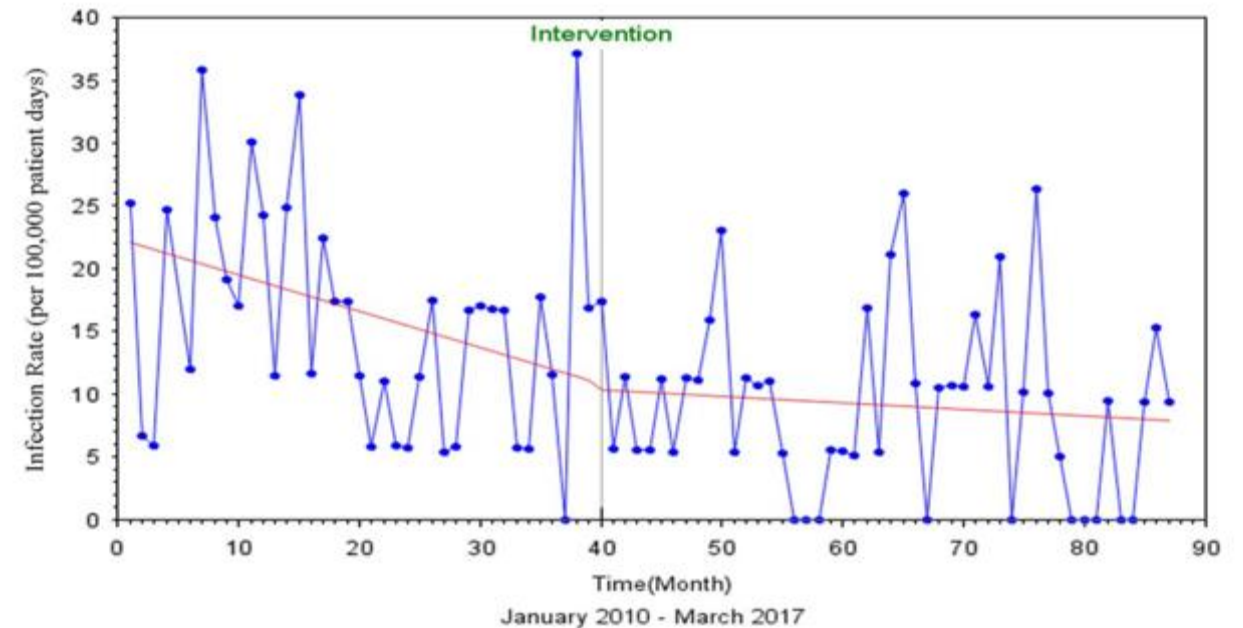


FIGURE 1. Interrupted Time Series Analysis of MRSA and VRE HAIs, Pre and Post Discontinuation of Contact Precautions



- 800 bed hospital in Detroit
- Comparison between 12 month periods
- “Discontinuation of CPs did not adversely impact endemic MRSA and VRE infection rates”

Local small study...

- Study in ICU at Torrance Memorial Hospital by McKinnell, et al.
- 2 periods: contact precautions for MRSA vs no CPs and universal CHG bathing
- 58% lower CPs in CHG period
- “We found no evidence that discontinuation of contact precautions for patients with MRSA in conjunction with adoption of daily chlorhexidine bathing in ICUs is associated with increased MRSA acquisition among ICU patients or increased MRSA contamination of ICU fomites.”



What are the risks of contact precautions?





POLL QUESTION 6

Look in the sidebar for the poll question

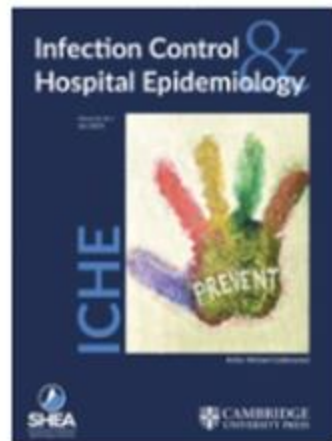
Open access

Original research

BMJ Open Higher incidence of adverse events in isolated patients compared with non-isolated patients: a cohort study

Fátima Jiménez-Pericás ¹, María Teresa Gea Velázquez de Castro,¹
María Pastor-Valero,^{2,3} Carlos Aibar Remón,^{4,5} Juan José Miralles,²
María del Carmen Mever García⁶, Jesús María Aranz Andrés^{3,7}

- Hospital in Valencia, Spain
- Compared matched patient groups: 200 isolated vs 200 non-isolated upon admission
- Adverse events in isolated: 16.5% (11.8 AEs per 1000 pt days)
- Adverse events in non-isolated: 9.5% (4.3 AEs per 1000 pt days)
- HAIs most common AE (18.5% in isolated vs 11% in non-isolated)
- More than half of adverse events were preventable



Infection Control &

Noninfectious Hospital Adverse Events Decline After Elimination of Contact Precautions for MRSA and VRE

Published online by Cambridge University Press: 10 May 2018

Elise M. Martin, Brandy Bryant, Tristan R. Grogan, Zachary A. Rubin, Dana L. Russell,
David Elashoff and Daniel Z. Uslan

Show author details ▾

Article

Figures

Metrics

- Retrospective observational study spanning the year before and the year after CP were discontinued at UCLA
- After discontinuation, infectious AEs were unchanged
- Non-infectious AEs decreased 19% (12.3 to 10 events per 1000 admissions, $p = 0.002$)
- Patients with MRSA/VRE had a 72% reduction in non-infectious AEs post-discontinuation (21.4 to 6.08 per 1000 admissions, $p < 0.001$)



- Aimed to examine impact of CP on patients and on health professionals
- Conducted semi-structured interviews of 33 participants
- Themes identified included:
 - Health professionals:
 - Sense of powerlessness against policy
 - CP “not being easy”
 - Reluctance to enter CP patients’ rooms
 - Patients:
 - Feeling like outcasts
 - Wanting to protect the community, but also being worried for themselves
 - “Status as victim as well as vector”



What are some of the benefits of stopping of contact precautions?



Standard Precautions for MRSA/VRE: The Triple Bottom Line



1. <https://uwex.wisconsin.edu/stories-news/triple-bottom-line/>

How many gowns are used for MRSA/VRE CP in LA County?

- Based on recent PPE observations and survey data:
 - Over 200 gowns are used for CP weekly for each MRSA/VRE patient
 - Over 550 patients are in CP for MRSA/VRE in LA County acute care hospitals on a given day
 - **Over 7.3 million gowns used for MRSA/VRE CP in LA County in 1 year**
- These are **underestimations**:
 - Not including SNFs
 - Not including night shifts

Co-Benefit of Stopping MRSA CP: Financial Savings



JONA
Volume 52, Number 6, pp 352-358
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THE JOURNAL OF NURSING ADMINISTRATION

Analyzing the Cost of Hospital Contact Isolation Practices

Implications for Nursing Administrator Practice, Research, and Policy

Deborah A. Saber, PhD, RN, CCRN-K
Anne E. Norris, PhD, RN
Jeff Reinking, PhD

Greg Trompeter, PhD
Deborah Sanford, MBA, MSN, RN

- Cost analysis of CP use which included time/motion studies and waste audits
- Annual cost of CP for MRSA (1 room, 1 year): \$27,127
- When extrapolated to LA County estimates → ~\$15 million annually spent on MRSA/VRE CP – Gowns alone are \$7.3 million

Co-Benefit of Stopping MRSA CP: Financial Savings

Cost-Benefit Analysis from the Hospital Perspective of Universal Active Screening Followed by Contact Precautions for Methicillin-resistant *Staphylococcus aureus* Carriers

James A. McKinnell, MD^{1,2}, Sarah M. Bartsch, MPH^{3,4}, Bruce Y. Lee, MD, MBA³, Susan S. Huang, MD, MPH⁵, and Loren G. Miller, MD, MPH¹

- Found that MRSA CP and universal screening conferred a cost of ~\$103,000 per 10,000 admissions
- Concluded that costs of CP and screening outweighed the projected benefits from preventing MRSA-related infections.



Co-Benefits of Stopping CP for MRSA/VRE: Environmental Impact



About HHS Programs & Services Grants & Contracts Laws & Regulations

Home > Climate Change & Health Equity, and Environmental Justice at HHS > Climate Change and Health Equity > Actions > Health Sector Pledge

About the Office of Climate Change and Health Equity (OCCHE)



Climate Change & Health Equity, and Environmental Justice at HHS

Health Sector Commitments to Emissions Reduction and Resilience

About the Office of Environmental Justice (OEJ)

- Increasing interest from Joint Commission, DHHS on decreasing the impact of healthcare on the environment

White House/HHS Health Sector Climate Pledge Signatories as of April 12, 2023

Associations, Nonprofits and Technical Assistance Organizations

Abt Associates, American College of Physicians (NJ), American Medical Women's Association, Association of American Medical Colleges, Children's Hospital Association, ecoAmerica, Envivity, Inc, Health Care Without Harm, Health Promotion Consultants, Kimball Sustainable Healthcare, Mazzetti, My Green Lab, National Academy of Medicine, [The Joint Commission](#)

The Joint Commission announces Sustainable Healthcare Certification for U.S. hospitals

As healthcare pursues environmental sustainability efforts, the voluntary certification provides framework to accelerate efforts

Monday, September 18 2023

Environmental Impact of Single-Use Gowns

Major Article

Environmental considerations in the selection of isolation gowns:
A life cycle assessment of reusable and disposable alternatives

Eric Vozzola BSc *, Michael Overcash PhD, Evan Griffing PhD

Environmental Clarity, Inc., Reston, VA

- 310g CO₂ equivalents per gown made of nonwoven polypropylene



Environmental Impact of ACH CP Use for MRSA & VRE in LA County:

- Using estimate of 310g CO₂ equivalents per gown, yearly CO₂ equivalents from gowns used for CP MRSA/VRE in LA County ACH:
~2.27 million Kg CO₂ equivalents
- Per EPA estimates, this is equal to...
 - Consuming 255,473 gallons of gasoline
 - 286 homes' energy use for 1 year
 - 5.8 million miles driven by an average gasoline-powered passenger car

Co-Benefit of Stopping MRSA/VRE CP: Decreased ED Wait Times

Effect of Contact Precautions on Wait Time from Emergency Room Disposition to Inpatient Admission

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY MARCH 2011, VOL. 32, NO. 3

LETTERS TO THE EDITOR

Wait time in ED for a patient in MRSA CP was **54 minutes** longer than a patient not in contact precautions

Association of hospital contact precaution policies with emergency department admission time

K. Kotkowski^{a,*}, R.T. Ellison III^b, C. Barysaukas^c, B. Barton^c, J. Allison^c, D. Mack^d, R.W. Finberg^e, M. Reznek^a

^a Department of Emergency Medicine, University of Massachusetts Medical School, Worcester, MA, USA

^b Microbiology and Physiological Systems, University of Massachusetts Medical School, Worcester, MA, USA

^c Department of Quantitative Health Sciences, University of Massachusetts Medical School, Worcester, MA, USA

^d Department of Infection Control, UMass Memorial Medical Center, Worcester, MA, USA

^e Division of Infectious Disease and Immunology, University of Massachusetts Medical School, Worcester, MA, USA

A hospital that stopped MRSA/VRE CP demonstrated that admission time dropped by **>2 hours** for both MRSA and VRE patients



POLL QUESTION 7

Look in the sidebar for the poll question



Doesn't the CDC and IDSA require contact precautions for MRSA and VRE?



SHEA/IDSA/APIC Practice Recommendation: Strategies to prevent methicillin-resistant *Staphylococcus aureus* transmission and infection in acute-care hospitals: 2022 Update

Kyle J. Popovich MD, MS¹, Kathy Aureden MS, MT, CIC² ●, D. Cal Ham MD, MPH³ ●, Anthony D. Harris MD, MPH⁴, Amanda J. Hessels PhD, MPH, RN, CIC⁵⁻⁶ ●, Susan S. Huang MD, MPH⁷, Lisa L. Maragakis MD, MPH⁸, Aaron M. Milstone MD, MHS⁹ ●, Julia Moody MS¹⁰ ●, Deborah Yokoe MD, MPH^{11,12} and David P. Calfee MD, MS^{13,14} ●

- Although contact precautions remain an essential practice, considerations have been provided for hospitals that have strong horizontal prevention measures and neither ongoing MRSA outbreaks nor high or increasing rates of MRSA infection or hospital-onset MRSA-positive cultures and that choose to modify the use of contact precautions for some or all MRSA-colonized or MRSA-infected patients.

Infection Control

Infection Control > Isolation Precautions > Appendix A

Isolation Precautions

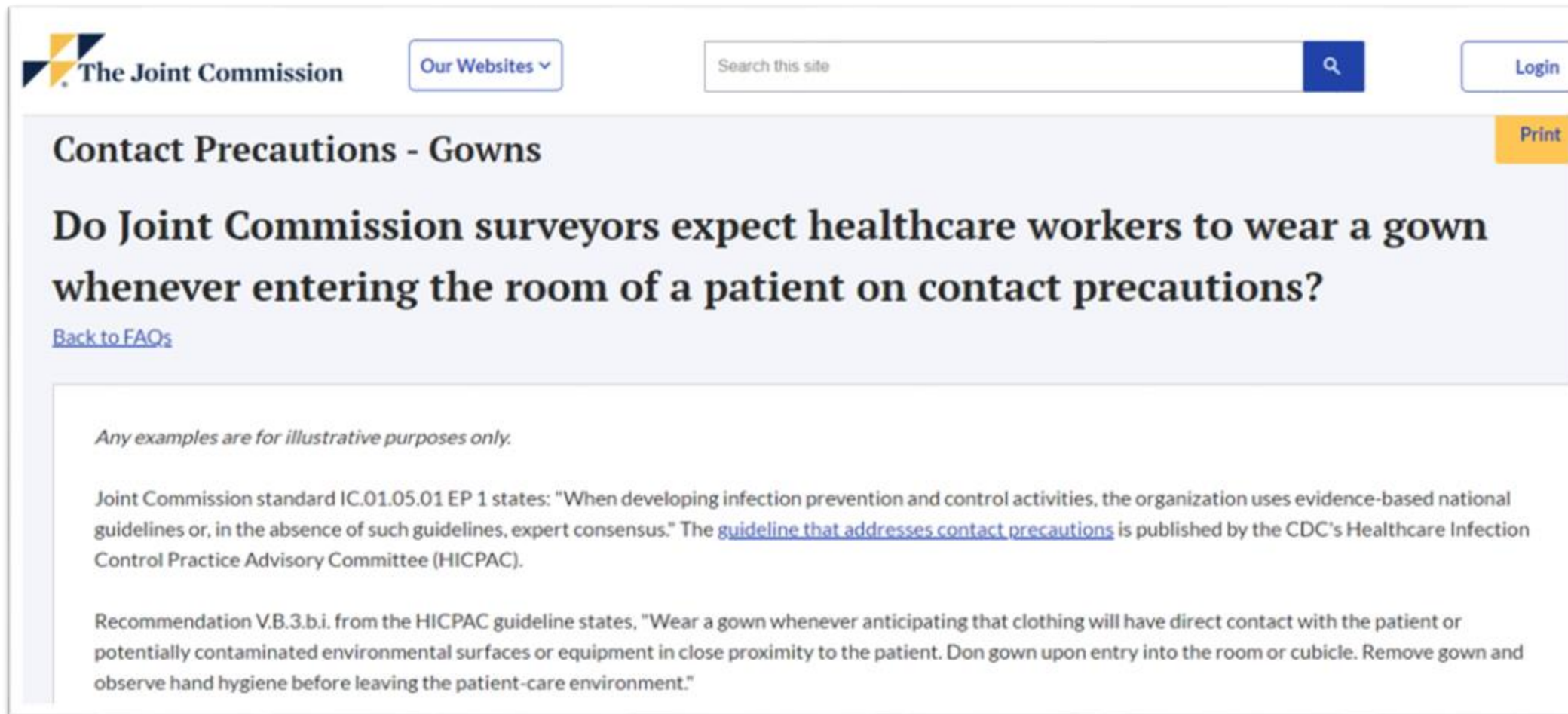
Updates

Authors

Type and Duration of Precautions Recommended for Selected Infections and Conditions¹

<p>Multidrug-resistant organisms (MDROs), infection or colonization (e.g., MRSA, VRE, VISA/VRSA, ESBLs, resistant <i>S. pneumoniae</i>)</p>	<p>Contact + Standard</p>		<p>MDROs judged by the infection control program, based on local, state, regional, or national recommendations, to be of clinical and epidemiologic significance. Contact Precautions recommended in settings with evidence of ongoing transmission, acute care settings with increased risk for transmission or wounds that cannot be contained by dressings. See recommendations for management options in Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006 [870]. Contact state health department for guidance regarding new or emerging MDRO.</p>
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What about The Joint Commission?



The screenshot shows the top navigation bar of The Joint Commission website. It includes the logo, a search bar, and a 'Login' button. The main content area features a title 'Contact Precautions - Gowns' with a 'Print' button. Below the title is the main heading: 'Do Joint Commission surveyors expect healthcare workers to wear a gown whenever entering the room of a patient on contact precautions?'. A link 'Back to FAQs' is provided. The body text includes a disclaimer: 'Any examples are for illustrative purposes only.' followed by a paragraph about Joint Commission standard IC.01.05.01 EP 1 and a recommendation from the HICPAC guideline.

1. <https://www.jointcommission.org/standards/standard-faqs/hospital-and-hospital-clinics/infection-prevention-and-control-ic/000001445/#:~:text=Joint%20Commission%20surveyors%20will%20expect,close%20proximity%20to%20the%20patient%22>.

2. <https://www.cdc.gov/infectioncontrol/guidelines/core-practices/index.html>



So, should we just stop contact precautions for MRSA and VRE?

Don't drop contact precautions so fast....

- Hospitals that demonstrated lack of harm after discontinuing contact precautions
 - High hand hygiene rates (>90%)
 - Good IPC infrastructure
 - CHG bathing and other horizontal infection prevention practices
 - Hospitals with fewer shared rooms
 - Not having active outbreak
- Contact precautions may still be important in some patient populations depending upon situation in your hospital
 - Some units may benefit: NICU, Transplant, Heme/Onc
 - Outbreaks
 - High institutional rates of MRSA and VRE

CDC's Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings

- Leadership support
- Education and training of HCP on IP
- Patient, Family and Caregiver Education
- Performance monitoring and feedback
- Standard precautions
 - Hand hygiene, environmental cleaning, injection safety, appropriate use of PPE, minimizing exposures, reprocessing of reusable medical equipment
- Transmission based precautions
- Manage temporary invasive medical devices
- Occupational Health

ORIGINAL ARTICLE

Decolonization in Nursing Homes to Prevent Infection and Hospitalization

L.G. Miller, J.A. McKinnell, R.D. Singh, G.M. Gussin, K. Kleinman, R. Saavedra,

- PROTECT trial
- Cluster randomized trial of 28 SNFs
- CHG bathing + povidone iodine nasal 5 days on admission, 5d every other week

CONCLUSIONS

In nursing homes, universal decolonization with chlorhexidine and nasal iodophor led to a significantly lower risk of transfer to a hospital due to infection than routine care. (Funded by the Agency for Healthcare Research and Quality; Protect ClinicalTrials.gov number, NCT03118232.)

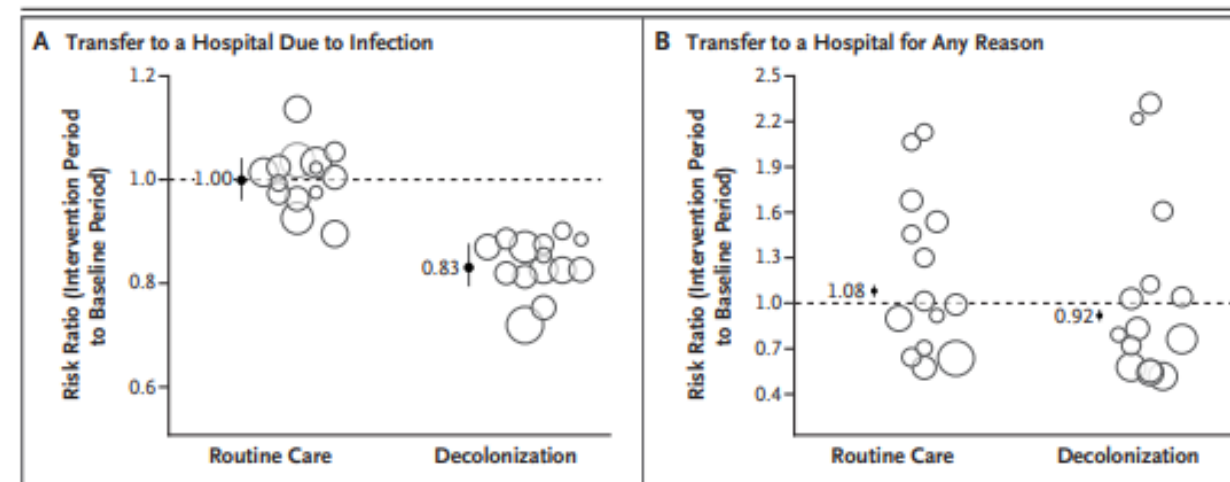


Figure 2. Effect of Decolonization on the Risk of Transfer to a Hospital among Nursing Home Residents.

Shown are the risk ratios for transfer to a hospital due to infection (Panel A) and for any reason (Panel B) between the intervention period and the baseline period. Each nursing home is represented by an open circle, and the size of the open circle is proportional to the number of residents contributing data to the trial. Each open circle is plotted at the y axis value that represents the deviation of that nursing home from the overall risk ratio in the trial group (solid circle, with I bars indicating the 95% confidence interval). The size and location of the open circles are based on the results of the unadjusted model.

Concentrate on horizontal IPC practices

Vertical IPC

- Discontinue contact precautions for MRSA, VRE and ESBL.
- Continue contact precautions for organisms with greater environmental risk and fewer treatment options: CRE, CRAB, CRPA, *C. diff*, *C. auris*, etc.

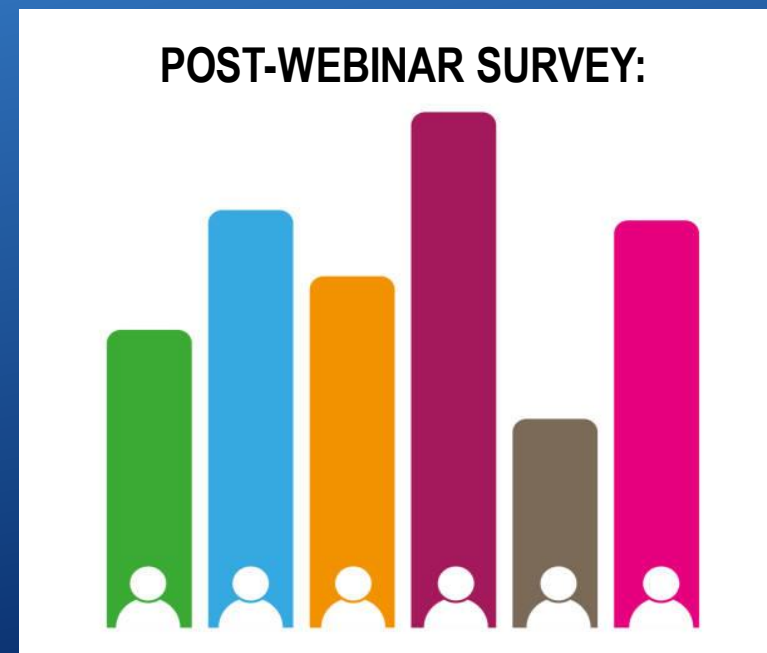
Horizontal IPC

- Improve horizontal IPC practices
 - Hand hygiene
 - Universal CHG bathing
 - Povidone iodine nasal decolonization
 - Environmental cleaning & disinfection
 - CAUTI prevention
 - CLABSI prevention
 - Supplemental environmental disinfection (UV, etc)
 - Bare below the elbows

Recommendations

- Perform risk assessment in your facility.
- Perform IPC gap analysis to identify practice shortcomings.
- Implement IPC improvements.
- Identify high risk situations where CPs may still be appropriate.
 - NICU (for all *S. aureus*)
 - Outbreaks
- Implement new horizontal IPC practices.
- Educate on IPC changes.
- Consider discontinuation of CPs for MRSA and VRE and use of standard preautipons instead.

Thank You!
Questions?



<https://www.surveymonkey.com/r/3NSMJQPQ>