

Enhanced Barrier Precaution



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Prevention of Spread of MDROs



- **Contact Precautions**
 - Gloves, Gowns, (Masks if airborne)
 - Isolation
- **Enhanced Barrier Precautions**
 - Watered Down Contact Precautions

For Nursing Homes



In the proposed recommendation narrative it states:

433 Enhanced Barrier Precautions may be prioritized by public health and through local risk assessment. Enhanced
434 Barrier Precautions may be considered for other congregate settings in healthcare facilities other than skilled
435 nursing facilities (e.g., congregate behavioral health units in acute care hospitals).

What are EBP? Residents Roam Around the Facility



- d. Residents are not restricted to their rooms or limited from participation in group activities. Because Enhanced Barrier Precautions do not impose the same activity and room placement restrictions as Contact Precautions, they are intended to be in place for the duration of a resident's stay in the facility or until the indication for Enhanced Barrier Precaution is resolved (e.g., resolution of wound or discontinuation of the indwelling medical device). (*Expert Opinion*)

Residents with many different types of MDROs are not restricted in their facilities.

What are EBP? High Verses Low Risk Activities



- c. Use a gown and gloves for high-contact resident care activities including dressing, bathing/showering, transferring, providing hygiene, changing linens, changing briefs or assisting with toileting, device care or use (e.g., central venous catheter, urinary catheter, feeding tube, tracheostomy/ventilator management), and wound care.^{15,17,38,39} In general, gown and gloves would not be required for resident care activities other than those listed above, unless indicated per Standard Precautions. (*Expert Opinion*)

Enhanced Barrier Precautions would not be required for the administration of medications which can occur three times a day for many residents.

MDRO Colonization and Infection



2. **Enhanced Barrier Precautions** (applies to Skilled Nursing Facilities):

- a. Enhanced Barrier Precautions are indicated, when Contact Precautions do not otherwise apply, for nursing home residents with multidrug-resistant organism (MDRO) infection or colonization.³⁴ (*Expert Opinion*)

Frequently Asked Questions (FAQs) about Enhanced Barrier Precautions in Nursing Homes | HAI | CDC <https://www.cdc.gov/hai/containment/faqs.html>

4. When should nursing home staff use Contact Precautions versus Enhanced Barrier Precautions for a resident with a MDRO?

Contact Precautions are recommended if the resident has acute diarrhea, draining wounds, or other sites of secretions or excretions that are unable to be covered or contained or for a limited period of time during a suspected or confirmed MDRO outbreak investigation. If neither criteria are met and the resident does not have another indication for Contact Precautions (See Question 5), then Enhanced Barrier Precautions could be used, unless otherwise directed by public health authorities.

MDRO Colonization and Infection



2. Enhanced Barrier Precautions (applies to Skilled Nursing Facilities):

- a. Enhanced Barrier Precautions are indicated, when Contact Precautions do not otherwise apply, for nursing home residents with multidrug-resistant organism (MDRO) infection or colonization.³⁴ (*Expert Opinion*)

Frequently Asked Questions (FAQs) about Enhanced Barrier Precautions in Nursing Homes | HAI | CDC <https://www.cdc.gov/hai/containment/faqs.html>

5. Are Enhanced Barrier Precautions recommended for residents with *Clostridioides difficile* infection or scabies?

No. Enhanced Barrier Precautions are intended for MDROs (other than *Clostridioides difficile*) and do not replace existing guidance regarding use of Contact Precautions for other pathogens (e.g., *Clostridioides difficile*, scabies, norovirus) and conditions in nursing homes. Refer to

What Can EBP be Used for ?



15. Are Enhanced Barrier Precautions recommended for methicillin-resistant *Staphylococcus aureus* (MRSA) and other MDROs if the resident does not also have an indwelling medical device or wound?

While Enhanced Barrier Precautions were initially intended for those colonized with or at risk for colonization with novel or targeted MDROs, CDC's updated guidance now provide facilities and jurisdictions the flexibility to implement Enhanced Barrier Precautions for residents colonized or infected with any epidemiologically important MDRO. For this reason, facilities may consider Enhanced Barrier Precautions for more common MDROs such as MRSA. If implemented, Enhanced Barrier Precautions for residents with known MRSA colonization should be utilized in the same manner as Enhanced Barrier Precautions for novel or targeted MDROs and should not replace other interventions targeted at preventing invasive MRSA infection and transmission.

What Can EBP be Used for ?



Examples of MDROs targeted by CDC include:

- Pan-resistant organisms,
- Carbapenemase-producing carbapenem-resistant Enterobacterales,
- Carbapenemase-producing carbapenem-resistant *Pseudomonas*,
- Carbapenemase-producing carbapenem-resistant *Acinetobacter baumannii*, and
- *Candida auris*

Additional epidemiologically important MDROs may include, but are not limited to:

- Methicillin-resistant *Staphylococcus aureus* (MRSA),
- ESBL-producing Enterobacterales,
- Vancomycin-resistant *Enterococci* (VRE),
- Multidrug-resistant *Pseudomonas aeruginosa*,
- Drug-resistant *Streptococcus pneumoniae*

Let's look a C. Auris



- Here is what the CDC says. <https://www.cdc.gov/fungal/candida-auris/c-auris-drug-resistant.html>

Candida auris: A Drug-resistant Germ That Spreads in Healthcare Facilities

[Español \(Spanish\)](#) [Print](#)

Candida auris (also called *C. auris*) is a fungus that causes serious infections. Patients with *C. auris* infection, their family members and other close contacts, public health officials, laboratory staff, and healthcare personnel can all help stop it from spreading.



Let's look at *C. Auris*



- Here is what the CDC says. <https://www.cdc.gov/fungal/candida-auris/c-auris-drug-resistant.html>




Why is *Candida auris* a problem?

- **It causes serious infections.** *C. auris* can cause bloodstream infections and even death, particularly in hospital and nursing home patients with serious medical problems. More than 1 in 3 patients with invasive *C. auris* infection (for example, an infection that affects the blood, heart, or brain) die.
- **It's often resistant to medicines.** Antifungal medicines commonly used to treat *Candida* infections often don't work for *Candida auris*. Some *C. auris* infections have been resistant to all three types of antifungal medicines.
- **It's becoming more common.** Although *C. auris* was just discovered in 2009, it has spread quickly and caused infections in more than a dozen countries.
- **It's difficult to identify.** *C. auris* can be misidentified as other types of fungi unless specialized laboratory technology is used. This misidentification might lead to a patient getting the wrong treatment.
- **It can spread in hospitals and nursing homes.** *C. auris* has caused outbreaks in healthcare facilities and can spread through contact with affected patients and contaminated surfaces or equipment. Good hand hygiene and cleaning in healthcare facilities is important because *C. auris* can live on surfaces for several weeks.



Let's look a *Candida Auris*



 **NBC NEWS** ISRAEL-HAMAS WAR POLITICS U.S. NEWS WORLD BUSINESS ● WATCH LIVE  

HEALTH NEWS

Deadly fungal infection spreading at an alarming rate, CDC says

The fungus, a type of yeast called *Candida auris*, or *C. auris*, can cause severe illness in people with weakened immune systems.

March 20, 2023, 6:07 PM EDT / Updated April 4, 2023, 1:50 PM EDT

By Linda Carroll



Let's look a *Candida Auris*

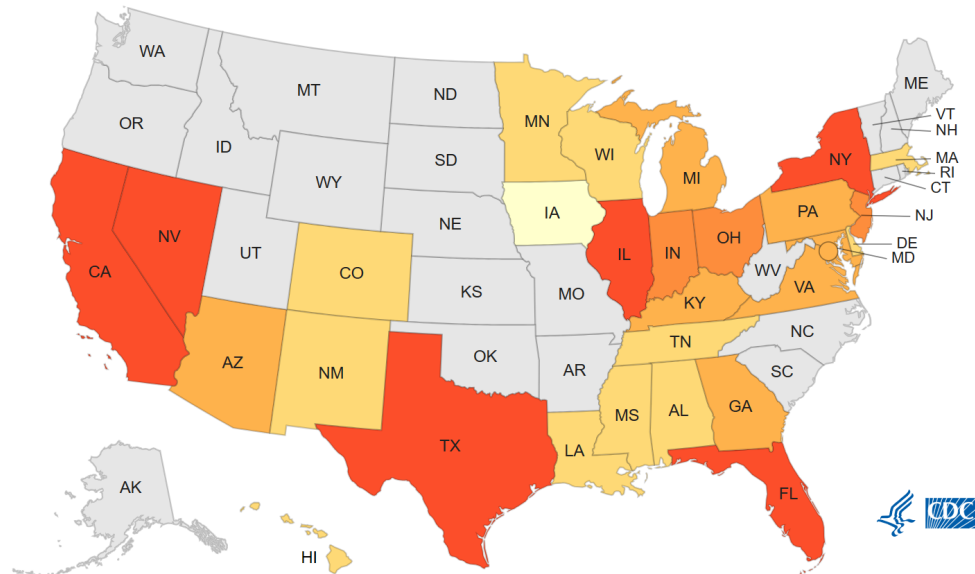


Similar to COVID-19 infections data is lacking. The last data posted by the CDC is on Dec. 31. 2023.

C. auris tracking data

Make a selection from the filters to change the visualization information.

Most Recent 12 Months ▾



Number of *C. auris* clinical cases through December 31, 2022

In the most recent 12 months, there were 2,377 clinical cases and 5,754 screening cases (January 2022 - December 2022).

Candida Auris Struck in Kentucky



October 24, 2023 - Outbreak at the University of Kentucky Hospital

Five cases of highly contagious fungus reported at UK HealthCare

By TOM LATEK, Kentucky Today Oct 24, 2023 Updated Oct 25, 2023



UK HealthCare has reported five cases of a highly contagious fungus. (UK HealthCare photo)

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MRSA: EBP Recommendations Based On “Expert Opinion”



- Initially these recommendations were evidenced based (Roghmann, et al. and Blanco, et al.) but the predicate data did not support their enactment.
- The Evidenced Based were replaced with “Expert Opinion”. But published data by Roghmann, et al. Regarding the Spread of MRSA and Blanco, et al contradicts the recommendations.

Roghmann MC, Johnson JK, Sorkin et al. Transmission of Methicillin-Resistant Staphylococcus aureus (MRSA) to Healthcare Worker Gowns and Gloves During Care of Nursing Home Residents. Infect Control Hosp Epidemiol. 2015 Sep;36(9):1050-7. doi: 10.1017/ice.2015.119. Epub 2015 May 26. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4900177/>

Blanco N, Johnson JK, Sorkin JD, et al. Transmission of resistant Gram-negative bacteria to healthcare personnel gowns and gloves during care of residents in community-based nursing facilities. Infect Control Hosp Epidemiol. 2018 Dec;39(12):1425-1430. doi: 10.1017/ice.2018.247. Epub 2018 Oct 8. <https://pubmed.ncbi.nlm.nih.gov/30293533/>

MDROs common in Nursing Homes



In Nursing Homes

- Rodmann reported a 28% rate of MRSA colonization.
- Mody et al. reported a 29% rate of MRSA colonization.

Roghmann MC, Johnson JK, Sorkin et al. Transmission of Methicillin-Resistant Staphylococcus aureus (MRSA) to Healthcare Worker Gowns and Gloves During Care of Nursing Home Residents. Infect Control Hosp Epidemiol. 2015 Sep;36(9):1050-7. doi: 10.1017/ice.2015.119. Epub 2015 May 26.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4900177/>

Mody L, Kauffman CA, Donabedian S, Zervos M, Bradley SF. Epidemiology of Staphylococcus aureus colonization in nursing home residents. Clin Infect Dis. 2008; 46(9):1368-1373. [PubMed: 18419438]

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3319393/>

MRSA: EBP Recommendations Based On “Expert Opinion”



For MRSA there is an 8% chance of contamination of health care worker gowns each time medications are passed to a colonized nursing home resident.

Roghmann MC, Johnson JK, Sorkin et al. Transmission of Methicillin-Resistant Staphylococcus aureus (MRSA) to Healthcare Worker Gowns and Gloves During Care of Nursing Home Residents. *Infect Control Hosp Epidemiol*. 2015 Sep;36(9):1050-7. doi: 10.1017/ice.2015.119. Epub 2015 May 26.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4900177/>

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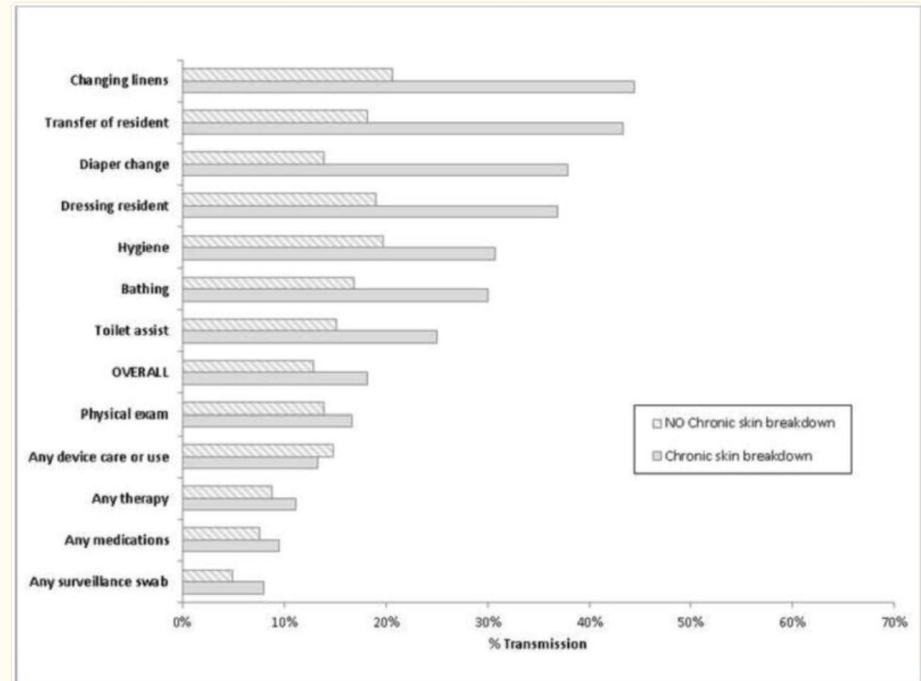


Figure 2

MRSA Transmission to Gowns of Healthcare Personnel during care of MRSA colonized residents (n=113) by Type of Care provided and presence of chronic skin breakdown (e.g. pressure ulcers) during 952 interactions

MRSA: EBP Recommendations Based On “Expert Opinion”



If a typical healthcare worker who passes meds is taking care of 25 residents and the average patient receives medications three times a day, and 7 of these residents will be colonized, then there will be 147 interactions per week with colonized residents. At an 8% transmission rate to gowns per interaction, **one would expect over 11 transfers of MRSA to the clothes of a non-gowned healthcare worker each week** with enhanced barrier precautions.

Gram Neg Bacteria: EBP Recommendations Based On “Expert Opinion”



The same calculation for gram negative bacteria (Blanco, et al.) would be one transmission per week.

According to Blanco, et al., the risk of Nursing home resident GNB colonization is 22.8% (74/325). Overall, there was an 11% transmission with each interaction.

Passing medications “any medication” had a detected transmission to gloves with an odds ratio for transmission of 0.15 and to gowns with an odds ratio of 0.3

Or: There was a 1.6% chance of contaminating gloves and a 3.3% chance of contaminating gowns with the passing of “any medication”. (If medications are passed three times a day in a colonized patient, **then one would expect a 69% chance of transmission each week.**)

Blanco N, Johnson JK, Sorkin JD, et al. Transmission of resistant Gram-negative bacteria to healthcare personnel gowns and gloves during care of residents in community-based nursing facilities. *Infect Control Hosp Epidemiol.* 2018 Dec;39(12):1425-1430. doi: 10.1017/ice.2018.247. Epub 2018 Oct 8.
<https://pubmed.ncbi.nlm.nih.gov/30293533/>



EBP Recommendations Based On “Expert Opinion”



- The **Underlying Problem** is that even “low risk” interactions occur so frequently in nursing homes that transmission can occur.

EBP - History of Promotion Prior to COVID-19



HICPAC Public Comment - November 13, 2019:

“Of particular concern are nursing homes, where the reported risk of carriage of resistant bacteria is alarming, well over 50%.(1) And carriage in both the patient and the environment(2) can last for months. The 2019 CDC Threat Assessment lists *Candida auris* and CRE as an urgent threat and MRSA as a severe threat. A Slide from this’s morning’s **Threat Assessment presentation stated *Candida auris* and CRE needs to be contained through an “aggressive approach.”** However, the current “enhanced barrier precautions” for nursing homes have lowered the standards of control for these three dangerous organisms.”

https://www.healthwatchusa.org/HWUSA-Initiatives/HW%20USA%20Regulation.GOV_CommentReceipts/20191114-HICPAC-Public_Comment_Kavanagh-EBP.pdf

1) McKinnell JA, Singh RD, Miller LG, et al. The SHIELD Orange County Project: Multidrugresistant Organism Prevalence in 21 Nursing Homes and Long-term Acute Care Facilities in Southern California. Clin Infect Dis. 2019 Oct 15;69(9):1566-1573. doi: 10.1093/cid/ciz119.

2) Alam MT, Read TD, Petit RA 3rd, et al. Transmission and microevolution of USA300 MRSA in U.S. households: evidence from whole-genome sequencing. MBio. 2015 Mar 10;6(2):e00054. doi: 10.1128/mBio.00054-15.



EBP - History of Promotion Prior to COVID-19



HICPAC Public Comment – June 9, 2023:

“EBP is advocated for use to mitigate the spread of CRE and C. Auris. These are highly dangerous organisms. A clinical trial is certainly indicated before planning for adoption in non-research settings. And I would be doing online training with extreme caution.

A better approach is **screening to identify the microbiome of residents, decolonization and cohorting if decolonization is not successful**. Admission and periodic surveillance is key to stopping MRSA in hospitals, in mitigating spread of SARS-CoV-2 and in keeping nursing home residents and working staff safe.

It is concerning that the CDC appears to be moving forward with EBP where there is little evidence supporting their effectiveness with dangerous pathogens and also appears to be considering abandoning N95 masking where there is decades of occupational research supporting their use. ”



[https://www.healthwatchusa.org/HWUSA-Initiatives/HW%20USA%20Regulation.GOV CommentReceipts/20230609-HICPAC-CDC-Public-Comment.pdf](https://www.healthwatchusa.org/HWUSA-Initiatives/HW%20USA%20Regulation.GOV%20CommentReceipts/20230609-HICPAC-CDC-Public-Comment.pdf)

EBP - History of Promotion Prior to COVID-19



HICPAC Public Comment – November 2, 2023:

....And with Enhanced Barrier Precautions the CDC is allowing those with Candida auris to wander around a facility and at the same time the CDC is warning of dangerous outbreaks of Candida auris

<https://www.healthwatchusa.org/HWUSA-Presentations-Community/PDF-Downloads/20231103-KTK-Comment-HICPAC.pdf>

