

**FACT SHEET**  
***Acinetobacter baumannii* (resistant)**

**DESCRIPTION:**

Acinetobacter is a group of bacteria commonly found in soil and water. It can also be found on the skin of healthy people, especially healthcare personnel. While there are many types or “species” of Acinetobacter and all can cause human disease, Acinetobacter baumannii accounts for about 80% of reported infections.

Outbreaks of Acinetobacter infections typically occur in intensive care units and healthcare settings housing very ill patients. Acinetobacter infections rarely occur outside of healthcare settings. Acinetobacter can be spread to susceptible persons by person-to-person contact, contact with contaminated surfaces, or exposure in the environment. Acinetobacter is often resistant to many commonly prescribed antibiotics. Acinetobacter can live on the skin and may survive in the environment for several days. Careful attention to infection prevention procedures such as hand hygiene and environmental cleaning can reduce the risk of transmission.

**PRECAUTIONS:**

- CDC recommends Contact Precautions and those precautions will likely be warranted even in LTCFs due to the extreme resistance and difficulty in treating.
- Some considerations that may increase risk of transmission in long term care residents include:
  - Heavy draining wound
  - Incontinent, diarrhea, ostomy
  - Poor hygiene
  - Behaviors that may increase the risk of transmission
  - Patient cannot/will not contain excretions/secretions

**ROOM CONSIDERATIONS:**

- Infected residents should be placed in private rooms or cohorted.
- If neither is available, the infection preventionist, other designee, or management team should review the specific resident situation to determine whether a semi-private room with a low-risk roommate is acceptable.

**DISCONTINUE PRECAUTIONS:**

- CDC states that we should make a case by case decision regarding when to discontinue precautions.
- It would be prudent to have one or more negative cultures before discontinuing Contact Precautions.

**SPECIAL CONSIDERATIONS:**

- See recommendations for management options in Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006  
<http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf>
- Additional information is available at:  
<http://www.cdc.gov/HAI/organisms/acinetobacter.html>

**FACT SHEET**  
***Clostridium difficile***

**DESCRIPTION:**

*Clostridium difficile* is a spore-forming bacterium that causes diarrhea and more serious intestinal conditions such as colitis, sepsis, and rarely death. Symptoms of *C. difficile* disease include watery diarrhea, fever, loss of appetite, nausea, abdominal pain/tenderness. Disease usually follows administration of antibiotics.

**PRECAUTIONS:**

- Contact Precautions while having diarrhea
- Some facilities choose to discontinue precautions if there are no loose stools for 48 hours

**ROOM CONSIDERATIONS:**

- Infected residents should be placed in private rooms or cohorted.
- If neither is available, the infection preventionist, other designee, or management team should review the specific resident situation to determine whether a semi-private room with a low-risk roommate is acceptable.

**DISCONTINUE PRECAUTIONS:**

- When diarrhea ceases.
- Follow-up culture or toxin should NOT be done to discontinue precautions.

**SPECIAL CONSIDERATIONS:**

- Wash hands with soap and water.
- Do not use an alcohol handrub.
- *C. difficile* is a spore-forming organism; environmental contamination frequently occurs.
- Environmental cleaning:
  - CDC recommends use of hypochlorite-based products for disinfection of environmental surfaces, however since those recommendations were published, we now have EPA-registered products that are specific for inactivating *Clostridium difficile* spores.
  - Use in accordance with guidance from the scientific literature in those patient care areas where surveillance and epidemiology indicate ongoing transmission of *C. difficile*.

**NOTE:** You may want to consider use of a pre-mixed, EPA-registered, hospital-grade hypochlorite-based or sporicidal disinfectant, rather than daily mixing of bleach and water.

**REFERENCES:**

- [http://www.cdc.gov/HAI/organisms/cdiff/Cdiff\\_infect.html](http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html)

## FACT SHEET

# Carbapenem Resistant Enterobacteriaceae (CRE)

### DESCRIPTION:

Infection with carbapenem-resistant Enterobacteriaceae (CRE) or carbapenemase-producing Enterobacteriaceae is emerging as an important challenge in healthcare settings. Currently, carbapenem-resistant *Klebsiella pneumoniae* (CRKP) is the species of CRE most commonly encountered in the United States. CRKP is resistant to almost all available antimicrobial agents, and infections with CRKP have been associated with high rates of morbidity and mortality, particularly among persons with prolonged hospitalization and those who are critically ill and exposed to invasive devices (e.g., ventilators or central venous catheters). Early detection through use of targeted surveillance and introduction of strict infection prevention measures (including reinforcement of hand hygiene and contact precautions) can help control the spread of CRKP.

### PRECAUTIONS:

- Contact Precautions – CREs are unique, very resistant organisms and generally require Contact Precautions

### ROOM CONSIDERATIONS:

- Infected residents should be placed in private rooms or cohorted.
- If neither is available, the infection preventionist, other designee, or management team should review the specific resident situation to determine whether a semi-private room with a low-risk roommate is acceptable.

### DISCONTINUE PRECAUTIONS:

- CDC states that we should make a case by case decision regarding when to discontinue precautions.
- It would be prudent to have one or more negative cultures before discontinuing Contact Precautions.

### SPECIAL CONSIDERATIONS:

- See recommendations for management options in Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006  
<http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf>
- Additional information may be available at [www.cdc.gov](http://www.cdc.gov)

## FACT SHEET

# Extended-Spectrum Beta-Lactamases (ESBLs)

### DESCRIPTION:

Extended-Spectrum Beta-Lactamases (ESBLs) are organisms that secrete enzymes causing resistance to extended-spectrum (third generation) cephalosporins (e.g., ceftazidime, cefotaxime, and ceftriaxone) and monobactams (e.g., aztreonam) but do not affect cephamycins (e.g., cefoxitin and cefotetan) or carbapenems (e.g., meropenem or imipenem). A variety of bacteria can become producers of ESBLs.

### EXAMPLES:

- *K. pneumoniae*
- *K. oxytoca*
- *E. coli*

### PRECAUTIONS:

- CDC recommends Contact Precautions but suggests that LTCFs make a case by case decision.
- Some considerations that may influence the use of Contact Precautions for long term care residents include:
  - Heavy draining wound
  - Incontinent, diarrhea, ostomy
  - Poor hygiene
  - Behaviors that may increase the risk of transmission
  - Patient cannot/will not contain excretions/secretions

### ROOM CONSIDERATIONS:

- Infected residents should be placed in private rooms or cohorted.
- If neither is available, the infection preventionist, other designee, or management team should review the specific resident situation to determine whether a semi-private room with a low-risk roommate is acceptable. Consider the infected site and risk of transmission.

### DISCONTINUE PRECAUTIONS:

- CDC states that we should make a case by case decision regarding when to discontinue precautions.
- It would be prudent to have one or more negative cultures before discontinuing Contact Precautions.

### SPECIAL CONSIDERATIONS:

- See recommendations for management options in Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006  
<http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf>
- Additional information may be available at [www.cdc.gov](http://www.cdc.gov)

**FACT SHEET**  
**Methicillin-Resistant**  
***Staphylococcus aureus* (MRSA)**

**DESCRIPTION:**

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of bacteria that is resistant to certain antibiotics. These antibiotics include methicillin and other more common antibiotics such as oxacillin, penicillin and amoxicillin. Staph infections, including MRSA, occur most frequently among persons in hospitals and healthcare facilities (such as nursing homes and dialysis centers) who have weakened immune systems. In healthcare facilities, the main mode of transmission to other patients is through human hands, especially healthcare workers' hands. Hands may become contaminated with MRSA by contact with infected or colonized patients. If appropriate hand hygiene such as washing with soap and water or using an alcohol-based hand sanitizer is not performed, MRSA can be spread when the healthcare worker touches other patients.

**PRECAUTIONS:**

- LTCFs should make a decision on a case by case basis whether contact precautions are needed. Risk of transmission increases in the following situations and therefore, contact precautions should be considered:
  - Heavy draining wound
  - Incontinent, diarrhea, ostomy
  - Poor hygiene
  - Difficult behaviors
  - Cannot/will not contain excretions/secretions

**ROOM CONSIDERATIONS:**

- Infected or colonized residents should be placed in private rooms or cohorted.
- If neither is available, the infection control practitioner, other designee, or management team should review the specific resident situation to determine whether a semi-private room with a low-risk roommate is acceptable.

**DISCONTINUE PRECAUTIONS:**

- CDC states that we should make a case by case decision regarding when to discontinue precautions.

**SPECIAL CONSIDERATIONS:**

- Many hospitals are doing active surveillance for MRSA in the nares on specific high risk patients being admitted. When those that have positive nares cultures for MRSA are discharged to the LTCF, that positive culture (without any other sites) does not indicate that we need to initiate Contact Precautions.

**REFERENCES:**

- See recommendations for management options in Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006.  
<http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf>
- Additional information may be available at <http://www.cdc.gov/mrsa/>

**FACT SHEET**  
***Vancomycin-Resistant Enterococcus (VRE)***

**DESCRIPTION:**

Enterococci are bacteria that are normally present in the human intestines and in the female genital tract and are often found in the environment. These bacteria can sometimes cause infections. Vancomycin is an antibiotic that is often used to treat infections caused by enterococci. In some cases, enterococci have become resistant to vancomycin and are called vancomycin-resistant enterococci or VRE. The resistant organisms of concern are *Enterococcus faecalis* and *Enterococcus faecium*. Most VRE infections occur in hospitals. VRE can live in the human intestines and female genital tract without causing disease (often called colonization). However, sometimes, it can cause urinary tract, bloodstream, wound infections, or others. VRE may be passed from person to person by the hands of caregivers following contact with the resident or contaminated surfaces.

**PRECAUTIONS:**

- Contact Precautions

**ROOM CONSIDERATIONS:**

- Infected or colonized residents should be placed in private rooms or cohorted.
- If neither is available, the infection control practitioner, other designee, or management team should review the specific resident situation to determine whether a semi-private room with a low-risk roommate is acceptable.

**DISCONTINUE PRECAUTIONS:**

- CDC states that we should make a case by case decision regarding when to discontinue precautions.

**SPECIAL CONSIDERATIONS:**

- VRE can cause heavy environmental contamination.
- Environmental and medical equipment surfaces should be thoroughly cleaned and disinfected on a regular basis by using an EPA-registered disinfectant in accordance with manufacturers' instructions.
- Emphasis on disinfection of the environment is an additional measure to reduce the spread of MDROs through indirect transmission (fomites).
- Emphasis on high-touch surfaces in patient-care areas (e.g., bed rails, carts, bedside commodes, bed rails, doorknobs, or faucet handles) is important in environmental decontamination.
- Increasing the frequency of environmental cleaning may be helpful.

**REFERENCES:**

- See the CDC VRE web page: <http://www.cdc.gov/HAI/organisms/vre/vre-infection.html>