General Resources

Infection Prevention

Antibiotic Resistance and Stewardship

*Clostridium difficile*

Methicillin Resistant *Staphylococcus aureus* (MRSA)

Surgical Site Infections (SSIs)

Catheter Associated Urinary Tract Infections (CAUTI)

Central Line Bloodstream Infections (CLABSI)
**Infection Prevention**

**GR-1:** The Association for Professionals in Infection Control and Epidemiology (APIC): Infection Prevention and You Infographic: You Are an Important Part of Infection Prevention (English/Spanish/Portuguese)

**GR-2:** The Association for Professionals in Infection Control and Epidemiology (APIC): Infection Prevention and You: Isolation Precautions

**GR-3:** Centers for Disease Control and Prevention (CDC): Hand Hygiene Poster (English/Spanish) 11”x17”

**GR-4:** Centers for Disease Control and Prevention (CDC): Stop Germs! Stay Healthy! Wash Your Hands

**GR-5:** Centers for Disease Control and Prevention (CDC): Six Ways to Be A Safe Patient

**GR-6:** Henry the Hand: Hand Washing Guide (English/Spanish)

**GR-7:** Henry the Hand: Four Principles of Hand Awareness

**GR-8:** New Hampshire Department of Health and Human Services: Steps You Can Take To Prevent Healthcare-Associated Infections Brochure
GR-1: The Association for Professionals in Infection Control and Epidemiology (APIC): Infection Prevention and You Infographic: You Are an Important Part of Infection Prevention (English/Spanish/Portuguese)

Patient flyer designed to provide information about the patient role in infection prevention, infection preventionists, healthcare-associated infections.

http://www.apic.org/For-Consumers/Materials-for-healthcare-facilities
GR-2: The Association for Professionals in Infection Control and Epidemiology (APIC): Infection Prevention and You: Isolation Precautions

Flyer for patients and families explaining the three types of isolation precautions and what occurs during each. Can be provided to patients who may be undergoing isolation precautions or provided to family members of patients under isolation precautions.

http://www.apic.org/For-Consumers/Materials-for-healthcare-facilities

In the hospital, isolation precautions are used to help stop the spread of germs from one person to another. We want to protect our patients, families, visitors, and healthcare workers from the spread of germs.

You or your family member has been placed on isolation precautions. There will be a sign at the door of your hospital room to remind visitors and healthcare workers which isolation precautions are needed.

It is important to understand what this means and what you should expect from the hospital staff and visitors. In some cases, visitors may have to be limited. Visitors and healthcare staff should not eat or drink in isolation rooms and should always clean their hands before entering the room and upon exiting the room. We will tell you when your family member is able to come out of isolation precautions.

In the hospital, isolation precautions are used to help stop the spread of germs from one person to another. We want to protect our patients, families, visitors, and healthcare workers from the spread of germs.

You or your family member has been placed on isolation precautions. There will be a sign at the door of your hospital room to remind visitors and healthcare workers which isolation precautions are needed.

It is important to understand what this means and what you should expect from the hospital staff and visitors. In some cases, visitors may have to be limited. Visitors and healthcare staff should not eat or drink in isolation rooms and should always clean their hands before entering the room and upon exiting the room. We will tell you when your family member is able to come out of isolation precautions.
GR-3: Centers for Disease Control and Prevention (CDC): Hand Hygiene Poster (English/Spanish) 11”x17”

Flyer explaining the importance of proper hand hygiene in preventing the spread of infections.

http://www.cdc.gov/handhygiene/Resources.html
GR-4: Centers for Disease Control and Prevention (CDC): Stop Germs! Stay Healthy! Wash Your Hands

One page fact sheet explaining when is the best time for hand washing and how to wash the hands appropriately to prevent the spread of germs.

**GR-5: Centers for Disease Control and Prevention (CDC): Six Ways to Be a Safe Patient**

GR-6: Henry the Hand:
Hand Washing Guide (English/Spanish)

A colorful flyer targeted to children that shows the right way to wash their hands.
http://www.henrythehand.com/download-posters/
GR-7: Henry the Hand:
Four Principles of Hand Awareness

Handout for children explaining 4 ways to keep their hands clean and avoid spreading germs.
http://www.henrythehand.com/download-posters/
GR-8: New Hampshire Department of Health and Human Services (NH DHHS):
Steps You Can Take To Prevent Healthcare-Associated Infections Brochure

A patient empowerment brochure explaining the ways that patients can help prevent HAIs with specific guidance on CAUTI, CLABSI, and SSI.

http://www.dhhs.nh.gov/dphs/cdcs/haipublications.htm

Antibiotic Resistance and Stewardship
GR-9: Centers for Disease Control and Prevention (CDC): Antibiotics Aren’t Always the Answer Brochure (English)
GR-10: Centers for Disease Control and Prevention (CDC): A Veces, el Remedio es Peor que la Enfermedad (Spanish)

GR-11: Centers for Disease Control and Prevention (CDC): CDC Cold or Flu. Antibiotics Don’t Work For You Brochure

GR-12: Division of Public Health and Community Services (DPHCS): Superbugs Infographic

GR-13: Division of Public Health and Community Services (DPHCS): “Knowing When Antibiotics Are Right for You”, PowerPoint Presentation

GR-14: Centers for Disease Control and Prevention (CDC): Antibiotic Resistance Threats in the United States, 2013
GR-9: Centers for Disease Control and Prevention (CDC): Antibiotics Aren’t Always the Answer” Brochure (English)

Educational brochure detailing when antibiotics are truly beneficial to a child’s illness and when they do not help.

GR-10: Centers for Disease Control and Prevention (CDC): 
A Veces, el Remedio es Peor que la Enfermedad” (Spanish)

A brochure for Spanish speakers explaining the difference between bacteria and viruses, what an antibiotic is, and how resistance occurs. Includes FAQs on when a child does or does not need an antibiotic.

GR-11: Centers for Disease Control and Prevention (CDC): Cold or Flu. Antibiotics Don’t Work For You Brochure

Brochure targeted to adults 18-49 explaining the difference between bacteria and viruses, how bacteria become resistant, and answering frequently asked questions about when it is appropriate to use an antibiotic.

GR-12: City of Nashua, Division of Public Health and Community Services (DPHCS):
Superbugs Infographic

Antimicrobial resistance infographic explaining the impact of multidrug resistant organisms and ways to limit the spread of resistance on an individual level.

**ANTIMICROBIAL RESISTANCE**

**HOW BACTERIA FIGHT TO OVERWHELM OUR MEDICINE AND OUR BODIES**

**ANTIMICROBIAL**
A substance used to stop harmful microorganisms from growing, multiplying, and causing disease. Examples: Antibiotics

**Timeline of New Antibiotics Approved by the Food and Drug Administration**

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Number of Antibiotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983-1997</td>
<td>16</td>
</tr>
<tr>
<td>1993-1997</td>
<td>14</td>
</tr>
<tr>
<td>2003-2007</td>
<td>10</td>
</tr>
<tr>
<td>2007-2007</td>
<td>7</td>
</tr>
<tr>
<td>2007-2008</td>
<td>5</td>
</tr>
</tbody>
</table>

*Source: Spilberg, C.D. 2004.*

**What Are the Possible Effects of Resistance?**
- Higher Treatment Costs
- Prolonged Illness
- Higher Risk of Mortality
- Treatment with 2nd or 3rd line Drugs that may be Less Effective, More Costly, and More Toxic

The Centers for Disease Control and Prevention estimates that on a yearly basis antimicrobial resistant illnesses cause:

- **$20 BILLION IN HEALTHCARE COSTS**
- **2 MILLION INFECTIONS**
- **23,000 DEATHS**

**BE THE CHANGE**

**TALK** with your healthcare provider about antibiotic resistance and whether an antibiotic will actually benefit your illness. Don’t pressure your physician to prescribe you antibiotics.

**DON’T** take antibiotics for viral infections like a **COLD** or the **FLU**. They will **NOT** work.

**DON’T** take antibiotics from anyone but your doctor or share your antibiotics with anyone else.

**TAKE** all medicine exactly as it is prescribed, don’t skip doses, and complete the entire treatment. Don’t save some of your antibiotic for the next time you are sick.

Adapted from the Centers for Disease and Prevention: Antibiotic Resistance Threats in the United States, 2013

City of Nashua Division of Public Health and Community Services

JAN 2014
GR-13: City of Nashua, Division of Public Health and Community Services (DPHCS):
Knowing When Antibiotics Are Right for You

A PowerPoint presentation targeted to the general population. Explains the difference between viruses and bacteria, how bacteria become resistant, and how resistant bacteria impact the body.

A snapshot of the burden and threats of antibiotic resistant microorganisms in the United States.

http://www.cdc.gov/drugresistance/threat-report-2013/
**Clostridium Difficile**

**GR-15:** Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about “Clostridium difficile” (English/Spanish)

**GR-16:** New Hampshire Department of Health and Human Services: Clostridium difficile, Fact Sheet

**GR-17:** Living with Clostridium difficile, Pamphlet
GR-15: Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about “Clostridium difficile” (English/Spanish)

Patient flyer explaining Clostridium difficile and infection prevention inside of the hospital and after discharge.

FAQs ( Frequently asked questions) about “Clostridium Difficile”

What is Clostridium difficile infection?
Clostridium difficile (pronounced Ko-stridy-uhm diff-e-klid), also known as “C. diff”. C. diff is a germ that can cause diarrhea. Most cases of C. diff infection occur in patients taking antibiotics. The most common symptoms of a C. diff infection include:
- Watery diarrhea
- Fever
- Loss of appetite
- Nausea
- Belly pain and tenderness

Who is most likely to get C. diff infection?
The elderly and people with certain medical problems have the greatest chance of getting C. diff. C. diff spores can live outside the human body for a very long time and may be found on things in the environment such as bed linens, bed rails, bathroom fixtures, and medical equipment. C. diff infection can spread from person-to-person on contaminated equipment and on the hands of doctors, nurses, other healthcare providers and visitors.

Can C. diff infection be treated?
Yes, there are antibiotics that can be used to treat C. diff. In some severe cases, a person might have to have surgery to remove the infected part of the intestines. This surgery is needed in only 1 or 2 out of every 100 people with C. diff.

What are some of the things that hospitals are doing to prevent C. diff infections?
To prevent C. diff infections, doctors, nurses, and other healthcare providers:
- Clean their hands with soap and water or an alcohol-based hand rub before and after caring for every patient. This can prevent C. diff and other germs from being passed from one patient to another on their hands.
- Carefully clean hospital rooms and medical equipment that have been used for patients with C. diff.
- Use contact precautions to prevent C. diff from spreading to other patients. Contact Precautions mean:
  - Whenever possible, patients with C. diff will have a single room or share a room only with someone else who also has C. diff.
  - Healthcare providers will put on gloves and wear a gown over their clothing while taking care of patients with C. diff.
  - Visitors may also be asked to wear a gown and gloves.
  - When leaving the room, hospital providers and visitors remove their gown and gloves and clean their hands.

What can I do to help prevent C. diff infections?
- Only give patients antibiotics when it is necessary.
- Only wash your hands after using the bathroom and before eating.

If you do not see your providers clean their hands, please ask them to do so.
- Only take antibiotics as prescribed by your doctor.
- Be sure to clean your own hands often, especially after using the bathroom and before eating.

Can my friends and family get C. diff when they visit me?
C. diff infection usually does not occur in persons who are not taking antibiotics. Visitors are not likely to get C. diff, so it is safer for visitors, they should:
- Clean their hands before they enter your room and as they leave your room.
- Ask the nurse if they need to wear protective gowns and gloves when they visit you.

What do I need to do when I go home from the hospital?
Once you are back at home, you can return to your normal routine. Often, the diarrhea will be better or completely gone before you go home. This makes giving C. diff to other people much less likely. There are a few things you should do, however, to lower the chances of developing C. diff infection again or of spreading it to others:
- If you are given a prescription to treat C. diff, take the medicine exactly as prescribed by your doctor and pharmacist. Do not take half-doses or stop before you run out.
- Wash your hands often, especially after going to the bathroom and before preparing food.
- People who live with you should wash their hands often as well.
- If you develop more diarrhea after you get home, tell your doctor immediately.
- Your doctor may give you additional instructions.

If you have questions, please ask your doctor or nurse.
GR-16: New Hampshire Department of Health and Human Services:

*Clostridium difficile*, Fact Sheet

This fact sheet provides all of the basic information about what is *Clostridium difficile* and how it is treated and prevented.

GR-17: Living with *Clostridium difficile* Pamphlet
A pamphlet targeted for individuals with *Clostridium difficile* infections, their family members and caregivers. This pamphlet provides education and recommendations for self-care, reducing transmission, and when to see a healthcare provider.
http://www.azdhs.gov/phs/oids/hai/advisory-committee/education-training.htm

---

**Living with C. diff**

Learning how to control the spread of *Clostridium difficile* (C. diff)

*This can be serious,*
*I need to do something about this now!*
Methicillin Resistant *Staphylococcus aureus* (MRSA)

**GR-18:** City of Nashua, Division of Public Health and Community Services (DPHCS): Frequently Asked Questions about MRSA Brochure

**GR-19:** Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about MRSA (English/Spanish)

**GR-20:** Centers for Disease Control and Prevention (CDC): MRSA Fact Sheet (English/Spanish)

**GR-21:** New Hampshire Department of Health and Human Services Staph/MRSA Fact Sheet

**GR-22:** Living with MRSA (English/Spanish)

**GR-23:** MRSA and the Workplace
GR-18: City of Nashua, Division of Public Health and Community Services (DPHCS):
Frequently Asked Questions about MRSA Brochure

Brochure explaining the signs of MRSA, how it is spread, and ways to prevent its transmission.
http://bit.ly/1RMSNOT
GR-19: Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about MRSA (English/Spanish)

A one-page resource to help the public understand more about MRSA. Also covers what individuals can do to safeguard their health and what healthcare facilities can do to reduce the spread of MRSA.

http://www.cdc.gov/mrsa/healthcare/patient/index.html
GR-20: Centers for Disease Control and Prevention (CDC): MRSA Fact Sheet (English/Spanish)

Fact sheet detailing what MRSA is, signs and symptoms of infection, and ways to prevent its spread.

http://www.cdc.gov/mrsa/community/posters/index.html
GR-21: New Hampshire Department of Health and Human Services: Staph/MRSA Fact Sheet

This fact sheet provides quick answers to all of the basic questions that one needs to know about Staph/MRSA skin infections.

http://www.dhhs.nh.gov/dphs/cdcs/staph/publications.htm

Staph/MRSA Skin Infections

Recently New Hampshire has been seeing an increase in the number of cases of skin infections caused by *Staphylococcus aureus* (Staph) bacteria that are resistant to many antibiotics (drugs that kill bacteria), also called methicillin-resistant *Staphylococcus aureus* (MRSA).

What is a Staph/MRSA skin infection?
A Staph/MRSA skin infection can be a pimple, rash, boil, or an open wound. Staph/MRSA is often misdiagnosed as spider bites. Staph bacteria are commonly found on the skin of healthy persons. Staph/MRSA infections often begin with an injury to the skin. Symptoms of Staph infection include redness, warmth, swelling, tenderness of the skin, and boils or blisters. Sometimes it does not cause any problems; sometimes it causes minor infections such as pimples or boils. If left untreated, it can cause serious skin infections or worse.

How do Staph/MRSA skin infections spread?
Staph/MRSA lives on skin and survives on objects for 24 hours or more. The clearest person can get a Staph/MRSA infection. Antibiotic-resistant Staph/MRSA skin infections are found in places where there are crowds of people (school, jail, gym). Staph/MRSA can rub off on the skin of an infected person onto the skin of another person during skin-to-skin contact. Or, the Staph can come off of the infected skin of a person onto a shared object or surface, and get onto the skin of the next person who uses it. Examples of commonly shared objects include towels, soap, benches in hot tubs, and athletic equipment—anything that could have touched the skin of a Staph-infected person can carry the bacteria to the skin of another person.

How can I prevent myself or my family members from getting infected?
Wash your hands with soap and warm water. Keep cuts and scrapes clean with soap and water. Avoid skin contact and sharing personal items with anyone you suspect could have a Staph skin infection. When using protective gloves to the most infected area, remove and dispose of properly; wash your hands with soap and water after removing them. Do not share personal items with other persons who might have skin infections.

What should I do if I think I have a skin infection?
Consult your healthcare provider as soon as possible if you think you have a skin infection. Early treatment can help prevent the infection from getting worse. Be sure to follow directions from your doctor or healthcare provider closely, even when you start to feel better. Not taking all of your pills leads to stronger, antibiotic-resistant bacteria.

If I was told by my healthcare provider that I have a Staph/MRSA skin infection, how do I keep others from getting infected?

- Keep the infected area covered with clean, dry bandages. Put from infected wounds is very infections.
GR-22: Living with MRSA (English/Spanish)

A pamphlet for individuals with MRSA infections, their family members and caregivers. Provides education and recommendations for self-care, reducing transmission, and when to see a healthcare provider.

http://here.doh.wa.gov/materials/living-with-mrsa
GR-23: MRSA and the Workplace

A two page handout for all non-healthcare workplaces that covers what is MRSA, how its spread can be limited in the workplace, and when it is and isn’t safe for an employee with MRSA to go to work.


MRSA and the Workplace

Note: This information is for general workplaces, not healthcare facilities.

What is MRSA?
MRSA (methicillin-resistant Staphylococcus aureus) is a potentially dangerous type of staph bacteria. Staph is commonly carried on the skin or in the nose of healthy people and can sometimes cause infection. MRSA is resistant to treatment by certain antibiotics. Although the infection may start as a minor skin sore, it can become serious, sometimes even fatal.

What are the signs and symptoms?
Staph skin infections, including MRSA, usually start as a bump on the skin that may be red, warm, swollen, full of pus, or painful. They may look like a pimple, a boil, or a spider bite. Photos of MRSA skin infections are available at www.cdc.gov/mrsa/symptoms/index.html.

How does MRSA spread?
MRSA usually spreads by touching infected skin. It can also spread by touching materials or surfaces that had contact with an infection (e.g. towels, clothing, faucets, door knobs).

In what work settings is exposure to MRSA most likely?
MRSA skin infections can occur in any work setting. However, certain factors make it easier for MRSA to spread. These are the 5 Cs: Crowding, frequent skin-to-skin Contact, Compromised skin (cut, scrape, or rash), Contaminated items and surfaces, and lack of Cleanliness.

Workplaces where the 5 Cs are common include schools and daycare facilities, dormitories, military barracks, and correctional facilities.

People who work with farm animals or pets may also be at risk of MRSA infections from animals.

Is it safe to work with someone who has a staph or MRSA infection?
It is safe to work with them as long as their wound is kept clean, dry, and covered.

Who should be restricted from work?
• Restrict workers with wound drainage (pus) that cannot be covered and contained with a clean, dry bandage or who cannot maintain good hygiene practices, until the infection has healed.
• Restrict workers with active infections from activities where it is likely that others will contact the affected skin, until the infection has healed.
• Restrict food handlers with a lesion containing pus (such as a boil) or infected wound that is open and draining unless it is covered in accordance with the Food Code 2009 (www.fda.gov/FoodCode2009).
Surgical Site Infections (SSIs)
GR-24: Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about Surgical Site Infections (English/Spanish)
GR-24: Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about Surgical Site Infections (English/Spanish)

A one page resource to help the public understand Surgical Site Infections. Also covers what individuals can do to safeguard their health and what healthcare facilities can do to reduce the spread of SSIs.

http://www.cdc.gov/hai/ssi/ssi.html
Catheter Associated Urinary Tract Infections (CAUTI)
GR-25: Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about Catheter-associated Urinary Tract Infection (English/Spanish)
GR-25: Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about Catheter-Associated Urinary Tract Infection (English/Spanish)

A one page flyer to help the public understand Catheter-Associated Urinary Tract Infection. Also covers what individuals can do to safeguard their health and what healthcare facilities can do to reduce the spread of these infections.

http://www.cdc.gov/HAI/ca_uti/uti.html

FAQs

What is a "Catheter-Associated Urinary Tract Infection" (CA-UTI)?

A urinary tract infection (also called "UTI") is an infection in the urinary system, which includes the bladder (which stores the urine) and the kidneys (which filter the blood and make urine). Bacteria (germs) in the urine or blood can travel up to these areas, so if bacteria are introduced, an infection can occur.

A catheter is a thin tube placed in the bladder to drain urine. Urine drains through the tube into a bag that collects the urine. A urinary catheter may be used:

- If you are not able to urinate on your own
- To measure the amount of urine you pass, for example, during intensive care
- During and after some types of surgery
- During some tests of the bladder and kidneys

People with urinary catheters have a much higher chance of getting a urinary tract infection than people who don't have a catheter.

How do I get a catheter-associated urinary tract infection (CA-UTI)?

If germs enter the urinary tract, they may cause an infection. Many of the germs that cause a catheter-associated urinary tract infection are common germs found in your intestines that do not usually cause an infection there. Bacteria can enter the urinary tract when the catheter is being put in or while the catheter remains in the bladder.

Some of the common symptoms of a urinary tract infection are:

- Burning or pain in the lower abdomen (near the bladder)
- Fever
- Cloudy urine may be a sign of infection, but it is also caused by other processes
- Burning during urination or an increase in the frequency of urination after the catheter is removed

People with catheter-associated urinary tract infections do not always have these symptoms of infection.

Can catheter-associated urinary tract infections be treated?

Yes, most catheter-associated urinary tract infections can be treated with antibiotics and removed or changed if necessary. Your doctor will determine which medication is best for you.

What are some of the things that hospitals are doing to prevent catheter-associated urinary tract infection?

To prevent urinary tract infections, doctors and nurses take the following actions:

- Catheters are put in only when necessary and they are removed as soon as possible
- Only properly trained persons insert catheters using sterile ("sterilized") techniques.
- The tip of the catheter is inserted into the bladder
- Other methods to drain the urine are sometimes used, such as:
- External catheters in men (these look like condoms and are placed over the penis rather than into the penis)
- Rinsing a temporary catheter in to drain the urine and removing it right away
- This is called intermittent catheterization

Catheter care:

- Healthcare providers clean their hands by washing with soap and water or using an alcohol-based hand rub before and after touching the catheter.
- Avoid disassembling the catheter and drain tubes. This helps to prevent germs from getting into the catheter tube.
- The catheter is secured in the leg to prevent pulling or on the abdomen
- Avoid twisting or kinking the catheter.
- Keep the bag lower than the bladder to prevent urine from backflowing to the bladder.
- Empty the bag regularly. The drainage spout should not touch anything while emptying the bag.

What can I do to help prevent catheter-associated urinary tract infections (UTIs) if I have a catheter?

- Keep your hands clean before and after doing catheter care.
- Always keep your urine bag below the level of your bladder.
- Do not tug or pull on the tubing.
- Do not twist or kink the catheter tubing.
- Ask your healthcare provider each day if you still need the catheter.

What do I need to do when I go home from the hospital?

- If you will be going home with a catheter, your doctor or nurse should explain everything you need to know about taking care of the catheter. Make sure you understand how to care for it before you leave the hospital.
- If you develop any of the symptoms of a urinary tract infection, such as burning or pain in the lower abdomen, fever, or an increase in the frequency of urination, contact your doctor or nurse immediately.
- Before you go home, make sure you know who to contact if you have questions or problems after you get home.

Co-sponsored by:

Healthcare Associated Prevention Toolkit – General Resources

Version 1.0 - October 2015
Catheter Associated (Central Line) Bloodstream Infections (CLABSI)

GR-26: Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about Catheter-associated Bloodstream Infections (English/Spanish)
GR-26: Centers for Disease Control and Prevention (CDC): Frequently Asked Questions about Catheter-Associated Bloodstream Infections

A one page flyer to help the public understand Catheter-Associated/Central Line Associated Bloodstream Infections. Also covers what individuals can do to safeguard their health and what healthcare facilities can do to reduce the spread of these infections.

http://www.cdc.gov/hai/bsi/bsi.html