

Nurse to Nurse

Oregon's community-based care nursing newsletter



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Infection control

Standard Precautions are measures used to protect both the caregiver and individuals who receive care from infectious disease. Standard Precautions are based on the theory that all blood, body fluids, secretions, excretions (except sweat), non-intact skin, and mucous membranes, may contain infections that are transmissible to others. Standard Precautions include hand hygiene and the use of personal protective equipment (PPE) such as gloves, gowns, masks, eye protection, and face shields, depending on the expected exposure from the client. Additionally, Standard Precautions are intended to protect clients by ensuring that healthcare workers do not carry infectious agents on their hands or equipment from other infected clients. Some of the components of Standard Precautions include: respiratory hygiene/cough etiquette, contact precautions and droplet precautions.

Respiratory Hygiene/Cough Etiquette – is targeted at individuals with undiagnosed transmissible respiratory infections, their accompanying family members and friends. This recommendation applies to any person with signs of illness, including cough, congestion, rhino rhea, or increased production of respiratory discharges. The recommendation includes: covering sneezes and coughs with tissues; disposing of tissues promptly in no-touch receptacles (e.g., foot operated lid, or open, plastic-lined waste baskets);

providing masks for coughing clients; placing coughing/sneezing clients at least three feet from others who may be sitting/sleeping in the same room; cleaning and disinfecting surfaces the client may have touched frequently; and instructing clients to wash their hands after each sneeze or cough. Care providers should always wash their hands before and after each client.

Good hygiene practices, especially hand hygiene, are crucial in preventing the spread of viruses and reducing the occurrence of respiratory infections both in and out of healthcare settings.

Healthcare workers are advised to wear a mask and use careful hand hygiene when examining and after touching clients (and their environments) who have signs and symptoms of a respiratory infection. Healthcare workers, who have respiratory infections themselves, are advised to avoid direct client contact, especially with high-risk clients. If not possible, a mask should be worn while providing client care.

Contact Precautions - prevent the spread of infections through direct or indirect contact with the client or the client's environment. Contact Precautions are also required where there is excessive wound drainage, fecal incontinence, or discharges from the body that have the potential for wide-ranging environmental contamination and

risk of transmission. A client who requires Contact Precautions should use a private bedroom and if that is not available, assure that there is more than three feet of space between his or her bed and that of the roommate.

Healthcare workers caring for clients who are on Contact Precautions should wear a gown and gloves for any direct contact with the client, contaminated areas in the client's bedroom, or surfaces the client may have touched frequently outside of the bedroom, such as handrails in the bathroom, kitchen chair backs and arms, or doorknobs. PPE should be put on before entering the client's room and discarded before exiting the client's room, if the client is fairly confined to his or her bedroom. If the client is moving around the entire house, use the gown and gloves during your visit to the client, then discard the gown and gloves before leaving the home. Repeat hand hygiene before leaving either the client's room, or the home, depending on the circumstances just described, then make sure that neither your clothing nor your skin touches any contaminated surfaces as you leave.

Limit the amount of non-disposable client-care equipment brought into the home if a client is on Contact Precautions. Whenever possible, leave any client-care equipment in the home until the client is discharged from home care services. If non-critical client equipment (a stethoscope, for example) is not left in the home, clean and disinfect the item before removing it from the home. Use a low-to intermediate-level disinfectant. Place contaminated, but reusable, items in a plastic bag for carrying, then clean and disinfect them before using them again.

Advise care providers to regularly clean and disinfect (daily if possible) all surfaces that clients with Contact Precautions frequently touch. Focus not only on commonly touched surfaces (e.g., bed rails, bedside commode, bathroom surfaces, doorknobs), but also on any medical equipment located near the client. Contact Precautions can be discontinued after all signs and symptoms of the infection have been resolved. Rubber gloves should be worn while cleaning.

All people in the home should carefully follow hand hygiene recommendations (i.e., hand washing with soap and warm water or use of an alcohol-based hand rub) after touching body fluids (e.g., respiratory secretions, stool, urine, vomitus) and potentially contaminated surfaces and materials (e.g., linen, soiled clothing, remote controls). Hand hygiene supplies (e.g. soap/water, alcohol-based hand rub, disposable towels) should be readily available and replenished when needed.

Droplet Precautions



Droplet Precautions prevent the spread of pathogens that travel through respiratory secretions. Droplet Precautions are necessary to reduce the spread of pertussis, influenza virus, adenovirus, rhinovirus, *N. meningitidis*, and group A *Streptococcus* (for the first 24 hours of antimicrobial therapy).

The client who requires Droplet Precautions should wear a surgical mask when others are present. If the client cannot wear a mask, persons in close contact with the client should wear a mask. If the people in the home plan to reuse their masks, each person's mask should be identified and put away where others will not handle it in between uses. A new supply of masks should be available for everyone in the house each day.

Preferably, the client will have a private room for sleeping. If a private room is not possible, the beds in the client's room should be separated by at least three feet with a curtain hung between the clients' beds to reduce the spread of the infection.

Healthcare workers should also wear a mask during contact with the infectious client. There is currently no recommendation for wearing eye protection (e.g., goggles or face shield) in addition to a mask, for close contact with clients who require Droplet Precautions. Discontinue Droplet Precautions after the signs and symptoms of the pathogen have been resolved.

Infection Control and Hand Hygiene

Hand hygiene is often touted as the primary intervention to avoid transmission of disease to ourselves and to our clients. We were raised to wash our hands. We were instructed as nurses to wash our hands before and after client contact. Now, there's an alternative to soap and water.



On October 25, 2002, *Guideline for Hand Hygiene in Health-Care Settings* was published in the *Morbidity and Mortality Weekly Report* (Centers for Disease Control and Prevention).

The Guideline recommended the usage of soap and water when there was visible soilage on the hands, and endorsed the use of alcohol-based hand rubs (gels, foams, sprays) when the hands were not visibly soiled. Although this recommendation was presented more than six years ago, there is still some distrust and misunderstanding among persons working in the health care field. This distrust exists despite multiple scientific studies demonstrating that if there is no visible soilage present on hands, using an alcohol based rub is effective in killing a wide range of pathogens.

It is well documented that hand hygiene practices improve significantly when the rubs are promoted and used. However, both soap and warm water, and the alcohol-based hand rubs, require the RN or caregiver to clean his or her hands both before and after contact with each client.

Additionally, due to alcohol's evaporative properties, it does not remain as a residue. This decreases the likelihood that skin bacteria will mutate to become resistant to its effects.

Be aware that **the norovirus is not effectively killed by alcohol**. This virus is a rare exception to the remarkable killing effect of alcohol-based hand rubs. During a *norovirus* outbreak, it is recommended that soap and water be used as the primary mode of hand hygiene. Simply wash hands with soap and water, then follow up with an alcohol-based rub. It's the best of both worlds.

Obtain your own copy of *Guideline for Hand Hygiene in Health-Care Settings* at www.cdc.gov/handhygiene, and evaluate which of the many hand hygiene recommendations apply to your community-based nursing practice.

What are the Differences Between Disinfectants, Sanitizers and Cleaners?



Disinfectants are chemical products that destroy or inactivate germs and prevent them from growing. Disinfectants are widely available in grocery and other retail stores. Check each product's label for a list of germs the disinfectant can destroy.

In addition to our hands, our medical equipment also gets cross-contaminated. "Contact Time" is the time the disinfectant must remain on the surface in order to kill the germs you want to remove. It is critical that you follow the product's instructions. Some products require cleaning the surface before using the disinfectant. Disinfectants should always be used after cleaning surfaces that have visible blood or drainage from infected skin.

Sanitizers are used to reduce germs from surfaces, but not totally get rid of them. Sanitizing, wiping an infected surface and allowing to immediately air dry, is a process most individuals are familiar with. Generally, we sanitize items more often than we disinfect them. The goal is to minimize cross contamination to our clients, our colleagues and us through sanitizing. By sanitizing surfaces immediately after contact, you can kill infection-causing germs such as methicillin resistant *Staphylococcus aureus* (MRSA), to name one example.

Cleaners or detergents remove soil, dirt, dust, organic matter, and germs (such as bacteria, viruses and fungi) by washing the dirt and germs off the surface. Cleaners or detergents should be used for routine cleaning of surfaces. Rinsing is an essential component of the cleaning process. Routine laundry procedures, detergents and laundry additives will remove germs, even staph, from clothing and towels.

Remember: Cleaners don't disinfect and disinfectants don't clean. It is important to read the product label and follow the directions.

To Kill a Norovirus: What Works Best?



Diarrhea caused by viruses has long been a problem. Many virus pathogens develop in animals and then make the leap to humans. In Norwalk, Ohio, in 1972, during an outbreak of nausea, vomiting and diarrhea, the suspected causative virus was named *Norwalk virus*. Since then, a group of related viruses causing similar illness has been re-named *norovirus*. Every winter and spring, there are community and health-care facility outbreaks of *norovirus* in both clients and employees. The gastroenteritis is severe and outbreaks spread quickly by fecal-oral and person-to-person routes. A major problem is transmission between employees. This not only removes many health care workers from their work sites, but it also creates the problem of both infecting their families and reinfecting themselves.

The *norovirus* group has a short incubation period. Once ingested, symptoms begin within 12-48 hours, consisting of any combination of nausea, vomiting and diarrhea. A *norovirus* generally lasts 12-72 hours in a single person, but it may last much longer in the entire household. And, the virus will continue spreading for up to three days after the symptoms are gone, so infection control precautions should be continued. See page three for information on hand hygiene and *norovirus*.

Norovirus is **NOT** killed by most of the common household disinfectants. After you have thoroughly cleaned contaminated surfaces, you should sanitize the surfaces with bleach (one part bleach to 10 parts of water). Another option is to use one of the other EPA-registered disinfectant products effective against *norovirus* (see http://www.epa.gov/oppad001/list_g_norovirus.pdf).

For a complete discussion on this disease and infection control, go to:

www.cdc.gov/ncidod/dvrd/revb/gastro/faq.htm

MRSA: How It Spreads-How To Avoid It



MRSA, or methicillin-resistant *Staphylococcus aureus*, has been around for years. This drug-resistant staph bacterium first gained attention for its tendency to occur among people with weakened immune systems. In recent years, another type of MRSA has been in the news. This form of MRSA, called community-associated or CA-MRSA, occurs in otherwise healthy people and is responsible for serious skin and soft tissue infections, as well as a severe form of pneumonia. So are MRSA infections truly on the rise, or is it just being monitored more closely? The answer is both.

MRSA infections are becoming more common in health care settings. According to the Centers for Disease Control and Prevention (CDC), the number of infections that are antimicrobial-resistant has been growing. The good news is that MRSA is preventable. The first step is to prevent health care infections in general. This can be achieved through good hand washing!

Staph bacteria are commonly found on the skin or in the nose of one out of every three people. Not all of these people will be sick. The person who has staph bacteria with no infection is referred to as being "colonized," and a colonized person can spread the staph bacteria to others. Staph bacteria are often harmless when on the outside of the body, but a serious infection can develop if the staph bacteria enter the body through a wound, for example.

Staph infections have historically been treated with antibiotics, but we now have staph bacteria that have become resistant to antibiotics over time (MRSA). Some feel this is because of the over- and misuse of antibiotics.

What are the real risks of MRSA infection for you or your clients?

By far, most MRSA infections occur in hospitals and other health care settings. Community-associated MRSA skin infections, far less common, have been found in athletes, people serving in the military, children, and people

who are incarcerated. Because hospital and community strains of MRSA generally occur in different settings, the risk factors for the two strains differ. This does not mean, however, that you shouldn't be attentive to your prevention efforts.

Staph or MRSA infections in the community are usually skin infections, such as pimples and boils, occurring among people who are basically healthy. Some clients recall a "spider bite." The site is red, swollen, and painful and may have pus or other drainage. The bad news is that these staph infections can lead to more serious illnesses, such as blood stream infections or pneumonia, causing symptoms such as shortness of breath, fever, and chills. Risk factors for community-associated MRSA (CA-MRSA) include:

- Unwashed hands;
- Young age and advanced age;
- Contact sports;
- Shared personal belongings;
- A weakened immune system;
- Crowded or unsanitary living conditions;
- Colonization by a multidrug-resistant organism; or
- Underlying diseases, such as kidney disease, diabetes, heart disease, or various skin infections, to name a few.

Healthcare-associated staph infections (HA-MRSA) often include surgical wound infections, urinary tract infections, bloodstream infections and pneumonia. Risk factors for healthcare-associated MRSA include:

- A current or recent hospitalization and the severity of the illness (e.g., burns, surgical wounds or serious health problems). People with hospital stays of over 14 days are at higher risk for MRSA;
- Exposure to drug-resistant microorganisms,

especially bacteria. Bacteria found in hospitals seem most resilient and these microorganisms are becoming resistant faster than new drugs are being developed;

- Living in a long term care facility. Residents are seldom robust and carriers of MRSA may spread it, even if they are not sick themselves;
- Frequent association with health care workers or care providers. These people are likely to come into contact with infected and/or colonized people. This contact increases the risk of becoming contaminated themselves if they do not use universal/standard precautions. Then vulnerable people, in close contact with unprotected healthcare workers or care providers, are at increased risk of MRSA. Hand washing with soap and water, or use of a hand sanitizer, is a MUST for everyone, even the clients and other residents;
- Invasive devices. People who require dialysis, are catheterized, have feeding tubes, or have other invasive devices are at higher risk for contracting MRSA; or
- Recent antibiotic use. Overuse of antibiotics has contributed to the development of methicillin resistance and this resistance aids in the spread of MRSA. Other factors that contribute to antibiotic resistance include incorrect diagnoses, unnecessary prescription use, antibiotics improperly used by clients, and antibiotics as an additive to livestock food.

What can be done to protect against MRSA infection?

Prevention is the key! MRSA can be treated but it's difficult, making prevention activities one of the most important and powerful tools.

WASH YOUR HANDS and have everyone else, including clients and other residents, do so as well, several times a day. Regular hand washing is the best defense against germs. Thoroughly

scrub soapy hands for 20 seconds or more, rinse with warm water, then dry hands with a disposable towel. Use another disposable towel to turn off the faucet. Carry hand sanitizer (containing 62% alcohol or more) for times when you don't have access to soap and warm water.

Other strategies to help prevent the spread of MRSA include:

- Keeping personal items personal. Do not share towels, sheets, razors, or clothing. MRSA can spread on the surfaces of contaminated objects just as in direct skin-to-skin contact;
- Keeping wounds covered with sterile, dry bandages until healed. Pus from infected sores may contain MRSA so keep wounds covered. Do not touch other people's cuts or bandages;
- Showering after athletic games or practices. Use soap, don't share towels or equipment, and wash gym and athletic clothes after each wearing;
- Washing towels and bed linens in water temperatures specific to the laundry product being used, especially for people with a cut or sore. READ the product's label for a list of germs the product can destroy, before using it, and then follow the directions provided if that is the product you need. Bleach is not necessary unless the product instructs you to use it for staph. Dry the clean laundry in a hot dryer. Hand towels should be used only once after contact with another person, then laundered;
- Getting tested. If a skin infection requires treatment, the doctor should be questioned about whether or not a test for MRSA is needed;
- Using antibiotics appropriately. When prescribed an antibiotic, the client must take all of the doses, even if the infection seems improved or is no longer noticeable

before the antibiotic is finished. Clients should never share antibiotics with others, or save their unfinished antibiotics for use at another time;

- Wearing disposable gloves if contact with blood, body fluids, secretions or excretions are expected. Remove gloves after each client and discard before touching anything else. Wash hands immediately after removing gloves;
- Use of other personal protective equipment (PPE) such as a disposable gown when cleaning a wound or changing the dressing;
- Routinely changing and washing linens;
- Routinely cleaning the client/resident's environment when soiled. Additionally, surfaces in public or shared spaces should be routinely cleaned;
- Ensuring intravenous tubes and catheters are inserted under sterile conditions;
- Discard single-use items properly;
- Clean non-disposable medical equipment before using it again; and
- Isolating clients/residents who are infected or colonized with MRSA, to protect others in the home from infection.

If you suspect a MRSA infection, what should you do?

If you suspect that a MRSA infection is developing, contact the doctor. The medications currently used to treat an ordinary staph infection are not effective against MRSA. There are still some medications, such as vancomycin, that will work to eliminate both hospital- and community-associated strains of MRSA.

In some cases, antibiotics may not be necessary to treat the infection. For example, the doctor may choose to drain a superficial abscess caused by MRSA rather than treat it with medications. If an antibiotic is chosen

for treatment, the skin infection should be tested for MRSA before the antibiotic is started. This will ensure that the correct antibiotic is prescribed to treat the infection. If MRSA bacteria have entered the person's bloodstream, the person may be hospitalized, then receive intravenous antibiotics and other treatment.

Journal of the American Medical Association 2007; 298 (15): 1763-1771. Centers for Disease Control and Prevention (CDC): MRSA: Methicillin-resistant staphylococcus aureus in Health Care Settings; October 17, 2007.

References

http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca_public.html

<http://www.mayoclinic.com/>

33rd Annual OSU Gerontology Conference

April 2-3, 2009

This two-day conference features workshops by leading gerontology experts presenting current information for health and human services professionals in a wide variety of disciplines and practice environments. Continuing education units will be available for various professional disciplines, including nursing, pharmacy, and social work. Training hours will also be available for foster home and residential service providers.

Visit the OSU Gero website at www.osugero.org for more information.

Community Nursing Network (CNN) Spring Conference

April 22-23, 2009

Mark your calendars for two days of continuing education and networking opportunities that will enhance your community-based nursing practice. Registration flyer available at the SPD Community Nursing Tools web site at www.oregon.gov/DHS/spd/provtools/nursing.

Fun facts

Did you know that the Oregon State Board of Nursing has 27 nursing practice policies posted on their website?

You can link to all of those policies at www.osbn.state.or.us. Log on and discover which ones are applicable to your current professional practice!

While you are on the OSBN website, check out these other informative links:

- Board and Task Force meeting dates and minutes
- Draft rules and policies
- New nursing graduate information
- Certified nursing assistant information and links
- Pain management continuing education
- RN delegation self-directed course
- Competency is the measure between education and application of knowledge: Apply yourself!

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