Health Practices on Cruise Ships: Training for Employees
Transcript

Housekeeping and Infection Control

The Centers for Disease Control and Prevention's Vessel Sanitation Program is proud to bring to you the following session: Housekeeping and Infection Control. While this session is primarily intended for cruise vessels under the jurisdiction of the Vessel Sanitation Program, it may be used by anyone who is interested in this topic. This session should not replace existing interactive training, but should be used as an adjunct to a comprehensive training program.

Housekeeping and infection control. Routine housekeeping and outbreak management. Learning objectives. At the end of this session, you will be able to list some of the procedures that might change between normal operations and outbreak operations, describe what should be in a hand washing and personal hygiene fact sheet, list some of the ways to encourage passenger isolation, list some of the public areas on a cruise vessel, list surfaces that are frequently touched by hands, list methods to make exits from toilets bare-hands-free.

Showerheads. It is a requirement to disinfect showerheads every six months. This disinfection is primarily intended to prevent the growth of legionella. Individual whirlpools.

Individual whirlpools are not to be confused with public whirlpools. These whirlpools are those that might be located in a cabin or in a cabin suite, or a whirlpool or therapy tub that might be in a spa. These must be disinfected between occupancies, or in the case of a suite or a cabin whirlpool, at least once every seven days. The disinfection procedure should be per the manufacturer's recommendations.

Public toilet rooms. As of 2005, a requirement was instituted in the operations manual to include an exit from toilets that is bare-hands-free. This may be done in a variety of ways. One, the exit could be by pushing the door open. Two, the exit could be through an electronic sensor. And three, if hands are required to be used to exit, paper towels should be provided in the toilet room with a waste receptacle at the exit so that the paper towel can be used to open the door and can be disposed of near the exit.

Routine cleaning. It is very important to consider many of the articles that are in a cabin when developing a cleaning procedure. These can include beds, rugs, tables, desks, and other things such as phones. Some rooms have pantries. We can go on and on of things that need to be cleaned and disinfected. Additionally we must consider some very
important items, for example the toilet room, which can be very heavily contaminated with pathogenic microorganisms. We also must consider how often should we clean, sanitize, disinfect ice buckets, glasses and mugs, and the dispensing of food and beverages. For ice buckets, the requirement is to wash, rinse, and sanitize between occupancy, and for cruises that last more than seven days, to wash, rinse, and sanitize on day seven, and then again on the disembarkation day between the old passengers and the new passengers.

Cleaning sequence activity. We'll now take a pause from the lecture to discuss a cleaning sequence activity that might be used to bring out key points on how a cabin should be cleaned. It is important to consider the steps and procedures that are followed on your cruise vessel for cleaning a cabin. We will be showing a slide that shows a cleaning frequency and sequence based on the steps that we have developed. Keep in mind while this sequence is something we think is correct, there may be more than one way to clean a cabin. It is important to consider, however, some points. One is how long of a contact time is required for the disinfection method you are using. Two, there are certain activities that are going to be performed during this cleaning that require clean hands, such as refilling ice buckets, restocking cabinets with clean cups and snacks. So please consider those items in the sequence, including when are hands to be washed, and where can they be washed?

Outbreak management. Pathogens associated with cruise ship outbreaks, 1986 to 2002. We can see from the slide-- the green-- where parasites are generally not a problem on cruise vessel outbreaks. However, initially from this slide, we can see where bacterial outbreaks were higher than outbreaks associated with viruses. This began to change around 2000, where in 2001 we can see where viruses are the major cause of outbreaks on cruise vessels, and this continues to be true today. The virus that we're generally seeing on cruise vessels is called Norovirus.

Norovirus: present and future. Norovirus is the most common cause of acute gastrointestinal illness outbreaks in the United States. Norovirus outbreaks will continue to happen.

Norovirus action plan. It's very important to develop a Norovirus action plan for each cruise vessel. While these plans can be developed at the corporate end, it's very important to make sure that once they get down to the cruise vessel level, that they can be tailored or modified to suit what's going on on a particular cruise vessel. Number one, we need to develop a plan. Secondly, we need to train employees in that plan, and we need to have materials on hand so that we can follow the plan. This can include disinfectants, procedures, fact sheets, and any associated equipment such as foggers and sprayers.

Critical eye-- review the plan. Well, why are we developing a Norovirus action plan to begin with? Well, number one, we want to stop the person-to-person spread of Norovirus.
And what areas are we primarily concerned with? Where do we need to do this? Well, we need to do this both in public areas and what we consider to be private areas--cabins, crew cabins, passenger cabins. And there may be other areas as well. And what do we want to use to take care of Norovirus? We want to use an effective disinfectant.

Outbreak prevention and response protocol, OPRP. In developing an outbreak prevention and response protocol, there are some key points that should be included. We need to know what are the duties and responsibilities of each department. We need to know what are the triggers for each step, action, or code in the plan. For example, code yellow. Some vessels use this to indicate a higher than normal level of illness on the vessel. While not at two percent or at three percent, which is what is considered an outbreak level, these levels are higher than what would be expected, and the vessel may institute a code yellow, which may be a cleaning frequency or disinfection frequency being higher than what would normally be used. When does the vessel revert back to normal operations? This is very important to include in the plan. When do you step down from a code red or a code yellow? For example, we may step down from a code red once the numbers fall under one percent or 1.5%, whatever the vessel has decided to be that level. But do we also step down from cleaning frequency or disinfections used in cabins that were considered to be sick cabins? So this is very important to consider--when do we resume normal operations? And additionally, we need to consider is there going to be a review after the outbreak? Once we return to normal operations, maybe at the end of this cruise or at the beginning of the subsequent cruise, is to have a review of the procedures that were followed during this outbreak. What went well? What needs modification? So an outbriefing is very important after an outbreak.

Information and education. It is very important to publicize case numbers. Now, this does not mean that you have to announce over the PA system or the public address system exactly how many people are sick every given day. But it's important to let individuals know that there's a higher than expected number of illness cases and that frequent hand washing is very important. Additionally, Norovirus fact sheets are very important to distribute to passengers and crew members to give them a background on what Norovirus is and how it can be acquired. We want to encourage medical evaluation for symptoms, and this could be just as simple as not charging passengers who seek medical care because of gastrointestinal illness symptoms. We want to encourage isolation. It's very difficult to get passengers or crew members to stay in their cabins. With crew members, it's easier, because if they don't stay in their cabins, you can discharge them at the next port. This may not be something that you want to do with a passenger, so perhaps providing them with paper menus of foods they can get delivered to their cabins, perhaps giving them games or activities that can be used and taken home with them or used and discarded after they come out of isolation, or any other step or procedure that you think might encourage these passengers to remain in their cabins. Additionally, we want to provide fact sheets on proper hand washing. Any fact sheets that are distributed to crew members or passengers should be simple, meaningful, and easy to understand.
The role of hand washing. Hand washing is very important in preventing the spread of Norovirus. Number one, it removes the virus particles from our hands, and number two, it prevents the contamination of surfaces such as doorknobs, handrails, elevator buttons, and any surface that might be touched by hands.

Hand washing tips. When washing our hands, it's very important to follow certain procedure. These include wetting your hands, applying soap, lathering for 20 seconds, paying special attention to areas where bacteria, viruses, and parasites may be, such as underneath fingernails and in between fingers and under jewelry such as rings. We want to rinse hands thoroughly with warm running water, dry hands with disposable paper towels, and use that paper towel to turn off the faucet. We should also hold on to that paper towel so that if we are in a public toilet we can use a paper towel to open the door and exit.

Hand washing tips. When should we wash our hands? Well, throughout the day, we should wash our hands very frequently. But it is very important to wash our hands after using the toilet, after coughing or sneezing, or after engaging in any activity that might have contaminated our hands. We should wash our hands before handling food, before eating, before smoking, drinking, or before engaging in any activity that requires hand-to-mouth contact. We want to wash our hands upon returning to our cabins. If you've been traveling shoreside or even just throughout the ship, there are many surfaces that you have touched in your travels that may have contaminated your hands. So one of the first things that should be done upon returning to a cabin, whether you're a passenger or crew member, is to wash your hands thoroughly.

Hand antiseptic. Hand antiseptics can be used as an adjunct to hand washing, but should not be used to replace hand washing. It is important to note that hand antiseptics remove the pathogen load that is left on your hands after thorough hand washing. It has been shown that a hand antiseptic that is 60 to 80% ethanol, gel-based, can remove 95% of Feline Calicivirus. Feline Calicivirus is used as a sentinel to indicate what can be done to Norovirus. We want to make sure that we use the gel-based sanitizers because they take longer to dry, and we want a contact time of 20 seconds. Again, using a hand antiseptic is not a substitute for hand washing.

Cleaning and disinfection. We want to make sure that we include in our cleaning and disinfection procedures how we are going to clean well cabins and how we're going to clean sick cabins. This is a cabin where people in the cabin are not ill or a cabin where the people in the cabin are sick or ill. We want to make sure that we do not take contamination from a cabin where individuals are sick and transfer it into a cabin where people are well. This may be just saving the sick cabins till the end. If a cabin attendant has 30 cabins to clean and five contain sick passengers, they can save those five cabins to the end. Or having a hit team or hit squad that only cleans sick cabins. We want to make
sure that we consider public areas in our cleaning procedures. This includes corridors, lounges, toilet rooms, casinos, Internet cafes, and many other areas. We want to make sure that we take into account body fluid events. For example, if someone has an episode of public vomiting, how are we doing to clean that up? Or if someone vomits in their cabin, how are we going to clean that up? You may have a hit squad go in there with proper protective equipment and a procedure and a disinfectant to clean up these events. These events should be logged if they're public events, and as much as you can, make note of the individuals who are in that immediate area when the vomiting incident occurred.

"Hit squad." It's very important to develop a procedure if you have a hit squad. This procedure should be clear, should follow a flow diagram format. It would be a good idea to print and laminate this procedure and make it available for the hit squad to take when they actually have to clean up an event of public vomiting. We want to make sure if the hit squad is cleaning sick cabins, that they enter only sick cabins. We want to make sure again that if we have a procedure to clean body fluid events such as public vomiting in either public areas or cabins, that this procedure is in writing, simple, clear to follow, and laminated or disposed of at the end of each day.

Spreading contamination. It's important for us to note that in cleaning procedures, we may actually exacerbate or worsen the problem. We may take contamination from one area and spread it all over the vessel. We know that this is something we do not want to do.

Vacuuming should not be done on a public vomiting event. If it needs to be done, it should be done after the vomit has been cleaned up and the area has been thoroughly disinfected with appropriate disinfectant at the correct contact time. Red bags. Red bags can be used to dispose of contamination. So if we have a public vomiting event, that material should go in a red bag. If someone is in a cabin and has a fecal accident in their bed, that linen should be put in a red bag. Red bags should be taken to the incinerator area right away and kept isolated if it cannot be incinerated immediately. Individuals working in the garbage room should be thoroughly trained in the importance of washing their hands after handling red bags. Hand washing procedures are important for everyone on the vessel, but especially for individuals who have to clean up contaminated sites. In the laundry room, we want to be very mindful of spreading contamination. If we have sick cabins, you may want to isolate one washing machine and one dryer for handling linens coming out of sick cabins-- or if you're going to wash all linens together, to make sure that the cycle on the washing machine and the dryer is suitable for eliminating Norovirus. In the garbage room, we want to be especially concerned again with the disposal of red bags and hand washing.
Disinfectants. We're going to be discussing disinfectants that are effective against Norovirus. We want to consider the type of disinfectant, the application, the concentration, and the contact time.

Effective disinfectants. When we use this term, "effective," we are deciding what is effective against Norovirus. In a laboratory, it's very difficult to grow Norovirus and to try and test disinfectants. So generally the term "Feline Calicivirus" has been used to show whether or not a disinfectant would be effective against Norovirus. That's changed to the general term of "Calicivirus." So in selecting a disinfectant that's appropriate for Norovirus, we want to make sure that it's effective against Calicivirus. Some of the disinfectants that have been shown to be effective are chlorine at 1,000 PPM, phenolic compounds, accelerated hydrogen peroxide compounds, parachlorometaxylenol, peroxomonosulfate, and heat at 70 degrees Centigrade or 170 degrees Fahrenheit. These have all been shown to be effective against Calicivirus.

What disinfectant is best? The Vessel Sanitation Program is not going to choose for you the disinfectant which would be best to use. You would, however, want to do some research and ensure that the manufacturer of the product has performed independent testing to show that this disinfectant is effective against Calicivirus. You want that data to be available or that study to be available.

Personal protective equipment. In selecting a disinfectant, it's very important to review the manufacturer's details to show what personal protective equipment is necessary. It may be mask, gloves, aprons, goggles, or in some cases, if you're fogging, respiratory equipment.

Material safety data sheets. While the Vessel Sanitation Program does not specifically require material safety data sheets, it is very important to have these on hand, available, and have these things explained to the individuals using the disinfectant. Do not wait until an accident happens to train your employees on these material safety data sheets.

Food for thought. In developing an outbreak response plan, it is very important to consider some of the areas of the vessel. For example, self-service buffets. During an outbreak, you may want to discontinue self-service buffets. You may want to provide crew members who serve the food to the passengers. This may help prevent the person-to-person spread, because you no longer have passengers handling the food-dispensing utensils. You want to suspend galley tours. You want to take a look at your shoreside excursions. Because while we predominantly find person-to-person spread occurring on a cruise vessel, there have been cases where the shoreside excursion, or specifically food served during the shoreside excursion, was the cause of the outbreak. We want to suspend port visits.
During an outbreak, you do not want your crew members to leave your vessel and visit another vessel. You also don't want a ship that does not have an outbreak to visit your vessel. We want to make sure that we include tenders in our outbreak response plan so that we can clean and disinfect them as part of our procedure. We want to make sure that we take a look at child activity centers, because again we must remember that this has an especially vulnerable population. And there may be some other areas that you need to consider.

Hand washing. Let's not forget that hand washing is the most important thing that we can do to stop the spread of disease. This concludes the session Housekeeping and Infection Control.

Resources and references. For additional information, please visit the Centers for Disease Control and Prevention's Web site at www.cdc.gov. For more information on the Vessel Sanitation Program, please visit www.cdc.gov/nceh/vsp. For information on the Environmental Protection Agency, please visit www.epa.gov.