

5. Dumas, L, *Élaboration et validation d'un instrument d'évaluation formative de la démarche du savoir-apprendre expérientiel de l'infirmière étudiante en stage clinique*. Doctoral thesis. (Hull: Université du Québec 1995)
6. O'Connor, AB, *Clinical instruction and evaluation: a teaching resource*. (Mississauga: Jones and Bartlett Publishers Canada 2001)
7. McSweeney, PJ, "Sight and sound...any use for video found?" *Nurse Education Today*. 6 (1986) : 172-175, 223-227.
8. Meeker, BJ, "Staff education through closed-circuit television". *Journal of Nursing Staff Development*. 8 (1992) : 266-268.
9. Hooper, R, in PJ McSweeney, "Sight and sound...any use for video found?" *Nurse Education Today*. 6 (1986) : 172-175, 223-227.
10. Champness, B & I Young in PJ McSweeney, "Sight and sound...any use for video found?" *Nurse Education Today*. 6 (1986): 172-175, 223-227.
11. Tomlinson, P in PJ McSweeney, "Sight and sound...any use for video found?" *Nurse Education Today*. 6 (1986) : 172-175, 223-227.
12. Fowler, J, "The use of video cameras in one college of nursing" *Nurse Education Today*. 13 (1993) : 66-68.
13. Mottet, G, *La vidéo formation: autres regards, autres pratiques*. (Paris: L'Harmattan 1997)
14. Lai, SL, "Influence of audio-visual presentations on learning abstract concepts" *International Journal of Instructional Media*. 27 (2000) :199-206.
15. Paivio, A, "Dual coding theory: retrospect and current status" *Canadian Journal of Psychology*. 45 (1991) : 255-287.
16. Burnard, P, "Using video as a reflective tool in interpersonal skills training" *Nurse Education Today*. 11 (1991) : 143-146.
17. Graling, P & B Rusynko, "Kicking it up a notch: successful teaching techniques" *AORN Journal*. 80 (2004) : 459-475.
18. DeTornyay, R & MA Thompson, *Strategies for teaching nursing*. (Toronto: John Wiley and sons 1987).

19. Smith-Stoner, M & A Willer, "Video streaming in nursing education: bringing life to on-line education" *Nurse Educator*. 28 (2003) : 66-70.
20. Oblinger, D, "Boomers, Gen-Xers & Millenials: Understanding the new students" *EDUCAUSE Review*, 4 (2003) : 37-47.
21. Ward, R, "Interactive video: an analysis of its value to nurse education" *Nurse Education Today*. 12 (1992): 464-470.
22. McLean, DD, "Use of computer based technology in health, physical education, recreation and dance" *ERIC Digest*. ED390874.
23. Imel, S, "Technology and adult learning: current perspectives" *ERIC Digest*. ED421639.
24. Reed, D & RF McNergney, "Evaluating technology based curriculum materials" *ERIC Digest*. ED449118.
25. D'Alfonso, J & CK Halvorson, "E-learning in perioperative education" *SSM*. 8 (2002) : 20-29
26. Moule, P, P Gilbert & V Chalk, "A multimedia approach to teaching basic life support: the development of a CD-ROM" *Nurse Education in Practice*. 1(2001) : 73-79.
27. Lefebvre, H, C Angers & L Boyer, « L'intégration pédagogique dans un projet d'enseignement en ligne avec un volet recherche, Faculté des sciences infirmières » *Bulletin Céfès*. 10 (2004)
28. Rystedt, H & B Lindström, "Introducing simulation technologies in nurse education : a nursing practice perspective" *Nurse Education in Practice*. 1(2001) : 134-141.
29. Garrett, BM & D Callear, "The value of intelligent multimedia simulation for teaching clinical decision making skills" *Nurse Education Today*. (2001) : 1-9.
30. Alinier, G, WB Hunt & R Gordon, "Determining the value of simulation in nurse education: study design and initial results" *Nurse Education in Practice*. 4 (2004) : 200-207.
31. Watson, DS, "Education program in surgical services" *SSM*. 8(2002) : 16-19. 🍁

ENTEROCOQUES RESISTANTS A LA VANCOMYCINE ET LE ROLE DU TRAVAILLEUR DE SANTE

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RESUME

Depuis la dernière décennie, la croissance de la résistance aux antibiotiques est fulgurante, et la propagation de souches résistantes aux antibiotiques est maintenant devenue une menace dans les hôpitaux. Les entérocoques résistants à la vancomycine (ERV) se sont révélés une de ces souches. Le ERV est un micro-organisme robuste capable de survivre longtemps sur les surfaces. Ils sont rapidement transmis de patient à patient par le contact avec les travailleurs de santé. Cette souche peut croître le taux de mortalité des patients dont le système immunitaire est affaibli. Les travailleurs de santé dans les hôpitaux ont un rôle primordial à jouer dans la prévention et le contrôle du ERV. Se laver fréquemment les mains en employant une bonne technique est une manière efficace de prévenir et à contrôler la propagation du ERV. Fournir une formation et des ressources aux travailleurs de santé est aussi un facteur important. La théorie des croyances aide à expliquer comment approcher et appliquer les changements à la pratique.

VANCOMYCIN-RESISTANT ENTEROCOCCI (VRE) AND THE ROLE OF THE HEALTHCARE WORKER

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ABSTRACT

Antibiotic resistance has increased dramatically within the last decade. The spread of antibiotic resistant strains of bacteria has become a threat within hospitals. Vancomycin-resistant enterococci (VRE) has emerged as one of these strains. VRE is a robust microorganism and can survive for long periods of time on environmental surfaces. VRE spreads quickly from patient to patient through contact with health care workers. This strain can increase the mortality rate in immuno-compromised patients. Hospital health care workers have an important role to play in the prevention and control of VRE. Proper, and frequent, hand-washing significantly contribute to preventing and controlling the spread of VRE. Providing health care workers with education and resources is also a key factor. The health belief model helps to explain how to approach and implement changes to practice.

There has been a dramatic increase in antibiotic resistance in the last decade and, as a result, the control of infectious diseases has become a major challenge. Antibiotic resistance is one of the most dangerous threats to the treatment of infectious diseases¹. It has been estimated that thirty to forty percent of endemic institutional antibiotic resistance is caused by the unwashed hands of hospital personnel². One of these antibiotic resistant strains of bacteria is vancomycin-resistant enterococci (VRE). The first isolated incident of VRE was detected in Canada in 1993, with the first outbreak in 1995³. VRE has developed into an important nosocomial pathogen and is linked both with mortality and the potential to transfer resistance to other virulent bacteria⁴. Health care workers, especially operating room nurses, recovery room nurses and the surgical floor nurses can play an integral part in the control and prevention of VRE.

In order to understand how to prevent the spread of VRE, and how to control it once it has been detected on a fomite surface in a hospital, it is necessary to further examine the role of health care workers in the transmission of infection. This article will discuss recommendations and barriers to maintaining patient safety when

preventing and controlling the spread of VRE. The health belief model will be used to explain how change in the behaviour of health care workers could be implemented among the staff of an acute care hospital to achieve this goal.

What is VRE?

Enterococci are gram-positive bacterium and are a part of the normal flora of the gastrointestinal tract⁵. The bacteria can, however, cause serious infections such as those of the urinary tract and even endocarditis⁶. Studies have also demonstrated a significant relationship between VRE bacteremia (presence of bacteria in the bloodstream that has been proven through laboratory account (7)) and mortality⁵. VRE can also result in sepsis, multisystem dysfunction, and death in immunocompromised patients⁸. Patients with VRE are often resistant to all other antimicrobial agents⁷. This makes it very difficult for patients who have a bacterial infection to recover as there are no pharmacological therapies available to them. As a patient's immune system is compromised it is important to limit his/her exposure to microbial agents. For this reason it is very important for all health care personnel to wash their hands, before and after patient contact, in order to prevent the spread of microbial agents.

There are many risk factors that predispose individuals to acquiring VRE. One major risk factor is vancomycin use as it prevents the growth of the normal flora in the gastro-intestinal tract, thus predisposing patients to colonization and infection by VRE⁹. Other risk factors include prolonged hospitalization (especially when in the ICU), immunosuppression (as occurs with bone marrow transplant, renal deficiency, neutropenia and chemotherapy), abdominal or thoracic surgery, and urinary catheterization⁶. For these reasons surgical suites and wards are particularly susceptible to nosocomial infection by VRE. It has also been shown that patients who are older than 55 years, neonates and infants are at greatest risk for contracting a VRE infection^{10,11}. Mechanical ventilation, use of total parenteral nutrition and use of histamine receptor blockers are all risk factors for nosocomial infections¹¹.

Despite the proximity of Canada to the United

States, the reports from the two countries regarding VRE cases are slightly different. According to Conly et al., the prevalence of nosocomial VRE within the United States in 1989 was 0.3% and increased to 23% in 1999². The first reported incident of VRE in Canada was not until 1993, with the first outbreak in 1995². However in 1996 a survey of VRE in Canada found prevalence rates in Canada of 0.1% among high-risk patients, no outbreaks in 1996, and a 3.7% prevalence rate among high-risk patients with endemic VRE within the same year².

VRE has been shown to move very quickly among patients. Wenzel & Edmond found that in San Antonio, Texas, over a 19-month period of time, the introduction and transmission of a single strain of VRE transferred to 32 patients in five hospitals in the area¹². In Ontario in 1996, there were 167 people who were colonized or infected with VRE and an increase in 1998 to 718 reported incidences¹³. However with prevention and control measures in practice in Ontario, the reported incidences of VRE were decreased in 2001 to 237 people¹³. Therefore it is important to examine how VRE is spread in order to prevent higher prevalence rates in the future.

Although there has been a decrease in the incidence of VRE, most people will contract VRE within a hospital setting. In 2001 in Ontario, 91% of the cases with VRE were deemed to be acquired within acute care hospitals¹³. This is dangerous since the organism can survive for long periods of time on environmental surfaces and the immune system of a hospitalized patient has been compromised, making them more susceptible to infection.

Enterococci are robust organisms that are able to survive on inorganic and organic objects for quite extensive periods of time⁶. Sample et al. found that after a patient, infected with VRE, left the hospital, the environmental cultures of the patient's room remained positive for two weeks⁴. Therefore, standard cleaning procedures were deemed to be inadequate and enhanced infection control practices were engaged through monitored cleaning using 0.5% sodium hypochlorite solution and repeating environmental cultures. According to a study, conducted by Bonten et al, urine containers

were the main environmental area upon which VRE was the most persistent¹⁰. The importance of proper cleaning of environmentally contaminated areas within the hospital setting cannot be stressed enough. This includes environmental factors such as bed rails, telephone, and the toilet. It is important for nurses and other health care provides to be aware of how long VRE can survive. These areas need to be disinfected thoroughly.

Screening for VRE:

It is important that those responsible for writing hospital policy require that patients at risk of developing VRE are effectively screened in order in order to allow the healthcare team to respond quickly and appropriately to positive results. Screening patients early on, and isolating those who are found to carry vancomycin resistant organisms, appears to decrease the spread of the microorganisms¹⁴.

It is difficult to strike the correct balance between the cost of VRE screening and the potential health care costs that result from failure to screen for VRE. It is therefore necessary to establish the cost advantage in terms of the amount of screening to control and prevent the spread, compared with the cost of controlling VRE after an outbreak has occurred.

A recent study by Lee et al., cultured stool of inpatients for VRE testing using specimens submitted already for *Clostridium difficile* at a 688 bed tertiary care facility in Chicago¹⁵. The study used the findings to determine risk factors of those cultured for VRE and a cost-effectiveness evaluation was conducted¹⁵. They identified five patients with VRE from the specimens collected and all of these patients had been hospitalized within the last two years¹⁵. The results found that the total cost per patient admitted to the hospital were lowest in the strategy that included screening patients hospitalized in the previous 2 years¹⁵. The main limitations of this study relate to the small sample size from the same hospital and surveillance cultures were only conducted once from the patients upon arrival at the hospital¹⁵. This study does however help to promote the use of VRE screening for all patients who have been hospitalized within the last two years in order to provide the most cost-effective

screening strategy for hospitals compared with screening only high risk groups or units.

As mentioned above the screening for VRE is accomplished through peri-rectal/anal swabs or stool specimens and it is necessary to know which isolate of enterococci a patient may have. Therefore the clinical laboratory is a crucial part of prevention.

There are two isolates of enterococci that have been found to be resistant to vancomycin. They are *Enterococcus faecalis* and *Enterococcus faecium*¹⁶. Infected patients carry VRE and present with clinical signs and symptoms. However, patients who are colonized with VRE may not have clinical signs or symptoms of infection.

The goal of screening, therefore, is to identify colonized and infected patients so that infection control measures may be initiated to decrease the spread of VRE¹⁷. This allows for the early detection of those who may be colonized with VRE, even though they may not present with the clinical symptoms, so that they can be placed under contact precautions to prevent the spread of infection. These contact precautions for the operating room, the recovery room and the surgical unit are of paramount importance.

Infection Control Practices:

It is a common and good procedure to isolate patients who are positive for VRE in order to help prevent the spread of infection to other patients.

Hand washing is considered the most important measure of infection control¹¹. The Centres for Disease Control and Prevention recommends the use of alcohol-based hand rubs in addition to traditional hand washing with soap and water (CDC, 2002)²¹. Although the importance of hand hygiene is well known, compliance with hand washing for health care workers has been found to be conflicting. Many studies have found that health care workers neglect to wash their hands before and after patient contact². Gould, Wilson-Barnett and Ream (1996) conducted a study of nurses and hand washing practices that found hands were only cleaned roughly thirty percent of the time after patient contact and only fifty percent of the time after being in contact

VRE (cont.)

with heavy contamination²². Nurses cited the top reason for neglecting to wash their hands as heavy workloads and becoming too busy²².

Another study found doctors estimated that they washed their hands at a perceived rate of seventy-three percent, but this contrasted sharply with the actual observed frequency of only nine percent²³. Health care workers often only washed their hands for an average of about 8.5 to 9.5 seconds at a time²⁴. This is compared to the recommended vigorous rubbing of hands and fingers for at least 10 seconds²⁵. Therefore it is a major responsibility of nurses and doctors to monitor their hand washing frequency and duration.

Other protective barriers include the use of gloves and gowns. Hand washing does not replace the use of gloves, and gloves do not replace the need for proper hand washing. It is necessary to wash hands after wearing gloves. During direct contact with blood or body fluids it is recommended that gloves also be worn²⁵. Gloves should be changed between patients and between tasks when contamination has occurred. Contamination takes place during contact with blood, secretions,

or body fluids (25). Gowns should be used, and changed between patients, to protect the skin or clothing from gross contamination²⁶ and to prevent transmission to the next patient.

There is contradictory evidence for the mandatory use of gown and gloves for those treating patients with VRE. In a prospective study by Srinivasan et al. conducted in Baltimore, Maryland, during a three month period, all new admissions to a 16 bed adult intensive care unit at John Hopkins Hospital were isolated as if they had VRE and gown and gloves were worn when giving care²⁷. Rectal swabs were taken for the detection of VRE. Patients enrolled in the study were separated into two groups slotted into two separate periods of time, one where gloves and gowns were worn and another where only gloves were worn. In the gown and gloves period, the VRE acquisition rate was 1.80 cases per 100 days at risk. The gloves only period resulted in 3.78 cases per 100 days at risk²⁷. Therefore, it was established that patients admitted during the gown and gloves period had roughly half the rate of VRE acquisition of those who were admitted during the gloves only period²⁷.

Table 1: Health Belief Model – Six Concepts³³

CONCEPT	DEFINITION	APPLICATION
PERCEIVED SUSCEPTIBILITY	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels; personalize risk based on a person's features or behavior; heighten perceived susceptibility if too low.
PERCEIVED SEVERITY	One's opinion of how serious a condition and its consequences are	Specify consequences of the risk and the condition
PERCEIVED BENEFITS	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected.
PERCEIVED BARRIERS	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance.
CUES TO ACTION	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders
SELF-EFFICACY	Confidence in one's ability to take action	Provide training, guidance in performing action.

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In comparison, a study was designed by Slaughter et al. in which hospital employees used gloves and gowns when attending 93 people in a medical intensive care unit, while for another 88 people, employees used only gloves²⁸. Slaughter et al. found no added benefit for universal use of both gloves and gowns compared with the universal use of gloves only in preventing colonization of VRE²⁸. One significant difference in the two studies was that the two populations were studied at the same time in the study by Slaughter et al., unlike the study by Srinivasan et al. in which two separate periods of time were used when studying the two groups. This, therefore, may have influenced the results. Further research in this area is necessary.

In addition to wearing gloves and gowns during direct patient contact, preventative measures include removing healthcare workers' rings and regularly cleaning stethoscopes. Higher microbial counts after washing are found on hands of health care workers who wear rings¹¹. Also, stethoscopes can be a reservoir of bacteria if they are not cleaned on a regular basis. In a study of 150 health care providers, 48% cleaned their stethoscopes daily or weekly, 37% cleaned monthly, 7% yearly and 7% had never cleaned their stethoscopes²⁹. As a result of cleaning the diaphragm of the stethoscope, there was an immediate reduction in the bacterial count by 94% when cleaned with alcohol swabs and a 75% reduction when cleaned with antiseptic soap²⁹. It is suggested that all care providers clean their stethoscopes daily with isopropyl alcohol swabs.

There are several reasons why health care workers neglect to follow the recommended practices, including insufficient knowledge regarding when to wash hands as well as personal or organizational beliefs about hand washing²⁴. Other factors are skin irritation, dryness and being too busy²⁴.

Patient safety has become a major priority in Canada, and it is the responsibility of all health care providers, health care organizations and governments to create a healthcare culture that is supportive of safe practices for the patient and staff³⁰. The Canadian Nurses Association (CNA) suggests that a culture of safety in the workplace

is necessary before quality improvement changes will be made within an organization³¹.

Compliance and the Health Belief Model:

Nosocomial infections are a threat to patient safety and therefore it is imperative that infection control measures are effectively managed. The health belief model can be used to help implement changes among staff regarding infection control measures.

Curry and Cole applied the health belief model in collaboration with other social and behavioral theories in a study focused on implementing change of practice within medical and surgical intensive care units (ICU) through educational in-services, policies and programs designed to decrease the incidence of VRE³². This study was conducted over a six month period of time. Prior to the implementation of the program in July 1996, twenty percent of the patients in the surgical and medical ICU's were colonized with VRE³². After the program had been started, the number of positive VRE surveillance cultures decreased to less than thirteen percent between January 1996 and March 1997 and to less than six percent between April and December 1997³². Part of the success of the program is attributed to using the Health Belief Model for changing individual behaviour since there is a focus on both the perceived threat and the net benefits³².

'The health belief model is a psychological model that helps predict health behaviours by focusing on the attitudes and beliefs of individuals. The health belief model has some key components (see Table 1)³² of perceived susceptibility, perceived severity, perceived benefits and perceived barriers³⁴.

The model can be used to understand how staff and patients may view and act toward infection control practices in response to prevention and control of VRE.

Perceived susceptibility is explained as a person's perception of the risk of contracting VRE. A person's knowledge regarding the length of time enterococci can survive on surfaces may influence his/her perceived risk of contracting and spreading VRE.

Perceived severity results from the feelings an individual has regarding the seriousness of VRE in terms of the medical and social consequences.

Perceived benefits refer to a person's beliefs regarding the effectiveness of the infection control actions when it comes to reducing the threat of VRE. If proper practice results in lowering patient infection or colonization and thereby decreasing the time health care workers would have to spend per patient, this would influence an individual's perceived benefit³².

Perceived barriers are associated with weighing out the challenges or cost of the actions. In the case of VRE, a cost could be the amount of time and extra work that is involved in implementing control measures such as the time involved in gowning and gloving³².

Roden notes that the health belief model can be further explained through 'cues to action' and 'modifying factors' ³⁴ (see Figure 1). Cues to action refer to additional variables that stimulate preventative activity³⁴. Cues to action could be addressed through the training and education of staff. This may involve site-specific in-services relating to increasing awareness of

the significance of VRE and the extent of environmental contamination as it relates to the operating room, the recovery room and the surgical floors³². A specific in-service should also be provided to housekeeping staff.

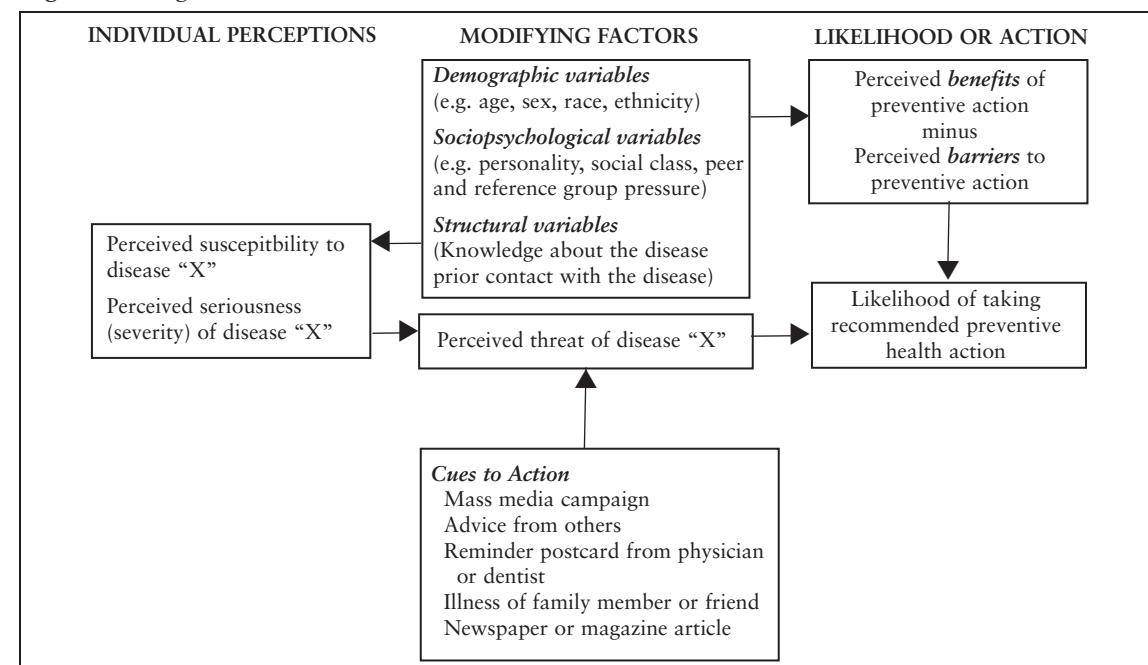
Finally, **self-efficacy** relates to the confidence in one's ability to take action³⁴ or how confident one is in their ability to appropriately perform the tasks in VRE prevention. This can be addressed through regular feedback from health care workers³². This can help to inform management of possible barriers to be able address these concerns.

The Ecological Model of Behaviour Change, the Health Belief Model, and Social Cognitive Theory can be applied to, and are consistent with, successful interventions. This multifaceted approach to intervening consists of five levels of influence:

- Intrapersonal or individual factors;
- Interpersonal factors;
- Institutional factors;
- Community factors; and
- Public factors.

The Health Belief model was employed for the interventions and behaviour change was based

Figure 1: Diagram of Health Belief Model³⁴



on modeling, observational learning, and vicarious reinforcement.

Changing Practice:

In order for staff to recognize the perceived threat, it is necessary for them to be educated about VRE and how it is transmitted. Since infection control requires a multi-disciplinary approach, the education should include nurses, physicians, and environmental services personnel³². It is clear in the study quoted earlier that while doctors perceived themselves to be washing hands at an appropriate frequency, the reality was quite below appropriate levels. Therefore it is recommended that periodic monitoring of changes in infection control practices among staff be put into place. Providing feedback to the staff regarding actual hand-washing frequency has been shown to improve compliance¹¹.

There are many barriers to following infection control procedures. However, cleaning the diaphragm of the stethoscope daily and limiting jewelry on the hands are simple ways to prevent microbial growth. Not moving equipment from room to room also helps limit the spread of bacteria. Remembering to wash hands before and after patient contact, or after contact with a contaminated object, carrying gloves and donning a new pair with each patient are key factors in the reduction of the transmission of bacteria. Surgical team members who will have direct contact with sterile equipment should scrub their hands thoroughly for at least 2 minutes and a thorough cleaning underneath the fingernails should be done on the first scrub of the day³⁵. Keeping fingernails trimmed and skin smoothed with an antibacterial lotion, will also help to reduce the spread of bacteria. It is also recommended for surgical team members to restrain from wearing artificial nails, since this can increase the bacterial and fungal colonization on hands even with sufficient hand scrubbing³⁵.

Posting instructional signs around the hospital will encourage patients and visitors to wash hands properly. Asking staff about hand washing compliance may help ensure compliance. Having visitors fill out a survey to see if staff washed their hands may also help compliance.

The health care facility's administration can encourage staff compliance as part of health and safety meetings. At these meetings, rates of infection should be reported. These statistics should be relayed back to the staff on a monthly basis. Positive results should be reinforced. Health and safety staff should be regularly sourcing the newest, and best, cleaning products available.

Conclusion:

The benefit to proper hand washing frequency and technique can help to prevent the spread of VRE and the extra work of trying to contain an outbreak of VRE. The Health Belief Model can be used as a tool to successfully implement change in practice. These measures will help to ensure that the decrease of incidence in Canada of VRE will continue.

REFERENCES:

1. World Health Organization, *Overcoming antimicrobial resistance. Report on Infectious Diseases 2000* [serial on the Internet]. 2000 [cited 2005 May 17]. Available from: www.who.int/infectious-disease-report/2000/index.html.
2. Conly, J, "Antimicrobial resistance in Canada" *Canadian Medical Association Journal*. 167.8(2002) : 885-891.
3. Lior, L, Litt, M, Hockin, J, Kennedy, C, Jolley, BA, Garcia, M et al. "Vancomycin-resistant enterococci on a renal ward in an Ontario hospital" *Canada Communicable Disease Report*. 22.15 (1996) : 125-8.
4. Sample, M., Gravel, D., Oxley, C., Toye, B., Garber, D., Ramotar, K., "An outbreak of vancomycin-resistant enterococci in a hematology-oncology unit: control by patient cohorting and terminal cleaning environment" *Infection Control and Hospital Epidemiology*. 23.8 (2002) : 468-471.
5. Mayhall, C., "Control of vancomycin-resistant enterococci: it is important, it is possible, and it is cost-effective" *Infection Control and Hospital Epidemiology*. 23.8 (2002) : 420-424.
6. Manitoba Health. "Vancomycin Resistant Enterococci: Communicable Disease Management

Protocol" [serial on the Internet]. 2001 [cited 2005 May 27]. Available from <http://www.gov.mb.ca/health/publichealth/cdc/protocol/vre.pdf>

7. Smeltzer, S., Bare, B., *Medical-Surgical Nursing. 9th ed.* (Philadelphia: Lippincott Williams and Wilkins 2000).

8. Springhouse Corporation, *Handbook of Medical-Surgical Nursing. 3rd ed.* (Philadelphia: Lippincott Williams and Wilkins 2002).

9. Boyce, J., "Vancomycin-resistant enterococci: pervasive and persistent pathogens" *Infection Control and Hospital Epidemiology*. 16.12 (1995) : 676-679.

10. Bonten, M., Hayden, M.K., Nathan, C., Van Vorhis, J., Matusheik, M., Slaughter, S., et al, "Epidemiology of colonization of patients and environment with vancomycin-resistant enterococci" *Lancet*. 348 (1996) : 1615-1619.

11. Saloojee, H., Steenhoff, A., "The health professional's role in preventing nosocomial infections" *Postgraduate Medical Journal* 77.903(2000) : 16-19.

12. Wenzel, R., Edmond, M., "Managing antibiotic resistance" *New England Journal of Medicine*. 343.26 (2000) : 1961-1963.

13. Canadian Bacterial Surveillance Network, *MRSA and VRE -The Ontario Experience*. 2002 [cited 2005 May 20]. Available from <http://microbiology.mtsinai.on.ca/research/cbsnws/may02-news.pdf>

14. Harbarth, S., Samore, M. "Antimicrobial resistance determinants and future control" *Emerging Infectious Diseases*. 11.6 (2005) : 794-800.

15. Lee, T., Hacck, D., Stroupe, K., Collins, S., Peterson, L., "Three surveillance strategies for vancomycin-resistant enterococci in hospitalized patients: detection of colonization efficiency and a cost-effectiveness model" *Infection Control and Hospital Epidemiology*. 26.1 (2005) : 39-46.

16. Byers, K.E., Anglin, A.M., Anneski, C.J., Gemanson, T.P., Gold, H.S., Durbin, L.J., et al, "A hospital epidemic of vancomycin-resistant

enterococcus: risk factors and control" *Infection Control and Hospital Epidemiology*. 22.3 (2001) : 140-147.

17. Centre for Disease Control and Prevention (CDC). *Issues in Healthcare Setting*; c1999 [cited 2005 May 17]. Available from: www.cdc.gov/ncidod/hip/Lab/FactSheet/vre.htm.

18. Anonymous, "Orthopedic surgeons approve statement on vancomycin use" *Association of Operating Room Nurses Journal*. 68.5 (1998) : 784.

19. Ott, M., Shen, J., Sherwood, S., "Evidence-based practice for control of Methicilin-resistant staphylococcus aureus" *Association of Operating Room Nurses Journal*. 81.2 (2005) : 359, 361-4, 367, 369-72.

20. Davies, H., Rees, J., "Psychological effects of isolation nursing (1): mood disturbance" *Nursing Standard*. 14.28 (2000) : 35-38.

21. Centre for Disease Control and Prevention (CDC), *Hand Hygiene Fact Sheet*; c2002 [cited 2005 May 17]. Available from: <http://www.cdc.gov/od/oc/media/pressrel/fs021025.htm>.

22. Gould, D., Wilson-Barnett, J., Ream, E., "Nurses infection-control practices: hand decontamination, the use of gloves and sharp instruments" *International Journal of Nursing Studies*. 33.2 (1996) : 143-160.

23. Tibballs, J., "Teaching hospital medical staff to handwash" *Medical Journal of Australia*. 164 (1996) : 395-398.

24. Boyce, J., "It is time for action: improving hand hygiene in hospitals" *Annals of Internal Medicine*. 130.2 (1999) : 153-155.

25. College of Nurses of Ontario (CNO), *Infection control guidelines*. (Toronto: College of Nurses of Ontario 1999).

26. Community and Hospital Infection Control Association (CHICA), *Global Consensus Conference*; c1999 [cited 2005 May 16]. Available from: www.chica.org/gcc.html.

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27. Srinivasan, A., Song, X., Ross, T., Merz, W., Browser, R., Perl, T., "A prospective study to determine whether cover gowns in addition to gloves decrease nosocomial transmission of vancomycin-resistant enterococci in an intensive care unit" *Infection Control and Hospital Epidemiology* 23.8 (2002) : 424-429.

28. Slaughter, S., Hayden, M., Nathan, C., Hu, T., Rice, T., Van Voorhis, J., et al, "A comparison of the effect of universal use of gloves and gowns with that of glove use alone on acquisition of vancomycin-resistant enterococci in a medical intensive care unit" *Annals of Internal Medicine*. 125.6 (1996) : 448-456.

29. Jones, J., "Stethoscopes: a potential vector of infection?" *Annals of Emergency Medicine*. 26.3 (1995) : 296-299.

30. Registered Nurses Association of Ontario (RNAO), *Policy statement on patient safety*; c2004 [cited 2005 May 16]. Available from: http://www.rnao.org/html/PDF/Policy_Statement_Patient_Safety.pdf.

31. College of Nurses of Ontario (CNO), *Practice Standards: Infection Prevention and Control*; c2004 [cited 2005 May 15]. Available from: http://www.cno.org/docs/prac/41002_infection.pdf.

32. Curry, V., Cole, M., "Applying social behavioral theory as a template in containing and confining VRE" *Critical Care Nursing*. 2001; 24.2 (2001) : 13-19.

33. University of Twente, *Health Belief Model* [serial on the Internet]. c2004 [cited 2005 May 17]. Available from: http://www.tcw.utwente.nl/theorieenoverzicht/Theory%20clusters/Health%20Communication/Health_Belief_Model.doc/

34. Roden, J., "Revisiting the health belief model: nurses applying it to young families and their health promotion needs" *Nursing and Health Sciences*. 6 (2004) : 1-10.

35. Mangram, A., Horan, T., Pearson, M., Silver, L., Jarvis, W., "Guideline for prevention of surgical site infection" *Infection Control and Hospital Epidemiology*. 20 (1999) : 247-280. *

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BOSSONOMICS DESTRUCTIVE LEADERSHIP

IF YOU RATED YOURSELF AND THE MANAGEMENT COLLEAGUES YOU WORK WITH WHAT WOULD BE YOUR HONEST ASSESSMENT?

“STAR”, “OKAY”, “JERK”, “USELESS”... or worse names?

What are you called at the dinner table of your employees? How many of your employees say “I hate my job and my boss”? How hard is the door slammed when your employee arrives home? Were the children screamed at? How much crying goes on at home because of you and your colleagues? How much do you contribute to the insomnia of your staff? How much absenteeism is related to your workplace's toxic environment?

INTRODUCTION

The sentiments above use shocking words that make some people cringe. Some readers are saying to themselves “No, that's not happening with my staff.” Others are getting defensive that this author would suggest OR leaders are anything but perfect... or at least doing their best in a difficult environment.” Others will say “That couldn't happen in nursing”. Those rejecting the idea are wrong – for the sake of your employees, please read on!

LE LEADERSHIP DESTRUCTEUR

SI VOUS PRENIEZ LE TEMPS D'EVALUER HONNETEMENT LA PERSONNALITE DE PATRON DE VOUS-MEME ET DE VOS COLLEGUES GESTIONNAIRES, QUELLE SERAIT VOTRE CONCLUSION?

« STAR », « SATISFAISANT », « LOIN DE PARFAIT », « INUTILE » ou encore pire?

À la table de souper, qu'est-ce que vos employés disent de vous? Combien de vos employés disent qu'ils haïssent leur emploi et leur patron aussi?

La porte d'entrée claque-t-elle bien trop fort quand ils rentrent après le travail? Vos employés crient-ils après leurs enfants de frustration? Combien de larmes sont le résultat d'actions de vous et de vos collègues? Combien d'heures de sommeil perdues? L'absentéisme est-il le résultat d'un environnement de travail toxique?