

An Interview with
Stacey Linger

Infection and Wound Care:

A Critical Role for Prevention and Control



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INTERVIEW BY Catherine Harley, Associate Editor, *Wound Care Canada*

Stacey Linger, RN, BN, ET (WOCN), is an Infection Prevention and Control Officer at Hillsborough Hospital and an ET nurse at the Queen Elizabeth Hospital in Charlottetown, PEI. She is also a clinical educator with industry. She graduated from the University of New Brunswick in 1992 and began her career in Odessa, Texas, in gerontology and received a Certification in Gerontology from ANCC. She received Enterostomal Therapy Nursing (WOCN) training at the MD Anderson Cancer Center in Houston, Texas, and worked at Medical Center Hospital in Odessa as the ET nurse for the wound-care clinic. In 2005, she started working in infection prevention and control and completed the Infection Prevention and Control Course at Centennial College in Toronto, Ontario. She shares with us her clinical experience as it relates to wound care.

Q What prompted you to become specialized in infection control nursing?

I fell into it actually. It was always an interest, because of the link with ET nursing and infection prevention and control (IPAC), but I was asked by the hospital if I would be interested in training, and I jumped at the chance.

Q In your current role, what involvement do you have in wound management?

Are you a part of an interdisciplinary wound-care team?
In my current role, I am an educator for ostomy and wound

care, and I also provide coverage in the IPAC role. These roles frequently cross over. Infection is a huge issue in wound care, and wounds are a huge issue when I am wearing my IPAC hat. In the past I have been a member of an interdisciplinary wound-care team. These teams are very effective in managing patient issues and solving problems with everyone's input.

Q What are some potential wound pathogens?

Some of the most common wound pathogens are *Staphylococcus aureus*, *S. pyogenes*, *Pseudomonas aeruginosa*, *Dermatophytes*, *Candida*

sp., Gram (-) bacilli, *Colostridium* sp. There are also pathogens that will be detrimental to the wound and the patient at any number: *Mycobacterium tuberculosis*, *Treponema pallidum*, *Corynebacteria diphtheriae*, *Bacillus anthracis*, *Francisella* species.^{1,2}

Q How do you recognize wound infection?

Wound infection can be recognized with the eyes and the nose. The common symptoms of infection are erythema, edema, odour, pain, change in exudates, and fever. In some of our immunocompromised patients

there will not be some of these classic signs, so we need to look further. Another sign of wound infection or critical colonization is a slowdown in the progress of wound healing. In addition, the granulation tissue may look grey, there may be a biofilm, or there may be friable tissue in the wound bed. If a wound stops progressing or begins to look worse, high bacterial burden should always be suspected.

Q How do you confirm the diagnosis of wound infection?

Wound infection can be diagnosed on the basis of signs and symptoms. There are times

when we want to know more. If there is a need to know what the offending organisms are or how many organisms there are in a wound bed, there are three ways to go about it: a swab culture is the most common, tissue biopsy is considered the “gold standard,” and aspiration of wound fluid, if available.

Q **Is there a difference in how infection presents in chronic wounds versus acute wounds?**

In wounds healing by primary intention (closed surgically), the symptoms are erythema, unexpected tenderness or pain, serous or seropurulent exudates, discolouration, delayed healing, abscess, bridging of epithelium or soft tissue, cellulites, and odour. These symptoms are expected with chronic wounds as well. When a wound is healing by secondary intention, it is open and you are able to visualize the wound tissue, so you have more presentation of deterioration of the wound tissue.³

Q **What are “super bugs” and why are they becoming more prevalent?**

“Super bugs” are what the media call antibiotic resistant organisms. Some of these organisms, such as Methicillin-resistant *Staphylococcus aureus* (MRSA), are not that super, but they have become resistant to the antibiotics that were used

most frequently in the past against them. Penicillin made its debut in the 1940s, and methicillin specifically in the 1960s. The first methicillin resistance was reported in 1961. The frequent exposure to antibiotics and genetic mutation of bacteria are responsible for these hard-to-treat organisms.⁴ The Centers for Disease Control in the U.S. has 12 steps to reduce antimicrobial resistance in hospitalized adults, and included in these is to not treat contamination or colonization with antibiotics. We must use our antibiotics wisely. The antibiotic-resistant organisms are a big problem in all health-care facilities as well as in the community. Here they are harder to treat and are being spread by person-to-person contact. Many people may carry MRSA, VRE (vancomycin-resistant *Enterococci*) or an ESBL (extended spectrum beta lactamases) and not know. They don’t always make you sick, but they can still be spread to someone who will get sick from them.

Q **What is community-acquired MRSA? How is it treated?**

There are antibiotic-resistant organisms that do have increased virulence as well. There is a strain of MRSA called community-acquired or -associated MRSA (CAMRSA) that tends to be able to grow in conditions where regular MRSA would be managed by the host’s immune response. Therefore we are seeing it in

younger, healthier people.

Quite often it presents as a boil or abscess. If the area can be drained, the infection quite often resolves. There are cases of recurrent CAMRSA infections that must be treated with the appropriate antibiotics. Patients have died with pneumonia or septicemia caused by CAMRSA. We are now seeing it more in hospitals.

Q **Could you tell us about ESBL?**

ESBLs are another form of antibiotic-resistant organisms. These bacteria secrete enzymes that render some antibiotics useless. The most common organisms are *E coli* and *Klebsiella*. There have been outbreaks of ESBLs, and the affected patients are placed in isolation while in the hospital to prevent the spread of these organisms.

Q **When should a topical antimicrobial be considered for wound treatment?**

A topical antimicrobial such as silver or slow-release iodine preparations should be considered for wound treatment when there are signs of critical colonization or infection in the wound bed—if the wound appears to be affected by bioburden as discussed previously; with symptoms such

as friable granulation tissue, grey granulation tissue, biofilm, increased nonviable tissue in the wound bed; or any of the classic symptoms of wound infection. They may be used on their own as with critical colonization or in conjunction with oral or I.V. antibiotics.

Q **How can we reduce the risk of wound infection?**

Keeping wounds clean and covered is the basic way to prevent infection. Wound assessment and proper use of antimicrobial dressings is essential to keep wounds from progressing to infection.

Q **What continuing education courses would you recommend to nurses who have an interest in infection control/wound infection?**

There are a number of courses out there. Many of them are online if you are interested in infection prevention and control. A Web site to check is www.CHICA.org under the “education” tab.

Q **What are some of the biggest challenges you have seen as an infection control officer?**

continued on page 62

Health-care workers only wash their hands
30 to 50 per cent of the time—a scary number.
