



St.Amant implements a Mattress Inspection and Repair program with CleanPatch® to extend the life of its bath stretcher mattresses while reducing the risk of *Clostridium difficile* (*C. difficile*) infections

A Case Study – June 2016

Background

Surfaces play an important role in the transmission of healthcare acquired infections (HAI) and thorough cleaning of the patient zone is crucial to patient safety (Otter et al, 2011). Damaged patient mattresses cannot be properly cleaned and have been implicated in cross contamination and infection outbreaks (Creamer and Humphreys, 2008).

St.Amant is the largest provider of community living services in Manitoba, Canada, which includes River Road Place, a 160 bed long term care facility. As a not-for-profit organization, St.Amant faces an ongoing challenge to secure capital funding. This limits the facility's ability to replace medical mattresses when they become damaged and are no longer impervious to fluids.

The Problem

In 2014, St.Amant experienced an outbreak of *C. difficile*, which causes symptoms ranging from mild diarrhea to severe colitis, on one of the living units. The source of exposure was eventually traced back to a damaged bath stretcher mattress.

Although the bath stretcher mattress was routinely cleaned, the compromised surface allowed bacteria to grow within the damaged area and avoid disinfection. This contaminated surface lead to patient exposure and acquisition of a potentially dangerous HAI. Following this incident, St.Amant looked for an affordable solution to address the problem of damaged patient mattresses.

The Solution

CleanPatch® is the first Health Canada and FDA registered Class 1 medical device specifically designed to restore damaged mattresses to an intact and hygienic state. CleanPatch has been extensively tested and shown to be impervious to fluids and fully cleanable with hospital disinfectants.

St.Amant initially heard about CleanPatch at a regional infection control meeting. Upon learning of the product, Sheri, a Nurse Educator and Infection Control Nurse, trialed CleanPatch on a damaged bath stretcher mattress. The results were very positive. CleanPatch held up to daily use, repeated soakings with soap and water, and routine cleaning with healthcare disinfectants. After nine months of use the patch remained fully intact with no signs of wear.

The successful trial led St.Amant to purchase CleanPatch to begin repairing additional damaged mattress surfaces.

Implementing CleanPatch®

St.Amant implemented CleanPatch in a structured manner. The bath stretcher mattress surfaces are monitored by two individuals who are trained in mattress inspection and repair. They are the only personnel to apply CleanPatch, and each repair is labeled with the included Sharpie® marker and tracked via an excel spreadsheet. The spreadsheet is updated each month to note the current condition of the mattress and any CleanPatch repairs.

Implementing a simple protocol allows for effective tracking and the identification of damaged mattresses that may require repair, or replacement, consistent with mattress inspection and repair guidelines.³



Figure 1. Damaged areas on shower stretcher

CleanPatch® for Preventative Maintenance

Following the inspection of all bath stretcher mattresses, it was found that damage typically occurs along the side edges of the mattress. So, in addition to addressing existing damage with CleanPatch, St.Amant also uses CleanPatch as a preventive maintenance tool by applying CleanPatch to the high wear areas of new bath stretcher mattresses.



Figure 2. Preventative application of CleanPatch to high wear area (9 months after application)

In January 2016, St.Amant ordered 47 boxes of CleanPatch to address existing mattress damage in the facility, and to prevent damage formation on high wear areas of newly purchased equipment.

Conclusion

A *C. difficile* outbreak was traced back to a damaged bath stretcher mattress that could not be properly cleaned and disinfected. This incident compelled St.Amant to implement routine inspection of all shower stretchers and repair damage with CleanPatch when appropriate. Patient safety has been improved by reducing the risk of cross contamination from damaged mattresses.

About St.Amant

St.Amant is a not-for-profit organization that offers a wide range of programs and services to support individuals with developmental disabilities and their families. St.Amant programs include a large residence for complex-care, more than 50 community sites and homes, the St.Amant Research Centre, the St.Amant School and River Road Child Care, and a community child-care centre.

St.Amant offers effective programs for children with autism and also for families who care for an individual with a developmental disability at home. St.Amant strives to enhance the quality of life and self-determination for the thousands of individuals and families they serve each year.

About Surface Medical

Surface Medical Inc. is an Alberta-based medical device company focused on developing products to address an estimated 48 billion dollar problem that results in 100,000 deaths in North America each year: healthcare acquired infections. Founded in 2010, SMI is dedicated to creating innovative products that reduce the transfer of infection and facilitate the safe administration of healthcare for the benefit of practitioners and patients alike. For more information, please visit www.surfacemedical.ca

If you would like more information on this case study or would like to speak to St.Amant, please contact Eric de Haas at Surface Medical: eric@surfacemedical.ca

References:

1. Otter, J.A., Yezli, S., French, G. The Role Played by Contaminated Surfaces in the Transmission of Nosocomial Pathogens. *Infection Control and Hospital Epidemiology*. July 2011. Vol. 32, No.7, pp. 687-99
2. Creamer, E. and Humphreys, H. The contribution of beds to healthcare-associated infection: the importance of adequate decontamination. *Journal of Hospital Infection*. 2008. Vol. 69. pp 8-23
3. Surface Medical Inc. CleanPatch Mattress Repair Implementation Guide. www.cleanpatch.ca