Course Material & Study Guide
Hospital Bioburden and Textile Environmental Control
Executive Summary

The enclosed course on Hospital Bioburden and Textile Environmental Control is a collection of articles that provides a comprehensive overview of the significance of Healthcare Laundry and Textiles in terms of infection prevention. For textiles, infection prevention is aimed at (i) maintaining hygienically clean linen up to the point of patient use and (ii) minimizing the dispersal of microbes within the patient environment during use and following patient use. The enclosed compilation of articles addresses the three key risks associated healthcare textile process. Each article in the enclosed course addresses at least one of the three risks below:

1. Healthcare Textile Reprocessing Error

   Due to common deficiencies in the laundering processes textiles can be contaminated with environmental pathogens. Improper use of chemicals, low temperature in the washing process and/or reduced rinsing contribute to contamination of textiles during reprocessing.

2. Exogenous Contamination from Handling and Storage

   Even when laundry is properly cleaned, there is risk of exogenous contamination due to improper storage conditions. When linens are not properly packaged, shipped and/or stored, they can easily become contaminated with bacteria and fungus especially during hospital renovation and construction.

3. Microbial shedding

   Patient’s beds are a prevalent source of room contamination and microbial shedding from patients results in the contamination of the patient’s room. Shedding is encouraged by bed changing and dressing changes and it’s likely that this contamination leads to cross contamination of the next patient entering the room after discharge. Healthcare workers’ clothing may also contribute to this cross contamination.

The final article is a peer-reviewed study which shows how SilvaClean® Antimicrobial Textile Treatment reduces the bioburden of patient facing textiles in 3 healthcare facilities. The study concludes that SilvaClean® would likely reduce Hospital Acquired Infections due to its ability to reduce bioburden. To find out more about how antimicrobial textiles can benefit you or your local hospital, please visit us at: [www.appliedsilver.com](http://www.appliedsilver.com).
ARTICLE 1
HEALTHCARE LAUNDRY AND TEXTILES IN THE UNITED STATES: REVIEW AND COMMENTARY ON CONTEMPORARY INFECTION PREVENTION ISSUES
LYNNE M. SEHULSTER, PhD, M(ASCP)

ARTICLE 2
HOT AND STEAMY: OUTBREAK OF BACILLUS CEREUS IN SINGAPORE ASSOCIATED WITH CONSTRUCTION WORK AND LAUNDRY PRACTICES

ARTICLE 3
SUMMERTIME BACILLUS CEREUS COLONIZATION OF HOSPITAL NEWBORNS TRACED TO CONTAMINATED, LAUNDERED LINEN

ARTICLE 4
GORDONIA BRONCHIALISSter nal Wound Infection in 3 Patients Following Open Heart Surgery: Intraoperative Transmission from a Healthcare Worker
SHANEKA N. WRIGHT, RN, BSN, MHS, CIC; JOANNA S. GERRY, DNP, ARNP; MARY T. BUSOWSKI, MD; ALENA Y. KLOCHKO, MD; STEVEN G. MCNULTY, BS; SCOTT A. BROWN, RN, MBA, CIC; BARRY E. SIEGER, MD; P. KEN MICHAELS, DO; MARK R. WALLACE, MD

ARTICLE 5
BACILLUS CEREUS NOSOCOMIAL INFECTION FROM REUSED TOWELS IN JAPAN
SHANEKA N. WRIGHT, RN, BSN, MHS, CIC; JOANNA S. GERRY, DNP, ARNP; MARY T. BUSOWSKI, MD; ALENA Y. KLOCHKO, MD; STEVEN G. MCNULTY, BS; SCOTT A. BROWN, RN, MBA, CIC; BARRY E. SIEGER, MD; P. KEN MICHAELS, DO; MARK R. WALLACE, MD

ARTICLE 6
MUCORMYCOSIS OUTBREAK ASSOCIATED WITH HOSPITAL LINENS
JONATHAN DUFFY, MD, MPH, JULIE HARRIS, PhD, MPH, LALITHA GADE, M PHARM, LYNNE SEHULSTER, PhD, EMILY NEWHOUSE, MD, CM, HEATHER O’CONNELL, PhD, JUDITH NOBLE-WANG, PhD, CAROL RAO, ScD, MS, S. ARUNMOZHI BALEE, PhD, AND TOM CHILLER, MD, MPH
ARTICLE 7

HOSPITAL PRIVACY CURTAINS ARE FREQUENTLY AND RAPIDLY CONTAMINATED WITH POTENTIAL PATHOGENIC BACTERIA
MICHAEL OHL MD, MSPHA, B,*, MARIN SCHWEIZER PHD, B, MAGGIE GRAHAM MSB, KRISTOPHER HEILMANN BSC, LINDA BOYKEN BSC, DANIEL DIEKEMA MD, C

ARTICLE 8

AIRBORNE BACTERIAL DISPERSAL DURING AND AFTER DRESSING AND BED CHANGES ON BURNS PATIENTS
SARAH E. BACHE A,*, MICHELLE MACLEAN B, GEORGE GETTINBY C, JOHN G. ANDERSON B, SCOTT J. MACGREGOR B, IAN TAGGART A

ARTICLE 9

EVALUATION OF BEDMAKING-RELATED AIRBORNE AND SURFACE METHICILLIN-RESISTANT Staphylococcus aureus CONTAMINATION

ARTICLE 10

REDUCTION IN BACTERIAL CONTAMINATION OF HOSPITAL TEXTILES BY A NOVEL SILVER-BASED LAUNDRY TREATMENT
JOHN J. OPENSHAW, MD, WILLIAM M. MORRIS, BS, GREGORY V. LOWRY, PHD, AYDIN NAZMI, PHD

STUDY GUIDE
To view articles, please request the full educational course by emailing:

education@appliedsilver.com
SilvaClean® Study Guide: Reducing Risk with Antimicrobial Textiles

Name: _____________________________ Phone: _____________________________
Organization: ___________________________ Email: ____________________________

1) In what way does hospital linen pose a risk? How is it different from hard surfaces?

2) Which authors arrive at the same conclusions? How do their study designs agree or differ?

3) Which finding do you find most compelling and why?

4) What information can you gain from your laundry facility to understand how they handle linen?

5) Based on the conclusions in this body of work, what questions remain and how would you develop a study to address them?
6) How does the patient’s bed act as a source for transmission?

7) Which of the following contributes the most to transmission of infection? Why?
   a) Improper reprocessing
   b) Exogenous contamination
   c) Microbial Shedding

8) Why is the cleanliness of linen sub-par to hard surfaces even though it becomes more intimate with the patient?

9) How would an antimicrobial textile treatment such as SilvaClean® break the chain in transmission of bacteria?

10) How would you justify the cost of SilvaClean®?