The use of antimicrobial table sheets with polyethylene backing reduces the risk of strike-through contamination seen with the use of standard linen sheets.

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Introduction: With increased focus on the reduction of healthcare associated infections, specific attention is appropriately being given to environmental factors, including patient contact surfaces. Culture reports from patient contact surfaces, including chairs, beds and OR tables, continue to show significant contamination commonly centered around seams, absorbent surfaces, and areas that have lost cover integrity due to wear. The operating room environment is associated with patient care scenarios in which contamination with body fluids likely contaminated with bacteria is routine and as such growing concern for strike-through contamination of the OR table and mattress exists. While some hospital systems continue to use standard reusable linen sheets in the operating room, by nature, these linens are not impervious and allow strike-through contamination of blood and body fluids, virus, and bacteria, therefore providing little protection to the OR table, mattress and accessories. There are now products available that are designed to reduce the risk of contamination. One unique product, the STAT-BLOC™ Table Sheet, allows for rapid turnover, advanced absorption and fluid management, an impervious backing, and patent pending antimicrobial protection. In vitro studies have confirmed this product's efficacy in control of contact bio-burden including organisms such as Carbapenem-resistant Enterobacteriaceae (CRE), Escherichia coli (E coli) and Methicillin-resistant Staphylococcus aureus (MRSA)*. This study was designed to test the product's clinical relevance in protecting the OR table mattress against strike-through in a known contaminated model.

Procedure: After baseline cultures were obtained, a new and uncontaminated OR mattress was covered with the product to be tested. Both the STAT-BLOC table sheet and new standard cloth table linens were tested. Sixty ml's of mixed enteric organisms in concentration of 1 X 10(7) was placed on five separate marked areas of the test product and allowed to dwell for the designated time period (2 and 4 hours). Cultures were then taken of the mattress immediately below the marked areas and incubated for 24 hours at 37 degrees Celsius using standard dilution techniques plated onto blood agar. The areas below the STAT-BLOC table sheet appeared to be dry at both the 2 and 4 hour time periods. The areas below the cloth covers appeared moist at the 2 hour period but dry at the 4 hour time period.

Results: Average culture results were as follows:

Test material	Averaged CFU
Baseline OR mattress	2
STAT-BLOC - 2 hour	2
STAT-BLOC - 4 hour	4
Cloth - 2 hour	9 X 10(5)
Cloth - 4 hour	7 X 10(4)

Results identify that only two colonies of bacteria grew under the STAT-BLOC table sheet as compared to large concentrations of bacteria under the cloth sheet. However, the baseline test of the OR Mattress showed two existing colonies of bacteria, so it can be concluded that the STAT-BLOC table sheet prevented any new bacteria from permeating the sheet.

Conclusion and Recommendations: The use of the STAT-BLOC antimicrobial table sheet with polyethylene backing provided bio-burden control of contact surfaces even in the face of heavy contamination. The use of standard cloth linens allows strike-through contamination even when the surface has appeared to have dried after a four hour dwell time.

For procedures in which bacterial contamination is a possibility, consideration should be given for the use of an advanced cover that provides impervious, antimicrobial protection such as the STAT-BLOC table sheet.

**Data on file.*

Roger Huckfeldt, MD has performed paid consulting work for Ansell and/or its affiliates.

STAT-BLOC™ antimicrobial table sheets are not available for sale outside of the United States.

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