Reusable Surgical Textiles:
A Means to Save Money and Reduce OR Waste Up to 30 Percent

February 17, 2011
Presented by
The American Reusable Textile Association
www.arta1.com
Moderated by
Practice Greenhealth

[Please answer poll questions #1 and #2]

The Situation

- The operating room (OR) is the epicenter of today's hospital.
The Situation

- McKesson Group estimates that the OR generates 42% of a hospital's revenue and leads in medical supply usage
- The OR also generates as much as 20 to 30% of a hospital's total waste volume
- AND . . .

According to an article featured in the *AORN Journal,* using reusable products provides a means to decrease regulated medical waste generated in the OR by an average of 65% as well as reduce the cost of waste disposal.

- AND . . .

The Situation

- Also according to AORN, the recommended standard percentage of regulated medical waste in healthcare facilities is 15% or less of overall waste;

- However, researchers have found that many facilities dispose of up to 70% of waste as regulated medical waste.


The Situation

- A major source of the waste produced in the OR is from disposable surgical supplies.

- In an effort to reduce the waste stream, AORN recommends evaluating the “environmental impact of reusable, reposable, and disposable products.”**

The Situation

- Practice Greenhealth (PGH), with a number of others in the healthcare field, has developed the “Greening the OR Initiative” to help hospitals define OR Best Practices and:
  - To reduce environmental impacts and costs . . .

- While increasing efficiency, and improving worker and patient safety.

- To date, more than 85 member hospitals have endorsed the initiative, including many of your hospitals.

[Please answer poll question #3]
Today’s Webinar:

“How the Increased Use
Of Reusable Surgical Textiles
Can Reduce Costs and Waste in the OR”

A Case Study on Fairview Hospital,
University of Minnesota Medical Center

Learning Objectives (4 objectives)

- Learn about the cost savings provided by increased use of reusable textiles in the operating room.

- Learn how reusable surgical textiles can dramatically reduce hazardous medical waste.
Learning Objectives (continued)

- Learn about any difference in infection prevention between reusable surgical textiles and disposables.

- Learn about the reduced environmental impact offered by reusable textiles.

[Please answer poll question #4]

Background: Today’s Speakers

- **Moderator**
  Steve Tinker,
  President of ARTA and VP of Gurtler Industries

- **The American Reusable Textile Association** was founded in 1982 to help create greater awareness and appreciation for reusable textiles.
  [www.ARTA1.com](http://www.ARTA1.com)
Background: Today’s Speakers

• Barb Fordyce
  Surgical Textiles Mgr.,
  Healthcare Systems
  Cooperative Laundry (HSCL)
• HSCL is a supplier of
  reusable surgical gowns,
  drapes, towels and 40
  different reusable packs.

Background: Today’s Speakers

• Lynn Thelen, RN
  Operating Room & Green Team
• University of Minnesota
  Medical Center - Fairview
  Hospital
  — 2,000 beds and 20,000
  surgical procedures a year,
  — Formed Green Team
  in 2009.
Background: Today’s Speakers

- **Catherine Zimmer, MS, BSMT & A.J. Van Den Berghe Researchers**, Minnesota Technical Assistance Program (MnTAP)

- **MnTAP, an independent research source.** Mission is to help businesses develop solutions that prevent pollution, maximize efficient use of resources, and reduce energy use and costs.

Case Study: Fairview Hospital

Lynn Thelen, RN, Operating Room

- In 2009, **Fairview Green Committee** formed in collaboration with Minnesota Technical Assistance Program.
Case Study: Fairview Hospital
Lynn Thelen, RN, Operating Room

- **Goal:** To create a system-wide council and leadership group to promote practices for energy and waste reduction at the University of Minnesota Medical Center - Fairview.

[Please answer poll question #5]

Case Study: Fairview Hospital
Lynn Thelen, RN, Operating Room

- **Fairview Green Committee** divided into site-based Green Teams, including facilities management, environmental services, nutrition services and infection prevention.
Case Study: Fairview Hospital

Lynn Thelen, RN

- Work included converting from disposable surgical gowns and packs to reusable surgical gowns. Level III gowns.

Case Study: Fairview Hospital

Lynn Thelen, RN

- Discussion of disposable products used
- Reusable products selected
  - Surgical, chemo and isolation gowns
  - Unique surgical packs (types)
Case Study: Fairview Hospital

Lynn Thelen, RN

- Challenges in converting to reusable surgical textiles
- Key learnings

Case Study: Fairview Hospital

Barb Fordyce
Surgical Textile Mgr.
HSCL

- Laundry worked closely with Fairview to secure appropriate reusable products and custom surgical packs.

[Please answer poll question #6]
Case Study: Fairview Hospital
Barb Fordyce  
Surgical Textile Manager  
HSCL

- Laundry able to provide 40 unique surgical packs.
- Packs assembled in pack room at laundry; sterilized at hospital.

[Please answer poll question #7]
Case Study: Fairview Hospital

Barb Fordyce
Surgical Textile Mgr.
HSCL

- Quality controls at laundry
  - HLAC accreditation
  - Accreditation assures that highest standards are met in laundry

[Please answer poll question #8]

Testing Levels for Surgical Packs

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>TEST</th>
<th>RESULTS</th>
<th>AQI REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AATCC 42:2000</td>
<td>≤ 4.5 g</td>
<td>4%</td>
</tr>
</tbody>
</table>
| 2     | AATCC 42:2000
     | AATCC 127:1998        | ≤ 1.0 g < 20 cm | 4%               |
| 3     | AATCC 42:2000
     | AATCC 127:1998        | ≤ 1.0 g ≥ 50 cm | 4%               |
| 4     | ASTM F1671: 2003
     | (Surgical gowns and other protective apparel) | Pass | 4%               |
|       | ASTM F1670: 2003
     | (Surgical drapes and other drape accessories) | Pass | 4%               |
Sample Test Grid for Surgical Textiles

Case Study: Fairview Hospital
Barb Fordyce
Surgical Textile Mgr.
HSCL

- Challenges in delivering reusable surgical gowns and drapes and packs
Case Study: Collecting Data
Catherine Zimmer and A.J. Van Den Berghe
Minnesota Technical Assistance Program (MnTAP)

• Gathered and analyzed data from conversion at Fairview Hospital.

Case Study: Collecting Data
Catherine Zimmer and A.J. Van Den Berghe
Minnesota Technical Assistance Program (MnTAP)

• Gathered and analyzed data on:
  — Costs, waste reduction
  — Infection prevention
  — Environmental impacts (life cycle analysis)

• Challenges
Case Study: Analysis

- In summary, the research found that reusable medical textiles (chemo, isolation, packs and surgical gowns) provided:
  - **Cost savings of $360,000** per year,
  - **Reduced waste by 254,000 pounds** per year,
  - **No difference in infection prevention** attributes.

2009 Fairview Cost and Waste Summary

<table>
<thead>
<tr>
<th></th>
<th>Total Annual Waste (lbs)</th>
<th>Waste per Adjusted Patient Day (lbs)</th>
<th>Total Annual Cost</th>
<th>Cost Adjusted Patient Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable Gowns</td>
<td>310,000</td>
<td>0.59</td>
<td>$1,660,000</td>
<td>$3.17</td>
</tr>
<tr>
<td>Reusable Gowns</td>
<td>56,000</td>
<td>0.11</td>
<td>$1,300,000</td>
<td>$2.51</td>
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<tr>
<td>Difference</td>
<td>254,000</td>
<td>0.48</td>
<td>$360,000</td>
<td>$0.66</td>
</tr>
</tbody>
</table>
In addition, life cycle analysis showed that Level III reusable surgical gowns have a significant benefit in reducing environmental impacts.

Factors evaluated included costs and resources for gown production, distribution, laundering, and end of life.
Case Study: LCA Analysis

Catherine Zimmer and A.J. Van Den Berghe
Minnesota Technical Assistance Program (MnTAP)

• Based on 50 uses of each surgical gown versus single-use of disposable item.
  — Human health and environmental impacts identified included . . .

Human Health Impacts

• Carcinogens
• Non-Carcinogens
• Respiratory Effects
Case Study: LCA Analysis

Catherine Zimmer and A.J. Van Den Berghe
Minnesota Technical Assistance Program (MnTAP)

Environmental Impacts
- Acidification
- Ecotoxicity
- Eutrophication
- Global Warming
- Ozone Depletion
- Photochemical Oxidation

Conclusions
- Significant cost savings and waste reduction!
- No difference found in infection control.
Conclusions

- Additional research on environmental impacts gives significant advantage to reusables over disposable items.
- Change is difficult! Many of us use disposables just because it’s been the norm.

[Please answer poll question #10]

Barriers to Implementation

- Disposable supplier reduced prices for Fairview to try and keep the business.
- Management reluctant to change?
- Plan to continue conversion to reusable surgical textiles.

[Please answer poll question #11]
Questions?

We thank you for your time!

Speaker Contact Information

Moderator
Steve Tinker
President of the American Reusable Textile Association (ARTA)
VP of Development for Gurtler Industries
South Holland, IL
708/870-7743
sjtinker@gurtler.com

The Nurse Expert
Lynn Thelen, RN
Fairview Hospital, University of Minnesota
612/273-5343 or 651/492-5331
LTHELEN1@Fairview.org
Speaker Contact Information (continued)

The Laundry Provider
Barb Fordyce
Health Systems Cooperative Laundries, Surgical Textile Manager
St. Paul, Minn.
651/ 774-8620
barb.fordyce@hscl.net

Speaker Contact Information (continued)

The Research and Analysis Team
Dr. Catherine Zimmer, MS, BSMT
(formerly with MnTAP, University of Minnesota)
Zimmer Environmental Improvement, LLC
St Paul, MN 55104
651/645-7509
zenllc@usfamily.net

A.J. Van Den Berghe
Minnesota Technical Assistance Program
University of Minnesota Gateway Center
200 Oak Street SE, Suite 350
Minneapolis, Minnesota 55455 - 2008
612/624-4653
vand0576@umn.edu