

# The FACTS About Reusable Textiles

*The Responsible Choice, Because the Future Is NOT Disposable!*

Perhaps your healthcare organization only uses disposable products. Maybe you use a mix of reusable textiles and single-use disposables. Here are the FACTS on why increasing the use of reusable textiles is the sustainable and responsible choice!

The new focus on Green has every healthcare organization looking for ways to reduce waste and costs while increasing the sustainability of daily operations. Reusable textiles can dramatically reduce your waste, provide effective barrier protection and enhanced comfort, as well as reducing costs.

Sounds straightforward, right? But companies offering nonwoven, single-use disposables claim their products are the more sustainable choice. So who is right? The following information provides the FACTS, backed by research and case studies.

## FACT #1 REUSABLE TEXTILES REDUCE WASTE

Practice Greenhealth (PGH) recently published "The Business Case for Greening the OR." The article notes the incorrect perceptions that exist about the costs of implementing Green practices and recommends OR Best Practices to reduce waste:

*"The culture of waste in the OR is driven in large part by the increasing volume of disposable medical supplies on the market today. Many hospitals — after jumping on the disposables bandwagon — are beginning to rethink the use of reusable textiles and supplies in the OR. Reusable surgical textiles are demonstrating increased clinician satisfaction while also providing comparable barrier protection. And reusable table and mayo stand covers, surgical towels and basins are common sense switches that drive down costs by reducing the volume of waste generated."*

- ◆ Hospital patients in the U.S. generate about 15 pounds of waste each day; that's a conservative 6,700 tons of waste each day.\*
- ◆ 78% of hospitals designate medical waste as infectious;\*\* 53% of medical waste is comprised of single-use disposable items.\*\*\*
- ◆ Researchers conducted a comparison project in the operating rooms of two large medical centers to evaluate the effects of using reusable surgical items in place of disposable products. Survey results indicated reusable products reduced regulated medical waste generated in the OR by an average of 65%.\*\*\*\*

\*\*New England Journal of Medicine, 1991; "Infectious Waste," Rutola WA & Weber DJ

\*\*\*Journal of the American Medical Association, 1992; "A Quantitative and Critical Assessment of Surgical Waste," Tiezen ME & Gruenberg JC.

\*\*\*\*AORN J 91 (June 2010) 711-721. © AORN, Inc, 2010. doi: 10.1016/j.aorn.2009.12.029



## FACT #2 REUSABLE TEXTILES ARE THE ENVIRONMENTALLY SUSTAINABLE CHOICE

According to more than one Life Cycle Assessment (LCA), reusable textiles are a more environmentally friendly option to disposable products.

- ◆ **Minnesota Technical Assistance Program (MnTAP)** This LCA study compares the normalized environmental impacts of two cases, 50 single-use disposable PP gowns and one multi-use PET gown laundered 50 times. Reusable gowns have an improved environmental profile compared with the single-use gowns in all human health\* and most environmental\*\* impact categories. The improved environmental profile, coupled with the significant decrease in solid waste generation, suggest that in this case the multi-use surgical gown is the more environmentally preferred option.

\* Life Cycle Assessment of Multiple-Use Surgical Gowns with Disposable Gowns  
A. J. Van den Bergh and Catherine Zimmer  
Minnesota Technical Assistance Program, University of Minnesota, Minneapolis,  
Zimmer Environmental Consultants, St. Paul, MN

\*\*Life Cycle Assessment of Surgical Gowns, Anders Schmidt, PhD, dk-TEKNIK Energy & Environment, April 2000

## LAUNDRIES ARE GUARDIANS OF ENERGY AND RESOURCES

Laundries that clean linens work to aggressively minimize energy and water consumption.

- ◆ Disposables companies talk about the water and energy wasted in cleaning reusable textiles. What they don't know is that laundry operators use water as a pass-through resource. They reuse and pre-treat water before releasing it back to the Publicly Owned Treatment Waterworks (POTW).
- ◆ Modern equipment and engineering allow operators to:
  - Keep energy use typically under 2500 btus per pound
  - Use water efficiently
    - 0.5-0.7 gallons of water per pound of processed textiles vs. 3.0+ gallons with traditional washing methods

## ENVIRONMENTAL CLAIMS BY DISPOSABLES COMPANIES ARE SOMETIMES DECEPTIVE

Be skeptical of disposable claims not backed by research or facts. For example:

- ◆ **Often Stated** — Up to four gallons of water to launder one surgical gown or drape
- ◆ **Reality** — Modern tunnel washing systems
  - Surgical gown and most drapes require under 0.5 gallons of water
  - Large drapes may require a gallon of water

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# The FACTS About Reusable Textiles *continued*

- ◆ **Often Stated** — Reusable are prone to linting.
- ◆ **Reality** — Reusable surgical gowns today are made of high-tech fabrics that do not lint. Back in the 1960s and earlier, reusable surgical garments and drapes were made of cotton and linting could be a problem. This is no longer true.

## FACT #3 REUSABLE TEXTILES PROVIDE ADEQUATE BARRIER PROTECTION AND INFECTION CONTROL

According to the U.S. Occupational Safety and Health Administration (OSHA), healthcare garments need to be “appropriate for the task and degree of exposure to blood borne pathogens and infectious bacteria anticipated.” The American National Standards Institute (ANSI\*) and the Association for the Advancement of Medical Instrumentation (AAMI) published a study that showed that when laundered properly, reusable garments and drapes are 70% more effective in providing barrier protection.

- ◆ **Barrier Protection:** Reusable textiles meet or exceed AMMI\*\* barrier protection required in the healthcare environment for Level 1 to Level 4 gowns

- ◆ **Quality Assurance:** Suppliers of reusable textiles run ongoing quality checks on surgical gowns and drapes to ensure barrier protection. When a gown or drape no longer meets barrier protection standards or has been used 50 to 75 times (per manufacturer’s specifications for a specific product), it is downgraded for other uses or recycled.

- ◆ **Infection Control:** Surgical gowns must protect against exposure to pathogens and other body fluids. In a randomized controlled study of patients undergoing coronary artery surgery one study found the use of paper drapes and gowns conferred no benefit over a reusable fabric in terms of post-operative wound infection.\*\*\*

\*American National Standard:  
“Processing of reusable surgical textiles for use in healthcare” (ANSI  
ST65:2000),

\*\*AAMI, The Association for the  
Advancement of Medical Instrumentation

\*\*\*“A Prospective Study of Wound Infection in Coronary Artery Surgery,”  
Harris Belchambers, European Journal of Cardio-Thoracic Surgery,  
15:45-50

## FACT #4 REUSABLE SURGICAL TEXTILES PROVIDE ENHANCED COMFORT

Reusable textiles often offer a more comfortable alternative to single-use disposable items.

- ◆ Researchers conducted a comparison project in the operating rooms of two large medical centers to evaluate the effects of using reusable surgical items in place of disposable products. Survey results indicated that surgeons and surgical technologists preferred the reusable products to the disposable products.

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## FACT #5 REUSABLE TEXTILES CAN PROVIDE SIGNIFICANT COST SAVINGS

When operations and inventory are well managed, reusable textiles are not only greener than disposables — reusables can cost less than disposables. In addition, hospitals save substantial sums in having medical instruments returned. When disposables are used, medical instruments are easily thrown away.

- ◆ **Winter Haven Hospital** found that reusables cost less than half of disposable single-use items, even though the upfront cost of reusables is greater than a single-use disposable. See chart below.

	Reusable	Disposable
Initial Cost	\$60.00	\$4.50
Cost per Use	1.20*	4.50
Admin Costs	0.15	0.15
Laundering	0.50	-
Pack Making & Sterilization	0.40	-
Waste Disposal	-	0.25
<b>TOTAL</b>		
<b>Cost Per Use</b>	<b>\$2.25</b>	<b>\$4.90</b>

\*50 processings  
\* Winter Haven Hospital Case Study, Winter Haven, Fla., 2006

- ◆ **The University of Maryland Medical Center (UMMC)** moved to reusable textiles in the OR more than 15 years ago, and utilizes a vendor to provide clean, sterilized surgical textiles. In 2010, UMMC avoided the creation of 138,748 pounds of waste as a result of using reusable textiles in the OR, which correlates to estimated cost savings of nearly \$39,000 in disposal costs and an estimated \$39,000 in returned instruments, (which would have been thrown away if the hospital was using disposable gowns and drapes in its OR).

- ◆ **Kaiser Permanente’s** use of reusable surgical gown and basin sets reduced the organization’s regulated medical waste by 30 tons, at a savings of 3.8% in 2010, according to Andrew Knight, Senior Sourcing Director of Kaiser Permanente in San Diego.