

Breaking Down the Binaries



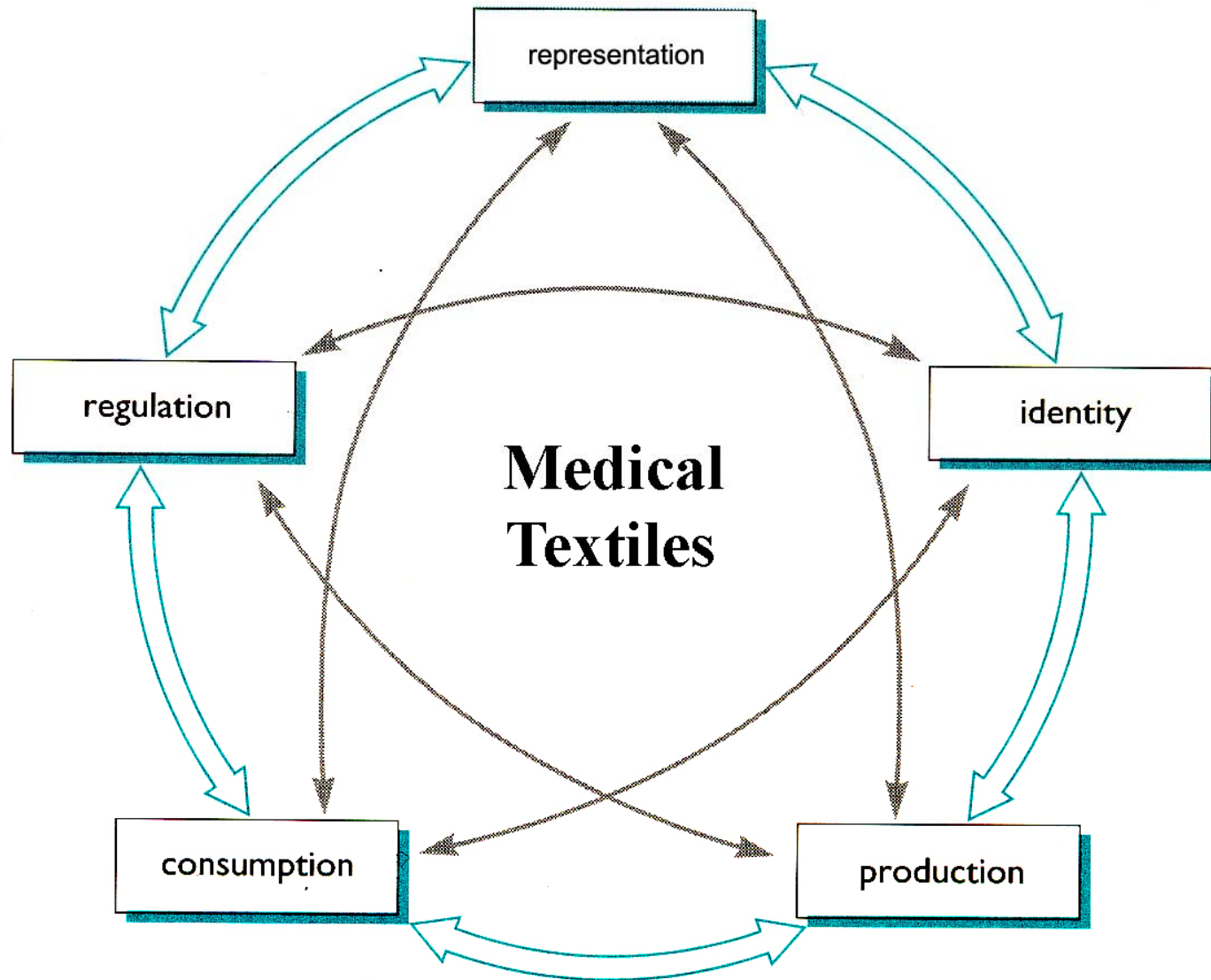
Susan Kaiser Ryan Looysen

Denise Green Norah Sorensen

To develop and explore new ways of thinking that move beyond the dichotomy of reusable versus single-use, encouraging people to think critically and creatively to find ways of bridging the single-use/reusable divide.



A Cultural Studies Approach: The Circuit of Culture



Objectives

- To examine producer/user perceptions of surgical textiles.
- To understand the factors and forces influencing perceptions of surgical textiles.
- To interpret scientific, economic and cultural discourses associated with medical textiles.
- To examine and include all perspectives, from historical reflection to current viewpoints and future possibilities.

Methods

- Review of literature, standards, reports
- Discourse analysis
- Observation of product usage
- Visits to laundry, waste and manufacturing facilities
- Interviews with healthcare professionals
- Interviews with members of professional/trade associations
- Interviews with manufacturers
- Interviews with launderers, distributors, hospital waste management personnel, etc.
- Interviews with academic and industry researchers

Perceptions of Medical Textiles

- How do people perceive medical textiles?
- What forces impact (or are impacted by) these perceptions?

U.S./CANADA



The Campaign for Environmentally
Responsible Health Care



Association of the
Nonwoven Fabrics Industry

How do institutions impact perceptions?



American Reusable Textile Association

*Industry professionals dedicated to promote the appreciation
and acceptance of reusable textiles*

HOSPITALS
for a
HEALTHY
ENVIRONMENT



ENVIRONMENTAL EXCELLENCE: COMPLIANCE AND BEYOND

How do the media impact perceptions?

How Clean Is Your Doctor's Tie?

Study Finds Neckties Can, And Do, Carry Pathogens

May 25, 2004



(AP / CBS)

[Double-click any word \(What's this?\)](#)

(CBS/AP) Concerned about picking up a nasty bug while in the hospital? Forget about whether your doctor washed his hands before examining you. Ask when he last dry-cleaned his tie.

Neckties worn by doctors can and do carry dangerous pathogens, a new study released Monday reveals. It suggests a bedside visit by a well-dressed physician could be hazardous to your health.

The presence of bugs on ties suggests doctors aren't washing their hands enough, or at the right times, said Dr. Allison McGeer, one of Canada's leading infection control experts.

"If physicians washed their hands when they were supposed to, their ties would not be contaminated," she said flatly.

But Steven Nurkin, one of the authors of the study, said that's not it: Doctors often adjust their neckties after they've washed their hands. Or they lean over and the tie touches one patient, then visit another and the tie touches that patient.

How does academic literature impact perceptions?

Dispose of nondisposables

Marvin L. Woodall

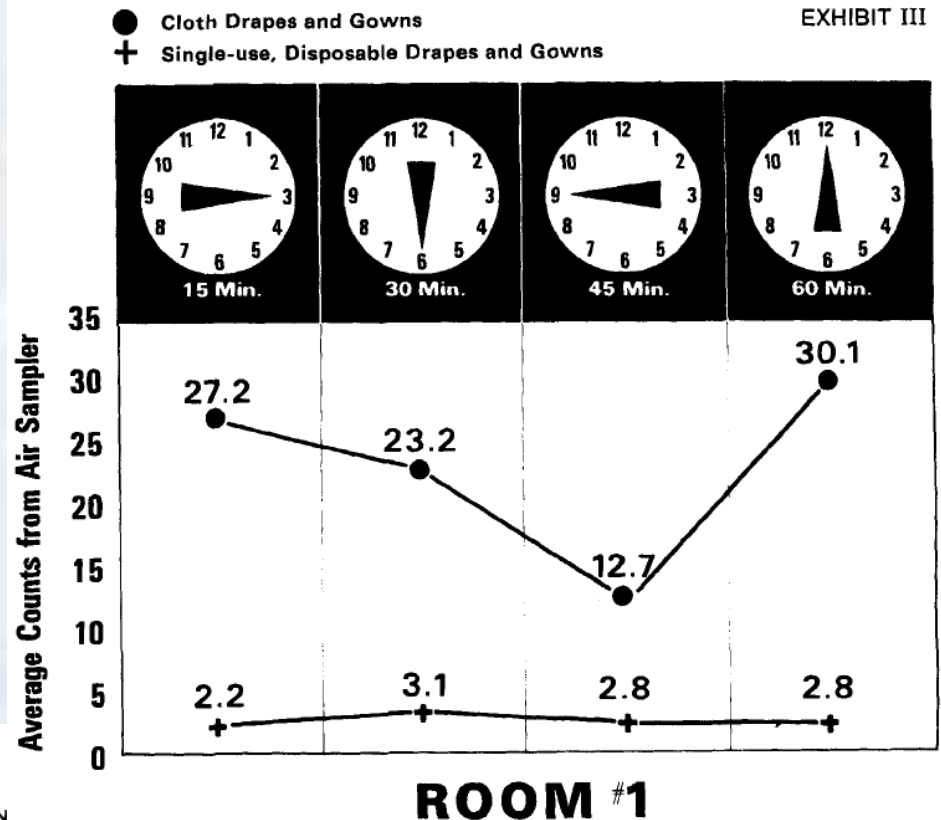
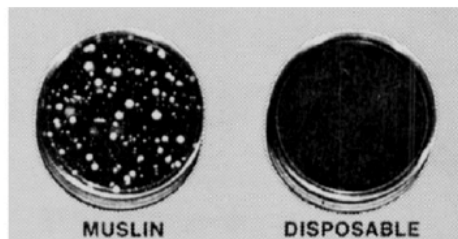
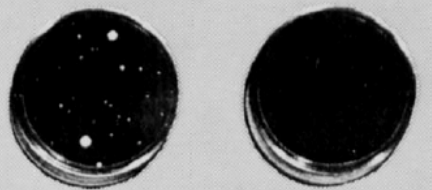
AORN November 1972

EXHIBIT II

CONTACT TIME: 15 MINUTES

IN VITRO TESTING

CONTACT TIME: 120 MIN



How do regulatory agencies impact perceptions?



Centers for Disease Control and Prevention
Your Online Source for Credible Health Information

CDC for Public Health Professionals



U.S. Food and Drug Administration



U.S. Department of Labor
Occupational Safety & Health Administration

www.osha.gov

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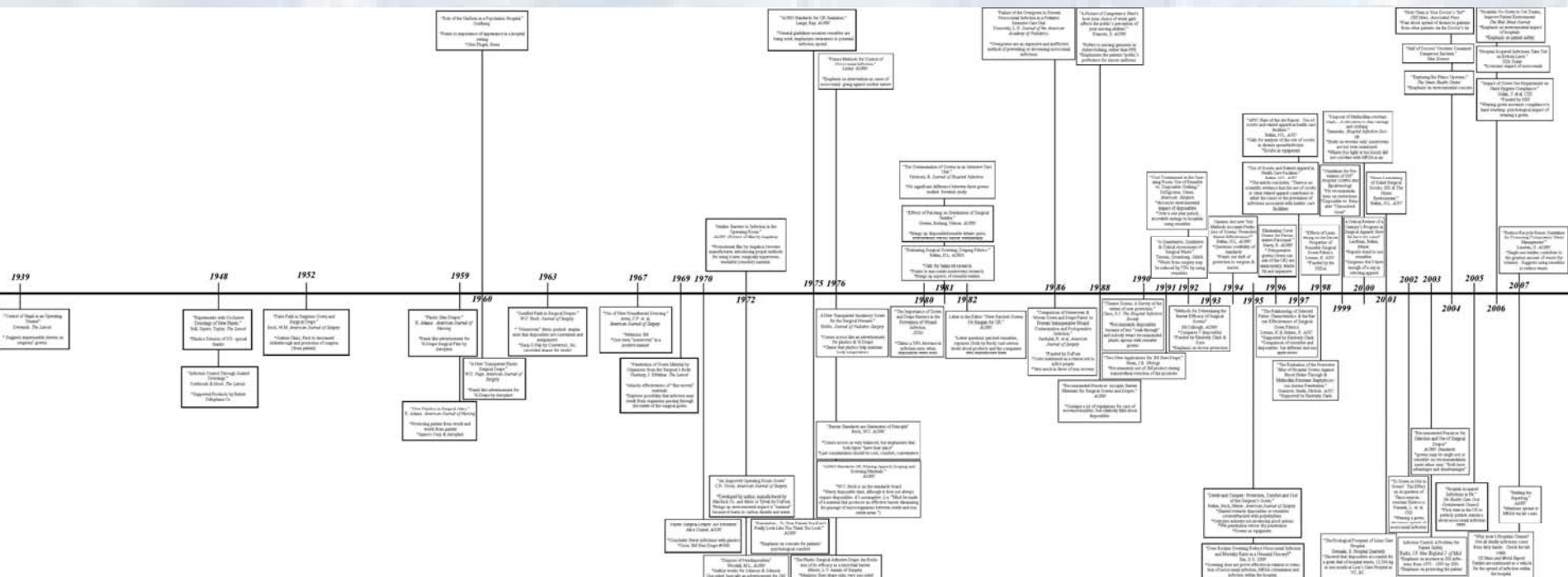
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How does
marketing
influence
perceptions?

Discourse Analysis & Timeline

Looking back to history and examining the discourse of the time period enables us to understand how the situation today has been shaped.



This contextual foundation will help us to look forward to the future and to think critically and strategically about how these two industries can best respond to the needs of people.

Rising Concerns: Initial Questioning of Surgical Textiles (1939-1952)



- 1939, 1948: Scientists realized that infection could be transmitted from doctor to patient through the wet dressing, and thus was not providing the barrier necessary for protection.
 - 1939, “Control of Staph in an Operating Room Theatre,” (*The Lancet*)
 - 1948, “Experiments with Occlusive Dressings of New Plastic,” (*The Lancet*)
 - 1948, “Infection Control Through Wet Dressings,” (*The Lancet*)
- 1952, “False Faith in Surgeon’s Gown and Drape,” (*American Journal of Surgery*) A need emerged for improved materials in the OR.

Focus on Materials and Emergence of Single-Use PPE

1952-1972

- 1952, Aeroplast produced by Protective Treatments Inc. produces what the *New York Times* describes as a product that could replace gauze.
- 1959 & 1960 articles in the *American Journal of Nursing* and *American Journal of Surgery*, respectively, promote Vi-Drape by Aeroplast
- 1963, “Justified Faith in Surgical Gowns: A New Safe Material for Draping.” W.C. Beck highlights a new product by Kaycel, called Surg-O-Pack.

New Fashions in Surgical Attire

The need to achieve more effective surgical asepsis led to the development of a fitted filter mask, a wrap-around gown, and protective booties which everyone puts on before entering the operating room. Their use has been well-justified by repeated bacteriologic tests.

- 1967-70, 3M produces the single-use Steri-Drape (Which is promoted by articles appearing in the *American Journal of Surgery* and *American Journal of Nursing*).

- 1972, “An Improved Operating Gown,” (*American Journal of Surgery*) MacBick Co., DuPont de Nemours & Co., Inc. promoted gown made of Tyvek

Associations and Standards

1967 - 1982

- 1967, AAMI (Association for the Advancement of Medical Instrumentation) is founded.
- 1968, “The Disposables Association,” is founded, and becomes INDA (International Nonwovens and Disposables Association) in 1972
- 1971, OSHA founded
- 1975, AORN Standards
- 1976, FDA approves Proctor & Gamble’s boundary single-use reinforced surgical gown
- 1982, ARTA (American Reusable Textile Association) is founded by Nathan Belkin

Early Debates and Development of a Dichotomous Relationship

1972 - 1982

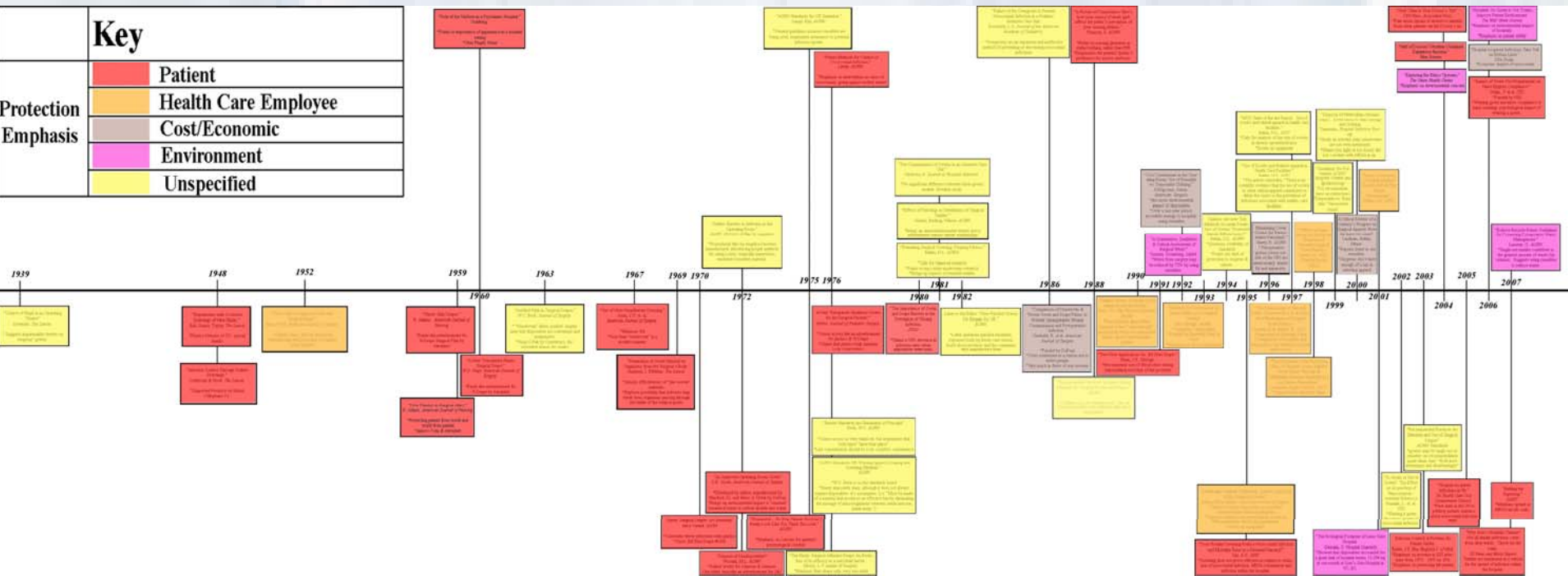
- 1972, “Dispose of Nondisposables,” (*AORN*) This is one of the first articles to debate the issue of single-use versus reusable medical textiles.
- 1981, “Evaluating Surgical Gowning, Draping Fabrics,” (*AORN*) N. Belkin emphasized the materials research on the reusables side. This article initiated a new discourse about reusables.

Protecting the OR

late 1980s - present

- With the awareness of HIV/AIDS gave way to growing concern over the protection of healthcare workers from blood borne pathogens. Nathan Belkin, in a 1994 letter to the editor, wrote that, “The emergence of HIV changed the purpose of the surgical gown. Healthcare professionals began to expect gowns to protect them from patients.”
- 1993, “Methods for Determining the Barrier Efficacy of Surgical Gowns,” (*AJIC*) Elizabeth McCullough wrote that, “More recently, medical personnel have become concerned about possible exposure to hepatitis B virus, HIV, and other blood-borne pathogens from the patient.”
- This represents a shift in the discourse from an emphasis on protecting the patient, to protecting the OR staff from the patient.

Shifting Emphasis on Protection



Protecting the Environment

1988 – Present

- 1988, United States Congress ratifies the Medical Waste Tracking Act
- 1992, “A Quantitative, Qualitative, and Critical Assessment of Surgical Waste” (*JAMA*) and “Cost Containment in the Operating Room: Use of Reusable Versus Disposable Clothing,” (*The American Surgeon*). These two articles highlight the amount of waste (and associated cost) that comes from the OR.
- “Disposable linen accounted for 53% of the volume of surgical waste.” (Myers, et. al.)

Protecting the Environment

- 2001, “The Ecological Footprint of Lions Gate Hospital,” (*Hospital Quarterly*). Susan German conducts the first ecological footprint analysis of a hospital in North America.
- 2006, “Hospitals Go ‘Green,’” (The Wall Street Journal, 10/6/2006) Articles appear in the popular press discussing environmental concerns regarding hospitals, highlighting hospitals that are making improvements.
- Associations form to promote environmental awareness in hospitals, such as Health Care Without Harm and Hospitals for a Healthy Environment (H2E)

TABLE 1: Numbers and Weights of Some Items Purchased by LGH from April 2000 to March 2001

Item	Number of Items	Paper	Synthetics	Latex	Metal	Total Weight
Gloves	3,535,800 (1,767,900 prs)	6,650.4 kg	21,080.4 kg	7,851.9 kg		35,583 kg
Injection and Irrigation Solutions (not incl. H ₂ O)	35,794.2 L (Inj) + 12,487.2 L (Irrig)	6,662.1 kg	17,632.3 kg			24,294 kg
Diapers, Incontinence Products	Children: 20,880 Adult: 405,276 Incont. Pads: 94,320	31,799.9 kg	25,920.7 kg			57,721 kg
Disposable Surgical Drapes		2,002.3 kg	13,504.1 kg			15,506 kg
Sterilization Wrap		860.5 kg	6,462.7 kg			7,323 kg
Paper, Books, Brochures		95,977.5 kg				95,977 kg
Paper Cups and Plates		5,205.0 kg				5,205 kg
Plastic Cups, Lids, Cutlery, Dishes		1,926.3 kg	8,898.9 kg			10,825 kg
Toilet Paper, Tissues, Paper Towels		42,945.6 kg				42,946 kg
Paper X-Ray Pouches		5,832.0 kg				5,832 kg
Plastic Bags		927.6 kg	14,181.8 kg			15,109 kg
Sharps Containers		63.7 kg	3,224.5 kg			3,288 kg
Skin Staplers 35mm	2,094	90.0 kg	420.9 kg			511 kg
Needles, Syringes		1,460.1 kg	4,753.3 kg		86.5 kg	6,300 kg
Tongue Depressors		1,366.5 kg				1,367 kg
Preassembled Trays	51,072 trays (49,572 included in weights)	2,057.1 kg	4,262.9 kg			6,320 kg
Sutures	27,640.5 metres					
Alcohols	3,705 L					
Peri-Care Cleanser	5,178 L					
Phenokil	13,296 L					

Gary Lausten, 2007, “Reduce-Recycle-Reuse: Guidelines for Promoting Perioperative Waste Management,” (AORN)

TABLE 2

Red Bag Receptacle Contents Evaluation

During an unscheduled evaluation, one large red bag from an OR receptacle was obtained after an abdominal aortic aneurysm endograft procedure, and the bag's contents were analyzed.

Initial bag weight on zeroed scale: 8.64 kg

Weight of nonbiohazardous waste in red bag: 7.91 kg

Items and quantity of materials removed from red bag

Item name	Quantity	Item name	Quantity
Albumin bottles, empty	3	Oropharyngeal airway	1
Anesthesia bag	1	Packaging drape	1
Anesthesia mask for patient	1	Paper drapes	4
Anesthesia tubing	1	Paper sheets from patient monitor	7
Blood- or solution-filled syringes	3	Paper surgical gowns	3
Blood pressure cuff (nondisposable)	1	Penrose drain	1
Central line with wire	1	Plastic basins	2
Cloth towel, green	1	Plastic drape	1
Cloth towels, blue	6	Plastic instrument packing	30
Endotracheal tube stylette	1	Procedure kit wrap	1
Endotracheal tubing	1	Small plastic saline bottles, empty	2
Fluid tubing	2	Small cardboard boxes	4
Fluid warming set packaging	1	Soft plastic trays	4
Fluoroscopy unit cover	1	Styrofoam packaging	1
Glass bottles, empty	2	Suction tubing	2
Gloves, nonsterile	46	Syringe cases	18
Hard plastic packaging	6	Syringes, empty	16
IV bag, full, with attached tubing	1	Temperature-regulating blanket	1
IV bag packaging	6	Vials, glass	5
IV bags, empty	8	Yankauer suction tip	1
IV tubing	4	Multiple pieces of paper packaging	
Large saline bottles filled with urine*	2	1 wadded-up ball of bloody surgical gauze.** Unable to count, but total weight was .73 kg.	
Nasal canula	1		

* These items are considered potentially infectious material but are not classified as regulated waste; therefore they may be disposed of in the sanitary system and do not require red bag disposal.¹

** This was the only material that possibly could be classified as biohazardous according to AORN standards and require disposal in the red bag receptacle. These bloody gauzes were not “dripping.”

1. Centers for Disease Control and Prevention. Guidelines for Environmental Infection Control in Health-Care Facilities. Atlanta, Ga: US Department of Health and Human Services; 2003:143-144. Available at: http://www.cdc.gov/ncidod/dhqp/gl_environmentinfection.html. Accessed March 2, 2007.

•According to Lausten, the increase in medical waste over the past 30 years has become a significant environmental concern, and his article discusses methods for reducing and managing waste.

•In this article, he has encouraged nurses and managers to “moderate negative environmental effects by promoting reduction, recycling and reuse of materials in perioperative setting.”

Beyond Binaries: Development and Integration of Future Frameworks and Technologies



A photograph of a group of people in a meeting. A man in a white shirt is speaking into a microphone, gesturing with his hands. Other people are seated around the table, listening. The image is slightly blurred and has a warm, yellowish tint.

Thank You!