



## Recycling Sterile Surgical Material Wrappers Hospital Israelita Albert Einstein – São Paulo – SP – Brasil

### GGHH Agenda Goals

- Waste
- Purchasing

### Hospital Goal

- Ensure environmentally correct disposal of blue wraps by using reverse logistics
- Increase materials recycling

### Progress Achieved

- Environmental Benefits: 40 tons of materials recycled in the first year of the project.
- Other qualitative results:
  - New sustainability initiatives in the or triggered by increased involvement and interest of the staff in this project.
  - Creation of a Green Team that meets monthly to discuss topics related to environment and sustainability.

### The Issue

The amount and variety of disposable materials used in patient care is continually increasing. More and more single use devices take up space on shelves rather than going in for reprocessing. From the perspective of patient safety, the benefits are incontrovertible, but there is a great concern regarding the environmental impact of the amount of waste produced by the hospital.



Figure 1: Material separated for recycling

### Sustainability Strategy Implemented

Reverse Logistics, established by the new Brazilian Solid Waste Policy Law, requires the participation and responsibility of the manufacturers or suppliers to support and manage their products throughout their life cycle, even after use. Thus, in 2012, Albert Einstein Hospital started a pioneering partnership with Kimberly-Clark, provider of SMS blue wraps that are used to pack surgical boxes. These materials, which the hospital previously discarded as infectious waste, are now going in for recycling through the take-back system. The blue



wraps or SMS (acronym for the 3 layers materials: Spunbond-Meltblown-Spunbond), are made of polypropylene, a kind of plastic resin that can be recycled.

### Implementation process

The initiative started with a project called “Solid waste management in the operating room”. Hospital staff characterized all waste generated in surgical procedures. This analysis demonstrated that the blue wraps, used to pack boxes of surgical sterile instruments, amount to 19% of the waste generated in operating rooms. As this blue wrap has no contact with biological materials, it is classified as non-hazardous waste. With this information in hand hospital staff contacted Kimberly-Clark to begin discussions on options for recycling and environmentally friendly disposal.

After a thorough search with Kimberly-Clark, the team identified a recycling company to receive and process the used blue wraps. Internally, the hospital trained a multidisciplinary group to sort and dispose of the materials properly. For every surgery, the same nursing professional that removes the blue wrap is responsible for proper disposal. The wraps are separated and placed into a specific bag, to avoid to be mixed with contaminated wastes.

The wraps are collected every two weeks by the Kimberly-Clark’s partner, and sent for recycling. All the SMS collected are processed into pellets of polypropylene, which can be used for making new products.



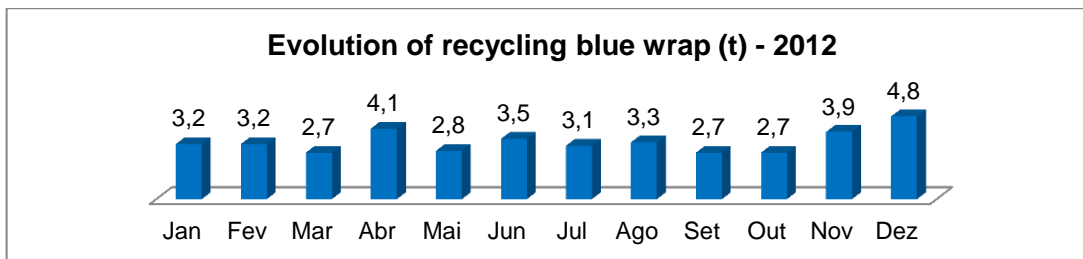
Figure 2: Examples of blue wrap uses, packets being unwrapped and discard still in the operating room

### Tracking Progress

The hospital implemented the project in early 2012 and after the first year, 40 tons of materials were sent for recycling. The results are presented monthly to staff involved with the project, to update them, congratulate them, and motivate them to continue their efforts.



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### Challenges and lessons learned

SMS is a polymer with high potential for recycling. Since this waste is generated in the operating room, it was difficult to find a partner who had the environmental permit and interest in recycling the material. A critical issue for the success of the project was to define the process flow, making possible the collection of the SMS before the start of the surgical procedures, in order to avoid contamination of the material. In this case, the training and involvement of the staff was essential.

### Next Steps

Currently the hospital is expanding the project to other operating rooms in external units. The hospital is also exploring bringing this recycling program to other departments, where it would be feasible to recycle products made of SMS, such as sheets, ground covers, etc.

### Demographic information

The Sociedade Beneficente Israelita Brasileira Hospital Albert Einstein (SBIBAE) is reference in Brazil for physicians and patients, providing a complete healthcare services chain, from promotion, prevention and diagnosis to treatment and rehabilitation. The healthcare activities are carried out by several units, including the hospital, Diagnostic and Preventive Medicine, the Institute of Education and Research, the Institute of Management and Consultancy, and the Institute for Social Responsibility.

The Albert Einstein Hospital, is the largest of the ten institutions that composes the SBIBAE, located in the municipality of São Paulo, Brazil. It has 647 beds and 34 operating rooms.

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### Key words

Recycling; Waste in Operation Room; Reverse Logistics; Blue Wrap; Polypropylene.