



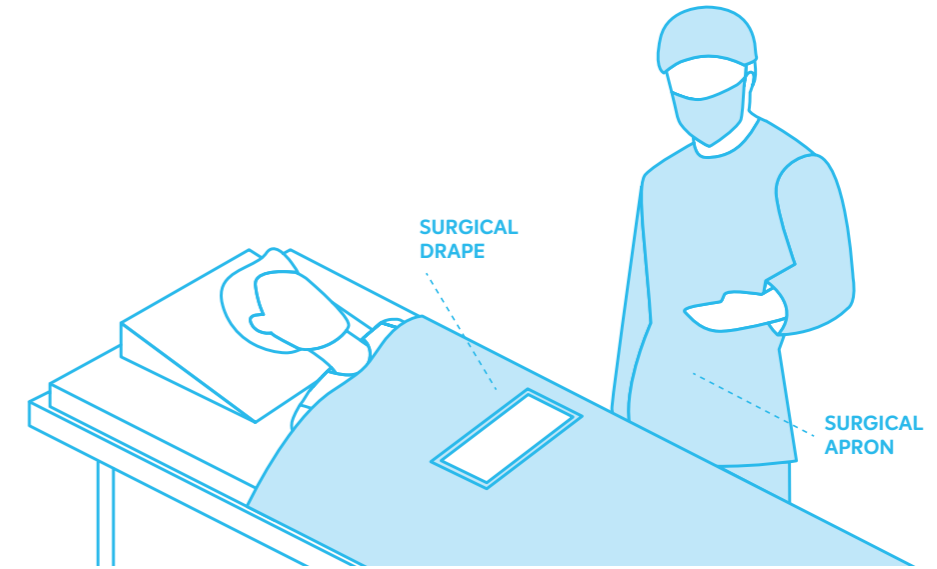
# Surgical Kits

## CONTEXT:

Used in hospital procedures, surgical kits, consisting of two surgical aprons and four surgical drapes, prevent contamination of patients and the medical staff in the operating rooms. According to European data, annual costs with hospital infections reach 5.4 billion euros and cause 100,000 deaths per year.

Currently, the most commonly used surgical kits are cotton-made. However, the non-woven (PP) option, as it is disposable and safer, has gained more and more space.

In this study of Life Cycle Assessment, carried out in partnership with ACV Brazil consultancy, the environmental profile of the two alternatives was compared throughout its life cycle.



## COTTON SURGICAL KITS

UNIT MASS  
**2,41 kg**

**1 kit +  
6 washing  
cycles**

## NON-WOVEN SURGICAL KITS

UNIT MASS  
**1,12 kg**

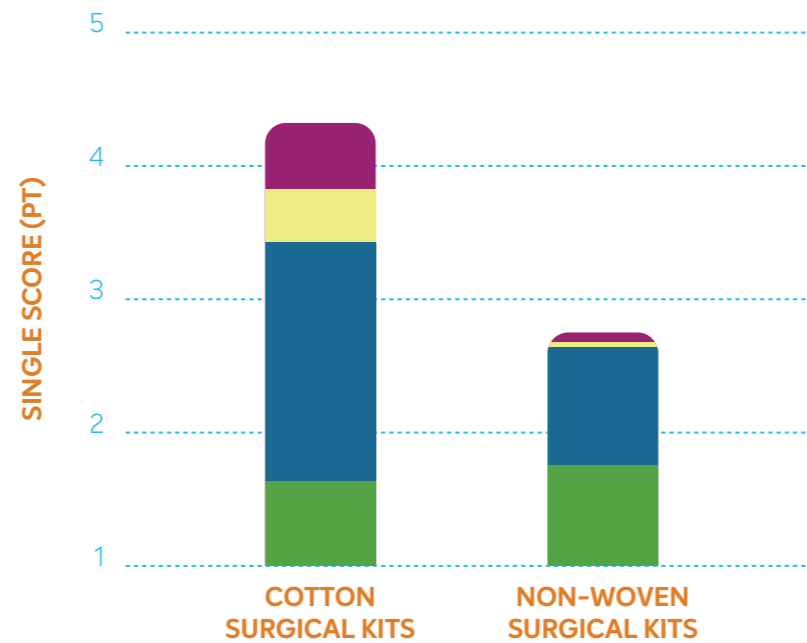
**6 kits**

## PROS AND CONS:

Cotton fibers relax over time and form pores, making the cotton no longer impermeable, increasing the risk of contamination;

At each surgery, one must wash and sterilize the surgical cotton kit, which, according to medical studies, should be reused no more than 6 times in surgical procedures. Every 1,000 cotton kits washed, 67,000 liters of water are consumed;

In contrast, the PP kit is disposable and tends to replace reusable items, which raises concerns regarding waste generation.



### SUSTAINABILITY INDICATOR

- CLIMATE CHANGE
- WATER USE
- RESPIRATORY INORGANICS
- LAND USE

## RESULTS:

Non-woven surgical kits are more effective in protecting both the patient and health care professionals. They reduce water consumption and have a lower overall environmental impact than the cotton alternative, even though they generate more waste for the environment, as they are disposable. The obligatory washing of the cotton kit for its hygiene and the use of chemicals for its sterilization are responsible for the high environmental impact of this alternative.

	NON-WOVEN SURGICAL KITS	COTTON SURGICAL KITS
<b>WATER USE</b>	1x	32x
<b>CLIMATE CHANGE</b>	1,4x	1x
<b>RESPIRATORY INORGANICS</b>	1x	1,6x
<b>LAND USE</b>	1x	6.8x