

Battery-Operated Scope Warmers

A Significant Source of Hospital Waste

The following estimates highlight the potential environmental impact of battery-operated scope warmers.

Assumptions

- The number of laparoscopic procedures performed in the US every year is projected to reach approximately **8,000,000** by 2028.¹
- Assume **4,000,000** procedures use single-use, battery-operated scope warmers.
- Average weight of batteries in commonly used single-use scope warmers is approximately **0.100 lbs** per warmer.²

Estimated Scope Warmer Battery Disposal in the US Annually

10,000,000+ batteries disposed³

OR
400,000 lbs / 200 tons of hospital waste⁴

Environmental Impact of 200 Tons of Battery Disposal

200 tons of batteries disposed of every year is the equivalent in weight to approximately:

5.3 empty Boeing 737-400 planes

OR

~1,500 hospital beds

OR

1,067,300 iPhones

⁵

Further Battery Environmental Considerations

Soil Contamination: As batteries break down in landfills, chemicals can leach into the soil, disrupting plant growth and harming local wildlife.

Air Pollution: Incinerating batteries potentially releases toxic fumes into the air, contributing to pollution and respiratory issues.



Water Pollution: Toxins from improperly disposed batteries may seep into the groundwater or run off into nearby water bodies, affecting aquatic life and potentially entering the drinking water supply.

Decomposition: Batteries can take up to 100 years to decompose in a landfill.

Manufacturing: The manufacturing process for batteries, involving raw materials and energy, has significant environmental impact.

PLASMA[®] SHIELD[®]
NO Disposable Batteries⁶
FEWER Scope Removals



¹ Based on iData Research.

² Assumes 3 commonly used single-use scope warmers have equal market distribution:

#1 uses 3 AA batteries at 0.05 lbs per battery.

#2 uses 2 CR123A batteries at 0.0375 lbs per battery.

#3 uses 3 AAA batteries at 0.025 lbs per battery.

Average weight per scope warmer = 0.100 lbs.

³ Battery Quantity: $(3+2+3) / 3 * 4,000,000 = 10,000,000+$ assuming equal market distribution.

⁴ 4,000,000 procedures * 0.100 lbs per scope warmer = 400,000 lbs

⁵ Based on weight of iPhone 16.

⁶ PLASMA SHIELD[®] Base has a single rechargeable battery pack which can be used for up to 10,000 procedures, after which the batteries can be recycled.