

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 **0.125 lbs** per warmer.²

Estimated Scope Warmer Battery Disposal in the US Annually

10,000,000+ batteries disposed³
OR
500,000 lbs / 250 tons of hospital waste⁴

Environmental Impact of 250 Tons of Battery Disposal

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

6.6 empty Boeing 737-400 planes

OR

~1,900 hospital beds

OR

1,333,300 iPhones⁵



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.

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

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.

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 AA batteries at 0.05 lbs per battery.

Average battery weight per scope warmer:

$((3 \times 0.05) + (2 \times 0.0375) + (3 \times 0.05)) / 3 = 0.125$ lbs.

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

⁴ $4,000,000$ procedures \times 0.125 lbs per scope warmer = $500,000$ lbs.

⁵ Based on weight of iPhone 16.

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

PLASMAshield[®]
NO Disposable Batteries⁶
FEWER Scope Removals
CLEARER Vision

