Saving Carbon in Cataract Surgery

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Introduction

Cataract surgery is the most commonly performed operation worldwide

- **6%** all NHS surgeries (> half million/ year)
- Medical equipment ~ **1/3** total emissions in cataract surgery

Aims

- Evaluate the carbon impact of **streamlining** single-use packs, and **switching** from single-use, to reusable equivalents in cataract surgery

Method

- Focus group and prospective audit to identify single-use pack items for streamlining.
- A bottom-up, process-based carbon footprint analysis of single-use items and reusable alternatives

Results

Table 1: Item inventory and comparative carbon footprint

Item	Action	Material	Carbon footprint per use (kgCO2e)	
			Single use	Reusable
Plastic tray	Remove	PP	0.17	
Mayo stand cover	Remove	PP	0.42	
Forceps (x2)	Replace	N	0.16	0.004
Gallipots (x2)	Replace	PP	0.04	0.003

Material; PP (Polypropylene), N (Nylon)

	CO_2	
Streamlining	**935kgCO2e/ yr**	3117 car miles
Switching (Single-use to reusables)	**310kgCO2e/ yr**	1033 car miles

Comparative - Single-use vs. Reusables

27 x **greater** carbon footprint (322 kgCO2e vs.12 kgCO2e)

Net carbon saving after just **19 reuses**

Conclusions

- Streamlining disposable custom packs, and switching to reusables are both important measures in the multifaceted approach required to reduce the carbon impact of surgical procedures
- Change in theatre practices and policies are required to mitigate the climate burden of surgery

Théa let's open our eyes