

Intercollegiate Green Theatre Checklist v2.0

Below is a list of recommendations to reduce the environmental impact of operating theatres. Interventions in the **green** rows can be implemented on the day without prior preparation and can be used as part of a daily pre-operative checklist. Interventions in the **white** rows are those requiring wider stakeholder engagement and planning and may be suitable for monthly review or to help identify areas for quality improvement projects. Relevant guidance and academic literature supporting this checklist is included in the Compendium of Evidence, available at this link:



Anaesthesia

- 1 Limit Nitrous Oxide (N₂O) to specific cases where there is evidence of clinical benefit
Decommission manifolds and switch to N₂O cylinders at point of use (or repair pipe leaks if centralized delivery still used)
- 2 Consider TIVA and ensure that all drug waste and giving sets are disposed of through the pharmaceutical waste stream
- 3 If using inhalational anaesthesia:
▶ use low-flow anaesthesia (via end-tidal anaesthetic gas control, if available)
Remove desflurane from formulary
- 4 Reduce waste:
▶ avoid unnecessary equipment and opt for reusables (e.g. laryngoscopes, body warmers, slide sheets, trays, soda lime canisters)
▶ transfer single-use objects with the patient if still needed (e.g. facemasks, suction)
Review and rationalise pre-prepared single-use equipment packs and PPE requirements for standard procedures
- 5 Minimise drug waste (“Don’t open unless needed”, pre-empt propofol use, titrate O₂) and dispose in correct pharmaceutical waste stream
Use air instead of oxygen as the ventilator drive gas

Preparing for Surgery

- 6 Evaluate PPE and sterile field requirements:
▶ rationalise use of non-sterile single-use gloves and PPE and opt for reusables when possible
▶ limit sterile field to necessary areas only
Ensure availability of reusable textiles, including theatre hats, sterile gowns, patient drapes, and trolley covers
- 7 Reduce water and energy consumption:
▶ ‘rub don’t scrub’: after first water scrub of day, you can use alcohol rub for subsequent cases
Install automatic or pedal-controlled water taps
- 8 Avoid clinically unnecessary interventions (e.g. antibiotics, urinary catheterisation, histology examinations)

Intraoperative Equipment

- 9 REVIEW AND RATIONALISE:
▶ clarify necessary kit for case and specify what should be available to open only if needed: “Just in time”
▶ take the opportunity to review instrument sets and identify any targets for overage reduction
- Review pre-prepared single-use surgical packs and engage with suppliers to remove surplus items and identify those that can be replaced with reusable options (to be included in instrument sets)
- Review reusable instrument sets, remove overage, integrate supplementary items into sets, consolidate sets only if it allows smaller/fewer sets (please see guidance)
- 10 REDUCE: unnecessary waste and single-use equipment, “don’t open it unless you need it”, limit CO₂ insufflation
- 11 REUSE: opt for reusables, hybrid, or remanufactured equipment instead of single-use (e.g. gallipots, light handles, staplers, energy devices)
Consider sourcing reusable, hybrid or remanufactured alternatives for single-use equipment
- 12 REPLACE: switch to low carbon alternatives (e.g. skin sutures vs. clips, “loose” antiseptic solutions in reusable gallipots)

After the Operation

- 13 POWER OFF: Heating, Ventilation, Air conditioning (HVAC), AGSS, lights, computers and equipment out-of-hours
- Switch off AGSS when theatres are not in use or volatile anaesthesia is not being utilised
- Introduce “shut-down” and “power on” checklists
- Install occupancy sensors and automatise “set-back” modes HVAC systems
- 14 RECYCLE/use lowest carbon appropriate waste streams:
▶ use recycling waste streams for packaging or, if not available, domestic waste stream (prior to patient entering the room)
▶ use non-infectious offensive waste streams (yellow/black tiger) unless clear risk of infection (orange)
▶ ensure only appropriate contents in sharps bins (sharps/drugs)
- Switch to low impact sharp bins e.g. reusable or cardboard boxes
- Arrange metals/battery collection where possible
- 15 REPAIR: ensure damaged reusable equipment is repaired, encourage active maintenance