

# GreenRx: Revolutionising Healthcare with Low Carbon Alternatives

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## Carbon footprinting in Orthopaedics

### Trauma Surgery (May-June 2025)

- Hip fracture surgery (50-60kg CO<sub>2</sub>)
- Ankle fracture fixation (45kg CO<sub>2</sub>)
- Minor procedures (40kg CO<sub>2</sub>)

### Elective Surgery (Jan - June 2025)

- Total hip replacement (100-110kg CO<sub>2</sub>)
- Total knee replacement (95-100kg CO<sub>2</sub>)

### Themes for Major Savings

- Consumables (32%)
- Water (20%)
- Lighting (81%)
- Instrument rationalisation (80%)

### Future Directions

- Pathway related footprint
- Implant manufacturing impact

## Operating Outside Theatres (MOPS):

Continuation of Bevan Exemplar Project  
(June 2023 - 2025)

- **134** minor hand surgery in outpatient clinic
- 1 superficial infection (settled with antibiotics)
- 1 deep infection (revision)
- Overwhelming positive feedback
- 90% CO<sub>2</sub> savings (versus theatre)
- Improved productivity (versus theatre)
- Less staff (n=3 vs n=8 for theatre)



## New Service Development:

Minimally invasive ultrasound guided hand surgery in outpatients.

### Benefits:

- Moving treatment into community
- Quicker recovery
- Less infection risk
- Cost savings

### Process Pathway:

- Business case proposal
- Cost analysis
- Clinical governance
- Infection control
- New procedure approval
- Industry engagement
- PROMS pathways

### Preliminary Results:

- N=20 patients
- No adverse events
- One revision to open