

4 PRINCIPLES OF SUSTAINABLE DENTISTRY

The four principles of sustainable healthcare ensure that clinical care pathways are providing high quality care which is both economically and environmentally sustainable.

Applying the four principles of sustainable healthcare to dentistry:

• **Prevention:**

- Oral hygiene and healthy lifestyle advice
- Avoidance of general anaesthesia and sedation where possible (Nitrous Oxide can make up to 80-90% of the procedures carbon footprint).
- Conscious sedation: Sevoflurane is an effective alternative to Nitrous Oxide and is more environmentally friendly.
- Use topical fluoride applications

• **Lean Pathways:**

- Ensure referrals are to the nearest provider
- Prescribe medication only when necessary
- Plan treatments to minimise travel
- Telephone clinics can be offered for advice based appointments to reduce travel and time.
- Reusing or recycling orthodontic appliances like brackets, bands and wires.
- Ensure safe disposal of amalgam

• **Low carbon alternatives:**

- Using digital radiography can reduce radiation and use of chemicals
- Reduce usage of amalgam, (e.g through using smaller capsule sizes) or discontinue use entirely.
- Use BPA free products.
- Use biodegradable cups and sundries as well as chlorine-free paper products.

• **Patient empowerment and self care**

- Reduce missed appointments by sending reminders via email/text.
- Increase the patients understanding of what constitutes a dental emergency (e.g swelling) and what does not (de-capped crown).
- Oral hygiene
- Healthy lifestyle advice

Can it be done?

The University of Plymouth conducted a study in six dental surgeries. In each practice a waste audit was performed on two separate occasions for week. It was found that sterile wrapping is in the top 3 of the most disposed of items. In one practice it was calculated that using a recycling scheme for sterile wrapping as opposed to a clinical waste disposal route would save **0.5551 tonne CO₂e per year**. They concluded that it is possible to reduce carbon emissions and increase profitability.