



# Reducing Environmental Impact in ENT Clinics: Insights from a Literature Review and National Survey on Instrument and Glove Use

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## Abstract

**Background:** ENT clinics generate significant waste from single-use instruments and packaging materials. A recent ENTUK survey revealed that 46% of clinics rely solely on single-use instruments, 43% use a combination of single-use and reusable instruments, and 11% exclusively use reusable instruments. This highlights a heavy dependence on single-use instruments across the majority of UK ENT units.

**Methodology:** A literature review was conducted using the PubMed database, complemented by a national survey on ENT instrument usage.

**Results:** Switching from single-use to reusable instruments significantly reduces ecological impacts, with evidence showing a 38–56% reduction in carbon footprint, except for increased water usage required for cleaning. For non-sterile outpatient procedures, individually wrapped sterile single-use instruments are unnecessary. Preparing instruments in tray sets further enhances machine-loading efficiency, reducing energy and water consumption. Instrument arrangement is crucial to avoid overlapping and optimize cleaning. Overuse of gloves in ENT clinics contributes to higher financial costs and carbon emissions while reducing compliance with hand hygiene practices. Evidence shows that hand hygiene using soap, water, or alcohol gel is more effective in preventing infections than gloves, which require handwashing even when worn. Gloves should only be used when there is a risk of exposure to blood, body fluids, or non-intact skin.

**Conclusion:** Reusable metal instruments should be prioritized in ENT clinics, cleaned in tray sets to optimize efficiency. Glove use should be limited to procedures with a clear risk of exposure to blood, body fluids, or non-intact skin, promoting sustainability and better compliance with infection prevention practices.

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