



# Reducing Carbon Footprint and Costs in Microsuction: Literature Review and National Survey of ENT Practices

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## Abstract

**Background:** In the UK, approximately 2.3 million people require intervention for earwax-related problems annually, with around 330,000 microsuction procedures performed within the NHS each year. In 2019, ENTUK published guidance on suction tubing and liners in response to concerns about reusing 'single-use' tubing and liners for multiple patients. While the document highlighted a low risk of infection with microsuction, changing the tubing and liner for every patient would significantly increase financial costs, plastic waste, storage requirements, and disrupt patient flow.

**Methodology:** A literature review was conducted using the PubMed database alongside a national survey of microsuction practices.

**Results:** The national survey revealed that 79% of ENTUK members change suction tubing at the end of a clinic or the end of the day. There is no evidence suggesting an increased infection risk if tubing and liners are not changed between patients. Studies indicate that the risk of backflow in suction tubes is minimal and occurs only under specific conditions: pressure in the tube exceeding that in the suctioned area, the suction tube being positioned higher than the patient, or the concurrent use of high-volume suction. This practice could reduce the carbon footprint by approximately 2,203 kg CO<sub>2</sub>e per clinic per year.

**Conclusion:** As the suction tip is replaced for every patient and the risk of backflow is negligible, we recommend changing suction tubing and liners at the end of the day rather than per patient or per clinic. Tubing replacement should be considered only in cases of suctioning blood or vomitus.

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