

Wisdom Tooth Surgery: A Two-Cycle Clinical Audit of Post-Operative Complications and Antibiotic Stewardship

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Abstract

Introduction: Wisdom tooth removal is one of the most frequently performed oral surgery procedures across primary and secondary care. Although it is generally safe, it can lead to complications such as pain, dry socket, and infection, often prompting antibiotic prescriptions. National guidelines advise against routine prophylactic antibiotics for simple extractions, yet prescribing practices differ. This review evaluated post-operative complication rates, antibiotic use, and adherence to established guidelines across two audit cycles with an educational intervention.

Aim: This review assessed post-operative complications and antibiotic prescribing practices following third molar surgery in an oral and maxillofacial surgery (OMFS) unit. It also evaluated the impact of an educational intervention on clinical outcomes and antimicrobial stewardship (AMS) compliance.

Methods: A retrospective two-cycle audit was conducted involving 707 third molar removals. Cycle 1 (September 2024–January 2025, n=447) was followed by an educational intervention at a departmental Quality, Safety and Patient Experience meeting. Cycle 2 (April–July 2025, n=260) assessed post-intervention outcomes. Data on post-operative complications, antibiotic prescribing patterns, and documentation quality were compared against national benchmarks.

Results: Overall complication rates decreased from 15.6% to 9.2% between cycles, remaining below national thresholds and with no severe adverse events. The infection rate was exceptionally low (Cycle 1: 0.9%; Cycle 2: 0%). The antibiotic prescription achieved modest reduction in prescribing and marked improvement in documentation, with 100% compliance for recording intra-operative intravenous antibiotics in Cycle 2.

Conclusion: Third molar surgery in this OMFS setting is safe, showing excellent outcomes. However, the relatively high antibiotic prescription rate highlights a continued AMS need. The minimal infection rates in more complex cases in our service strongly support the argument against routine prophylactic use in more simple extractions managed in primary care. Regular audit and targeted education, as demonstrated here, serve as powerful and readily transferable tools for general dental practitioners (GDPs) to improve patient safety and support national AMS goals.