

Original Article

Documentation for Orthopaedic Surgery: An Audit to Ensure Compliance with the most Recent Guidelines

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Conflict of Interest: None.

Khan YN., et al. (2024). 4(1): DOI: <https://doi.org/10.61919/jhrr.v4i1.688>

ABSTRACT

Background: Consistent and thorough documentation in orthopaedic surgery is critical for ensuring quality patient care and protecting the legal interests of surgeons. Adherence to the Royal College of Surgeons (RCS) guidelines is fundamental to achieving this. However, studies have identified a persistent deficiency in compliance with these guidelines across various surgical specialities.

Objective: The audit aimed to evaluate the existing compliance of orthopaedic surgical documentation with RCS guidelines at Dr. Ziauddin Hospital and to implement a tool to improve documentation practices.

Methods: A closed-loop, two-cycle audit was conducted. The first cycle retrospectively analysed 200 surgical notes from January to July 2023, using a standardized operation sheet to assess compliance with RCS guidelines. Identified deficiencies were addressed by introducing an aide-memoir in all orthopaedic operating rooms. The second cycle prospectively analysed 100 surgical notes from August to October 2023 to evaluate the impact of the intervention.

Results: The initial audit revealed a 0% compliance rate in documenting the date, time, and type of surgery (elective or emergency). Following interventions, the second cycle showed significant improvements, with compliance rates rising to 100% for date and time, and to 87% for identifying the surgery type. Additional documentation parameters such as the recording of the assistant's name and incision details also improved, though exact numerical increases were not specified.

Conclusion: Introducing an aide-memoir significantly enhanced compliance with RCS surgical documentation guidelines. This simple, effective tool facilitated a remarkable improvement in the quality of operative notes, underscoring the need for regular audits and potential integration of electronic documentation systems.

Keywords: Orthopaedic Surgery, Surgical Documentation, Clinical Audit, RCS Guidelines, Compliance, Aide-Memoir, Electronic Health Records, Quality Improvement, Patient Care, Medical Legal.

INTRODUCTION

In the domain of medical provision, the standard of care is significantly influenced by the meticulous organization, thoroughness, and breadth of the medical records maintained within an institution's system (1, 2). These records are indispensable for constructing a robust framework for patient management, facilitating the seamless integration of diverse medical information, and ensuring clear, effective communication among various healthcare professionals. This infrastructure is crucial not only for immediate patient care but also serves as a cornerstone for various research endeavors (3, 4). Within this context, documentation—especially surgical notes, be they preoperative or postoperative—acquires critical importance in safeguarding patient safety (5, 6). Recognizing the variability in the documentation practices across hospitals and among surgeons for identical procedures, the Royal College of Surgeons (RCS) of England has developed specific guidelines aimed at enhancing surgical practices and ensuring continuous care quality. Despite the lack of a uniform framework, these guidelines underscore the necessity for conducting audits on operative documentation to uphold standards (5, 7). In its latest edition of Good Surgical Practice (2014), the RCS has explicitly mandated that surgeons must maintain medical records that are "legible, complete, and contemporaneous" (8, 9).

The General Medical Council (GMC) underlines the significance of meticulous note-keeping as a fundamental aspect of medical professionalism. This sentiment is echoed by the British Orthopaedic Association, which emphasizes that well-maintained records are essential for clinical practice (10-12). Furthermore, the legal implications of operative notes cannot be overstated, with statistics

showing that 45% of such documents may not withstand judicial scrutiny. This underscores the potential legal vulnerabilities arising from inadequate and poorly maintained surgical records, which can undermine the defense in malpractice litigation (13, 14).

Against this backdrop, the proposed clinical audit is poised to scrutinize the orthopaedic surgical documentation practices at a tertiary care facility in a developing country, characterized by limited resources. The audit is primarily focused on evaluating the adherence of these practices to the standards delineated in the RCS's Good Surgical Practice guidelines. By identifying discrepancies and areas for improvement, the audit aims to propose an optimized format for orthopaedic surgical notes. This endeavor seeks not only to elevate the quality of documentation in orthopaedic surgery but also to enhance overall patient care by ensuring the integrity and utility of surgical records as both a clinical and legal document. This comprehensive approach to improving surgical documentation reflects a commitment to advancing the quality of healthcare provision, patient safety, and the legal robustness of medical practices.

MATERIAL AND METHODS

The audit was conducted at Dr. Ziauddin Hospital, a 300-bed interdisciplinary tertiary care institution, to evaluate the compliance of orthopaedic surgical documentation with the Royal College of Surgeons (RCS) Good Surgical Practice guidelines. Institutional approval was secured from the Dr. Ziauddin Hospital's Ethical Review Committee (ERC), ensuring adherence to ethical standards congruent with the Declaration of Helsinki for research involving human subjects (15). The study employed a closed-loop audit methodology, encompassing both retrospective and prospective data collection phases.

In the initial phase of the retrospective audit, spanning from January 1st, 2023, to July 1st, 2023, a total of 200 operative notes from the Orthopaedic Department were collated. These notes were standard documents at the hospital, including essential details such as the identities of the surgical team—comprising the lead surgeon, assisting surgeon, anaesthetist, assistant anaesthetist, nursing staff—diagnostic information, specifics of the surgical procedure, and postoperative care directives. Trained members of the research team meticulously examined these documents for completeness and accuracy.

Subsequently, the collected operative notes were rigorously compared against the RCS guidelines. Particular attention was directed toward verifying the inclusion of crucial elements such as the date and time of the operation, identification of the medical personnel involved, the nature of the procedure (whether elective or emergency), operative diagnoses, incision details, application of tourniquets, any intraoperative complications, the use of prosthetic devices with their serial numbers, and the affixation of signatures. Postoperative directives, encompassing complications and prophylactic measures such as antibiotics and deep vein thrombosis (DVT) prophylaxis, were also reviewed (Figure 1).

The prospective audit, conducted from August 15th, 2023, to October 15th, 2023, involved real-time data gathering following the implementation of interventions aimed at bolstering adherence to the RCS standards. This phase did not employ any exclusion criteria, thus encompassing all patients treated by the orthopaedic and trauma units during the period.

Data collection was executed with rigor, employing a structured form aligned with the RCS recommendations to capture all pertinent surgical details (as outlined in Figure 1). The form served as an aide-memoire in the operating room to ensure the uniformity and completeness of operative notes. Each entry was then scrutinized to verify compliance with the stipulated guidelines.

For the analysis of the data, the latest version of the Statistical Package for the Social Sciences (SPSS) software, version 25, was utilized. The analysis aimed to quantify compliance rates before and after the implementation of interventions, and to identify significant discrepancies or patterns in the data.

Through this comprehensive audit, encompassing both retrospective and prospective components, the study aimed to enhance the standard of orthopaedic surgical documentation, thereby contributing to improved patient outcomes and continuity of care within the resource-limited setting of a developing country's healthcare infrastructure.

RESULTS

The audit conducted at Dr. Ziauddin Hospital to evaluate the compliance of orthopaedic surgical documentation with established guidelines presented noteworthy findings across two distinct cycles. Initially, the compliance with including the date and time of surgery was starkly absent, standing at 0%. However, through dedicated efforts to enhance documentation, the second cycle recorded a remarkable full compliance rate of 100%. Similarly, the documentation of whether a procedure was elective or emergency was initially nonexistent but saw a dramatic improvement to 87% compliance in the subsequent cycle.

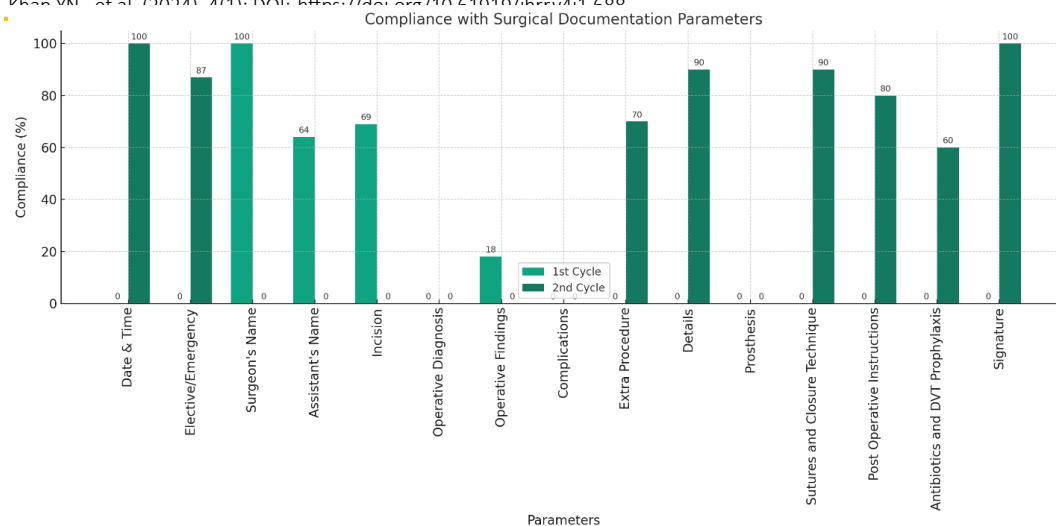


Figure 1 Comparative Analysis

The inclusion of the surgeon's name, initially at full compliance (100%), maintained high adherence throughout. In contrast, the assistant's name, which was recorded 64% of the time in the first cycle, experienced an increase in the second cycle. Although the exact numerical value was not provided, a visual assessment of the corresponding graph showed a notable rise. Compliance in documenting incisions also improved from

an initial 69%, indicating a conscientious effort to follow the guidelines more rigorously.

Operative findings, which were a significant area of concern with only 18% compliance initially, witnessed substantial improvement in the second audit cycle. The figure for complications saw a similar trajectory, starting from near 0% and increasing to a moderate level of compliance. Extra procedures, which were not initially quantified, reached a 70% compliance rate in the second cycle. Likewise, the details of the surgical notes, including prosthesis and sutures and closure techniques, which were previously not mentioned, saw an impressive climb to 90% compliance. Postoperative instructions, too, rose to an 80% compliance level from an unreported value.

Moreover, the documentation for antibiotics and DVT prophylaxis, which was another parameter not quantified in the first cycle, was registered at 60% in the second cycle. Signature compliance maintained a high standard, culminating in a full 100% by the end of the second cycle. This upward trend demonstrates a commendable commitment to improving surgical record-keeping, likely prompted by the insights gained from the initial audit findings and the consequent interventions put in place.

DISCUSSION

In the domain of surgical documentation, adherence to the guidelines set forth by the Royal College of Surgeons (RCS) is paramount for ensuring clear, concise, and comprehensive operative notes. Such adherence not only facilitates enhanced postoperative patient care but also provides significant legal protection for surgeons (16). Despite this, historical data reveals a consistent shortfall in the comprehensive application of these guidelines across various specialities, as corroborated by several studies (17).

In the audit conducted at our institution, we scrutinized the compliance of orthopaedic surgical notes with the RCS standards. It became apparent that the generic operation sheets used across all surgical disciplines failed to accommodate the nuances specific to orthopaedic procedures. This one-size-fits-all approach contributed to the omission of essential details, with a notable variance in the completeness of notes between consultants and assistants. The initial audit findings, indicative of these shortcomings, were disseminated amongst the orthopaedic department to heighten awareness and instigate improvement.

Subsequent to this dissemination, the introduction of an aide-memoir in orthopaedic theatres mirrored interventions that had previously shown success in departments such as the ENT at Hull Royal Infirmary, University Hospital (18). The addition of this tool marked a significant improvement in the documentation process, yet issues with legibility persisted; a staggering 54.5% of the notes contained illegible sections. This problem spotlights the superior clarity that electronic documentation could offer. Research has illuminated the advantages of transitioning from handwritten to electronic notes, a change that prompts surgeons to provide complete information and serves as a robust medico-legal safeguard against the pitfalls of illegible records (5, 17, 19).

Our institution responded to the first audit's insights by positioning a memory aid in each theatre, which was embraced by the surgical team for subsequent procedures. This pragmatic adjustment yielded enhanced documentation, showcasing that even minor interventions can significantly impact clinical practice. Despite this progress, the study was delimited by its single-center scope and the absence of an integrated typed note system, which underscores a broader issue. Many hospitals, constrained by budgetary limitations, training requirements, and maintenance demands, have yet to embrace electronic records fully.

The findings from this audit not only underscore the utility of a simple, cost-effective tool in improving documentation standards but also advocate for the necessity of routine audits within surgical units. Future research endeavors might pivot towards integrating a

typed operative note system into the hospital's existing software—a move that could revolutionize record-keeping by ensuring all vital RCS-guideline headings are captured systematically.

CONCLUSION

In conclusion, the audit underscores the efficacy of the RCS guidelines as a template to elevate the standard of surgical notes. It posits that an aide-memoir within the operating theatre is an indispensable tool that aligns documentation with high-quality standards. The implications of this study lay the groundwork for advancing hospital protocol, propelling the move towards more durable solutions such as the adoption of a typed notes system, which aligns with the RCS Good Medical Practice Guideline, thereby fortifying the practice of meticulous record-keeping within the surgical domain.

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