



## Surgery

## AUDIT OF OPERATIVE NOTES IN AN ORTHOPAEDIC DEPARTMENT.

**Dr Hardik  
Siddharajsinh  
Pawar**

Department Orthopaedics DNB Orthopaedic. Consultant Orthopaedic Surgeon, Charusat Hospital

**ABSTRACT**

**PURPOSE:** To audit orthopaedic operative notes of 53 patients according to the guidelines of the Royal College of Surgeons of England Good Surgical Practice guidelines in February 2014.

**METHODS:** Proforma of operative notes of 53 random patients treated in an orthopaedic department were audited retrospectively by a single reviewer, according to the guidelines of the Royal College of Surgeons in terms of date and time of surgery, name of surgeon, procedure, operative diagnosis, incision details, signature, closure details, tourniquet time, postoperative instructions, complications, prosthesis /implant used, and serial numbers.

**RESULTS:** There were 53 trauma cases. The operating surgeons were consultants (100%), . 100% of the operation notes were written by operating surgeons.. All the notes were handwritten. All of the operative notes included date and time of surgery, name of surgeon (and any assistants if present), procedure name, and signature. Operative diagnosis was present in (86.79% n=46) of the operation notes. Incision details were included in 0 % of the sheets. Tourniquets were applied in (18.86% n=10) of the procedures with none having a documented tourniquet time (0%). Closure details were documented in procedure (66.03% n=35). Postoperative instructions were included in 100 % of the operative notes. 53 procedures involved the use of prosthetic/implant; however, only (67.92% n=36) of these had documented or attached serial number adhesives to the operation sheet.

**CONCLUSION:** Documentation of operative details in our department was generally good.

**KEYWORDS :** Operative notes, documentation.**1. INTRODUCTION**

Accurate and detailed operation notes are of great importance in all surgical specialties not only for safe patient care but also for providing information for research, audit, and medico legal purposes [1].

The Royal College of Surgeons Good Surgical Practice guidelines published in 2008 set the standard for all practicing surgeons. These have been updated in 2014 [2].

Operative notes are often presented in legal malpractice cases, and studies have shown that up to 45 percent of operative notes are indefensible medico legally.

Incomplete and illegible notes are a potential source of weakness in a surgeon's defense [3]. Clear, concise, and legible notes are therefore crucial following all surgical procedures. This is difficult to achieve with handwritten notes, especially in the context of legibility. Sweed et al. found that 20 percent of their orthopaedic operation notes contained illegible parts [4].

The new 2014 guidelines now suggest that all notes should "preferably" be "typed."

CHARUSAT Hospital uses a standard operation sheet for all surgical procedures.

The orthopaedic operation notes were examined retrospectively to assess documentation standards.

Our study examined our operation notes based on the recommendations found in the Royal College of Surgeons of England Good Surgical Practice Guide (2008) [2].

**2. OBJECTIVES**

To retrospectively audit 53 operation notes of inpatients under the care of the orthopaedic service in CHARUSAT Hospital from 23 May 2018 to 31 Oct 2018, According to the Royal College of Surgeons of England Good Surgical Practice guidelines in February 2014.

**3. METHODS**

A total of 53 operation notes were audited by two reviewers. The operation notes all were based on the standard template (Figure 1) found in CHARUSAT Hospital for all surgical procedures. CHARUSAT Hospital operation sheet contains headings for patient details name , IP number, time and date, surgeon name, assistant surgeon name, anaesthetists, nurses, name of surgery, anesthesia details, operative steps , complications if any while surgery, blood loss,

sign of surgeon , sign of OT in charge.

The notes were audited in accordance with the College of Surgeons guidelines in terms of date and time of surgery, surgeon, procedure, elective or emergency indication, operative diagnosis, incision details, signature, closure details, tourniquet time, post-op instructions, complications, Implant/prostheses, and serial numbers.

**4. RESULTS**

All 53 notes were handwritten on CHARUSAT Hospital standard operation sheet. All of the operative notes were written by the consultant (100% n = 53). All of the operative notes included date and time of surgery, name of surgeon (and any assistants if present), procedure name, and signature.

Operative diagnosis was present in (86.79% n=46) of the operation notes. Incision details were included in 0 % of the sheets. Tourniquets were applied in (18.86% n=10) of the procedures with none having a documented tourniquet time (0%). Closure details were documented in procedure (66.03% n=35). Postoperative instructions were included in 100 % of the operative notes. 53 procedures involved the use of prosthetic/implant; however, only (67.92% n=36) of these had documented or attached serial number adhesives to the operation sheet. None of the operative sheets stated whether it was an elective or

emergency procedure.

## 5. DISCUSSION

The Royal College of Surgeons of England Good Surgical Practice guidelines help the surgeon create concise, clear, and informative operation notes. This not only allows for better patient care postoperatively but also protects the surgeon medicolegally. Having the proforma operation sheet ensures that the minimum information required is present in all notes and it has been shown to be effective in improving the standard of operation notes [5].

There is only one operation sheet template shared among all specialties in CHARUSAT Hospital and therefore it does not allow for the specifics pertaining to different specialties.

In orthopaedic surgery, documentation of operation details could be improved with the addition of specific headings for tourniquet application and time, as well as antibiotics used at induction.

These were included in the Sheffield proforma and led to better completion of detailed notes [5].

A similar study to ours was conducted by Sweed et al. in their orthopaedic department which demonstrated similar deficient areas of operative note documentation, in particular the poor documentation of tourniquet time [4].

The important issue of legibility exists within all handwritten notes. It has been shown that using computer templates/proforma along with typed notes proves to be superior to handwritten notes [6].

However, when other staff members were asked to read notes, the problem of legibility arose. The use of electronic operation notes is currently not being used in CHARUSAT Hospital however this will be available to orthopaedic surgery in the near future.

Electronic notes are beneficial in many ways. They can be accessed repeatedly and remotely from any hospital computer system. This eliminates the possibility of an operative note being lost or destroyed and markedly improves the notes in terms of detail and legibility [7].

The headings used in the notes not only can be standardised, but also can be edited to suit individual specialities, with specific headings and sections, as there is no need to print out standard proforma sheets.

Electronic operation notes will become easier to audit and review for research purposes, as they are easier to access and will save the reviewer considerable time.

A study conducted by the Centre for Disease Control and Prevention looked at the use of electronic patient records and showed that 74% of physicians highlighted the ability to access patient information as a benefit, along with 74% believing that electronic records had improved overall patient care [8]. Ghani et al. undertook a study piloting their "smart" electronic operation note system for orthopaedic trauma operation notes. They showed a marked improvement in the quality of documentation, both in terms of information detail and readability. The "smart" electronic notes were deemed to be completely legible (100%) compared with only 66% of the handwritten notes [7]. The 2014 Royal College of Surgeons Good Surgical Practice guidelines now state that all operation notes are "preferably typed." This recommendation was not present in the 2008 guidelines and certainly favours a move towards electronic notes so as to be compliant with best surgical practice and patient care. One issue remains is that some surgeons create illustrations in their operative notes to help explain certain complex issues. While this would be currently limited to electronic notes, the use of touch screen technology could provide a solution to this issue. Limitations of this study included the small amount of operation notes collected between the allotted time periods. Ideally, a larger number of operation notes would have been collected. While a standardised proforma exists in CHARUSAT Hospital for all surgical procedures, an orthopaedic-specific proforma was not available. The operative notes audited were limited to those of inpatients in the orthopaedic ward during the specified time. This eliminated the day-case procedures and their operation notes, which would have increased the numbers of notes reviewed in the audit. This data will allow for improvements to be made in documentation by the orthopaedic surgeons in the future and in other specialties too.

## 6. CONCLUSIONS

The completion and documentation of surgical procedures on our standard CHARUSAT Hospital operation sheets were generally good in terms of recording date, time, surgeon, operative steps, procedure name, and signatures. Improvement is needed in documenting tourniquet time, prosthesis /Implant serial numbers or adhesive stickers, correct use of the template headings, blood loss, incision, post op instructions, DVT prophylaxis, Operative indication viz Elective or Emergency. These improvements could be made with the introduction of an orthopaedic-specific proforma with headings as follow-

- Date and time
- Elective/emergency procedure
- Names of the operating surgeon and assistant
- Name of the anaesthetist
- Operative procedure name
- Incision
- Operative steps
- IITV image print if available
- Any problems/complications
- Any extra procedure performed and the reason why it was performed
- Details of tissue removed, added or altered
- Identification of any prosthesis used, including the serial numbers of prostheses and other implanted materials
- Details of closure
- Anticipated blood loss
- Antibiotic prophylaxis (where applicable)
- DVT prophylaxis (where applicable) Detailed postoperative care instructions
- Signature

Given the new RCSE guidelines recommendation for 2014, it is recommended that electronic notes be introduced in the orthopaedic department. As the electronic notes will be piloted in CHARUSAT Hospital in the near future, it is our plan to audit those notes and compare them with the results we have obtained from the proforma sheets.

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