ORIGINAL ARTICLE

An audit of operating notes in a general surgical unit: Findings and how to improve for patient well being

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Abstract:
Introduction: The value of comprehensible and complete operative notes cannot be denied. Up to mark operative notes will result in smooth and consistent transfer of right information from operation theater to recovery room and beyond.
Objective: To retrospectively evaluate surgical hand written operative notes with established guidelines of Royal College of Surgeons (RCS) of England.
Material and Methods: This retrospective (cross sectional) audit was carried out in Department of Surgery, DHQ, Abbottabad, from 1st June to 31st July 2021. A sample of 60 operatives notes were selected randomly for audit. Operative notes were assessed according to guidelines laid by Royal College of Surgeons (RCS) of England (Good surgical practice).
Results: Out of 60 operative notes in 57(95%) date was written, operative time was mentioned in 52(86.7%), none of the operative notes had shown the kind of surgery (emergency/elective), name of operating surge1on, assistant, name of operative procedure, findings, operative diagnosis, detail of tissue added, removed or altered, post-operative instruction was mentioned in all 60 note (100%).
Conclusion: Operative notes have a vital role in patient's management audit should be a done regularly to improve the standard of operation notes. They must be legible and complete to avoid litigation. Apart from that several errors can occur in hand written operation notes; going through them for any purpose is cumbersome.

Keywords: Audit, operating notes, general surgery.

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Introduction:
The value of comprehensible and complete operative notes cannot be denied. Up to mark operative notes will result in smooth and consistent transfer of right information from operation theater to recovery room and beyond. Doctors involved in immediate post-operative care will have clear knowledge of the process that will help in ultimate care of patient. Apart from that operative notes are also important from medico legal point of view as they are important part of legal documentary evidence in patient's care.[1] The Royal College of Surgeons (RCS) in England have elaborated the guidelines for operative note in good surgical practice (GSP). In this document there is a specific standard that needs to be maintained in operative notes. Good medical record keeping not only has irreplaceable value in patient's safe care but also in research and audit.[2] Usually in most of the setup operative notes are written by hand but the major problem regarding this is legibility. The General Medical Council (GMC) recommends that surgeon should maintain precise, understandable and comprehensive record of patient.[3] Another advantage of accurately documented intra operative conditions and findings is that any succeeding attending physician that is not a part of operating team will be able to decide pre hand all the possible complications that can occur as a result of procedure and would detect early through sign and symptoms of patient avoiding unnecessary investigations that can further hamper patient's perfect care. Post-operative

Table 1: Shows Royal College of Surgeons (RCS) guidelines for good operative notes

Serial No	Details
1	Date
2	Time
3	Elective/emergency procedure
4	Name of operating Surgeon
5	Assistant name
6	Type of anesthesia
7	Anesthetist name
8	Name of operative procedure
9	The operative diagnosis
10	incision
11	Operating Finding
12	Any complication during surgery
13	Extra procedure performed and reason
14	Detail of tissue removed and added
15	Detail of closure technique
16	Post operative care instruction

morbidity and mortality as a result of imperfectly written post-operative orders have a vital subset of all complications that hospitalized patients come across.[4] The good surgical practice guideline is the paradigm for individual surgeon, ward and their practices. They also provide aid in planning surgeries in future and serve as a useful means of communication between health care workers. In general the standard of documentation is poor in medicine and appropriate and vital data is often missing in reports.[5]

The purpose of this study is to evaluate the quality of operative notes in our surgical unit as compared to guidelines set by Royal College of Surgeons (RCS), England, guideline criteria.

Materials and Methods:

This retrospective (cross sectional) audit was carried out in Department of Surgery, District Head Quarter (DHQ), Abbottabad, from 1st June to 31st July 2021. A sample of 60 operatives notes were selected randomly for audit. Operative notes were assessed according to guidelines laid by Royal College of Surgeons (RCS) of England (Good surgical practice) table-1. All general surgical operations done on either general anesthesia or spinal were included in study. Both emergency and elective surgeries were included. Minor surgeries done on local anesthesia were excluded from study. Data comprised of following variables date and time of surgery, name of operating surgeon along with assistant and anesthetist, type of anesthesia, operative diagnosis, type of procedure (emergency/elective) name of operative procedure, findings in operative procedure, incision, complications in procedure, any additional procedure performed and reason, detail of tissue added or removed or altered, detail of closure technique, post-operative instructions, signature. Apart from set guidelines other information were also recorded that notes were written by operating surgeon or not and legibility of operative notes. Template used by hospital surgical unit.

Data collected in Microsoft excel. SPSS 17 used for analysis. Frequencies and percentages calculated for descriptive data.

Results:

Out of 60 operative notes in 57(95%) date was written, operative time was mentioned in 52(86.7%), none of the operative notes had shown the kind of surgery (emergency/elective), name of operating surgeon, assistant, name of operative procedure, findings, pre-operative diagnosis was mentioned in all 60 notes (100%).

In 59(98.3%) operative notes incision was mentioned. Detail of tissue added or removed was mentioned in all operative note 60(100%). Detail of closure was only mentioned in 1(1.67%), post-operative care instructions were elaborated in all 60(100%) notes. Complication occurred only in 1 operative procedure and was mentioned. Extra procedure was not performed in any case so was not mentioned. 31(51.7%) operative notes had signature only and only 8(13.3%) operative notes were written by operating surgeon. Type of anesthesia was mentioned in all notes while in one operative note anesthetist name was missing. 54(90%) operative notes were legible.

Discussion:

Comprehensive and complete operative notes have multiple advantages. Often operative notes are written by junior doctors and sometimes trainees who have shortcomings when compared to standard notes. Junior medical staff should be taught about the correct way and a proper system should be developed for quality improvement. This can be achieved by guidance by senior staff, regular audits, and developing policies to improve abidance and quality. There is not an ideal and quintessential operation notes model, however quality of pre-existing setup can be improved by providing with proforma or a memory aid both of which can have great impact in many specialities.[6] There is also proof recommending supremacy of computerized operative notes as compare to hand written. The purpose smart electronic operative notes template to help in precise documentation and enhance approach and assessment. By providing with a pre set modulation data of salient points, will not only ease in writing perfect and complete operative notes but will also simplify data collection for future research.[7] The operative note sheet used in our surgical unit had no specific area for mentioning patient control number and was not written. However name of patient and father name column was there so mentioned in all notes. Identity of patient is important for all medical records and is essential for good clinical practice. In an another study by Lefter LP, Walker SR et al, patient's identity was not mentioned in 13(6.8%) notes.[8] Type of study namely elective and emergency was not mentioned in any case in our audit, also template sheet had no area for mentioning. It was also found by other authors that in first audit elective or emergency surgery description was (0%).[9] In 95% notes date was mentioned and operating time was mentioned in 86.7% notes. Another study showed also found that date was mentioned in 96.7% notes nearly comparable to ours but time was mentioned in only 3.3% notes.[10] Name of operating surgeon and assistant was present in 100% notes. The name of operating surgeon was mentioned in most of the notes and also found by another author however in 10% cases assistant name was missing.[11] Name of operative procedure was mentioned in all while incision was missing in one note. In another study 95% of notes had mentioned operative procedure name while type of incision mentioned in 84.4% cases.[12] Operative finding were mentioned in all operative notes. Another author reported that in 92% notes operative findings were mentioned.[13] Diagnosis was mentioned in all cases (100%) in contrast to some studies were diagnosis was present in 76.3% cases.[14] Detail of tissue added, removed or altered described in 100% cases. In a study only 62.66% cases described tissue detail.[15] Closure technique was mentioned in just one case (1.67%). Bozbiyik O et al, audit closure technique was described in 36.6% while Javid M had a higher percentage upto 98.66%. Only 13.3% notes were written by operating surgeon while remainder written by house officers, this is contrast to a study where 85.7% notes were written by registrar, 11.1% by consultant and only 3.17% by senior house officer.[16] Post-operative instruction were written in all the operative notes. Mehtab H at el, audit also showed that post-operative instructions were written in majority of cases. Signature was done in 51.7%. Another author found a higher rate of signature in operative notes almost 98.4%.[17] Ninety percent of operative note were legible. Computerize notes can improve legibility and can decrease variability between different operative notes of the same procedure. Computerized operative notes content can be easily adapted and customized as recommended by standard guidelines to decrease the chances of error. Aide-memoire in operating room can be valuable in improving quality of operative notes.[18]

Conclusion:

Operative notes have a vital role in patient's management audit should be a done regularly to improve the standard of operation notes. They must be legible and complete to avoid litigation. Apart from that several errors can occur in hand written operation notes; going through them for any purpose is cumbersome. Better should be written by operating surgeon who is well aware of all the details of procedure. A proper opera-

tive digitalize data base would ease in all aspects. Medical records are vital for post operative care, academic, research and medico legal purpose. Aide-memoire should also be kept in operating room.

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Role and contribution of authors:
Sameeah Hanif, collected the data, references and did the initial writeup.

Muhammad Nawaz, went through the article critically and made the final changes.

Javeria Iftikhar, collected data, and references.

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