

THE QUALITY OF OPERATION THEATRE NOTES IN THE ORTHOPAEDIC DEPARTMENT OF KENYATTA NATIONAL HOSPITAL

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ABSTRACT

Background: Well written theatre operation notes are important not only as a medico legal requirement but also useful for clinical research. This study assessed the quality of orthopaedic theatre notes at Kenyatta National Hospital, the largest referral facility in Kenya, over a 6-month period between January 2017 and June 2017.

Objective: To determine the completeness and clarity of operation theatre notes in The Orthopaedic Department of Kenyatta National Hospital.

Patients and methods: Operation theatre notes in the orthopaedic unit were retrospectively analysed. The guidelines of the Royal College of Surgeons of England (RCSEng) were used to assess the quality of operation notes.

Results: A total of 211 orthopaedic operation notes were reviewed. One hundred and eighty seven (87%) of the theatre notes were written by an orthopaedic resident, only 24 (13%) cases were written by the consultant. One case had no theatre notes written. Documentation was especially good for name of operating surgeon (97%), name of assistant (90%) and anaesthetist (97%) type of procedure (96%), patient biodata (95%), date of surgery (91%) and preoperative diagnosis (97%). The documentation was poor in swab/instrument count (0.5%), use of tourniquets (40/167, 23%) identifying the time of surgery (23%), estimating blood loss (25%), complications encountered if any (30%) and closure technique (47%).

Conclusion: The quality of operation theatre notes in The Department of Orthopaedic Surgery is good but improvements should be made especially on recording swab/instrument count, implant serial numbers, details of closure technique and use of tourniquets. Use of a standardized checklist may improve quality of operation theatre notes in our hospital.

Key words: Quality, Operation Notes, Orthopaedic, Guidelines

INTRODUCTION

Operation theatre notes are important for medico legal purposes, quality and cost control as well as research (1). They can provide feedback about surgical outcomes, modification of techniques and potential complications (2). Good clinical practice requires that every doctor keeps medical records that are accurate, clear and legible (3,4).

A general rise in litigation cases in orthopaedics and trauma has been noted which can be mitigated when good operation notes are available (5).

The Royal College of Surgeons of England (RCSEng) has prescribed standards for quality of good operation notes - RCSEng guidelines 2008. The guidelines provide comprehensive information on quality assurance in surgical practice including recording of operation notes (3).

These guidelines have been utilised in a number of prior studies (3, 6-9). In our literature search, there

were no studies in Kenya documenting the quality of operation notes in orthopaedic practice. The writing of operation notes in our facility is exclusively handwritten; no dictation or typing of theatre notes is available. Moreover, no standardized orthopaedic aide-memoire is used. The use of word processors, aide-memoires and operation data bases improves quality and eligibility of operation theatre notes by creating standardized operation notes. It also reduces the time spent writing the notes and improves comprehensiveness (7, 8). This study assessed the quality of operation theatre notes at Kenyatta National Hospital against a standard check list of items that are expected to be noted down during theatre notes writing.

MATERIALS AND METHODS

A retrospective review of operation theatre notes of orthopaedic surgical cases done between January 2017 and June 2017 was done at Kenyatta National Hospital.

This is a metropolitan, tertiary, referral and teaching hospital situated about 5km from Nairobi city centre. It has a 2000 bed capacity and is one of the two main referral hospitals in Kenya, also serving the greater East and Central African region. Approval to conduct the study was sought from the Kenyatta National Hospital, Ethics and Research Committee (KNH/UoN-ERC).

Files of 211 cases of consecutive patients done in various orthopaedic operations were extracted from the Records Department of Kenyatta National Hospital and reviewed by the authors. The objective was to determine if they conformed to the RCSEng guidelines on quality of operation notes.

The theatre notes were compared against a checklist that included the following data: Type of anaesthesia, type of surgery (elective or emergency), pre-operative diagnosis, type of procedure, name of anaesthetist, date, time, patient name, age, sex, name of the operating surgeon, responsible surgeon, name of the assistant, operative procedure carried out, patient position, incision/ approach, operative diagnosis, operative findings, intra/ peri-operative complications, details of tissue removed, added or altered, identification of prosthesis or implant including material used and serial numbers, details of closure technique, suture used, estimated blood loss, tourniquet use and time, postoperative care instructions, antibiotics, thromboprophylaxis, nurses instruction, legibility, swab/instrument count and signature.

Data collected was then entered and analysed using Statistical Package for Social Science (SPSS) version 22.0. The data was compared to the established standards of Good Surgical Practice of Royal College of Surgeons, England 2008 and presented as frequencies and percentages. All the information obtained was treated with utmost confidentiality. Names of patients or surgeons were not recorded and instead they were assigned serial numbers.

RESULTS

The study noted that all operation notes were written by hand. One file had no operation notes but a blank form. No operation notes had 100% compliance with RCSEng guidelines. Documentation was especially good for type of procedure (96%), name of operating surgeon (97%), name of assistant (90%) and anaesthetist (97%), patient biodata (95%), date of surgery (91%) and preoperative diagnosis (97%). The documentation was poor in swab/ instrument count (0.5%), use of tourniquets (40/167, 23%) identifying the time of surgery (23%), estimating blood loss (25%), complications encountered if any (30%) and closure technique (47%). The complete results pertaining to each of the selected items in the check list is given in Table 1.

Table 1
Percentage of operation notes containing the required information

Variables		Total Count	(%)
Type of anaesthesia	Stated	210	99.5%
	Unstated	1	0.5%
Type of surgery:	Stated	165	78.2%
	Unstated	26	12.3%
(1) Elective	N/A	20	9.5%
	Stated	32	15.2%
	Unstated	166	78.7%
	N/A	13	6.2%
(2) Emergency	Stated	205	97.2%
	Unstated	6	2.8%
Preoperative diagnosis	Stated	203	96.2%
	Unstated	8	3.8%
Type of procedure	Stated	205	97.2%
	Unstated	6	2.8%
Anaesthesia	Stated	191	90.5%
	Unstated	20	9.5%
Date	Stated	49	23.2%
	Unstated	162	76.8%
Time	Stated	201	95.3%
	Unstated	10	4.7%
Patient name	Stated	201	95.3%
	Unstated	10	4.7%
Age	Stated	201	95.3%
	Unstated	10	4.7%
Sex	Stated	201	95.3%
	Unstated	10	4.7%
Name of procedure	Stated	205	97.2%
	Unstated	6	2.8%
Name of the operating surgeon	Stated	204	96.7%
	Unstated	7	3.3%
Responsible surgeon	Stated	120	56.9%
	Unstated	91	43.1%
Name of the assistants	Stated	189	89.6%
	Unstated	22	10.4%
Operative procedure carried out	Stated	199	94.3%
	Unstated	12	5.7%
Patient position	Stated	137	64.9%
	Unstated	74	35.1%
Incision/Approach	Stated	180	85.3%
	Unstated	28	13.3%
	N/A	3	1.4%
	Stated	78	37.0%
Operative diagnosis	Unstated	133	63.0%
	Stated	150	71.1%
Operative findings	Unstated	61	28.9%
	Stated	63	29.9%
Intra/perioperative complications	Unstated	148	70.1%
	Stated	151	71.6%
Details of tissue removed, added or altered	Unstated	55	26.1%
	N/A	5	2.4%
Identification of prosthesis or implanted, material used, and serial numbers	Stated	140	66.4%
	Unstated	23	10.9%
Details of closure technique	N/A	48	22.7%
	Stated	99	46.9%
Suture used	Unstated	106	50.2%
	N/A	6	2.8%
Estimated blood loss	Stated	95	45.0%
	Unstated	111	52.6%
Tourniquet use and time	N/A	5	2.4%
	Stated	52	24.6%
Postoperative care instructions	Unstated	155	73.5%
	N/A	4	1.9%
Antibiotics	Stated	40	19.0%
	Unstated	127	60.2%
Thromboprophylaxis	N/A	44	20.9%
	Stated	154	73.0%
Legibility	Unstated	55	26.1%
	N/A	2	0.9%
Signature	Stated	176	83.4%
	Unstated	33	15.6%
Swab/Instrument count	N/A	2	0.9%
	Stated	34	16.1%
	Unstated	172	81.5%
	N/A	5	2.4%
Good	Good	206	97.6%
	Poor	5	2.4%
Signature	Stated	202	95.7%
	Unstated	9	4.3%
Swab/Instrument count	Stated	1	0.5%
	Unstated	209	99%
	N/A	1	0.5%

DISCUSSION

All operation notes were written by hand. This practice is similar to other studies and contributes to poor quality of operation notes (10,11). Good compliance was noted in recording the name of the operating surgeon (97%) which is similar to other studies we reviewed which had a range of 90 -100% (7,12). The names of the operating assistant and the anaesthetist were recorded in 90% and 97% of the surgical notes respectively. This is in agreement with the study by Singh *et al* (13).

In this study, the type of procedure was documented in 96% of the operation notes. Prior studies had figures ranging from 0 - 97% (13). The patient biodata is very important because the notes may be irretrievably misplaced or lost without this information. In 95% of the operation notes, the biodata was recorded. The study by Din *et al* (14) had lower biodata documentation rates.

The swab/instrument count was recorded in only 1 (0.5%) case. In other studies, this important aspect is not captured in spite of cases being reported of instruments/swabs having been erroneously left in patients. The poor documentation of tourniquet details and closure techniques are similar to the results reported by a similar study by Sweed *et al* (15).

The documentation of serial numbers of implants was also not adequate, similar to a study by Coughlan *et al* (8). The consultant orthopaedic surgeon had better quality documentation than the orthopaedic resident. This should encourage the consultants to formally train the residents to provide good quality operation notes.

The standardization of orthopaedic operative theatre notes by use of a proforma based documentation system has been documented in some studies and has aided improvement in the compliance with RCSEng guidelines (7,16).

A limitation of our study was that we did not attempt to confirm whether the information provided in the file represented what was actually done during the operative procedure. Our sample size however was larger than most previous studies.

CONCLUSION

Documentation of operative theatre notes was good in most aspects but improvements in some aspects especially documentation of swab/instrument count, closure technique, serial numbers of implants used, tourniquet use and operation time is needed. An operative template tailored towards orthopaedic surgery may improve the quality and legibility of theatre notes. There is a need for consultants to train residents to write good quality operation notes.

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