

The quality of operative notes written by postgraduate trainees in a Teaching Hospital in Basrah

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ABSTRACT

Background: Writing the operative notes has vital task in the surgical postgraduate training particularly in plan of postoperative care and dealing with complications following surgery.

Objective: Two hundred and two cases of acute abdomen were examined and revised. The operative notes were written by the postgraduate trainees taking into consideration the guidelines of the Royal College of Surgeons of England and our Teaching Hospital operative note sheet as a reference then combining the two sheets. The time, date and patient's identification was not documented in 23 cases out of 182 and documented but incomplete in 95 cases.

Patients: Nothing was said about anesthesiologist, his assistant and type of anesthesia in 31 cases and some deficient data were mentioned in 93 cases. The position of the patient on the theater table was not written in 11 cases, in the remaining 171 cases the supine position was always used.

The details of incision used in the operative procedure (closure, technique, suture material used) has a role in the morbidity of wound dehiscence and incisional hernia after surgery. In 14 cases, nothing were written about incision and in 164 the data mentioned were not informative.

Results: In 139 cases, biopsy or specimen taken was not mentioned, and specifically in all cases of appendectomies involved in this study no single biopsy or specimen was taken. Closure of the incision in details is fundamental in post-operative sequel. In 169 cases the technique and suture materials used was not mentioned and in 10 cases it was not clear. The result in questionnaire (14 trainee) is not that different from the overall cases

Conclusions: Only 10-18% of global surgical teaching programs offer operative notes writing as part of the program. In some studies, there was improvement in quality of the notes writing after teaching the surgical trainees the proper way of writing the operation notes

Keywords: surgery, operative notes written, postgraduate trainees

نوعية ملاحظات العمليات الجراحية المكتوبة من قبل المتدربين من طلاب الدراسات العليا

في مستشفى تعليمي في البصرة

الخلفية: كتابة ملاحظات العمليات الجراحية لها دور حيوي في تدريب طلبة الدراسات العليا في الجراحة، والتعامل مع مضاعفات ما بعد الجراحة. تم فحص مائتان واثان من حالات البطن الحادة.

الطرائق: كتبت الملاحظات من قبل المتدربين مع مراعاة المبادئ التوجيهية للكلية الملكية للجراحين في إنجلترا. لدينا ورقة ملاحظة العملية الموجودة في ملف المرضى الراقدين في الردهات الجراحية في المستشفى التعليمي كمرجع ثم الجمع بين الورقتين.

النتائج: وجد ان التاريخ ووقت العملية و هوية المرضى غير موثقة في 23 حالة من أصل 182 موثقة لكن غير مكتملة في 95 حالة. ولم

يذكر شيء عن طبيب التخدير ومساعدته ونوع التخدير في 31 من الحالات وقد ذكرت بعض بيانات ناقصة في 93 حالة. لم تتم كتابة

وضعية المريض على طاولة العمليات في 11 حالة، وفي الحالات المتبقية (171) استخدمت بيانات ضعيفة. تم دراسة تفاصيل شق

البطن المستخدمة في إجراء العمليات (الإغلاق، التقنية، والخياطة المستخدمة و دور اعتلال الجرح وفتح بعد الجراحة). في 14 حالة، لم

يذكر أي شيء عن الجرح وفي ١٦٤ البيانات المذكورة لم تكن غنية بالمعلومات. في ١٣٩ حالة، لم يذكر اخذ خزعة أو عينة، وعلى وجه التحديد في جميع حالات رفع الزائدة الدودية المشاركة في هذه الدراسة. تفاصيل إغلاق الشق مهم جدا و أمر أساسي في نتائج ما بعد العملية. في ١٦٩ من الحالات لم تذكر تقنية الاغلاق ولا المواد المستخدمة في خياطة الجروح و لم تكن واضحة في ١٠ من الحالات.

الاستنتاج: النتيجة من استبيان (١٤ متدرب) لا تختلف كثيرا عن تلك النتائج الشاملة اعلاه. فقط ١٠-١٨% من برامج التدريس الجراحية العالمية تدرس طرق كتابة العمليات الجراحية كجزء من برنامج التدريب. وفي بعض الدراسات، كان هناك تحسن في نوعية الكتابة بعد تدريس المتدربين الطريقة الصحيحة لكتابة ملاحظات العمليات الجراحية.

الكلمات المفتاحية: جراحة، ملاحظات العمليات، متدربين

INTRODUCTION

Doing surgical operations is the last and the final of seven steps in the diagnosis of surgical problems.^[1] Writing the operative notes has crucial role in the surgical training specially in plan of postoperative care and dealing with complications following surgery. Accuracy of record documentation has an important legal value in case of court complaining.^[2,3] Proper and complete documentation along with description of the surgical procedure is the reflection of accuracy of educational plans for postgraduate trainees and surgeon competency to take a wise decision and judgment during surgery. According to the criteria published by the Royal College of Surgeons (RCS) of England, the proper operative notes must include:^[4]

1. Date and time.
2. Emergency or cold case.
3. Name of the operator and assistant(s).
4. Procedure carried out.
5. The incision.
6. Operative findings.
7. Diagnosis after exploration.
8. Any complications during the procedure.
9. Extra procedure performed and why.
10. Biopsy or any specimen taken.
11. Closure details.
12. Post-operative instructions.
13. Signature of the operator.

The operative notes sheet in the inpatient's file in Basrah Teaching Hospital contains; patient identification, surgical team, anesthetic team, space for the operative notes, postoperative instructions and surgeon's signature only without any Performa (Table-1). This study aimed to evaluate the quality of operative notes, and to establish a special data sheet that includes all the parameters.

Table1. The Hospital Operative Notes Sheet.

Patient:	Age:	Sex:	Ward:	Bed No:	Record No.
Date of admission:			Date:		
Surgeon:			Anesthetist:		
Assistant:			Anesthetic assistant:		
Theater Nurse:			Type of Anesthesia:		
Operative notes: Post operative instructions: Surgeon signature:					

MATERIALS AND METHODS

This is a retrospective study of inpatient records in the period between April 21st to October 9th 2012. Two hundred and two cases of laparotomy were randomly selected. Only emergency cases were included in this study because most of them was managed by postgraduate trainees. Cases of acute abdomen; inflammations such as appendicitis, perforations like perforated viscous, obstructions like

intestinal obstruction and cases of concealed bleeding treated by urgent surgery were examined and revised. The operative notes were written by the postgraduate trainees, we took into consideration the guidelines of the Royal College of Surgeons of England and our Teaching Hospital operative note sheet as a reference. A questionnaire was made consisting of combination of Royal College and Teaching Hospitals parameters. Fourteen trainees were asked to fill an operative notes for the most common emergency surgical operation, the

appendectomy for appendicitis in an adult female patient informing the students that different operative findings might be expected, and these were checked with the combined Performa.

RESULTS

Twenty operative note sheets out of 202 (9.433%) were either not written or missing from the patient's files (11 not written and 9 missing)

Table 2. The revision of 182 operative note sheets

Notes	Not mentioned	Mentioned	Complete information	Incomplete information
Date, time, patient's identity	23(12.637%)	159(87.362%)	64(35.164%)	95(52.127%)
Surgical team, surgeon, assistant & theatre nurse.	19(10.439%)	163(89.560%)	60(36.809%)	103(63.190%)
Anesthetist, assistant & type of anesthesia.	31(17.032%)	151(82.967%)	58(38.410%)	93(61.589%)
Position of the patient	11(6.439%)	171(93.956%)	-	-
Incision details	14(7.693%)	168(92.307%)	4(2.380%)	164(97.619%)
peritoneal cavity state, dry or contains fluid	170(93.406%)	12(6.593%)	2(16.666%)	10(83.333%)
Intraoperative diagnosis	9(4.945%)	173(95.055%)	84(48.555%)	89(51.445%)
Procedure	7(3.846%)	175(96.153%)	160(91.428%)	15(8.571%)
Extra procedure	134(73.626%)	48(26.373%)	39(81.25)	9(21.428%)
Biopsy	139(76.373%)	43(23.626%)	41(95.348%)	2(4.651%)
Moping	56(30.769%)	126(69.230%)	126(100%)	0(0%)
Closure details	169(92.857%)	13(7.142%)	3(23.076%)	10(76.923%)
Instructions after surgery	8(4.395%)	174(95.604%)	22(12.643%)	152(87.356%)
Signature of the operator	12(6.593%)	170(93.406%)	170(93.406%)	0

Table 3. Data obtained from the questionnaire combining the RCS and Teaching Hospitals sheets

Data	Not mentioned	Mentioned	Complete information	Incomplete information
Date, time, patient's identification	2(14.285%)	12(85.714%)	3(21.428%)	9(75%)
Surgical team	0	14(100%)	8(57.142%)	6(42.857%)
Anesthesia team and type of anesthesia	2(14.285%)	10(71.428%)	3(21.428%)	7(50%)
Position	0	14(100%)	14(100%)	0
Incision	0	14(100%)	0	14(100%)
State of peritoneal cavity	14(100%)	0		
Operative finding	0	14(100%)	8(57.142%)	6(42.857%)
Procedure	0	14(100%)	4(28.571%)	10(71.428%)
Extra procedure and complications	14(100%)	0		
Biopsy	14(100%)	0		
Moping	14(100%)	0		
Closure	0	14(100%)	4(28.571%)	10(71.428%)
Post operative instruction	0	14(100%)	3(21.428%)	11(78.571%)
Surgeon's signature	0	14(100%)	14(100%)	0

DISCUSSION

The complete and proper operative notes writing should be included in the teaching syllabus^[5,6], it reflects the values of the surgical teaching program and the degree of its efficiency. Surgeon who is unable to describe in skillfulness the operative procedure carried out by him or by his sponsor whom he assist step by step is unlikely to become a competent surgeon.^[7] The operative notes consist of two parts, the general and procedure specific section, each one has its importance and should be filled properly.^[8] The notes should be written immediately after completion of the operation for better remembering of detailed information. In the 182 sheet, non had followed the guidelines of the RCS and Teaching Hospital sheets, it is mostly written incompletely, (Table-2). The time, date and patient's identification was not documented in 23 cases (12.63%) out of 182 and documented but incomplete in 95 cases (52.127%). The importance of this part of the note is to know to whom this surgery was

carried out in addition to the gender and the age of the patient. The operating team was not mentioned at all in 19(10.439%) cases and incomplete in 103(63.1905), like absence of the assistant's or theater nurse names. Nothing was said about anesthesiologist, his assistant and type of anesthesia in 31 cases (17.023%) and some deficient data were mentioned in 93(61.589%) cases. The position of the patient on the theater table was not written in 11(6.439%) cases, in the remaining 171 (93.956%) cases the supine position was always used. In laparotomy for emergency abdominal pathology, we wonder what position other than supine can be used?. The details of incision used in the operative procedure (closure technique, suture martial used) has a role in the morbidity of wound dehiscence and incisional hernia after surgery. In the majority of appendectomy operations the grid iron incision was carried out without explaining whether muscle splitting or muscle cutting incision was used. The muscle

cutting incision leaves part of the muscle denervated and this might lead to hernia. In laparotomy incisions like paramedian for instance, we don't know if trans-rectus or laparotomy proper incision (the rectus separated from linea alba) were used as the first one leaves the medial muscle fibers ischemic and denervated and again may predispose to future hernias. In 14(7.693%) cases nothing were written about incision and in 164(97.619%) the data mentioned were not informative. In the laparotomy procedures, the surgeon must look to the peritoneal cavity in cases of appendicitis, perforated viscus to see if it is dry or contains fluid like exudates, pus. etc, and this should be dealt with as part of the procedure. In 170(93.406%) cases this were not mentioned at all and in 10(5.494%) cases only it was mentioned without specification. The intraoperative diagnosis was not mentioned in 9(4.945%) cases and in 89(51.445%) cases it was deficient and not definitive e.g. saying intestinal obstruction without specifying the type, cause of the obstruction, the color of the bowel, the state of the caecum and in more than 85 cases of appendectomy procedures the diagnosis were always (severely inflamed appendicitis), not a single case of normal appendix while in the best surgical center there is 15-20% of normality?. The surgical procedures carried out were not mentioned in 7(3.846%) cases and in 15(8.571%) cases it was not clear at all like saying only appendectomy done without detail about the position of the appendix, technique used e.g. antigrade or retrograde method, how the mesoappendix ligated, the suture material used, and in other cases of acute abdomen like perforated viscus only perforation closed or resection of a segment of bowel was mentioned without further details. In this study, nothing was found regarding any extra procedure in 134(73.626%) cases and in 9(21.428%) cases it was not conclusive like examining the ovaries and looking for ruptured graffian follicle during appendectomy procedure or taking a look at the

terminal ileum for presence of Meckle's diverticulum. In 139(76.373%) cases, biopsy or specimen taken were not mentioned, and specifically in all cases of appendectomies involved in this study no single biopsy or specimen was taken. Moping of the peritoneal cavity was not mentioned in 56(30.769%) cases as fluid left in the cavity may predispose to postoperative sepsis. Closure of the incision in details is fundamental in post-operative sequel. Technique of closure and suture material used are important in prevention of wound dehiscence and in cases where rectus sheath closed, the method of closure was not mentioned. In 169(92.857%) cases the technique and suture materials used was not mentioned and in 10(76.923%) cases it was not clear. In 8(4.395%) cases there was no postoperative instructions and in 152(87.356%) the instructions were vague like ordering IV fluid only without specification or instructing glucose-saline without mentioning the type, concentration, the timing and period of administration. Analgesia and sedation after surgery is important to kill pain in all cases, only somatic analgesics were ordered with no precise dose or timing and no narcotic analgesic was ordered at all. In Table-3, the questionnaire of 14 trainees, the findings were not that different for time, date and patient identity. In 2(14.285%) it was missing and in nine (75%) it was incomplete. The surgical team was mentioned by 14 trainees but it was incomplete in 6(42.857%). The anesthesia team was absent in 2(14.258%) and incomplete in 7(50%). The position of the patient on the theatre table was registered by all the trainees (100%) and again it was always supine. The incision was mentioned by all the trainees but it was not complete, lacking the important description and details by all. For example all of them used the grid-iron incision without explaining whether it was muscle splitting or muscle cutting. The state of the greater sac and the pelvis surprisingly was ignored by all the 14(100%), weather it was dry or wet, for this reason no moping procedure was

carried out as pelvic collection at time of surgery may lead to pelvic abscess. The operative findings were mentioned by 14 but it was incomplete in 6(42.857%), the position of the appendix were not identified and in all the 14 cases the appendix was in state of severe inflammation, no single normal appendix, gangrenous or perforated was expected. The surgical method used to take out the appendix was mentioned by all 14 but without enough technical explanation in 10(71.428%), for example if it is antigrade or retrograde appendectomy. No extra procedure was carried out by all 14, no one took a look at the terminal ileum or the ovaries. No appendix specimens was sent to the histopathology what so ever. The technique, the suture material used in the closure of the wound was mentioned by all 14 but it was informative in 4(28.571%) only, no one mentioned if the peritoneum closed or left opened after completion, suturing of the muscles, the suture material used, closure of the dead space. The postoperative instructions and treatment were deficient in 11(78.571%), all 14 advised glucose-saline without specification and at time of preparing this trial the only GS solution which is available in the surgical wards was 4% dextrose in 0.9% sodium chloride solution which is hypertonic to the plasma (osmolarity of 550mosmol per litter). No analgesia was prescribed in 3 and somatic analgesic only was advised by the remaining. All 14 gave their patients a broad spectrum antibiotics in therapeutic doses and nothing was said about prophylactic one. All 14 put their signature at the bottom of the operative note sheets. Flynn et al reported 61% of the operative notes were written by residents and most of them lacking the skillfulness and missing important data^[9], while Mathew et al reported that in 16% of the operative notes the patient's identification was incomplete.^[10] The role of Performa documentation in the improvement of the quality of the operative notes may be helpful.^[11] Only 10-18% of global surgical teaching programs offer operative notes writing

as part of the program.^[12] In Johari et al study, there was some improvement in quality of the notes writing after teaching the surgical trainees the proper way of writing the operation notes.^[13]

In conclusion, this study added some parameters (15.3%) to that of royal college sheet including position of patient during surgery and moping of the peritoneal cavity. If we examine the operative note sheets attached to the medical records forms in the surgical wards we can see it is lacking the steps of proper writing of the operation details this might reflect two things either the training is not sufficient or they were not taught how to write this properly, for this reason, the trainee is unable to put the data in the sheet. This important aspect of the surgical training is better to be added to the teaching schedule.

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