Completion and Accuracy in Charting of Anesthetic Records in Songklanagarind Hospital

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Objective: *To audit the completeness and accuracy in charting of anesthetic recorded by hand.*
Material and Method: *A retrospective descriptive study from 890 checklist forms. The classification of complete record as good level and incomplete record including level of fair, poor or no data. The frequency, percentage and the difference of completeness and accuracy in charting of anesthetic records were analyzed by Chi-squared test.*
Results: *The item of vital signs during anesthesia was one of 44 items that were 100% complete and accurate. The overall average of completeness and accuracy in terms of good, fair, poor quality, and no data was 94.5, 3.1, 0.4, and 2%, respectively. Twenty-two of 44 items had statistically significant difference between complete and incomplete records.*
Conclusion: *The charting of anesthetic record remained incomplete and inaccurate in 43 from 44 items, except the item of vital signs. The average of good anesthetic record was 94.5%. The incomplete anesthetic records were caused by illegibility, incorrect data filling, no data, or incomplete detail of each item such as incorrect ASA classification, or problem list etc. Handwritten records should be carefully filled-in to increase completion so that the data could be used as legal evidence.*

Keywords: *Anesthetic record, Audit, Completeness, Accuracy, Hospital accreditation*

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The services provided by the anesthetic department have been increasing, following the increasing number of patients at the hospital. Additionally, the safety of the anesthesia has been improving with the technological advances. However, routine anesthesia still has risks due to medical mistakes or dangerous situations from both patients and health care providers. Some mistakes or complications could worsen the patients' condition that might cause either problems or critical crisis. Improvement of anesthetic records is necessary to provide treatment, nursing, having training. It is also important as legal evidence in case of patient's problem.

Over the past century, anesthetic records were handwritten as individual offices set-up their own forms. The handwritten records were incomplete and of fair quality. The incomplete forms had omission of abnormal values and skewing. Furthermore, anesthetists are familiar with the concept of 'smoothing guideline' in which, the extremes of vital signs swings are not recorded with the reason that these particular values are not representative of the general course of events and could be incriminating if there were to be an adverse outcome of the anesthesia[1,2]. Dennis et al, based on 100 records from a standard checklist, found that only four in 24 items were 100% completed[3]. Because of these situations, automated record keeping systems were developed. They are to improve quality. However, Lillywhite et al have analyzed the accuracy of computer-based anesthetic audit system and found that computerized audit system was only 33% (prospective) and 52% (retrospective) complete[4].

As a part of medical records, the anesthetic record consists of three parts, pre-anesthetic evaluation data, intra-operative anesthetic record, and post-anesthetic course[5,6]. Verifying the complete and accurate

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charting has been a part of hospital accreditation, Anesthesiology department job guarantee since 1998. Even so, it was not verified in the past. Now the authors propose to study the completeness and accuracy in charting of anesthetic records to verify the standard in-service of hospital quality. In addition, the charting information can be a useful method for comparing handwritten records and computer records.

Material and Method

The institutional research ethic board of Medicine Faculty, Prince of Songkla University approved the proposal. The anesthetic records of Songkla-nagarind Hospital between January 2003 and December 2006 were verified by anesthesiologists using checklist forms. The complete verification consisted of three parts (see appendix) as;

1) The completeness of pre-operative evaluation data collection part (Fig. 1) such as the item of "clinical data", "chief complaint", "physical examination", "investigation", and "problem lists".

2) The completeness of intra-operative monitoring data collection part (Fig. 2) such as the item of "diagnosis", "operation", "ASA (American Society of Anesthesiologists) classification", "vital signs", "estimate of blood loss", "fluid and blood received during surgery", "position", "anesthetic agents", and "complications or unexpected situations".

3) The completeness of post-operative data collection part (Fig. 1) including recovery room care, post-operative visit within 48 hours, and post-operative pain management.

The authors defined complete charting as good data recorded for each of the variables. If the data was not charted or was only graded as fair or poor, then the overall record was considered incomplete. Record keeping of quality checks was also verified. The verification of complete quality checks and accurate record was specified as, i) poor level: less detail, incorrect and hard to read, ii) fair level: record with incompletion, and iii) good level: complete and accuracy. The completion of records specified due to performance indicators of Anesthesiology department was 95% goal.

Statistical analysis

Eight hundred and ninety checklist forms were assessed using descriptive statistics. All the data were collected into EPI DATA version 3.1 and analyzed using SPSS statistical package version 11. The results were presented as percentage of completeness and accuracy of records. The complete and incomplete records were analyzed by chi-squared test, a p-value less than 0.05 was considered statistically significant.

Results

The item of "vital signs" is the only one in 44 items of anesthetic record that was 100% complete and accurate. The items of good level of quality were "drug used" and "position" at 99.9%, and 99.7% respectively. The items of fair level of quality were "miscellaneous", "clinical data", and "general appearance" at 16.4%, 13.8%, and 9.6%, respectively. The items of poor level of quality were "current drug therapy" and "general appearance", both at 1.5%, followed by "labs requirement" and "miscellaneous" at 1.3% and 1.2%, respectively. The unavailable data were "pain management", "body temperature" and "current drug therapy" at 9.2%, 6.9%, and 6.3%, respectively (Table 2). The average of complete and accurate items in level of good, fair, poor, and unavailable data was 94.5%, 3.1%, 0.4%, and 2%, respectively. The difference between the complete and incomplete charting of 22 items is shown to be statically significant (Table1, 2).

Discussion

The anesthesia form was printed with labeled blank spaces and a graphic grid with a timeline for recording of vital signs and other periodically appearing information that are filled in by the anesthesia team, including anesthesiologists, anesthetic residents, nurse anesthetists, and medical students[1] as each are assigned to take care of the patients during pre-operative evaluation, intra-operative anesthesia, and post-anesthesia visits. So completeness and accuracy of charting each period are different, depending on experience of anesthetists, especially in a rush time during anesthesia. Sometimes, it can be a very busy day on duty. Devitt et al reported that, there was not a relationship based on the different experiences of the recorder[2]. However, the authors could not control variables of "recorder" because the patients were taken care of by more than one anesthetist in practice.

Among 44 items covered, the item "vital signs" ranked 100%. Anesthesia team is always alert to maintain stage of anesthesia. Vital signs are recorded every 1 to 5 minutes following the digital monitor displays; therefore, the item "vital signs" was easily completed. However, it is difficult to even attempt to write any more in the small space provided. There has been much discussion of the possibility of removing "abnormal vital signs" of the situation between manual recordings. The automated and handwritten recordings

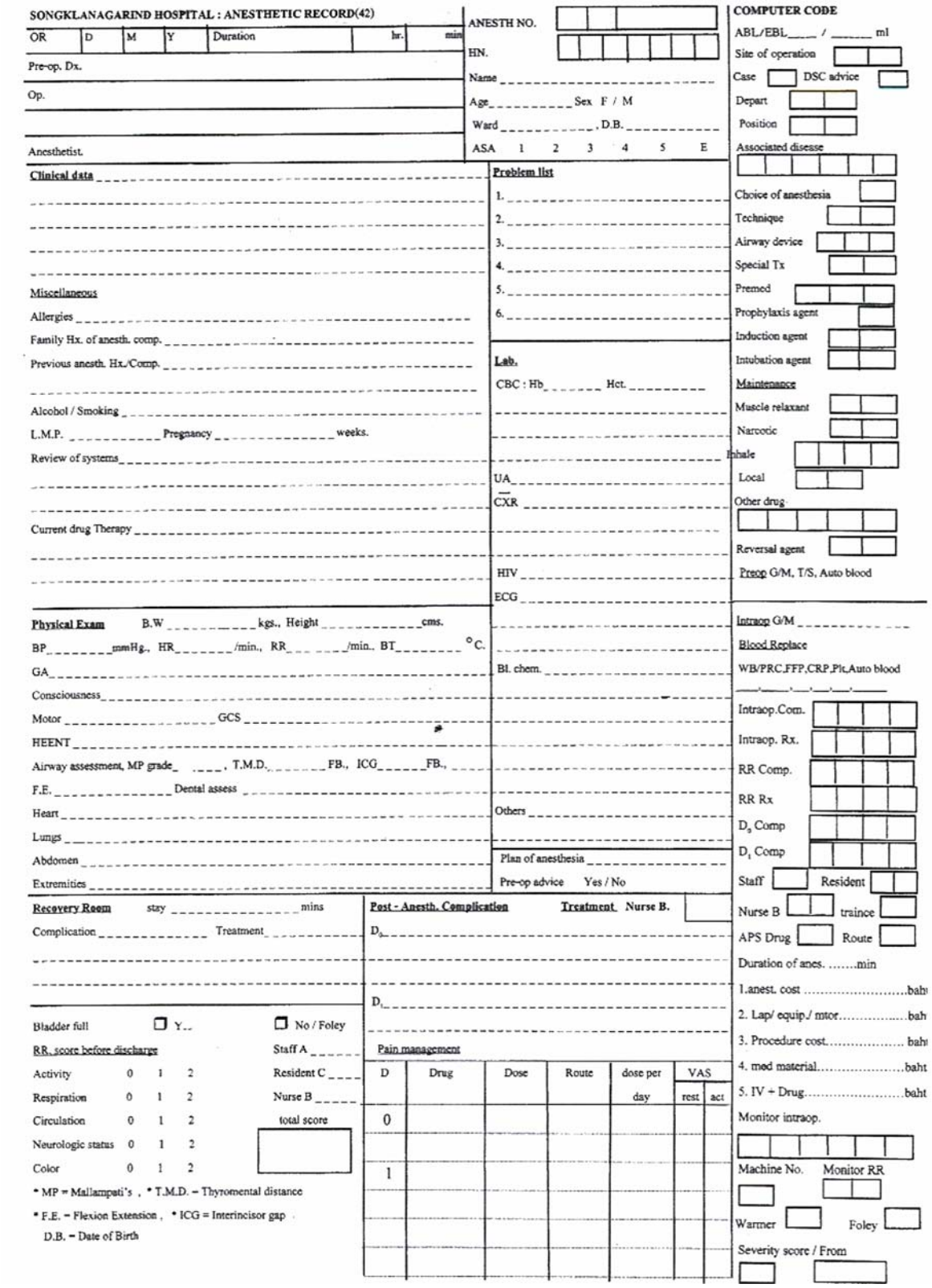

Fig. 1 A blank sample anesthetic record page

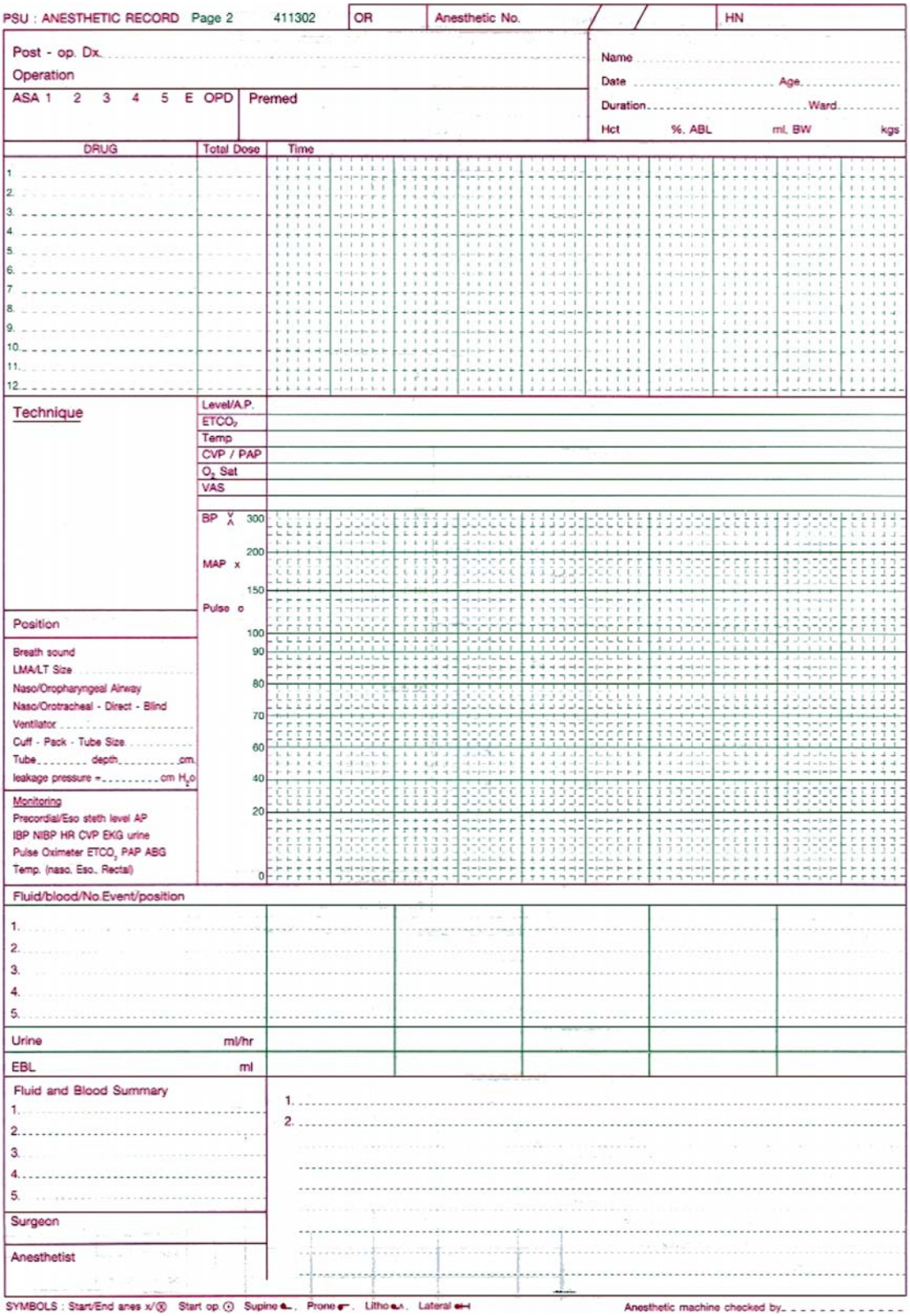

Fig. 2 A blank sample anesthetic record page 2

Table 1. Completeness and accuracy of charting of anesthetic records

Variable	2003, n (%)				2004, n (%)				2005, n (%)				2006, n (%)				p-value
	Complete	Incomplete			Complete	Incomplete			Complete	Incomplete			Complete	Incomplete			
	Good	Fair	Poor	No data	Good	Fair	Poor	No data	Good	Fair	Poor	No data	Good	Fair	Poor	No data	
1. History																	
Clinical data	127(84.7)	22(14.7)	1(0.7)	0	239(79.4)	58(19.3)	4(1.3)	0	257(88.9)	30(10.4)	2(0.7)	0	137(91.3)	13(8.7)	0	0	0.001
Miscellaneous	107(71.3)	31(20.7)	1(0.7)	11(7.3)	236(78.4)	60(19.9)	4(1.3)	1(0.3)	241(83.4)	42(14.5)	5(1.7)	1(0.3)	136(90.7)	13(8.7)	1(0.6)	0	0
Current drug therapy	127(84.7)	16(10.7)	3(2.0)	4(2.7)	253(84.1)	23(7.6)	9(3.0)	16(5.3)	249(86.2)	8(2.8)	1(0.3)	31(10.7)	140(93.4)	5(3.3)	0	5(3.3)	0.014
2. Physical exam																	
Body weight	148(98.7)	2(1.3)	0	0	298(99.0)	3(1.0)	0	0	276(95.8)	0	0	13(4.5)	150(100)	0	0	0	0.419
Body height	149(99.3)	0	0	1(0.7)	296(98.3)	3(1.0)	0	2(0.7)	274(94.8)	0	0	15(5.2)	148(98.7)	0	0	2(1.3)	0.826
Blood pressure	143(95.3)	3(2.0)	0	4(2.7)	289(96.0)	4(1.3)	0	8(2.7)	272(94.1)	0	0	17(5.9)	147(98.0)	0	0	3(2.0)	0.292
Heart rate	143(95.3)	2(1.3)	0	5(3.3)	290(96.3)	4(1.3)	0	7(2.3)	279(96.5)	0	0	10(3.5)	146(97.3)	0	0	4(2.7)	0.828
Respiratory rate	141(94.0)	2(1.3)	0	7(4.7)	284(94.4)	3(1.0)	0	14(4.7)	276(95.5)	0	0	13(4.5)	145(96.7)	0	0	5(3.3)	0.654
Body temperature	134(89.3)	3(2.0)	0	13(8.7)	277(92.0)	5(1.7)	2(0.7)	17(5.6)	262(90.7)	3(1.0)	1(0.3)	23(8.0)	142(94.7)	0	0	8(5.3)	0.357
General appearance	121(80.7)	17(11.3)	2(1.3)	10(6.7)	252(83.7)	40(13.3)	5(1.7)	4(1.3)	246(85.1)	23(8.0)	6(2.1)	14(4.9)	145(96.7)	5(3.3)	0	0	0
Consciousness	147(98.0)	2(1.3)	1(0.7)	0	277(92.0)	16(5.3)	1(0.3)	7(2.3)	279(96.5)	3(1.0)	4(1.4)	3(1.0)	147(98.0)	2(1.3)	0	1(0.6)	0.003
Motor power	148(98.7)	1(0.7)	1(0.7)	0	286(95.0)	7(2.3)	5(1.7)	3(1.0)	282(97.6)	2(0.7)	1(0.3)	4(1.4)	148(98.7)	1(0.6)	0	1(0.6)	0.059
Glascow Coma Score	145(96.7)	2(1.3)	0	3(2.0)	290(96.3)	5(1.7)	0	6(2.0)	269(93.1)	2(0.7)	0	18(6.2)	148(98.7)	0	0	2(1.3)	0.579
HEENT	141(94.0)	4(2.7)	0	5(3.3)	285(94.7)	9(3.0)	2(0.7)	5(1.7)	267(92.4)	4(1.4)	0	18(6.2)	135(90.0)	12(8.0)	0	3(2.0)	0.056
Airway assessment	145(96.7)	3(2.0)	2(1.3)	0	285(94.7)	9(3.0)	3(1.0)	4(1.3)	261(90.3)	4(1.4)	4(1.4)	20(6.9)	147(98.0)	1(0.6)	0	2(1.3)	0.249
Heart	136(90.7)	14(9.3)	0	0	271(90.0)	22(7.3)	7(2.3)	1(0.3)	254(87.2)	20(6.9)	2(0.7)	13(4.5)	146(97.3)	4(2.7)	0	0	0.528
Lungs	139(92.7)	11(7.3)	0	0	270(89.7)	23(7.6)	7(2.3)	1(0.3)	252(87.2)	20(6.9)	2(0.7)	15(5.2)	144(96.0)	6(4.0)	0	0	0.133
Abdomen	138(92.0)	12(8.0)	0	0	262(87.0)	30(10.0)	7(2.3)	2(0.7)	246(85.1)	26(9.0)	2(0.7)	15(5.2)	144(96.0)	6(4.0)	0	0	0.018
Extremity	137(91.3)	8(5.3)	2(1.3)	3(2.0)	265(88.0)	27(9.0)	4(1.3)	5(1.7)	246(85.1)	24(8.3)	2(0.7)	17(5.9)	145(96.7)	5(3.3)	0	0	0.022
3. Problem lists	145(96.7)	4(2.7)	1(0.7)	0	277(92.0)	22(7.3)	2(0.7)	0	272(94.1)	4(1.4)	0	13(4.5)	150(100)	0	0	0	0
4. Lab requirement	145(96.7)	4(2.7)	1(0.7)	0	252(83.7)	38(12.6)	10(3.3)	1(0.3)	269(93.1)	16(5.5)	2(0.7)	2(0.7)	140(93.3)	10(6.7)	0	0	0
5. Recovery room	138(92.0)	9(6.0)	0	3(2.0)	283(94.0)	12(4.0)	4(1.3)	2(0.7)	280(96.9)	4(1.4)	0	5(1.7)	149(99.3)	0	0	1(0.6)	0.035
6. Post-op.incident	145(96.7)	3(2.0)	0	2(1.3)	264(87.7)	34(11.3)	1(0.3)	2(0.7)	274(94.8)	6(2.1)	1(0.3)	8(2.8)	143(95.3)	3(2.0)	0	4(2.7)	0
7. Pain management	146(97.3)	3(2.0)	0	1(0.7)	237(78.7)	26(8.6)	2(0.7)	36(12.0)	255(88.2)	2(0.7)	2(0.7)	30(10.4)	137(91.3)	0	0	13(8.7)	0
8. Plan of anesthetic technique	146(97.3)	1(0.7)	0	3(2.0)	249(82.7)	36(12.0)	3(1.0)	13(4.3)	259(89.6)	20(6.9)	1(0.3)	9(3.1)	140(93.4)	5(3.3)	0	5(3.3)	0.004

Data were presented as number and (%)

Table 1. Completeness and accuracy of charting of anesthetic records (cont.)

Variable	2003, n (%)				2004, n (%)				2005, n (%)				2006, n (%)				p-value
	Complete	Incomplete			Complete	Incomplete			Complete	Incomplete			Complete	Incomplete			
	Good	Fair	Poor	No data	Good	Fair	Poor	No data	Good	Fair	Poor	No data	Good	Fair	Poor	No data	
9. Intra-operative page																	
Diagnosis	150(100)	0	0	0	299(99.3)	2(0.7)	0	0	286(99.0)	3(1.0)	0	0	150(100)	0	0	0	0.403
ASA	150(100)	0	0	0	300(99.7)	0	0	1(0.3)	285(98.6)	2(0.7)	0	2(0.7)	150(100)	0	0	0	0.14
Operation	150(100)	0	0	0	301(100)	0	0	0	284(98.3)	5(1.7)	0	0	149(99.3)	1(0.6)	0	0	0.045
Premedication	148(98.7)	2(1.3)	0	0	299(99.3)	2(0.7)	0	0	287(99.3)	2(0.7)	0	0	150(100)	0	0	0	0.573
Duration	147(98.0)	3(2.0)	0	0	300(99.7)	0	1(0.3)	0	285(98.6)	1(0.3)	2(0.7)	1(0.3)	147(100)	1(0.6)	0	2(1.3)	0.32
Hematocrit	150(100)	0	0	0	299(99.3)	0	1(0.3)	1(0.3)	287(99.3)	0	0	2(0.7)	150(100)	0	0	0	0.563
Acceptable blood loss	148(98.7)	0	2(1.3)	0	295(98.0)	0	2(0.7)	4(1.3)	286(99.0)	1(0.3)	0	2(0.7)	150(100)	0	0	0	0.334
Vital signs	150(100)	0	0	0	301(100)	0	0	0	289(100)	0	0	0	150(100)	0	0	0	1
Drug used	150(100)	0	0	0	300(99.7)	1(0.3)	0	0	289(100)	0	0	0	150(100)	0	0	0	0.581
Technique	148(98.7)	2(1.3)	0	0	296(98.3)	5(1.7)	0	0	284(98.3)	2(0.7)	3(1.0)	0	150(100)	0	0	0	0.459
Position	149(99.3)	0	0	1(0.7)	300(99.7)	1(0.3)	0	0	288(99.7)	1(0.3)	0	0	150(100)	0	0	0	0.802
Airway management	149(99.3)	0	0	1(0.7)	296(98.3)	3(1.0)	0	2(0.7)	285(98.6)	1(0.3)	2(0.7)	1(0.3)	148(98.7)	1(0.6)	0	1(0.6)	0.861
Monitoring	149(99.3)	1(0.7)	0	0	301(100)	0	0	0	283(97.9)	5(1.7)	0	1(0.3)	150(100)	0	0	0	0.02
Fluid	150(100)	0	0	0	294(97.7)	7(2.3)	0	0	289(100)	0	0	0	150(100)	0	0	0	0.003
Urine	149(99.3)	1(0.7)	0	0	290(96.3)	4(1.3)	7(2.3)	0	287(99.3)	1(0.3)	0	1(0.3)	149(99.3)	1(0.6)	0	0	0.013
Estimate blood loss	149(99.3)	0	0	1(0.7)	289(96.0)	8(2.7)	2(0.7)	2(0.7)	288(99.7)	0	0	1(0.3)	150(100)	0	0	0	0
Fluid and blood summery	148(98.7)	1(0.7)	0	1(0.7)	292(97.0)	8(2.7)	0	1(0.3)	286(99.0)	1(0.3)	1(0.3)	1(0.3)	148(98.7)	2(1.3)	0	0	0.291
Number event	148(98.7)	1(0.7)	0	1(0.7)	281(93.4)	17(5.6)	0	3(1.0)	266(92.0)	21(7.3)	0	2(0.7)	135(90.0)	15(10.0)	0	0	0.017

Data were presented as number and (%)

Table 2. Percentage of completeness and accuracy charting of anesthetic records in summary (n = 890)

Variable	Good (%)	Fair (%)	Poor (%)	No data (%)
1. History				
Clinical data	85.4	13.8	0.8	0
Miscellaneous	80.9	16.4	1.2	1.5
Current drug therapy	86.4	5.8	1.5	6.3
2. Physical exam				
Body weight	98.0	0.6	0.0	1.5
Body height	97.4	0.3	0.0	2.2
Blood pressure	95.6	0.8	0.0	3.6
Heart rate	96.4	0.7	0.0	2.9
Respiratory rate	95.1	0.6	0.0	4.4
Body temperature	91.6	1.2	0.3	6.9
General appearance	85.8	9.6	1.5	3.1
Consciousness	95.5	2.6	0.7	1.2
Motor power	97.1	1.2	0.8	0.9
Glascow Coma Score	95.7	1.0	0.0	3.3
HEENT	93.0	3.3	0.2	3.5
Airway assessment	94.2	1.9	1.0	2.9
Heart	90.7	6.7	1.0	1.6
Lungs	90.4	6.7	1.0	1.8
Abdomen	88.8	8.3	1.0	1.9
Extremity	89.1	7.2	0.9	2.8
3. Problem lists	94.8	3.4	0.3	1.5
4. Lab requirement	89.8	8.2	1.3	0.7
5. Recovery room	96.3	2.1	0.4	1.1
6. Post-op.incident	92.9	5.2	0.2	1.7
7. Pain management	87.1	3.3	0.4	9.2
8. Plan of anesthesia	87.0	8.2	0.7	4.2
9. Intra-operative page				
Diagnosis	99.4	0.6	0.0	0.0
ASA	99.4	0.2	0.0	0.3
Operation	99.3	0.7	0.0	0.0
Premedication	99.3	0.7	0.0	0.0
Duration	98.8	0.6	0.3	0.3
Hematocrit	99.6	0.0	0.1	0.3
Acceptable blood loss	98.8	0.1	0.4	0.7
Vital signs	100	0.0	0.0	0.0
Drug used	99.9	0.1	0.0	0.0
Technique	98.7	1.0	0.3	0.0
Position	99.7	0.2	0.0	0.1
Airway management	98.7	0.6	0.2	0.6
Monitoring	99.2	0.7	0.0	0.1
Fluid	99.2	0.8	0.0	0.0
Urine	98.3	0.8	0.8	0.1
Estimate blood loss	98.4	0.9	0.2	0.4
Fluid, blood summery	98.2	1.3	0.1	0.3
Number event	93.3	6.1	0.0	0.7
Anesthetic machine checked	95.1	1.5	0.1	3.4
Average	94.5	3.1	0.4	2

of "vital signs" are significant discrepancies, particularly at the times of induction and emergence[1]. The authors could not verify abnormal value of "vital signs" as the department manually recorded it and it is not an automatic record.

The overall complete and accurate variables in year 2004 were lower than in 2003 and increased in 2005 and 2006. This is because the department emphasized the importance of complete records. The item of "anesthetic machine checked" and "satisfied"

were added to next time verification because anesthetic machine error was found between inductions. The item of "satisfied" was conclusion of the contentment of anesthetic records.

The anesthetic record at the fair or poor level of quality were due to a variety of factors, including illegibility, the use of abbreviations, incomplete conclusions of problem lists, incorrect charting, and unavailable data progression of past illness. Some items were filled with the wrong information such as general appearance instead of consciousness "not pale, no jaundice", etc. Some items were not assessed or recorded with unacceptable signs instead of words. Some items were also left blank, for example, the item of "post-operative pain management", "temperature", "anesthetic machine checked", "body height", or "plan of anesthetic technique", etc.

The handwritten anesthesia records are often incomplete and potentially, have important information regarding what happened during the gaps between manual recording, particularly at the time of critical situation and multiple sequence of events missing[1]. Therefore, many hospitals have introduced an automated record keeping system to improve accuracy of data, increase completion and eligibility, and reduce these charting deficiencies. This is done at a higher management cost. However, the anesthesia record is more complete[7].

Generally the average value of completion and charting accuracy of the anesthetic record will satisfy the good level of 94.5% (target = 95%). However, some target data were incomplete and some important items still had to be completed such as items of ASA classification, diagnosis, operation, and problem list etc. Such incomplete data might be the result of emergency cases or that were recorded by new staff.

The completed records are more beneficial for anesthetists who did not have pre-operative evaluation and have to maintain anesthesia. Furthermore, the data must be trusted to be used for reference of retrospective research. Even if, the authors are able to use high technology and well-qualified personnel, it is important to make an accurate data charting in order to use it for developing health guidelines[8]. Additionally, the data can be used for medical evidence in legal cases related to certain mishaps[5].

The present retrospective study has several limitations and some data will be incomplete. For example, it was not possible to control the "recorder", data for emergency cases and some anesthetic records were unavailable.

The results of records verification was applied to internal administration and management resources for continued patient care and communicated between anesthesia teams and surgeons. The data of anesthetic records was transferred into a database for further analysis. The authors suggested a further study to compare the completeness and accuracy of the handwritten data in the database.

In conclusion, the charting of anesthetic records remained incomplete and inaccurate in 43 of the 44 items, except the item "vital signs". The majority of anesthesia records (94.5%) were considerably complete (good) in comparison with incomplete records (fair, poor, and no data) of 5.5%. Only 22 of 44 items were considered to have statistical significant difference between complete and incomplete records. The incomplete records were caused by illegibility, incorrect or incomplete charting of a problem list, and ASA classification.

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ความสมบูรณ์และถูกต้องของแบบบันทึกการให้ยาระงับความรู้สึกในโรงพยาบาลสงขลานครินทร์

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วัตถุประสงค์: *เพื่อวิเคราะห์ผลการตรวจสอบความสมบูรณ์ และความถูกต้องของการบันทึกข้อมูล การระงับความรู้สึกที่บันทึกด้วยการเขียน*

วัสดุและวิธีการ: *โดยศึกษาข้อมูลแบบย้อนหลังจากใบแบบฟอร์มการตรวจสอบความสมบูรณ์ ของแบบบันทึกการระงับความรู้สึก จำนวน 890 ชุด โดยกำหนดให้แบบบันทึกฯที่สมบูรณ์ คือ ได้คะแนนอยู่ในระดับดี และแบบบันทึกฯที่ไม่สมบูรณ์คือได้คะแนนอยู่ในระดับปานกลาง พอใช้และไม่บันทึกรายละเอียด รายงานผลการศึกษาเป็นร้อยละ และวิเคราะห์ความแตกต่างของแบบบันทึกฯ ที่สมบูรณ์และที่ไม่สมบูรณ์ ด้วย Chi-square test*

ผลการศึกษา: *สัญญาณชีพในระหว่างผ่าตัดเป็น 1 ใน 44 หัวข้อที่บันทึกข้อมูลได้สมบูรณ์และถูกต้องร้อยละ 100 เมื่อเฉลี่ยทุกหัวข้อ พบว่าความสมบูรณ์และถูกต้องที่อยู่ในระดับดี ปานกลาง พอใช้และไม่มีการบันทึกข้อมูลเท่ากับร้อยละ 94.5, 3.1, 0.4 และ 2 ตามลำดับ เมื่อเปรียบเทียบความสมบูรณ์และถูกต้องของแบบบันทึกฯ ที่มีความสมบูรณ์กับแบบบันทึกฯที่ไม่สมบูรณ์ พบว่ามี 22 ใน 44 หัวข้อที่มีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติ*

สรุป: *การศึกษาความสมบูรณ์และถูกต้องของแบบบันทึกการให้ยาระงับความรู้สึก พบว่ามี 43 หัวข้อจาก 44 หัวข้อที่บันทึกไม่สมบูรณ์ ยกเว้นหัวข้อ สัญญาณชีพ เป็นหัวข้อเดียวที่บันทึกได้สมบูรณ์และถูกต้องครบถ้วนร้อยละ 100 แบบบันทึกการให้ยาระงับความรู้สึกที่สมบูรณ์และถูกต้อง(ระดับดี) เฉลี่ยร้อยละ 94.5 สาเหตุที่ทำให้แบบบันทึกฯไม่สมบูรณ์เกิดจาก ลายมืออ่านยาก, บันทึกรายละเอียดไม่ครบถ้วนหรือไม่บันทึกเลย, การสรุปปัญหาของผู้ป่วยผิด, สรุป ASA classification ผิด เป็นต้น ดังนั้นผู้บันทึกควรเพิ่มความรอบคอบ และตรวจสอบความเรียบร้อยของแบบบันทึกการให้ยาระงับความรู้สึกก่อนจำหน่ายผู้ป่วย เพื่อประโยชน์ในการนำข้อมูลมาใช้ภายหลัง และเป็นหลักฐานสำคัญทางกฎหมาย*