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ORIGINAL RESEARCH PERIOPERATIVE MEDICINE

Assessing the completeness of perioperative anesthetic record documentation in a tertiary hospital

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Abstract

Background and Objective: Many previous studies assessing the completeness of perioperative documentation of surgical patients were reported to be inadequate and unsatisfactory. The aim of this study was to compare the perioperative anesthetic record (PAR) at our tertiary care institution to a standard guideline and have an audit of its completeness.

Methodology: It was a prospective, observational study, done in the general operating theater of Universiti Kebangsaan Malaysia Medical Centre (UKMMC). We compared our PAR to the American Society of Anesthesiologists (ASA) policy statement on documentation of anesthesia care. We audited the completeness of PAR documentation of 358 patients by using a self-generated checklist which was created in accordance to the PAR parameters. A total of 44 parameters were studied covering three phases; preoperative, peroperative and post-operative phases.

Results: Although the UKMMC PAR varied from the ASA guidelines, various salient parameters were identical in both. None of the perioperative forms were completely filled throughout the three perioperative phases. Out of 44 parameters studied, only 2 parameters were completely filled, which were medications administered and fluid therapy.

Conclusion: Parameters given in the UKMMC PAR varied with the ASA guidelines and the documentation was found to be only partially complete. Hence, necessary modification of the current PAR in our institution, and the stress on filling it completely is needed to improve the quality of perioperative anesthetic documentation.

Keywords: Audit; Completeness; Perioperative; Anesthetic record; Documentation

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1. Introduction

The anesthetic record is a tool which facilitates the anesthesiologist's documentation of all surgical patients that require anesthetic care and should have accurate and concise information regarding patient's relevant preoperative evaluation, intraoperative procedures and data, as well as postoperative orders. It also fulfills other roles; being a fundamental interdisciplinary communication tool, a source of information for research and quality assurance projects and a legal document that can be used in any medico-legal proceedings.[1-2]

It is a basic responsibility of anesthesiologists to ensure that their anesthetic documentation is complete and accurate. Even if they may be busy monitoring critically ill patients during surgery, they still need to document all important information on the anesthetic record form. Inadequate perioperative documentation can affect the quality of patient care which can lead to potential future anesthetic calamities to these patients which may subsequently have medico-legal

Table 1-A: Comparison between the ASA recommendation on documentation of anesthesia care and the parameters present on UKMMC's PAR in the preoperative phase.

PREOPERATIVE PHASE	
ASA recommendations	**UKMMC PAR**
	Date of preoperative assessment
Patient identification	Patient's name, RN, age, gender
	Diagnosis
Procedure identification	Surgical procedure
	Name of anaesthetist
	Name of surgeon
	Type of operation
	Anaesthesia given in:
	Consent given in:
Anticipated disposition	
Medical history	Medical history
Surgical history	Surgical history
Anesthetic history	Anesthetic history
Current medications list	Current medication
Allergies/adverse drug reaction	Allergies
NPO status	
Documenting the presence of and the perioperative plan for existing advance directives	
Appropriate physical examination	General clinical findings
Vital signs	Heart rate blood pressure
Weight and height	Weight and Height
Airway assessment	Airway and trachea Teeth, Denture
Cardiopulmonary examination	Lungs Heart sound and rhythm Peripheral pulses
Objective diagnostic data review (eg; Laboratory, ECG, X-ray)	Laboratory investigations (ECG, CXR, Other investigations
Medical consultation (when applicable)	
ASA status	
Anaesthetic plan	Special orders
	Blood orders
Informed consent documentation	
Premedication/prophylactic antibiotic administration (if indicated)	Premedication

implications.[3-5] Some of the examples of poor perioperative documentations include failure to document the occurrence of allergic reactions or unanticipated difficult airway intraoperatively.[6]

Although our local professional anesthesia body has come up with recommendations on pre-anesthetic assessment, it has yet to give guidelines on the perioperative anesthetic documentation.[7] Thus, the adequacy or completeness of perioperative documentation in Malaysia has not been assessed or reviewed. Therefore, this study was done to compare our tertiary institution's perioperative anesthetic records (PAR) with the policy statement on documentation of anesthesia care by the American Society of Anesthesiologists (ASA) and to assess the completeness of UKMMC PAR documentation throughout the peri-operative period.[8]

2. Methodology

This prospective observational study was conducted in our general operating theatre (GOT), from 1st to 30th September 2018, after approval by both the Dissertation Committee of the Department of Anesthesiology & Intensive Care and Medical Research & Ethics Committee of UKMMC (Project code: FF-2018-315). PAR which were complete in all three phases (preoperative, intraoperative and postoperative) of anesthetic documentation for surgical procedures during the study period were included. PAR of surgical procedures that were postponed or cancelled on the day of surgery in the GOT, and those of patients who

Table 1-B: Comparison between the ASA recommendation on documentation of anesthesia care and the parameters present on UKMMC's PAR in the intraoperative and postoperative phases

INTRAOPERATIVE PHASE	
ASA recommendations	**UKMMC PAR**
Patient re-evaluation	
Confirmation of equipment/medications/staffs	
Physiologic monitoring data	Vital signs
Medications administered	Medications administered
	Induction time
	Reversal time
Techniques	Intubations Inhalational agents Ventilation Regional block
Position	Position
	Tourniquet time
	Pharyngeal airway apparatus
Intravenous fluids	Fluid therapy
	Blood loss
	Blood products given
Additional procedures performed (Eg: catheterization)	
Unusual or noteworthy events during surgery and anaesthesia care	
Patient status at transfer of care	
Criteria demonstrating patient status at transfer of care	
POSTOPERATIVE PHASE	
ASA Recommendatioon	**UKMMC PAR**
Significant or unexpected post-procedural events/complications	Post-operative orders/complications
Postanaesthesia evaluation documenting physiologic condition and presence/absence of anaesthesia related complications or complaints	
	Discharge time
	Anesthetist's signature and name

underwent repetitive surgical procedures within the study duration were excluded.

The primary researcher reviewed the PAR daily in GOT once the postoperative orders were completed by the anesthetic trainees or anesthetists, before the patients were transferred out to the ward from the recovery bay. The completeness of the PAR studied were evaluated by using a checklist, which was generated by the researcher based on the anesthetic record used in UKMMC. The checklist contained three phases (see Appendix A, B and C respectively) with a total of 44 parameters. The checklist completeness was quantified as *'complete'*, *'incomplete'* or *'no'* based on predefined measures and parameters.[4] Parameters that were documented correctly on the forms would be considered as *'complete'*, parameters that were documented partially would be considered as *'incomplete'* and finally any parameters that were left blank on the form would be considered as *'no'* (no documentation at all).

The sample size was calculated using Epi Info™ 7, where population size for GOT patients over one month was approximately 500. Based on the previous study done by Elhalawani et al.[3] the percentage of overall record completeness in his study was 32%. Therefore, with an 80% power of the study, 95% confidence level and anticipated 10% drop-out rate, an estimated 358 PAR were required for this study.

Statistical analysis: The data were analyzed using Statistical Package for Social Science (SPSS) version 23.0. The descriptive analyses included the observed frequencies calculation with the respective percentages for each categorical variable.

3. Results

A total of 358 PAR were included in this audit. However, only 354 PAR were analyzed, as 4 PAR were found to have illegible handwriting. Based on Table 1, the parameters present on UKMMC's PAR differ from the ASA recommendations, as some parameters in the under study PAR were not included by ASA, and vice versa.

Further analysis was done for the completeness of the studied PAR in totality. None of the PAR scored *'complete'* in all the three phases. In the intraoperative phase, only two parameters achieved complete documentation which were *'medications administered'* and *'fluid therapy'*, as shown in Table 2. However, *none* of the parameters in the preoperative and postoperative phase achieved complete documentation. Nonetheless, there were parameters

Table 2-A: The percentage of completeness of each parameter present in the UKMMC PAR. The percentage of completeness of sub-parameters under the 'Airway and respiratory' and 'Cardiovascular' sections were also included.

PREOPERATIVE	Yes - Complete	Yes - Incomplete	No
	n (%)	n (%)	n (%)
Date of preop assessment	351 (99.2)	0 (0.0)	3 (0.8)
Patient's name	350 (98.9)	0 (0.0)	4 (1.1)
Patient's RN	350 (98.9)	0 (0.0)	4 (1.1)
Patient's age	350 (98.9)	0 (0.0)	4 (1.1)
Patient's gender	350 (98.9)	0 (0.0)	4 (1.1)
Name of surgeon	4 (1.1)	0 (0.0)	350 (98.9)
Type of operation	339 (95.8)	0 (0.0)	15 (4.2)
Anaesthesia given in:	200 (56.5)	0 (0.0)	154 (43.5)
Consent given in	164 (46.3)	0 (0.0)	190 (53.7)
Past medical history	346 (97.7)	2 (0.6)	6 (1.7)
Previous surgery	220 (62.1)	54 (15.3)	80 (22.6)
Anaesthetic history	237 (66.9)	25 (7.1)	92 (26.0)
Current medications	244 (68.9)	34 (9.6)	76 (21.5)
Allergies	290 (81.9)	18 (5.1)	46 (13.0)
General clinical findings	272 (76.8)	82 (23.2)	0 (0.0)
Patient's weight	257 (72.6)	0 (0.0)	97 (27.4)
Airway and respiratory	105 (29.7)	237 (66.9)	12 (3.4)
• Teeth • Denture • Airway and trachea • Lungs	108 (30.5) 105 (29.7) 289 (81.6) 342 (96.6)		246 (69.5) 249 (70.3) 65 (18.4) 12 (3.4)
Cardiovascular	114 (32.2)	222 (62.7)	18 (5.1)
• Heart rate • Blood pressure • Peripheral pulse • Sound and rhythm	336 (94.9) 310 (87.6) 135 (38.1) 114 (32.2)		18 (5.1) 44 (12.4) 219 (61.9) 240 (67.8)
Other system findings	92 (26.0)	42 (11.9)	220 (62.1)
Laboratory investigations	182 (51.4)	118 (33.3)	54 (15.3)
Other investigations	120 (33.9)	66 (18.6)	168 (47.5)
Special orders	348 (98.3)	0 (0.0)	6 (1.7)
Blood orders	221 (62.4)	0 (0.0)	133 (37.6)
Premedication prescribed	54 (15.3)	0 (0.0)	300 (84.6)

that had a high percentage of completeness (> 95%). Regarding *'airway and respiratory'* and *'cardiovascular'* parameters, sub-parameters such as *'heart rate'*, *'blood pressure'* and *'lung'* were seen to be relatively well documented compared to the other sub-parameters in those sections.

Table 2-B: The percentage of completeness of each parameter present in the UKMMC PAR. The percentage of completeness of sub-parameters under the 'Airway and respiratory' and 'Cardiovascular' sections were also included.

INTRAOPERATIVE AND POSTOPERATIVE	Yes -Complete	Yes - Incomplete	No
	n *(%)*	n *(%)*	n *(%)*
Medications administered	354 *(100)*	0 *(0.0)*	0 *(0.0)*
Induction time	127 *(35.9)*	219 *(61.9)*	8 *(2.3)*
Reversal time	8 *(2.3)*	175 *(49.4)*	171 *(48.3)*
Regional block	165 (*46.8*)	0 *(0.0)*	189 *(53.2)*
Tourniquet time	70 *(19.8)*	12 *(3.4)*	272 *(76.8)*
Position of patient	325 *(91.8)*	0 *(0.0)*	29 *(8.2)*
Pharyngeal airway apparatus	42 *(11.9)*	0 *(0.0)*	312 *(88.1)*
Intubations	344 *(97.2)*	10 *(2.8)*	0 *(0.0)*
Inhalational agents	334 *(94.4)*	18 *(5.1)*	2 *(0.6)*
Ventilation	261 *(73.7)*	90 *(25.4)*	3 *(0.8)*
Vital signs	332 *(93.8)*	22 *(6.2)*	0 *(0.0)*
Blood loss	200 *(56.5)*	0 *(0.0)*	154 *(43.5)*
Fluid therapy	354 *(100)*	0 *(0.0)*	0 *(0.0)*
Blood products given	10 *(2.8)*	336 *(94.9)*	8 *(2.3)*
Postoperative orders	324 *(91.5)*	0 *(0.0)*	30 *(8.5)*
Discharge time	316 *(89.3)*	0 *(0.0)*	38 *(10.7)*
Anesthetist's signature and name	303 (*85.6*)	13 (*3.7*)	38 (*10.7*)

4. Discussion

While other professional bodies such as the ASA and the Australian and New Zealand College of Anesthetists (ANZCA) have come up with statements on documentation of anesthesia care, our local professional body - the Malaysian Society of Anaesthesiologists (MSA) has yet to come out with a standard format or guideline for the PAR to be used in our country. Consequently, our public sector hospitals use a standardized PAR, but different teaching institutions and private sector hospitals have had their own designs and formats of PAR. Nevertheless, all the professional anesthesia bodies worldwide strongly emphasize that PAR documentation must be adequate and complete as it is important for patient safety, quality assurance and medico-legal purposes.[7-16]

We chose the 'ASA Statement on Documentation of Anesthesia Care' as the standard guideline for comparison with our PAR because its' policy update was more recent as compared to the ANZCA guideline.[8,9] There was a study done previously in an Australian teaching hospital that compared the adequacy of perioperative anesthetic documentation and its' adherence to the Australian guidelines, and found it to be unsatisfactory.[3] Similar findings were seen in our study where majority of the studied PAR were partially documented throughout the three phases of anesthesia care.

Marco et al. stated in their study that there were factors that could affect the quality of documentation such as

the availability of information during the documentation process, provider interest and the ease of use of the forms.[5] This may be reflected in our study as well. Certain information such as patients' demographics i.e. name, age, gender and registration number were easily obtained from the provided hospital sticker making it more convenient during the documentation process and thus resulting in a high completion rate of documentation as compared to other parameters such as patients' medical histories, clinical examination and investigations which may not be readily available in the patient's case notes.

This study included a variety of elective, emergency and daycare surgeries and anesthesia techniques (general anesthesia, regional anesthesia or a combination of both techniques) with a mixture of adult and pediatric patients. Therefore, there are parameters in the preoperative and intraoperative phases which may not be relevant to all cases and thus may have contributed to the partial documentation in the studied PAR. For example, prescribing pharmacological premedication may not be relevant to emergency and daycare surgeries as well as pediatric patients, while documentation of reversal time in the intraoperative phase is not applicable for cases done under regional anesthesia.

Marco et al. also concluded that a well-designed form can improve the quality of preoperative record keeping.[5] The layout and structure of the form should be easy to use in order to achieve a high compliance rate of documentation. The PAR used in this study has been used for more than 20 years and has yet to be restructured or modified in any way. Some of the parameters stated in the studied PAR were irrelevant and not in keeping with ASA recommendations, although the salient parameters were actually included in both. Examples of irrelevant parameters were *'anesthesia given in'* and *'consent given'* in the preoperative part of the form. The completion rates of these parameters were poor as they were deemed to be unnecessary and often missed out by our anesthesia trainees.

The studied PAR also lacked some important parameters as per ASA recommendations, such as ASA physical status and nil per oral (NPO) status. The ASA physical status is commonly used to stratify perioperative outcomes based on the patient's preoperative medical condition, while NPO status helps to identify pulmonary aspiration risk, thus helping to guide in deciding the anesthetic plan and mode of anesthetic technique. Although the PAR in our study did not provide specific sections for these two parameters, it was actually common to encounter these parameters being documented elsewhere on the form. Previous studies also did not have a satisfactory completion rate either for these two parameters. Both Swart et al. and Woldegerima et al. found that only 44.4% and 71.3% of their PAR forms were completed for ASA status respectively, while documentation of NPO status was found to be even lower at only 1.2% and 9% respectively in their studies.[4,6]

This study was carried out in a teaching hospital which is a place of practice and learning for anesthetic trainees who have come from various anesthetic practice backgrounds all over the country prior to joining this institution for sub-specialty training. The lack of familiarity and experience especially of new trainees on completing the PAR which may be different from the ones used in their previous hospitals may be another factor that contributes to the incomplete documentation seen in this study. This is also seen in the study by Woldegerima et al. which was conducted in a tertiary teaching hospital where they found that most of the pre-anesthetic evaluations were done by junior doctors and thus contributed to poor documentation practice.[6]

To improve documentation practice, we recommend that this institution needs to modify the existing PAR to a more concise and well-designed form that conforms to standards and recommendations set by professional bodies. Introducing and implementing electronic-based documentation system in the hospital should be considered as well to improve the quality of information obtained and documentation practice, as had been shown by previous audits.[3] However, a limitation to the establishment of digital documentation would include a higher cost for maintenance of equipment required. Apart from that, the importance of good quality PAR documentation should be emphasized to our anesthesia trainees by conducting training and regular audits with active supervision by senior anesthetists to ensure a better quality of anesthetic record keeping.

In this study, the percentage of documentation completeness of our PAR does not truly reflect the actual anesthetic management of our patients and their

outcomes. A further study to correlate the documentation completeness of PAR with the outcome of anesthetic management is recommended.

5. Conclusion

In conclusion, although the salient parameters were similar in both, there were parameters in the UKMMC PAR that differed from the standard ASA guidelines. There were parameters recommended by the ASA guideline that could be added to our PAR to make it complete. Documentation of PAR in UKMMC was found to be partially complete. Both, necessary modification of the current PAR as well as the departmental focus is required to improve the quality of perioperative anesthetic documentation.

6. Conflict of interest

None declared by the authors

7. Authors' contribution

HAB: Data collection
NY: Concept, supervision
AI: Manuscript preparation, corresponding author
WRWM, RAR: Manuscript preparation
QAM: Data analysis

8. References

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Appendices

Appendix A: Predefined parameters used to evaluate the completeness of the studied anesthetic records for the preoperative phase

PREOPERATIVE			
Item	***'complete'***	***'incomplete'***	***'no'***
Details regarding operation:			
Date of preoperative assessment	Date of preoperative assessment provided	Date of preoperative assessment provided but illegible	Field blank
Diagnosis	Diagnosis recorded	Diagnosis recorded with uncertainty or illegible	Field blank
Surgical procedure	Surgical procedure recorded	Surgical procedure recorded with uncertainty or illegible	Field blank
Name of anesthetist	Name of anesthetist recorded	Name of anesthetist recorded but illegible	Field blank
Name of surgeon	Name of surgeon recorded	Name of surgeon recorded but illegible	Field blank
Type of operation	Check mark filled for: elective or emergency	Not applicable	No check mark
Anesthesia given in:	Check mark filled for: operating room or maternity room or A&E/polyclinic/ward	Not applicable	No check mark
Consent given	Check mark filled for: yes or no or waiting	Not applicable	No check mark
Details regarding patient:			
Patient's name	Patient's name provided	Patient's name provided but illegible	Field blank
Patient's RN	Patient's RN provided	Patient's RN provided but illegible	Field blank
Patient's age	Patient's age provided	Patient's age provided but illegible	Field blank
Patient's gender	Patient's gender provided	Patient's gender provided but illegible	Field blank
Patient's weight	Patient's weight recorded	Patient's age recorded but illegible	Field blank
Past medical history	Past medical history recorded or 'no medical illness' specified	Past medical history recorded but illegible	Field blank
Previous surgeries	Previous surgeries recorded and dates specified	Previous surgeries recorded but dates not specified	Field blank
Anesthetic history	Anesthetic history with any complications or 'uneventful' recorded	Anesthetic history recorded without specifying complications	Field blank
Current and previous medications	Medications provided with dosages was specified	Medications provided but without specifying dosages	Field blank
Allergies	Allergies recorded or 'no allergies' specified	Allergies recorded with uncertainty (question mark noted)	Field blank
Clinical examination:			
General clinical findings	General clinical findings recorded, and check mark filled for pallor, cyanosis, edema, jaundice	General clinical findings recorded but check mark not filled for pallor, cyanosis, edema, jaundice	Field blank and no check mark
Airway and respiratory	Teeth, denture, airway and lung findings recorded	One or two, but not all airway and respiratory findings recorded	Field blank or no check mark
Cardiovascular	Blood pressure, heart rate, sound and rhythm, and peripheral pulse recorded	One or two, but not all cardiovascular findings recorded	Field blank or no check mark

Other system	Other systems such as neurological or abdominal findings relevant to patient	Other systems recorded but not really relevant or illegible	Field blank
Investigation results:			
Laboratory	FBC, RP and other laboratory results relevant to diagnosis and proposed surgery recorded	One or two, but not all laboratory results relevant to diagnosis and proposed surgery recorded	Field blank
Other	ECG, chest X-ray, and other relevant investigations related to diagnosis and proposed surgery recorded	One or two, but not all relevant investigations Related to diagnosis and proposed surgery recorded	Field blank
Orders:			
Special orders	Anesthetic plans and special orders to be carried out prior to anesthesia are recorded	Anesthetic plans and specials orders recorded but illegible	Field blank
Blood order	Blood order specified	Blood order specified but illegible	Field blank
Premedication prescribed	Premedication prescribed and dosage specified	Premedication prescribed without specifying dosages or illegible	Field blank

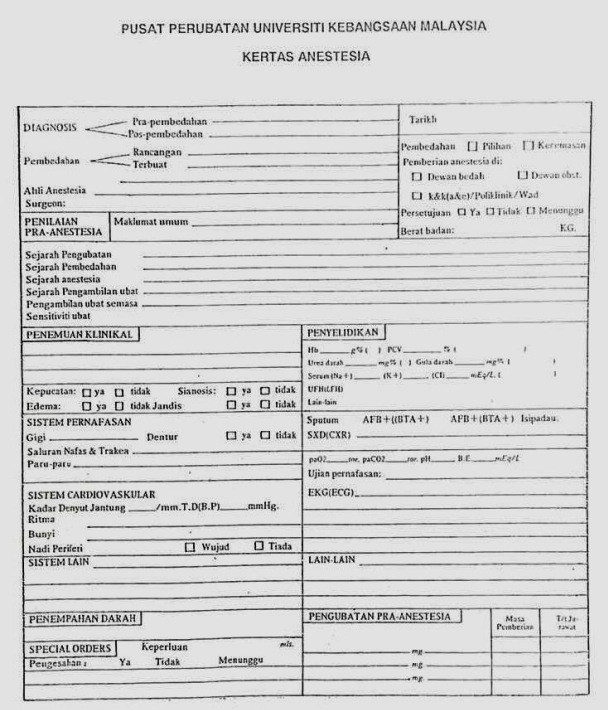
Appendix B: Predefined parameters used to evaluate the completeness of the studied anesthetic records for the intraoperative phase

INTRAOPERATIVE			
Item	***'complete'***	***'incomplete'***	***'no'***
Medications administered	Medications administered and dosage recorded	Medications administered recorded, but without specifying dosage	Field blank
Induction time	Induction time recorded and marked on chart	Induction time marked, but without specifying time	No induction time recorded
Reversal time	Reversal time recorded and marked on chart	Reversal time marked, but without specifying time	No reversal time recorded
Regional block	Types and dosage of regional block given recorded; or not relevant to operation	Types of regional block recorded, but without specifying dosage	Field blank or no check mark
Tourniquet time	Tourniquet time on/off and duration recorded; or not relevant to operation	Time of tourniquet on recorded, but no duration specified	Field blank
Position of patient	Position of patient recorded	Position of patient recorded but illegible	Field blank
Pharyngeal airway apparatus	Pharyngeal airway apparatus check mark filled for oral or nasal; or not relevant to operation	Not applicable	No check mark
Intubation	Type and size of ETT, and any intubation issues recorded; or not relevant to operation	One or two, but not all documentation regarding intubation recorded	Field blank or no check mark
Inhalational agents	Inhalational agents used throughout operations recorded; or not relevant to operations	Inhalational agents used throughout operation recorded, but illegible	Field blank or no check mark
Ventilation	Check mark filled for spontaneous or controlled, and type of ventilator recorded; or not relevant to operations	One or two, but not all documentation regarding ventilation recorded	Field blank or no check mark
Vital signs	Intraoperative blood pressure, heart rate and saturations recorded every 10 minutes	One or two, but not all intraoperative vital signs recorded, but inconsistent	No vital signs recorded
Blood loss	Blood loss at the end of operation is recorded	Blood loss at the end of operation is recorded but illegible	Field blank
Blood products given	Section for 'blood products' given during operation recorded correctly	Section for 'blood products' recorded, but wrongly such as 'IV access', or illegible	Field blank
Fluid therapy	Fluid therapy given during operation recorded	Fluid therapy given during operation recorded but illegible	Field blank

Appendix C: Predefined parameters used to evaluate the completeness of the studied anesthetic records for the postoperative phase

POST-OPERATIVE			
Item	***'complete'***	***'incomplete'***	***'no'***
Postoperative orders	Postoperative orders recorded	Postoperative orders recorded but illegible	Field blank
Discharge time	Discharge time recorded	Discharge time recorded but illegible	Field blank
Anesthetist's name / signatures	Anesthetist's signature and name provided	Either anesthetist's signature or name provided but not both	Field blank

Appendix D: UKMMC's PAR (front and back page)



PUSAT PERUBATAN UNIVERSITI KEBANGSAAN MALAYSIA

KERTAS ANESTESIA

DIAGNOSIS — Pra-pembedahan / Pos-pembedahan

Pembedahan — Rancangan / Terbuat

Tarikh

Pembedahan ☐ Pilihan ☐ Kecemasan

Pemberian anestesia di:

☐ Dewan bedah ☐ Dewan obst.

☐ K&K(A&E)/Poliklinik/Wad

Persetujuan ☐ Ya ☐ Tidak ☐ Menunggu

Berat badan: KG.

Ahli Anestesia

Surgeon:

PENILAIAN PRA-ANESTESIA — Maklumat umum

Sejarah Pengubatan

Sejarah Pembedahan

Sejarah anestesia

Sejarah Pengambilan ubat

Pengambilan ubat semasa

Sensitiviti ubat

PENEMUAN KLINIKAL

Kepucatan: ☐ ya ☐ tidak Sianosis: ☐ ya ☐ tidak

Edema: ☐ ya ☐ tidak Jandis ☐ ya ☐ tidak

SISTEM PERNAFASAN

Gigi — Dentur ☐ ya ☐ tidak

Saluran Nafas & Trakea

Paru-paru

SISTEM CARDIOVASKULAR

Kadar Denyut Jantung ____/mm.T.D(B.P)____mmHg.

Ritma

Bunyi

Nadi Perifer ☐ Wujud ☐ Tiada

SISTEM LAIN

PENYELIDIKAN

Hb____g% ( ) PCV____% ( )

Urea darah____mg% ( ) Gula darah____mg% ( )

Serum(Na+)____(K+)____(Cl)____mEq/L ( )

UFR(LFH)

Lain-lain

Sputum AFB+((BTA+) AFB+(BTA+) Isipadu:

SXD(CXR)

paO2____mv. paCO2____mv. pH____B.E____mEq/L

Ujian pernafasan:

EKG(ECG)

LAIN-LAIN

PENEMPAHAN DARAH

SPECIAL ORDERS — Keperluan — mlz.

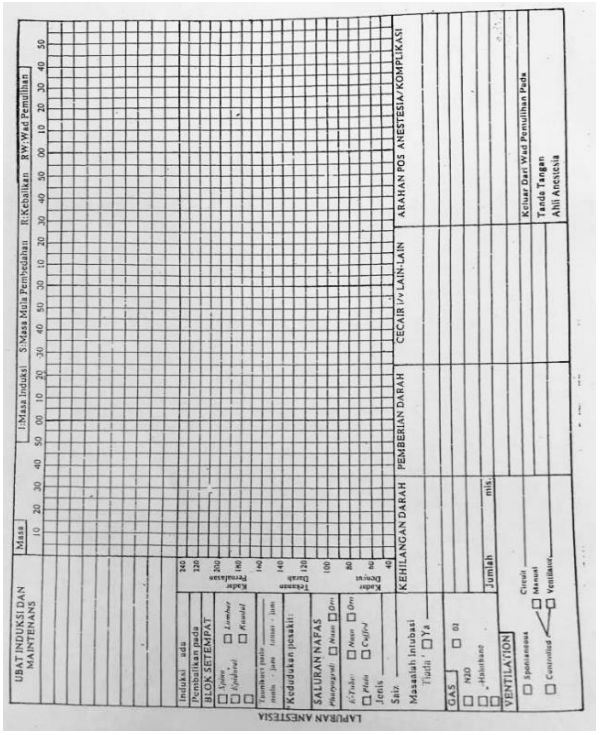
Pengesahan : Ya Tidak Menunggu

PENGUBATAN PRA-ANESTESIA — Masa Pemberian — Tarikh

mg

mg

mg



ARAHAN POS ANESTESIA/KOMPLIKASI

CECAIR I/V LAIN-LAIN

PEMBERIAN DARAH

KEHILANGAN DARAH

Jumlah

Keluar Dari Wad Pemulihan Pada

Tanda Tangan

Ahli Anestesia

Masa

U-Masa Mula Pembedahan

S.Masa Indukasi

R.Kebalikan

B.W.Wad Pemulihan

UBAT INDUKSI DAN MAINTENANS

Indukasi ada

Pembalikan pada

BLOK SETEMPAT

Kedudukan pesakit:

SALURAN NAFAS

Masalah Intubasi Tidak ☐ Ya ☐

GAS

VENTILATION

LAPURAN ANESTESIA