# PERI-OPERATIVE MORTALITY REVIEW MINISTRY OF HEALTH MALAYSIA (ANAESTHESIA FORM. V5.1)

#### **INTRODUCTION**

This form is to be filled for all deaths occurring within total length of hospital stay following a surgical or gynecological procedure performed under general or regional anesthesia. Also included are death in operation theatre prior to the induction of anaesthesia.

#### **CASE PROFILE**

	Case Code	
	Date of Mortality	
	Ethnicity	
Male Female		
0 Years 0 Months	0 Days	
PRIMAR	Y DEPARTMENT	
Cardiothoracic surgery ICU/ HDW/ CCU Plastic Surgery Obstetric Ophthalmology Neurosurgical Vascular surgery	<ul> <li>□ Paediatric Surgery</li> <li>□ Urology</li> <li>□ Anesthesiology</li> <li>□ Gynecology</li> <li>□ Orthopedic</li> <li>□ ENT</li> <li>□ Endocrine surgery</li> <li>□ Emergency &amp; Trauma</li> </ul>	
	General Surgery Cardiothoracic surgery ICU/ HDW/ CCU Plastic Surgery Obstetric Ophthalmology Neurosurgical Vascular surgery	Cardiothoracic surgery Urology  ICU/ HDW/ CCU Anesthesiology  Plastic Surgery Gynecology  Obstetric Orthopedic  Ophthalmology ENT  Neurosurgical Endocrine surgery

## **Pre-operative status**

Pre-opera	ative assessment was done in	
Co-morbid Factor	☐ Diabetes Mellitus	Coronary Artery Disease
	Malignancy	Cerebrovascular accident (CVA)
	Hypertension	Left Ventricular dysfunction
	Heart Failure	☐ Coma
	Severe Head Injury	Chronic Lung Disease
	Chronic Liver Disease	Chronic Kidney Disease
	AIDS	☐ Valvular Heart Disease
	Uncontrolled Asthma	☐ Anaemia
	Others	
Risk Factor	☐ Prematurity ☐ Cachexia	☐ Smoking       ☐ Obstructive Sleep Apnoea         ☐ IVDU       ☐ Cardiac Arrhythmia
	Obesity	☐ Bed-ridden
	Dehydration	Hypovolaemia
	Congenital abnormalities	Severe Sepsis
	Others	
Blood Pressure	e Systole 0 mm	nHg Diastole mmHg
Pulse Rate	bpm Temp	'C Respiration 0 Breath/mi
Weight	Kg	
Birth weight*	Kg	Gestational Age
Signs on admission		
Jaundice	Pale Dehydrated	Cachexic Cyanosed
Intubated	Others	
GCS for Head Injury / 0	Coma :	
Eyes ( /4)	Verbal ( /5)	Motor ( /6)
Total GCS ( /15)		

# Investigations

FBC	On Admission			Pre-operative	
Hb		] g/dl	Hb		☐ g/dl
TWC		] x10³/µL	TWC		x10³/μl
Platelet		] x10³/µL	Platelet		x10³/µl
Renal Profile	On Admission			Pre-operative	
Na+		mmol/L	Na+		mmol/l
K+		mmol/L	K+		mmol/l
Urea		mmol/L	Urea		mmol/l
Se. Creatinine		μmol/L	Se. Creatinine		μmol/L
Blood Sugar	On Admission			Pre-operative	
RBS		] mmol/L	RBS		mmol/l
Coagulation Profile	On Admission			Pre-operative	
INR		Ratio	INR		Ratio
PT		] Sec	PT		Sec
APTT		Sec	APTT		Sec
	On Admission			Pre-operative	
ABG			ABG		
Albumin		g/dL	Albumin		g/dL
Lactate		mmol/dL	Lactate		mmol/dL
	On Admission			Pre-operative	
ECG	○ Normal			○ Normal	
	○ Abnormal				
Details			Details		
X-rays / imaging					
A-rays / imaging	On Admission			Pre-operative	
Details			Details		
(If applicable)			(If applicable)		

Other investigations					
	On Admission			Pre-operative	
Details			Details		
ASA Category					
	FIF If more than 1 surgery perf		PERATION  kindly indicate in the n	arrative report	
Date of First Operation					
Time started			Time ended		
Operation category	<ul><li>Elective</li><li>Emergency</li></ul>				
Pre-Operative diagnosis					
Post-Operative diagnosis					
Operative Procedure					
Number of surgery during this admission before mortality					
Anaesthetist Status					
Consultant	Specialist HO	Clin	ical Specialist ( Under IO	r Gazzettement )	
Supervisor Informed?	○ Yes ○ No				
Location of Supervisor	○ In OT ○ ○ Not Available	In Hosp	ital At Hom	e	

Surgeon Status							
☐ Consultant ☐ MO [	Specialist Clinical Specialist ( Under Gazzettement )  HO						
Intra-operative comp	lications?						
None	☐ Excessive Bleed	ing Contamination					
Other organ injur	y Hypotension	Anesthesia adverse event					
Others							
	ANAES	STHESIA					
Anaesthesia							
Technique :							
Intra-operative Monitoring	Routine CV Urine Output PN IABP PC Cardiac Output TO Other	S Tempreture WP BIS					
Intra-Operative Anaesthetic Complication(s)	Nil Desaturation Failed Intubation Laryngospasm Bronchospasm Aspiration Hypotension Myocardial Ischemia Cardiac Arrest Hypothermia Failed Regional / Spinal (C Complicated Regional / Spi Drug Allergy Other	onvert to GA/abandon) nal ( Eg. Total Spinal, Bloody CSF, Accidental Injury)					

Recovery Room	☐ Nil		Desaturation					
Complication(s)	☐ Hypote	ension	Hypothermia	☐ Hypothermia				
	Post-o	perative Nausea / Vomiting	Bleeding					
☐ Reintubation			☐ Inadequate Pain Relief					
	☐ Cardia	c Arrest	☐ Other					
Did patient recieved acute pain service?	O Yes	○ No						
Discharged To								
		POST OPERATIVE	E CARE					
Managed in ICU/	O Yes	○ No V	/entilated Post-Op?	Yes				
HDW/PACU	Ü	O		No				
Post-Op Complication								
None		Hypotension	Bleeding					
■ Nausea/Vomiting		Reintubation	Atelectasis					
Pneumonia		Hypothermia	☐ Ileus					
Anastomotic Leak		Sepsis	Surgical Site Infection	on				
─ Wound Breakdown		—	Superficial thrombo	ohlebitis				
 □ divc		Deep Vein Thrombosi	is Pulmonary Embolisi	m				
☐ CVA		Pressure Ulcer	Acute Urinary Reter					
Renal Failure		Post Spinal Headache	<u> </u>					
Adverse Drug Read	ction	☐ Seizures	☐ Others					
		LAST OPE	RATION					
Date of Final Operation								
Time started			Time ended					
Operation category	○ Elec	tive						
	○ Eme	rgency						
Pre-Operative diagnosis								
Post-Operative								
diagnosis								
Operative Procedure								

Anaesthetist Status				
☐ MO	☐ Specialist ☐ HO	☐ Clinical Spec	ialist ( Under Gazzettement )	
Supervisor Informed?	◯ Yes ◯ No			
Location of Supervisor	<ul><li>○ In OT</li><li>○ Not Available</li></ul>	) In Hospital	At Home	
Surgeon Status				
☐ Consultant ☐ MO	Specialist HO	Clinical Spec	sialist ( Under Gazzettement )	
Intra-operative com	plications?			
None	☐ Excessive	e Bleeding	Contamination	
Other organ inju	ury Hypotens	ion	Anesthesia adverse event	
Others				
		ANAESTHESIA		
Anaesthesia Technique :				
Intra-operative Monitoring	☐ Routine ☐ Urine Output ☐ IABP ☐ Cardiac Output ☐ Other	CVP PNS PCWP TOF	☐ TEE ☐ Tempreture ☐ BIS	

Failed Laryng Bronce Aspira Hypote Myoca Cardia Hypote Failed Comp	Intubation gospasm nospasm tion ension ardial Ischemia ac Arrest hermia Regional / Spinal (Glicated Regional / Spinal / Spinal / Spinal (Glicated Regional / Spinal / Spinal (Glicated Regional / Spinal /		-	SF, Accidental Injury)	
Post-o	perative Nausea / V bation	/omiting	Hypothermia Bleeding Inadequate Pain	Relief	
O Yes	○ No				]
	POST OPE	RATIVE CARE			
OYes	ONo		Post-Op?	○Yes ○No	
	☐ Hypotension ☐ Reintubation		_	s	
<b>s</b> tion	Deep Vein Th Pressure Ulce Post Spinal H	rombosis er	Superficia Pulmonar Acute Urir Transfusio	al thrombophlebitis y Embolism nary Retention	
	Desation Failed Laryng Bronco Aspira Hypote Gardia Failed Composite Other Nil Hypote Post-o Reintu Cardia O'Yes	Desaturation Failed Intubation Laryngospasm Bronchospasm Aspiration Hypotension Myocardial Ischemia Cardiac Arrest Hypothermia Failed Regional / Spinal (complicated Regional / Surger Arrest) Drug Allergy Other Nil Hypotension Post-operative Nausea / Nome Reintubation Cardiac Arrest  Yes No  POST OPE OYES ONO  POST OPE OYES Post Spinal Herests Post Spinal Herests Post Spinal Herests Post Spinal Herests	Desaturation Failed Intubation Laryngospasm Bronchospasm Aspiration Hypotension Myocardial Ischemia Cardiac Arrest Hypothermia Failed Regional / Spinal (Convert to GA/at Complicated Regional / Spinal (Eg. Total Spinal Allergy) Other  Nil Hypotension Post-operative Nausea / Vomiting Reintubation Cardiac Arrest  OYes No  POST OPERATIVE CARE OYes ONO Ventilated Hypotension Hypotension Reintubation Hypotension Reintubation Desp Vein Thrombosis Pressure Ulcer Post Spinal Headache	□ Desaturation □ Failed Intubation □ Laryngospasm □ Bronchospasm □ Aspiration □ Hypotension □ Myocardial Ischemia □ Cardiac Arrest □ Hypothermia □ Failed Regional / Spinal (Convert to GA/abandon) □ Complicated Regional / Spinal (Eg. Total Spinal, Bloody Correct of Saturation) □ Drug Allergy □ Other □ Nii □ Desaturation □ Hypotension □ Hypothermia □ Post-operative Nausea / Vomiting □ Bleeding □ Reintubation □ Inadequate Pain □ Cardiac Arrest □ Other □ Other □ Other □ Post OPERATIVE CARE □ Yes □ No □ Ventilated Post-Op? □ Hypotension □ Atelectasi □ Hypothermia □ Ileus □ Sepsis □ Surgical Sepsis □ Surgical Sepsis □ Surgical Sepsis □ Deep Vein Thrombosis □ Pulmonar □ Pressure Ulcer □ Acute Urir □ Post Spinal Headache □ Transfusion	Desaturation   Failed Intubation   Laryngospasm   Bronchospasm   Aspiration   Hypotension   Myocardial Ischemia   Cardiac Arrest   Hypothermia   Failed Regional / Spinal (Convert to GA/abandon)   Complicated Regional / Spinal (Eg. Total Spinal, Bloody CSF, Accidental Injury)   Drug Allergy   Other   Desaturation   Hypothermia   Post-operative Nausea / Vomiting   Bleeding   Reintubation   Inadequate Pain Relief   Cardiac Arrest   Other   Other

## **DEATH**

Place of Death  Wad	O ICU/HDV	V OT/Recovery room
Post Mortem?	O Done	O Not Done
Summary of Post Mortem findings (If post-mortem done)		
Cause of Death		

Narrative Repor	rt
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Give a summary of the sequence of events leading to and contributing to the death.

Highlight the following points:

- a) Difficulties encountered eg. IV access, airway, drugs, equipment.
- b) Factors that led to deterioration and death of patient.

DO	NOT	WRITE	<b>NAMES</b>	OF PF	RSONS	INVOL	<b>VFD</b>
$\boldsymbol{\nu}$	1101	441/11	INCINE	<b>UI I L</b>	1100110	HIVOL	

	Category:	$\bigcirc$ 2	O 40	✓ 4D	O 5	$\circ$	O 7	
O 1	O 2	<u> </u>		→ <sup>48</sup>	O 5	0 6	07	
Date								
Place y	our attachm	ents here :						]

## Comments by Head of Department/Unit or Specialist In-charge

Highlight if there were any :  i. Adequacy of pre-op optimization  ii. Delays or problems during the management  iii. Issues related to availability of OR,ICU beds and equipment										
Death Cate	gory :									
O 1 (	) 2	O 3	) 4A (	→ 4B	O 5	O 6	O 7			
If you were  No Diffe		je a similar cas O Don't Know		ıre, sugge	est how wo	ould you de	it differentl	ly for a be	tter outcome?	
Possible ch	anges in	management th	hat could ha	ave given	a better o	utcome				
Date										
HOD's Initial										
Please tick	under wh	ich category th	is case is m	nost appro	opriately di	iscussed (	DRG )			
O Paeds		○ Neuro			rtho	,				
O Cardioth	noracic	○ Gener	al Surgery	00	&G	(	Others			

### TO BE FILLED IN BY POMR ASSESSORS ONLY

				POI	MR MEETING -						
Comi Asse	ments by essor										
Death	Category :										
<b>O</b> 1	O 2	<b>O</b> 3	O 4A	<b>○</b> 4B	<b>O</b> 5	O 6	<b>O</b> 7				
			Cor	ntributory	Factors	in POMR					
Anaes	sthetic				<u>Sur</u>	Surgical					
Pre-op	perative				Pre-operative						
☐ Inadequate assessment						☐ Inadequate assessment					
Inadequate optimisation of pre-existing medical / surgical condition						Inadequate optimisation of pre-existing medical / surgical condition					
	ck of supervision	n / inappr	opriate grade	Э		Lack of sup	ervision				
anaesthetist  Weakness of organising system						☐ Inadequate facilities					
_	eakiless of orgal itigue	lishig sys	oterri			Delay in surgery					
∐ Га	iligue					Inappropria	te decision				
Intra-c	operative				Intra-operative						
☐ Inappropriate technique						☐ Inappropriate procedure					
Lack of skill						Lack of supervision					
Inadequate management of anaesthetic						☐ Inadequate skill					
complications						☐ Inadequate facilities					
	appropriate fluid			4ia.a							
_	appropriate drug		i / administra	llion							
_	lverse drug react	uon									
_ `	quipment failure										
_	or reversal	a / aggint	to								
	adequate facilitie th crisis	s / assist	ance to cope	<del>)</del>							
Post-operative				Pos	Post-operative						
☐ Ina	adequate monito	ring in re	covery room				te post-operative				
Failure to recognise need to provide					management  Inadequate monitoring						
	ntinued post-ope ervention in HD		onitoring /			•	-	,			
Failure to provide post-operative care due to shortage of ICU beds						☐ Failure to recognise complications early ☐ Inadequate facilities for management of					
	appropriate post- HDU / ICU	operative	manageme	nt		critically-ill p	oalietits				

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