Rapid Review Anesthesiology Oral Boards

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Abbreviations

AAA	abdominal aortic aneurysm
ABG	arterial blood gas
ACC/AHA	American College of Cardiology/American Heart Association
ACT	activated clotting time
ADH	antidiuretic hormone
aDP	aortic diastolic pressure
ADP	adenosine diphosphate
AFOI	awake fiberoptic intubation
AICD	automatic internal cardiac defibrillator
APUD	amine precursor uptake and decarboxylation
ARDS	acute respiratory distress syndrome
AS	aortic stenosis
ASA	American Society of Anesthesiologists; aspirin
ASD	atrial septal defect
ASRA	American Society of Regional Anesthesia and Pain Medicine
AVM	arteriovenous malformation
BE	base excess
BID	twice daily dosing
BMI	body mass index
BMP	basic metabolic panel
BP	blood pressure
bpm	beats per minute
BSA	body surface area
BUN	blood urea nitrogen
CABG	coronary artery bypass graft
CAD	coronary artery disease
CBC	complete blood count
CBF	cerebral blood flow
CBV	cerebral blood volume
CDH	congenital diaphragmatic hernia
CF	cystic fibrosis
CHD	congenital heart disease
CHF	congestive heart failure

CI	cardiac index
$CMRO_2$	cerebral oxygen metabolic rate
CMV	controlled mandatory ventilation
CNS	central nervous system
CO	carbon monoxide; cardiac output
CO_2	carbon dioxide
COPD	chronic obstructive pulmonary disease
CPAP	continuous positive airway pressure
CPB	cardiopulmonary bypass
CPP	cerebral perfusion pressure
CPR	cardiopulmonary resuscitation
Cr	creatinine
CRF	chronic renal failure
CRPS	chronic regional pain syndrome
CSF	cerebrospinal fluid
CSWS	cerebral salt wasting syndrome
CT	computed tomography
CTA	clear to auscultation
CV	cardiovascular
CVP	central venous catheter
CXR	chest X-ray
DBP	diastolic blood pressure
DDAVP	desmopressin
DIC	disseminated intravascular coagulation
DLT	double lumen tube
DM	diabetes mellitus
2,3-DPG	2,3-diphosphoglycerate
DVT	deep venous thrombosis
ECMO	extracorporeal membrane oxygenation
ED_{95}	effective dose in 95% of patients
EF	ejection fraction
EKG	electrocardiogram
EMG	electromyography
ENT	ear nose throat
ER	emergency room
ESR	erythrocyte sedimentation rate
ESRD	end-stage renal disease
$ETCO_2$	end-tidal carbon dioxide
ETT	endotracheal tube
FAST	focused assessment with sonography for trauma
FeNA	fractional excretion of sodium
FFP	fresh frozen plasma
FHR	fetal heart rate
FiO_2	fraction of inspired oxygen

FOI	fiberoptic intubation
FRC	functional residual capacity
FVL	flow volume loop
g	gauge; gram
G6P	glucose 6-phosphate
GA	general anesthesia
GABA	gamma-aminobutyric acid
GCS	Glasgow Coma Scale
GERD	gastroesophageal reflux disease
GI	gastrointestinal
GMP	guanosine monophosphate
GU	genitourinary
H&P	history and physical
H/H	hemoglobin/hematocrit
Hb	hemoglobin
HbA	hemoglobin A
Hct	hematocrit
HCTZ	hydrochlorothiazide
HD	hemodynamic
HELLP	hemolytic anemia, elevated liver enzymes, low platelets
HFOV	high-frequency oscillatory ventilation
HLA	human leukocyte antigen
HOCM	hypertrophic cardiomyopathy
HPI	history of present illness
HPV	hypoxic pulmonary vasoconstriction
HR	heart rate
5HT3	serotonin
HTN	hypertension
I&D	incision and drainage
IABP	intra-aortic balloon pump
IBW	ideal body weight
ICP	intracranial pressure
ICU	intensive care unit
IE	infective endocarditis
IUGR	intrauterine growth retardation
IV	intravenous
IVC	inferior vena cava
IVDA	intravenous drug abuse
IVH	intraventricular hemorrhage
IVIG	intravenous immunoglobulin
JVD	jugular venous distention
K	potassium
LMA	laryngeal mask airway
LMWH	low molecular weight heparin

LR	lactated Ringer's
LUQ	left upper quadrant
LVEDP	left ventricular end-diastolic pressure
LVEF	left ventricular ejection fraction
LVH	left ventricular hypertrophy
MA	maximum amplitude
MAC	mean alveolar concentration
MAP	mean arterial pressure
METs	metabolic equivalent
MG	myasthenia gravis
MH	malignant hyperthermia
MI	myocardial infarction
MRI	magnetic resonance imaging
MS	mitral stenosis
Na	sodium
NAS	neonatal abstinence syndrome
NC	nasal cannula
NDMR	nondepolarizing muscle relaxant
NEC	necrotizing enterocolitis
NG	nasogastric
NGT	nasogastric tube
NIBP	non-invasive BP cuff
NICU	neonatal intensive care unit
NIF	negative inspiratory force
NKDA	no known drug allergy
NPO	nil per os
NS	normal saline
NSAID	nonsteroidal anti-inflammatory drug
NSR	normal sinus rhythm
OG	orogastric
OLV	one lung ventilation
OPCAB	off-pump coronary artery bypass
OR	operating room
ORIF	open reduction internal fixation
OSA	obstructive sleep apnea
OSH	obstructive sleep hypopnea
P	pulse; pressure
$P(A\text{-}a)O_2$	alveolar-arterial oxygen pressure gradient
PA	pulmonary artery
PAC	pulmonary artery catheter
$PaCO_2$	partial pressure of carbon dioxide, arterial
PACU	post anesthesia care unit
PaO_2	partial pressure of oxygen, arterial
PAP	peak airway pressure

PCA	patient-controlled analgesia
PCEA	patient-controlled epidural analgesia
PCWP	pulmonary capillary wedge pressure
PDA	patent ductus arteriosus
PDHD	post-dural puncture headache
PE	physical examination; pulmonary embolism
PEEP	positive end-expiratory pressure
PFO	patent foramen ovale
PFT	pulmonary function test
PICU	pediatric intensive care unit
PIH	pregnancy-induced hypertension
PIV	peripheral intravenous
Plt	platelets
PMH	past medical history
PO	per os (per mouth)
POCD	postoperative cognitive dysfunction
POD	postoperative day
PPH	postpartum hemorrhage
PRBC	packed red blood cells
PS	Pickwickian syndrome
PSH	past surgical history
PTX	pneumothorax
PVC	premature ventricular contractions
PVR	pulmonary vascular resistance
QD	per day
R → L	right to left
RA	room air
RAP	right atrial pressure
RBC	red blood cell
RBF	renal blood flow
RLN	recurrent laryngeal nerve
ROM	range of motion
RRR	regular rate and rhythm
RSI	rapid sequence induction
RUL	right upper lobe
RUQ	right upper quadrant
SAH	subarachnoid hemorrhage
SAM	systolic anterior motion
SaO_2	oxygen saturation
SBP	systolic blood pressure
SCD	sickle cell disease
SCPP	spinal cord perfusion pressure
SH	smoking history
SIADH	syndrome of inappropriate antidiuretic hormone secretion

SICU	surgical intensive care unit
SIMV	synchronized intermittent mandatory ventilation
SLT	single lumen tube
SSEP	somatosensory evoked potential
STAT	immediate(ly)
SVC	superior vena cava
SVR	systemic vascular resistance
SVT	supraventricular tachycardia
T	temperature
T_3	triiodothyronine
T_4	thyroxine
TEE	transesophageal echocardiogram
TEF	tracheoesophageal fistula
TEG	thromboelastogram
TENS	transcutaneous electrical nerve stimulation
TIVA	total intravenous anesthesia
TPN	total parenteral nutrition
TRALI	transfusion-related lung injury
TURP	transurethral resection of prostate
UA	urinalysis
UO	urinary output
V/Q	ventilation/perfusion
VAE	venous air embolism
VATS	video-assisted thoracic surgery
VMA	vanillylmandelic acid
VS	vital signs
VSD	ventricular septal defect
VVBP	venovenous bypass
vWD	von Willebrand's disease
vWF	von Willebrand factor
WBC	white blood cell
WHO	World Health Organization

Introduction

The anesthesia board exam in most parts of the world is typically divided into two parts: a written multiple choice exam and an oral exam in which a clinical scenario, or "stem," is presented and questions are asked by the examiner related to this stem.

In the US, you will have two sessions: a Part 1 session with a long stem in which you will be asked questions regarding the intraoperative and postoperative care and a Part 2 session where you will be given a slightly shorter stem and be asked preoperative and intraoperative questions. You will have a short amount of time to review and "dissect" your stem before entering the examination room. Upon entering, there will be two individuals sitting behind a desk who will be asking the questions. At the end of each stem you are given three short "additional topics" scenarios and 4–5 questions per scenario. These additional topics are often harder than your main stems because you have no time to review and "dissect" the clinical scenario and the questions they ask can be preoperative, intraoperative, or postoperative.

How to approach the oral boards

The oral boards were not created merely to test knowledge. Successful completion of the written exam attests to the fact you have sufficient knowledge. Rather, it is meant to determine if you can adequately discuss anesthesia as a trained consultant. The Board wants you to describe everything you do. For example, if asked how you would induce an ASA 1 patient for a cholecystectomy, you cannot say "propofol." You must begin by saying, "After preoxygenating with 100% O_2, and ensuring the airway is normal, I will administer fentanyl, lidocaine, propofol, and after ensuring that I can ventilate, rocuronium."

If the philosophy of the entire exam could be summed up in one word, it would be "why." What you do is not as important as why you do it, so you must give an explanation for your decision. In doing so, it is advisable that you use the term "risks outweighing benefits" or vice versa. Consider the following example:

Question: Would you administer propofol to a patient with severe CAD?

Answer: "No I would not because the risks of propofol administration in a patient with severe CAD outweigh the benefits. Propofol is a fast-acting drug that can provide rapid intubating conditions. However, it is associated with hypotension, which can decrease the coronary perfusion pressure necessary to perfuse the myocardium. Thus, I would rather choose a more cardiac stable drug such as etomidate."

Such an answer allows the examiner to follow your thought process and also determine your level of knowledge. Mostly all decisions in anesthesia have a risk/benefit ratio and discussing this ratio in your answer will impress your examiners.

Not a comprehensive review

This exam is not a spectator sport; it's a tackle sport. Neither this book, nor any on this topic can, by itself, get you ready for the exam. You must do practice exams! At our course, www.justoralboards.com, we offer practice mock oral exams that provide similar conditions as the actual test. Once in the "hot seat" candidates often find their knowledge disappearing within the shroud of anxiety and nervousness. They also find it difficult to organize their thoughts. This book can help you understand how to formulate your answers and which subtopics to keep in mind when you see your stem, but it cannot, by itself, relieve your anxiety or help you organize your thoughts. For this, you must practice, practice, practice!

How to use this book

The examiners have certain topics they love. Within each topic are "subtopics" that they will inevitably question you on. For example, if your stem is about a patient undergoing a pulmonary lobectomy, you can be certain that the questions they will ask will be about double lumen tube (DLT) indications/contraindications, diagnosis of accurate placement of DLT, management of hypoxia after placement of DLT, etc. Knowing what the questions will likely be prior to entering your exam room allows you to formulate your responses and be ready for the questions as they arrive.

Thus, this book is organized into individual chapters of the 34 high yield exam topics seen on the anesthesia boards. In addition, there are 5 additional chapters that each contain 10 "additional topics" based on subspecialty. Within each of the 32 high yield exam topics are the most common subtopics that are tested, and a few questions are provided modeled around the subtopics. Most likely if you have a stem on one of these 32 topics you will also have questions similar to the ones in the chapter for that topic. Read it! Look at how the answer is formulated! Then, team up with a study partner and test each other using the stems provided to you.

Often times candidates will want to practice mock oral exams but they lack full length exams with questions AND answers that they can trust to use in testing one another. This book is a solution to that. We encourage the "study-buddy" system and, because this book is pocket size, you can carry it around with you during your clinical day and review any exam on your own during your down time.

Learn the language

As you review for this test, you will realize that this exam has its own unique language. The examiners want you to speak a certain way, using certain terms. As you review the chapters, you will realize how different this language is from the one you speak every day. Many candidates fail every year not for the lack of knowledge, but because they didn't appreciate the jargon and terminology that the anesthesia boards desire. By providing you with answers, this book hopes you will learn the language and use it as you move forward with your study.

Format

Each chapter in this book has been written in either the Stem 1 (long form) or Stem 2 (short form) format. Our desire in doing so was to give you the opportunity to practice "dissecting" both types of stems. In the exam, Stem 1 questions will be strictly in the intraoperative and postoperative areas whereas Stem 2 questions will be preoperative and intraoperative. For your benefit, we have provided questions on preoperative, intraoperative, and postoperative sections for all of the stems, regardless of whether or not they were 1 or 2. This way, you will be familiar with the major subtopics in each facet of anesthesia care.

Also, the level of difficulty in each exam has purposely been kept at a slightly lower level than the exams you would normally encounter with our course, www.justoralboards.com. This is intentional. We want you to first develop a solid, broad-based foundation by learning about the major high yield topics for the oral exam. Once you have mastered these 34 high yield topics, you will be in a good position to start taking more difficult exams, in which multiple topics are combined. For example, perhaps the patient having a pulmonary lobectomy has sickle cell disease. In this book, these topics are covered separately, but once you understand the anesthetic implications of both and what key subtopics the examiner would want to cover in each of these, you are in a better position to begin integrating these concepts.

Finally, have faith in yourself and your abilities as a clinician. If you are studying for the oral exam, you already have a great deal to be proud of. You obviously have a solid knowledge base (which you perhaps forgot by now but can easily relearn) and you completed an anesthesia residency. Thus, you know how to administer anesthesia. Use this book to review what you have already done and speak to your

examiner like you are speaking to a third year medical student, leaving out no details and being thorough in your response and explanation. Work hard, study hard, and do as many mock orals as you can. Every time you are about to give up, just think how much better you will feel when you click on your exam score and see the word "PASS." Take it from two people who did it the first time around, it's worth all the agony and heartache.