



**The Hong Kong College of Anaesthesiologists
Intermediate Fellowship Examination
Written Paper in Pharmacology**

Friday, 1st August 2014, 14:00 - 16:00 h

The questions carry equal marks. Answer **ALL** questions. For questions with multiple parts, allocation of marks is indicated in the brackets.

1. Describe the role of blood in the metabolism of drugs used in anaesthesia. Include examples of drugs in your answer.
2. Compare and contrast ketamine and dexmedetomidine with regard to their use as sedatives agents.
3. Describe the effects of volatile agents on the skeletal, smooth and cardiac muscles (40%). Outline the clinical significances of these effects (60%).
4. With regard to a randomized controlled trial,
 - (a) What is(are) the goal(s) of randomization (20%)?
 - (b) What are the importance of randomization (30%)?
 - (c) Describe common types of randomization (50%).
5. Outline the pharmacological actions of etomidate.
6. Compare and contrast the mechanisms of action, side effects and effectiveness of metoclopramide and ondansetron for the prevention of postoperative nausea and vomiting.
7. Describe the structure of nicotinic acetylcholine receptor, include the different types of receptors in your answer (50%). How does neuromuscular blocking drug interact with this receptor to produce paralysis (50%)?
8. Compare and contrast the pharmacology of furosemide and mannitol.
9. Describe a method to measure the initial volume of distribution of a drug administered intravenously (50%). What are the potential source of errors in this measurement (50%)?
10. Outline the mechanisms of action (33.3%), pharmacokinetic properties (33.3%), and anaesthetic implications (including adverse effects) (33.3%) of clopidogrel.
11. Describe the adverse effects associated with normal dose and overdose of tramadol (50%). Outline the potential drug interactions of tramadol (50%).
12. Explain the possible mechanisms of action of intravenous lipid emulsion therapy in the treatment of local anaesthetic systemic toxicity.

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