



# The Hong Kong College of Anaesthesiologists

## Intermediate Fellowship Examination

### Written Paper in Pharmacology

Friday, 18 February 2005, 14:00 - 16:00 h

Answer **ALL** questions

1. For an inhaled anaesthetic agent, describe how the recovery kinetics differs from those on induction. When might you expect a clinically significant difference in the recovery from desflurane versus sevoflurane?
2. Compare and contrast the cerebral effects of propofol and midazolam.
3. Outline the pharmacology of warfarin. In your answer, highlight its pharmacokinetic properties, mechanism of action, side effects and potential drug interactions.
4. In a sample of observations, define the variability of data from a measurement. Briefly describe three ways to estimate the variability in a set of parametric data.
5. List the factors that may increase the duration of action for local anaesthetic agents.
6. Describe the factors that may decrease the effects of non-depolarising neuromuscular blocking agents.
7. Compare and contrast the chemical structures of morphine and codeine. How do the differences affect their pharmacokinetic properties?
8. Describe the mechanisms that determine the offset of action among the naturally occurring catecholamines. How is this different from the synthetic drug ephedrine?
9. Define clearance of a drug. Briefly describe a method for measuring each of the following:
  - (a) Clearance after an intravenous bolus dose of drug AND,
  - (b) Clearance at steady state.
10. Compare and contrast the pharmacology of syntocinon and ergometrine.
11. Describe the mechanism of action and metabolism of phenytoin.
12. Discuss the factors that determine the effectiveness of a drug administered via the gastrointestinal route. Use examples to illustrate your answers.

\*\*\*\*\* END OF PAPER \*\*\*\*\*