



ANZCA Gap Assessment Learning Outcomes for CICM Trainees

General Anaesthetic Agents and Sedatives

Volatile			
Code	Learning outcome	Role	Assessment
BT_GS 1.23	Describe the physical properties of inhalational agents, including the: - Principles of vaporisation of inhalational agents - Properties of an ideal inhalational anaesthetic agent - Structure-activity relationships of inhalational agents	ME	PEX
BT_GS 1.24	Describe the uptake, distribution and elimination of inhalational anaesthetic agents and the factors which influence induction and recovery from inhalational anaesthesia including the: - Concepts of partition coefficients, concentration effect and second gas effect - Relationships between inhaled and alveolar concentration - Significance of the distribution of cardiac output and tissue partition coefficients on uptake and distribution of volatile agents	ME	PEX
BT_GS 1.25	Describe the effects of inhalational agents on the cardiovascular, respiratory and central nervous systems	ME	PEX
BT_GS 1.26	Describe the toxicity of inhalational agents	ME	PEX
BT_GS 1.27	Describe the pharmacology of nitrous oxide	ME	PEX
BT_GS 1.28	Describe the comparative pharmacology of - nitrous oxide, sevoflurane, desflurane Outline the comparative pharmacology of - isoflurane, methoxyflurane, ether, halothane, xenon	ME	PEX
BT_GS 1.50	Describe the concept and clinical application of MAC in relation to inhaled anaesthetic agents	ME	PEX

Target Controlled Infusions			
Code	Learning outcome	Role	Assessment
BT_GS 1.59	Discuss the pharmacokinetics and pharmacodynamics of target-controlled infusions, including the concepts of • multi-compartment model and rate constants • effect site (biophase) and k_{e0} • the relationship between plasma and effect site concentration • altered response due to factors including age, obesity, and cardiac output • sources of error	ME	PEX
BT_GS 1.59a	Outline the similarities and differences between commonly used TCI models.	ME	PEX
BT_GS 1.30	Discuss the pharmacokinetics of IV anaesthetic and sedative agents, including • onset and offset • clinical implications of differences between drugs See also BT_GS 1.59 and 1.59a	ME	PEX
Equipment/Vaporisers			
Code	Learning outcome	Role	Assessment
BT_SQ 1.3	Outline the mandatory safety requirements for anaesthetic machines. Refer to College professional document <i>PS54 Statement on the Minimum Safety Requirements for Anaesthetic Machines and Workstations for Clinical Practice</i>.	ME	PEX
BT_SQ 1.7	Outline microshock and macroshock and the mechanisms for preventing these, with particular reference to ensuring the compatibility of medical procedure, treatment area, and medical equipment used.	ME	PEX
BT_SQ 1.9	Outline the hazards of anaesthetic gas pollution and the methods of scavenging anaesthetic gases.	ME	PEX
BT_SQ 1.10	Describe the supply of medical gases (bulk supply and cylinder) and features to ensure supply safety including pressure valves and regulators and connection systems.	ME	PEX
BT_SQ 1.11	Outline how medical suction is generated and how to set up and test suction systems, both fixed and portable.	ME	PEX

BT_SQ 1.12	Describe the principles and safe operation of vaporisers.	ME	PEx
BT_SQ 1.13	Describe and classify breathing systems used in anaesthesia and resuscitation. Evaluate their clinical utility and hazards associated with their use.	ME	PEx
BT_SQ 1.15	Outline how CO ₂ is absorbed in a circle system and the hazards associated with the use of CO ₂ absorption.	ME	PEx
BT_SQ 1.18	Outline the principles of surgical diathermy, its safe use and the potential hazards.	ME	PEx