AUSTRALIAN
AND
NEW ZEALAND
COLLEGE
OF
ANAESTHETISTS
A.B.N. 82 035 042 852

MEMO

From Primary Examination Committee

Date 14 December 2005

Re **SYLLABUS & RECOMMENDED TEXTS**

Please find attached the changes to the Syllabus and Recommended Texts for the Primary Fellowship Examination.

These changes will apply from the second examination in 2006.

Minor changes may be made to the Syllabus and Recommended Texts on a yearly basis to assist with exam preparation.

These changes will be distributed in hard copy and are also available on the College website at http://www.anzca.edu.au/syllabus/index.htm.

The changes to the syllabus and texts are underlined and bolded.

Yours sincerely;

A/Prof. David Cottee
Chairman, Primary Examination

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Dr. Noel Roberts
Deputy Chairman, Primary Examination

SECTION R - PRINCIPLES OF MEASUREMENT

1. General Instructional Objectives

   An understanding of the physics involved in the measurement of relevant variables

2. Required Abilities

   a. To explain mathematical concepts such as exponential functions, integration and differentiation

   b. To explain electrical concepts such as current, potential difference, resistance, impedance, inductance and capacitance as they relate to biomedical apparatus

   c. To explain the SI system of units

   d. To outline the conversion between the different units of pressure measurement

   e. To describe the laws governing the behaviour of gases and liquids

   f. To describe the principles of measurement employed by apparatus in clinical use, including transducers, and to describe their calibration

   g. To describe the measurement of flow, pressure and velocity of fluids

   h. To describe the basic physics of ultrasound and the Doppler principle

SECTION S - CLINICAL MONITORING

1. General Instructional Objectives

   An understanding of the principles of monitoring in clinical practice

   The evaluation of the accuracy, reliability, convenience and hazards of methods of monitoring

2. Required Abilities

   a. To describe in detail the measurement the electrocardiogram including calibration, sources of errors and limitations

   b. To describe and to compare the methods of measuring blood pressure

   c. To describe and to compare the methods of measuring temperature

   d. To describe and to compare the methods of measuring humidity

   e. To explain in detail the principles of pulse oximetry including calibration, sources of errors and limitations

   f. To explain the principles of gases using ultraviolet or infra-red absorption, paramagnetic analysis, gas chromatography, mass spectrometry and Raman scattering

   g. To explain in detail the principles of capnography including calibration, sources of errors and limitations

   h. To describe and to compare the methods of measuring gas flow

   i. To explain the principles involved in the electronic monitoring of depth of sedation and anaesthesia, including the use of EEG analysis

   j. To describe the principles involved in ultrasound imaging in echocardiography

III - VARIABILITY IN DRUG RESPONSE

1. General Instructional Objectives

An understanding of the factors that may alter inter- and intra-individual drug responses and the significance of this as applied in anaesthetic practice

2. Required Abilities

a. To define tachyphylaxis, tolerance, addiction, dependence and idiosyncrasy

b. To describe mechanisms of tolerance

c. To describe alterations to drug response due to physiological change with special reference to neonates, the elderly and pregnancy

d. To describe alterations to drug response due to pathological disturbance with special reference to cardiac, respiratory, renal and hepatic disease

e. To classify and describe adverse drug effects

f. To classify and describe mechanisms of drug interaction

g. To explain the mechanisms and significance of pharmacogenetic disorders such as malignant hyperpyrexia, porphyria, atypical cholinesterase and disturbance of cytochrome function

h. To outline the management of malignant hyperthermia with particular reference to the pharmacology of dantrolene

i. To describe immune mechanisms which may result in reactions to drugs, intravenous fluids and latex. To describe the management of anaphylactic and anaphylactoid reactions

RECOMMENDED TEXTS AND ARTICLES

Candidates are advised that all examination questions are based on information contained in the recommended texts and articles.

Please note that the **most recent version** of each of the following texts is the recommended text.

General Text: Physiology and Pharmacology

Miller's Anesthesia / ed. by R D Miller – 6th ed - New York : Churchill Livingstone, 2004

Oh's Intensive Care Manual / ed by A D Bersten, N Soni and T E Oh - 5th ed : Butterworth-Heinemann, 2003

Clinical Pain Management : Acute Pain / ed by D J Rowbotham and P E Macintyre - London : Arnold, 2003

***Acute Pain Management : Scientific Evidence* / Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine -2nd ed – [Canberra] : NHMRC, 2005**
http://www.anzca.edu.au/publications/acutepain.pdf

Fundamentals of Anaesthesia / ed by C Pinnock, T Lin and T Smith - 2nd ed – London : Greenwich Medical Media, 2003

General Physiology

Textbook of Medical Physiology / A C Guyton and J E Hall - 11th ed - Philadelphia : Elsevier-Saunders, 2005

Review of Medical Physiology / W F Ganong- 22nd ed : Lange Medical Books, 2005.

Lecture Notes on Human Physiology / ed by J J Bray - 4th ed - Oxford : Blackwell Science, 1999

Principles of Physiology for the Anaesthetist / I Power & P Kam - London : Arnold, 2001

Respiratory

Respiratory Physiology : the Essentials / J B West – 7th ed - Philadelphia : Lippincott Williams & Wilkins, 2005

Nunn's Applied Respiratory Physiology / A B Lumb and J F Nunn - 6th ed - Oxford : Elsevier-Butterworth Heinemann, 2005

Cardiovascular

Cardiovascular Physiology / R M Berne and M N Levy - 8th ed - St Louis : Mosby, 2001

Renal physiology

***Vander's Renal Physiology* / D C Eaton and J P Pooler – 6th ed - New York : McGraw-Hill, 2005**

Clinical Measurement

Basic Physics and Measurement in Anaesthesia / P D Davis and G N C Kenny - 5th ed - Edinburgh : Butterworth-Heinemann, 2002

Clinical Monitoring : Practical Applications for Anesthesia and Critical Care / ed by C L Lake, R L Hines and C D Blitt - Philadelphia : WB Saunders, 2001

General Pharmacology

Pharmacology / H P Rang, J M Ritter, M M Dale and P K Moore - 5th ed - Edinburgh : Churchill-Livingstone, 2003

Goodman and Gilman's the Pharmacological Basis of Therapeutics / ed by LL Brunton - 11th ed - New York : McGraw-Hill, 2005

Basic and Clinical Pharmacology / B G Katzung - 9th ed – London : Prentice-Hall, 2004

Anaesthetic Pharmacology

Pharmacology and Physiology in Anesthetic Practice / R K Stoelting and S C Hillier – 4th ed - Philadelphia : Lippincott-Raven, 2006

Neural blockade : in Clinical Anaesthesia and Management of Pain / M J Cousins and P O Bridenbaugh - 3rd ed - Philadelphia : Lippincott, 1998

Anesthetic Pharmacology : Physiologic Principles and Clinical Practice / ed by A S Evers and M Maze - New York : Churchill-Livingstone, 2004

MacPherson, R. D. *Pharmaceutics for the anaesthetist. Anaesthesia*, 2001, 56 (10), 965-979

Statistics

Basic and Clinical Biostatistics / B Dawson and R G Trapp – 4th ed – New York : McGraw-Hill, 2004

Statistical methods for anaesthesia and intensive care / P S Myles and T Gin - Oxford : Butterworth-Heinemann, 2001