

PRIMARY EXAMINATION

The objective of the primary examination is to ensure that trainees have the required level of knowledge and understanding of the four basic sciences of anatomy, pathology, physiology and pharmacology (insofar as they relate to emergency medicine) to underpin their further learning and development towards careers as emergency physicians. The examination is criteria-referenced, which means that candidates are required to reach a pre-defined level of performance to pass the examination rather than a fixed percentage of candidates being successful. In other words, provided all candidates meet the standard, a 100% pass rate is possible.

Applicable Regulation

Regulation 4.13 deals with the requirements of the primary examination. It is to be found in the *Regulations* section of this handbook.

CANDIDATURE FOR THE EXAMINATION

A pass in the primary examination is one of the requirements of the provisional training period (see chapter entitled *Elements of Training*) and is required of all trainees.

Exemption from Examination

Only specialists from other Australasian Colleges and overseas trained specialists may be eligible to apply for an exemption from the examination as a whole.

Granting of Subject Passes

A pass in certain subjects of the examination may be granted to those trainees who have wholly passed the primary examination of one of the Colleges specified in regulation 4.13/31. Any passes granted will become invalid if all remaining subject/s are not passed within the period of time specified.

An application for the granting of passes must be made at the time of registration as a trainee and must be accompanied by all the appropriate supporting documentation.

Eligibility to sit Examination

To be eligible to sit the primary examination, a candidate must be a registered and financial trainee of the College and must hold current registration to practise medicine in a State or Territory of Australia or New Zealand.

The examination may be attempted at any stage during basic or provisional training. It is not necessary that provisional training time actually be completed before the examination is attempted – rather, it is to the trainee's advantage if it can be passed prior to completion of provisional training time so that progress into the advanced training program is not impeded on that account.

Applications for Examination

Examination application forms (Form GT-40) are available from the College office and on the College website. Applications must be received at the College office by the specified closing date. Late applications will not be accepted.

For each attempt at the primary examination, a fresh application must be made and the relevant examination fee (for the number of subjects being attempted) paid.

Subjects to be Attempted

Candidates may choose the number of subjects they wish to attempt at any sitting of the examination. Once a subject has been passed, it does not have to be passed again if all four subjects are passed within the timeframe for completion of provisional training time requirements.

Withdrawal from the Examination

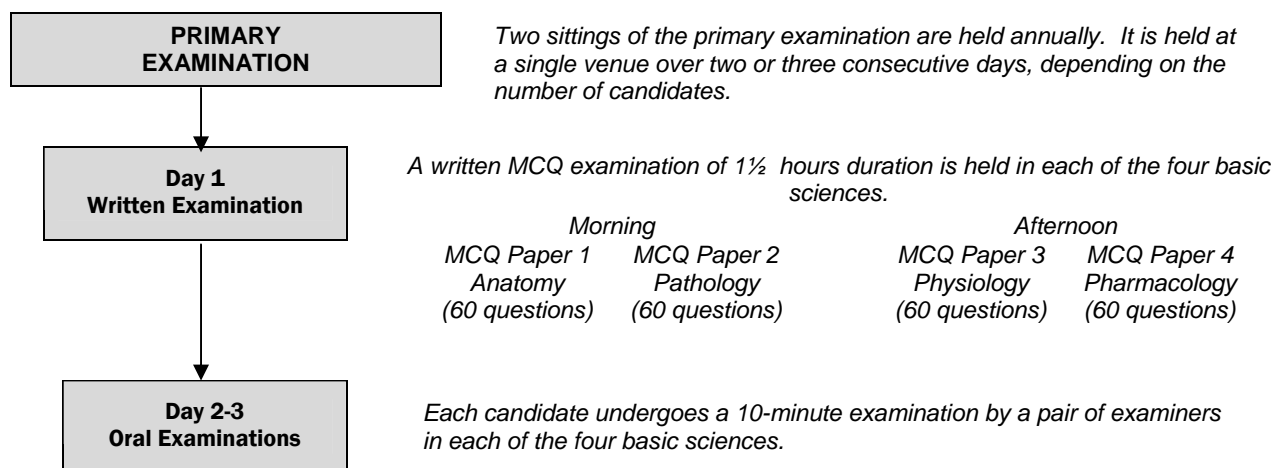
A candidate may withdraw without penalty from all or any of the subjects being attempted, provided that notice in writing is received at the College office at least five weeks prior to the commencement date of the examination. Candidates withdrawing from all subjects may either request a refund of the examination fee or hold over to the sitting. Those who partially withdraw will be given a refund of the subject fee only – holdover is not an option.

Candidates who fail to present for any part of the examination or who withdraw from any part of the examination within four weeks of the commencement date of the examination are not entitled to any refund, neither are they eligible to hold the examination fee over to the next sitting of the examination.

Past Examination Papers

A set of past examination papers (viva topics and sample MCQs) may be obtained from the College office at any time. A set is also sent to each candidate upon registration for the examination.

STRUCTURE OF EXAMINATION



Written Examination

The multiple choice questions are type A questions: choose the one most correct response from five options. Electronic devices (calculators, palm pilots etc), pre-formatted notes or other written material may not be brought into the examination room. Material on which notes have been made may not be taken from the examination room.

Oral Examination

Props such as bones, normal X-rays and anatomical models are used in the anatomy viva, but not in the other subjects. Of particular note, pathology specimens are not used.

Marking

The multiple choice paper is marked out of 20 according to a marking scale (see below) that converts the raw score out of 60 into a score out of 20. The viva voce is marked out of 10. A combined score of 15 or more in each subject (by any combination) is required in order to pass the subject.

MCQ Scaling system

Each candidate's raw score is converted to a percentage of answers correct. This percentage correct is determined after any individual MCQs are "deleted". In cases where it is found that more than one option was correct, but not sufficient to delete the question, then all candidates who responded with EITHER of the correct answers will be deemed correct.

Because there are five options to choose from, on probability, a candidate should be able to get 20% correct without any knowledge. Therefore, a linear scale from 0 to 20 is applied to the percentage correct between 20% and 100%, to obtain a final score out of 20 (see below).

Therefore, assuming that no questions are deleted, a score of 36/60 (60% raw) is required to score a scaled mark of 10.

$\leq 20.83\% = 0$	45.84 - 49.17 = 7	77.51 - 80.83 = 14
20.84 - 24.17 = 1	49.18 - 54.17 = 8	80.84 - 84.17 = 15
24.18 - 29.17 = 2	54.18 - 59.17 = 9	84.18 - 87.50 = 16
29.18 - 34.17 = 3	59.18 - 64.17 = 10	87.51 - 90.83 = 17
34.18 - 39.17 = 4	64.18 - 69.17 = 11	90.84 - 94.17 = 18
39.18 - 42.5 = 5	69.18 - 74.17 = 12	94.18 - 97.50 = 19
42.51 - 45.83 = 6	74.18 - 77.50 = 13	97.51 - 100 = 20

GUIDE TO THE PRIMARY EXAMINATION

1. *Anatomy*

There will be an emphasis on applied anatomy in both MCQ and viva sections. Candidates are expected to have a detailed knowledge of the upper and lower limbs, with a special emphasis on anatomy important to the practise of emergency medicine.

Knowledge of the surface and general anatomy of other regions of the body relevant to the practise of emergency medicine is expected. This includes areas on which procedures are performed or where anatomy is important in the understanding of injury patterns and complications, patterns of disease or which demonstrate important anatomical principles.

Candidates must be familiar with anatomy essential for the interpretation of diagnostic imaging used by emergency physicians. The candidate is expected to be familiar with common x-rays and with cross-sectional anatomy necessary for the interpretation of CT scans. CT scans may be included in the exam and candidates will be expected to show knowledge of gross features and relationships. These will be single slices only, with knowledge appropriate to the practise of emergency medicine. Detailed radiology knowledge is not expected. CT levels are most likely to demonstrate important anatomical levels, eg. level of transpyloric plane, aortic arch. Detailed neuro-anatomy is not expected, but candidates should be able to describe lobes, ventricles and other gross structures.

Histology and embryology will not be examined. However, knowledge of clinically relevant paediatric anatomy is expected.

It should be stressed that detailed knowledge of the techniques of clinical procedures is not expected, but that the knowledge of areas in which these procedures are performed are obviously of key importance to emergency physicians.

2. *Pathology*

Candidates are expected to have a detailed understanding of the general principles of the pathology of common diseases. Diseases of relevance to the practice of Emergency Medicine are particularly important and will be concentrated upon in the examination.

Candidates are advised to familiarise themselves with the syllabus and MCQ matrix, as these outline the areas of most importance and are a guide to the examination content.

Microbiology will not be examined as a separate subject, but those aspects that bear directly on infectious disease will be considered part of the syllabus.

Genetic and molecular pathology are not emphasised in the pathology syllabus and exam.

3. *Physiology*

A thorough knowledge of cardiovascular, respiratory and renal physiology and of fluid and electrolyte balance is required. A working knowledge of the physiology of the nervous system, muscles, digestion and absorption and the gastrointestinal tract is also required.

Biochemistry will not be examined separately, but candidates will be expected to be familiar with those aspects of metabolism and endocrine function that are relevant to emergency medicine.

4. Pharmacology

A detailed knowledge of pharmacology is an essential part of emergency medicine. The principles of pharmacokinetics, pharmacodynamics, therapeutics and toxicology must be understood as well as their application to patient management used in emergency medicine.

The pharmacology of agents acting on the central nervous system, drugs acting on the cardiovascular system and drugs used in the treatment of infectious diseases should be known in some detail. Candidates should also have an adequate knowledge of antacids, analgesic agents, antiinflammatory agents and drugs acting on the pulmonary and gastrointestinal systems. The pharmacology of drugs acting on the endocrine system and haematologic agents will not be stressed. However, candidates will be required to know the general principles of agents in this group and to demonstrate a working knowledge of those relevant to emergency medicine.

Candidates will be expected to be familiar with recent developments or reviews of drugs published in such journals as the *Medical Journal of Australia*, *British Medical Journal*, *New England Journal of Medicine*, *Current Therapeutics* and *Emergency Medicine Australasia*.

RECOMMENDED TEXTS

It is emphasised that the examination is aimed at evaluating candidates' knowledge of subjects, not textbooks. However, after carefully reviewing the available texts, the College considers that, in preference to advising prospective candidates to consult an extensive range of text material, it would prefer examinees to become familiar with one or two texts in each subject.

Whilst the College recommends the editions of the texts listed below as being those which best approximate the material in the syllabus in each subject, it advises candidates to acquaint themselves with those aspects of each subject that relate to the common conditions encountered in emergency medicine.

Please note: The most recent edition of these texts should be used. If the most recent edition has been available for less than 12 months, the previous edition may also be used.

1. Anatomy

Clinically Orientated Anatomy,
Moore & Dalley, 5th edition.

McMinn's Colour Atlas of Human Anatomy
(Mosby)

2. Pathology

Robbins Pathologic Basis of Disease
Cotran, Kumar and Robbins (W B Saunders Co.)

Reference for pathophysiology as marked
in the syllabus:

Textbook of Medical Physiology
A C Guyton (Saunders)

3. Physiology

Review of Medical Physiology
W F Ganong (Appleton and Lange)

Respiratory Physiology - The Essentials
J B West (Williams and Wilkins)

The section on circulation in:

Textbook of Medical Physiology
A C Guyton (Saunders)

4. Pharmacology

Basic and Clinical Pharmacology
B G Katzung (Appleton and Lange)

The text considered most suitable as an additional reference in pharmacology is:

Goodman & Gilman's *The Pharmacological Basis of Therapeutics*
J G Hardman and L E Limbird, Editors-in-Chief (McGraw-Hill)

MULTIPLE CHOICE SUBJECT MATRICES

Multiple choice questions in each subject are chosen according to a “matrix” (see below) which ensures that the breadth of the subject is examined and that topics considered more important are represented by more questions in the examination.

Anatomy

Subject	No per Paper
Tissues & Structures	4
Nervous System	4
Upper Limb	15
Lower Limb	15
Central Nervous System	4
Head & Neck	6
Thorax	5
Abdomen & Pelvis	5
Comparative Anatomy of the Child	2

Physiology

Subject	No per Paper
Principles of Cellular Function	4
Nerves & Muscles	4
Nervous System	4
Metabolism	3
Endocrinology	4
Digestion & Absorption	3
Gastrointestinal System	3
Blood	1
Heart	3
The Circulation	10
Cardiovascular Homeostasis	2
Respiratory Physiology	10
Renal System	5
Acid/Base Balance	4

Pathology

Pharmacology

Normal Cell	2
Cellular Injury	3
Tissue Response To Injury	5
Fluid & Haemodynamics	6
Immunity	4
Neoplasia	2
Infectious Diseases	5
Environmental Pathology	2
Cardiovascular System	7
Haemopoietic System	3
Respiratory System	5
Gastrointestinal System	(1)
Liver, Biliary Tract & Pancreas	4
Renal System & Genitourinary	6
Endocrine	2
Skin	(1)
Musculoskeletal System	2
CNS & the Eye	2

General Pharmacology	7
Respiratory System	3
Cardiovascular System	12
Nervous System	12
Antimicrobial Agents	6
Autocoids	2
Endocrine System	2
Gastrointestinal Tract	3
Analgesics & Anti-inflammatory Agents	4
Toxicology	4
Drugs & Extremes Of Age & Pregnancy	1
Miscellaneous	3
Genito-urinary Agents	1