Examination Policy and Guidelines

May 2021

Policy Title	**Examination Policy and Guidelines**
Reference Number	2021-Apr-V2-MSC Exam
Scope	This policy primarily applies to overseas practitioners seeking registration with the Medical Sciences Council, and who do not hold an equivalent qualification. In some instances, it may also apply to registered practitioners seeking a practicing certificate after a significant absence from practice.

Online Examinations: Candidates Handbook
Competence Standards for Anaesthetic Technicians in Aotearoa New Zealand
Competence Standards for Medical Laboratory Science Practitioners in Aotearoa New Zealand
Return to Practice

Revision Schedule

Version Number	Version Date	Approved By	Next Review
One	February 2018	Medical Sciences Council	2020
Two	April 2021	Medical Sciences Council	2023

Contents

Introduction

From 2021[1] the Medical Sciences Council (the Council) will introduce an examination for the purpose of registration and recertification under the Health Practitioners Competences Assurance Act 2003 (the Act). This guideline provides information on the circumstances in which sitting of an examination is required and information to assist candidates in their preparation for the examination.

Policy Statement

A computer-based examination will be used to assess a practitioner's foundational knowledge in the scope of practice in which they are applying to be registered. The examination will be used for applicants whose qualification has been assessed as being non-equivalent and who do not have at least 5-years of post-qualification clinical experience.

The examination will be set under sections 12 and 15 of the Health Practitioners Competence Assurance Act 2003 (the Act).

Graduates of a New Zealand qualification programme that has been accredited by the Medical Sciences Council will not be required to sit the Council's computer-based examination for the purpose of registration.

Candidates may sit a practice examination to familiarise themselves with the structure and question style of a typical examination. Questions contained in the practice examination are not included in a real-time examination. Candidates cannot access previous examinations.

The examination is set in English. Translated versions of the examination into another language are not available.

In addition to successful completion of an examination, practitioners will need to meet all other registration requirements including demonstrated competence in English language and other fitness to practice criteria (fitness to practice requirements are provided in more detail on the Council's website www.mscouncil.org.nz.

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[1] The exact date is yet to be determined

Examination Purpose

The examination is used to assess a practitioner's competence by applying foundational knowledge to demonstrate safe and ethical clinical practice.

The examination is a competency-based model that focuses on the application of medical laboratory science in a laboratory environment, or the application of anaesthetic technology knowledge in a clinical environment. Questions are asked from the point of view of how knowledge is used to practise as opposed to the direct recall of that knowledge.

Questions are linked to the entry-level competence standards for the relevant profession:

> *Competence Standards for Medical Laboratory Science Practitioners in New Zealand (Revised February 2018)*

> *Competence Standards for Anaesthetic Technicians in Aotearoa New Zealand March 2018*

The above competence standards documents can be downloaded from the website at www.mscouncil.org.nz

Candidates will need to make sure they are familiar with the relevant competence standards prior to sitting an examination.

Foundational Principles

Each examination is based on an assumption that the candidate has acquired a sufficient level of base knowledge pertaining to the safe and competent practise of medical laboratory science, or anaesthetic technology. There is a parallel assumption that the candidate has had formal training (although the qualification is not equivalent to the New Zealand standard) in the relevant profession with appropriate and adequate post-qualification laboratory/clinical experience.

Examination questions are designed to assess a practitioner's ability to:

- Critically review, analyse, consolidate and synthesise knowledge; and

- Differentiate theoretical concepts, to exercise critical thinking and judgement in identifying and solving problems; and

- Use initiative and judgement in planning, problem solving and decision-making in professional practice; and

- Analyse a range of circumstances encountered in laboratory/clinical practice and evaluate options to maximise patient health; and

- Adapt knowledge and skills in diverse contexts; and

- Account for professional practice and inter-professional practice

Number of Examinations

The exam is offered four times a year. Dates, fees, and registration instructions can be accessed on the Council's website.

Examination Structure and Scoring

Examinations are delivered through an online environment – that is, candidates will sit at a computer terminal using online proctoring. Medical Sciences Council examinations are delivered online by Kryterion Global Testing Solutions, a leading computer-based testing company.

Multi Choice Questions

The examination is set in a multi choice-question (MCQ) format where the exam taker is required to select the best possible answer from a selection of choices.

Examination Length

The examination must be completed within a maximum period of 3-hours (180 minutes).

Candidates must allow for an additional hour for completion of examination entry procedures and post-exam administration activities. This means that in total a candidate must allow for 4-hours on the day of the exam.

Question Content

The examination contains 150 questions which are allocated within two broad categories.

1.   Generic Competencies Questions

These questions relate to the competence standards set out in Domains 1-5 (medical laboratory science) of Domains 1-4 (anaesthetic technology). Competencies within Domains 1-5 apply to all of the three scopes of practice within the profession of medical laboratory science.

Questions pertaining to the generic competencies are not evenly distributed across all of the generic domains. For example, in any one examination there may be more questions relating to Domain 4 (Safety of Practice and Risk Management) than questions relating to the other generic domains. The Examination Taxonomy sets out the percentage range of the number of questions per domain area to be contained in any one examination.

2.   Scope Specific Competencies Questions

Medical Laboratory Science Profession
These questions relate to competence standards as set out in one of the Domains from 5A to 5C. The questions are based on the competence standards for a particular scope of practice:

   5A: Medical Laboratory Scientist
   5B: Medical Laboratory Technician
   5C: Medical Laboratory Pre-Analytical Technician

Anaesthetic Technology Profession
The questions are based on the competence standards specific to the clinical practice for the Anaesthetic Technician scope of practice, as set out in Domain 5.

Examination questions are split 45/55% - 45/55% between the two categories of generic competencies and scope-specific competencies.

Examples:

An examination for a Medical Laboratory Technician candidate may contain 45% of questions related to Domains 1,2,3,4, and 5 with the other 55% of questions related to Domain 5B.

An examination for an Anaesthetic Technician may contain 45% of questions related to Domains 1, 2, 3, and 4 with the other 55% of questions related to Domain 5.

Question Format

Exam questions are mostly set within two formats:

1. Single topic question
2. Vignette or laboratory/clinical scenario

All questions have four options, one of those being the correct answer and the other three incorrect answers (called *distractors*). There is only one correct answer for each question. Images and graphs may be used with some questions.

Each question is reviewed for content validity and statistical reliability prior to being included into an examination.

Scoring

An examination is scored as a *pass* or *fail.* Each correct answer is awarded one point and there is no deduction of points for wrong answers. Individual questions are not weighted and contribute equally to the candidate's examination score.

The pass score for an examination is set at a minimum of 75% in each of the two question categories - that is 75% for questions relating to generic competencies and 75% for questions relating to the scope-specific competencies. In the opinion of the Council, this sets a level that ensures candidates are capable of safe, and ethical practice.

A pass score may be adjusted after the conduct of an examination. An example[2] is where a subsequent moderation of the examination identified a particular question and its answer (and/or distractors) may have been impossible to select accurately. That may have been due to the grammar or expression used, and/or there being more than one reasonable answer to the question. In such circumstances the question may be removed from the examination and marks for all candidates adjusted accordingly.

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[2] Please note this example is given as an illustration only

Examination Taxonomy

The examination taxonomy sets out the percentage range of questions related to each of the competence domains, per examination.

Medical Laboratory Science

	Common questions - Domains 1,2,3,4,5	45 - 55%
	Scope specific questions - Domains 5A, 5B, 5C,	45 - 55%
	Total	**100%**
Common Domains		**Questions per Exam**
1	Professional and ethical conduct	9 – 11%
2	Communication and collaboration	5 – 7%
3	Evidence-based practice and learning	1 – 3%
4	Safety of practice and risk management	18 – 20%
5	Medical laboratory science practice	12 – 14%
	Total Common Domains Questions	**45 - 55%**
5A	Medical Laboratory Scientist	Questions per Exam
	Scientific enquiry and methods	10% - 12%
	Validation of scientific and technical data	10% - 12%
	Assessment and evaluation	10% - 12%
	Research, reasoning and problem solving	5% - 7%
	Quality management	10% - 12%
	Total Medical Laboratory Scientist Domain Questions	**45% - 55%**

5B	Medical Laboratory Technician	Questions per Exam
	Scientific concepts and principles	10% - 12%
	Scientific techniques, procedures and methods	10% - 12%
	Interpretation and evaluation of scientific data	10% - 12%
	Problem solving	5% - 7%
	Quality control and quality assurance	10% - 12%
	Total Medical Laboratory Technician Domain Questions	**45% - 55%**
5C	Medical Laboratory Pre-Analytical Technician	Questions per Exam
	Scientific concepts and principles	5%
	Scientific techniques, procedures, and methods	15% - 20%
	Safe work practices	15% - 20%
	Quality control and quality assurance	10%
	Total Medical Laboratory Pre-Analytical Technician Domain Questions	**45% - 55%**

Anaesthetic Technology

	Common questions - Domains 1,2,3,4		45 - 55%
	Scope specific questions - Domain 5		45 - 55%
		Total	**100%**
Common Domains			**Questions per Exam**
1	Professional and ethical conduct		9% – 11%
2	Communication and collaboration		5% – 7%
3	Evidence-based practice and learning		1% – 3%
4	Safety of practice and risk management		30% – 34%
	Total Common Domains Questions		**45 - 55%**
Domain 5	**Anaesthetic Technician**		**Questions per Exam**
	Application of anatomical and physiological knowledge		3% - 4%
	Surgical and Interventional procedures		4%
	Patient care		10%
	Anaesthesia equipment		13% - 18%
	Emergency management		7% - 9%
	Record keeping and documentation		3% - 4%
	Pharmacology		4% - 5%
	Other roles within the operating department environment		1%
	Total Scope-Specific Questions		**45 - 55%**

Examination Support Structure

The Council appoints content writers to assist with the development of examination questions.   The Examinations Committee oversees the setting, monitoring, and review of each examination.

Content Writers

Examination questions are developed by Council-appointed clinicians and educationalists who are qualified and registered medical laboratory practitioners or Anaesthetic Technicians and have a high level of clinical and/or educational expertise.

Writers develop questions using the 2018-Nov-V3-MSC-Competence Standards for Anaesthetic Technicians and 2018-Nov-V3-MSC-Competence Standards for Medical Laboratory Science Practitioners as a guide to ensure questions are related to the relevant practice.

All questions are referenced to a relevant academic/literature resource.

Number of Writers

The number of content writers available to the Council at any time needs to be sufficient to enable the continuing development of questions to ensure optimal levels of question banks for each scope of practice.

Training

Content writers must attend Council training modules and are required to abide by a confidentiality agreement. The Council will offer at least one training day each year to ensure there is an adequate and appropriately skilled pool of question writers available.

Examination Committee

The Council has appointed an 8-member Examination Committee which is responsible for the oversight of an examination. The Committee is to ensure each examination assesses the minimum level of applied knowledge for competent and safe professional practice in the relevant scope of practice.

Functions

The functions of the committee include:

- Monitor the processes and procedures for exam question development to ensure the creation of a significant bank of exam questions.

- Ensure the exam question bank is sufficiently broad and effective to maintain a robust method of assessment.

- Ensure the exam meets the parameters of being an assessment of contemporary professional and ethical medical laboratory science and anaesthetic technology practice and is in alignment with the Council's competencies standards.

- Review and revise the question bank to improve the efficiency and effectiveness of questions.

- Consider analytical reports provided by MSS and adjust exam results as required.

Membership

At least two members are current sitting professional members of the Medical Sciences Council and at least one member is external to the medical laboratory science and anaesthetic technology professions. At least one member will have experience in developing examinations or assessment of professional competencies.

Committee members include senior members of the m medical laboratory science and anaesthetic technology profession and/or New Zealand tertiary education providers with the latter having experience and knowledge in the core competencies required for registration in the professions, including experience in training, teaching, and assessment of professional competencies.

All Committee members are appointed by the Council and are required to sign confidentiality and conflict of interest agreements.

Committee Chair

A Committee Chair is appointed by the Council and must be a current member of the Council.

The role of the Committee Chair is to:
- Chair meetings.
- Develop agendas for Committee meetings.
- Ensure meeting minutes are recorded.
- Act as the Committee spokesperson to the Council.
- Be the primary point of contact with Medical Sciences Secretariat (MSS) staff in respect of Committee work.

Examiner-in-Chief

The Committee will make recommendations to the Council for two Committee members to be designated as Examiners-in-Chief.

Examiners-in-Chief are responsible for:
- Ensuring that all questions are developed in accordance with the Council's Online *Examinations* policy.
- Approval of all questions included in the exam question bank.
- Approval of the format and content for each scheduled examination.

Tenure of Appointments

Committee members <u>are appointed</u> for a 2-year term. Committee membership is to be reviewed every two years.

Quality Assurance

Each examination question is scrutinised and approved by the Examination Committee before being added to an examination questions bank.

The Committee also undertakes a moderation review after each examination to assess question reliability and validity. This may result in amending the results for all candidates who sat a particular examination.

Examination Fee

Examination candidates are required to pay a fee prior to registering for an examination. The examination fee was gazetted by the Council's following a public consultation process. The fee was set at a level estimated to cover the annual running costs for administration of the Council's online examination and based on assumption of an average of fifty (50) examinations per year. The online examination fee can be found under 'fee schedule' on the Council's website www.mscouncil.org.nz.

Examination

The Testing Environment
The examination is taken using the Kryterion's Webassessor application for Online Proctored exams.   Candidates sitting a Council's examination are required to have access to a computer and a reliable internet connection. Before sitting the examination, they are required
to ensure their computer meets the hardware and software requirements.

Applicants sitting a Council examination will be provided with more information on preparing for their exam day prior to the event.

Supervised Examination Sites
The examination is overseen by trained and certified online proctors who follow standard operating procedures to deliver high-stake exams
Exam supervisors cannot answer questions related to examination content.

Authentication
At the time the candidate registered for the examination and sets up their computer they create their biometric profile and when they take the examination this checked again to ensure authentication. During the examination they are monitored by the online proctor to ensure compliance with the online examination conditions.

Examination Day
Examination candidates are provided with detailed information on what to expect on the day of their examination in the Council's publication, *Online Examinations: Candidate Handbook*.

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Examination Agreement
Candidates are required to sign an *Examination Rules Agreement and make fee payment* prior to registering for an examination on the Kryterion website. The agreement is to be included in the information sent to the candidate advising they are required to sit an online examination to be considered for registration. The candidate is required to return the signed agreement along with confirmation of their examination fee payment prior to being issued with a voucher that enables them to register for an examination on the Kryterion website (Webassessor).

Additional Needs
Candidates with a disability can request support to provide appropriate assistance to allow them to sit the examination. Special needs requests will need to be made to the Council by email to mscouncil@medsci.co.nz at least 30 days in advance of a scheduled exam.

Candidates with disabilities will be assessed on a case-by-case basis.

Reporting Problems
Exam candidates are responsible for immediately notifying the online proctor any computer problems, noise disturbance or other distractions that affect their ability to take the exam. Failure to do that will not usually be accepted as mitigating circumstances after the exam.

If the issue is not resolved by the online proctor and the candidate believes it will affect the outcome

of their exam, the candidate must notify the online proctor before logging out of the examination application and request an issue report to be filed.

Professional Conduct
Examination candidates are subject to rules of ethical and professional conduct. Failure to comply with the rules of the examination or any instruction of the online proctor may be regarded as a breach of professional conduct.

Number of Examination Attempts
A candidate can take an examination up to a maximum of three attempts (that is, the first attempt and up to two re-sits). The candidate is required to pay the full examination fee for each attempt.

A first examination must be taken within the 12-month period from the date of the candidate being advised an examination is required. Any re-sits must be taken with the 12-month period subsequent to the first examination taken by the candidate. There must be a gap of at least 3-months between each examination re-sit.

Each re-sit examination will be different from the previous exam(s) taken by the individual candidate.

Special Considerations
Special considerations may be available to candidates who are unable to sit or complete an exam due to exceptional circumstances beyond their control. Candidates may be given an opportunity to re-sit the examination at the next available date without incurring an additional exam fee.

Special consideration is not a means for circumventing the Council's usual examination process.

Details of what may constitute a special consideration is set out the Council's publication *Online Examinations: Candidate Handbook.*

Examination Results
Examination results will be provided approximately three weeks after the candidate has sat the examination. This period is required to analyse results and conduct psychometric assessment, to ensure the exam is fair, valid, and reliable.

Results are reported as a *pass* or a *fail* and are posted directly to the candidate via email.

Failing an Examination
Failed candidates will receive limited feedback indicating domains where exam performance suggests additional focus and preparation should be applied.

If a candidate does not pass the exam after a total of three attempts the Council is of the general view that they are not able to apply foundational knowledge and concepts to the minimum level required for safe practice.

The candidate would subsequently be advised of a proposal to decline their application for registration. In accordance with the Health Practitioners Competence Assurance Act 2003, the candidate will have an opportunity to be heard in respect of that proposal.

The Examination Process: A Graphic Overview