

The hematological pathology specialty exam: advice for preparation and success

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CAP hematopathology review course January 16, 2021

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Disclosures

- None
- I am not affiliated with the examination committee and have no involvement in the exam process
- The information provided here is derived from the RCPSC website. It is the individual candidate's responsibility to review and verify this information as accurate

https://www.royalcollege.ca/rcsite/documents/ibd/hematological_pathology_examformat_e

Objectives

At the end of this session, participants will:

- Have a clear understanding of the overall format of the RCPSC exam in Hematological Pathology (HP)
- Have additional knowledge of the evaluation processes that guide the HP examination
- Be aware of techniques to maximize success in all components of the exam

What do I need to know for the exam?

- Basically everything about daily everyday practice of hematopathology
- If it exists, you should know something about it...
- Anything you see in the lab, anything you encounter in practice, you should understand it conceptually (theory, equipment, procedures, management etc.).
- Always ask **WHY**...and then ask **WHY** again...and then ask **WHY** again

What do I need to know for the exam?

Ask yourself this question:

“If all the staff hematopathologists disappeared one day, could I run the service?”

If the answer is no, you’re probably not ready to take the exam

What do I need to know for the exam?

- Exam is looking for basic competency for safe and responsible independent practice NOT perfection
- Part of the exam is basic knowledge, recall etc.
- **MOST IMPORTANT** is your **APPROACH** and your ability you can deal with commonly encountered situations in routine practice
- By your senior year, you should be functioning as a junior staff, and that will be the expectation on the exam

What do I need to know for the exam?

- Objectives for the specialty are available on the Royal College website
- Should at least overview these before the exam
- Document available for download from RCPSC website

2015

EDITORIAL REVISION – JANUARY 2018

VERSION 2.1

These training requirements apply to those who begin training on or after July 1, 2015.

MINIMUM TRAINING REQUIREMENTS

PATHWAY 1

Four years of approved residency training. This period must include:

1. Thirty-nine blocks of approved residency training in laboratory hematology, supporting adult and pediatric clinical services. This must include experience in the laboratory aspects of:
 - 1.1. Minimum of fifteen blocks of morphological hematology
 - 1.1.1. Minimum of three blocks of peripheral blood and body fluids morphology
 - 1.1.2. Minimum of six blocks of bone marrow morphology
 - 1.1.3. Minimum of six blocks of lymph node and other hematolymphoid tissues morphology
 - 1.2. Minimum of three blocks in a laboratory setting supporting pediatric clinical services
 - 1.3. Minimum of one block of instrumentation and automation in the laboratory
 - 1.4. Minimum of two blocks of flow cytometry
 - 1.5. Minimum of five blocks of hemostasis and thrombosis
 - 1.6. Minimum of five blocks of transfusion medicine
 - 1.7. Minimum of one block of tissue typing and stem cells
 - 1.8. Minimum of one block of cytogenetics
 - 1.9. Minimum of one block of molecular diagnostics
 - 1.10. Minimum of two blocks of hemoglobinopathy
2. Seven blocks of approved clinical residency training:
 - 2.1. Four blocks of adult clinical Hematology, including benign and malignant hematology, and stem cell transplantation
 - 2.2. One block of clinical pediatric hematology/oncology

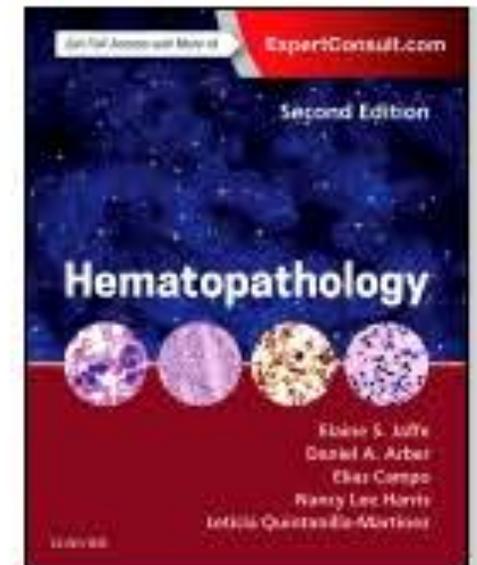
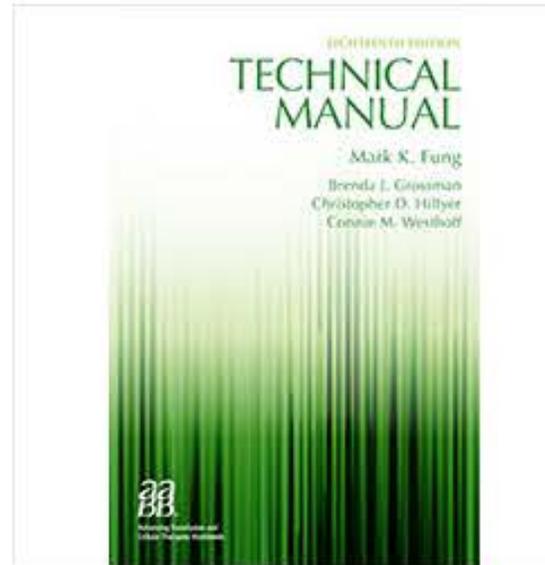
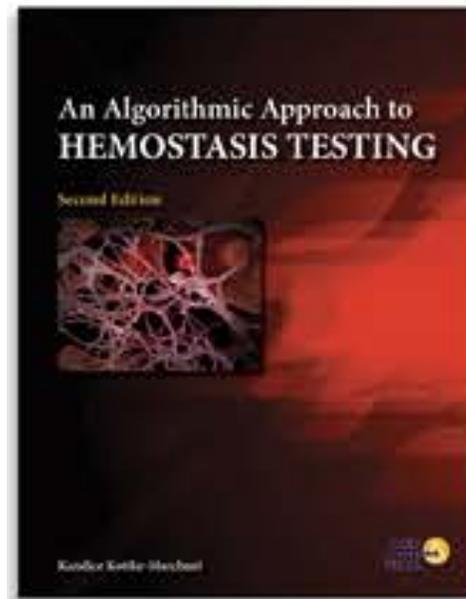
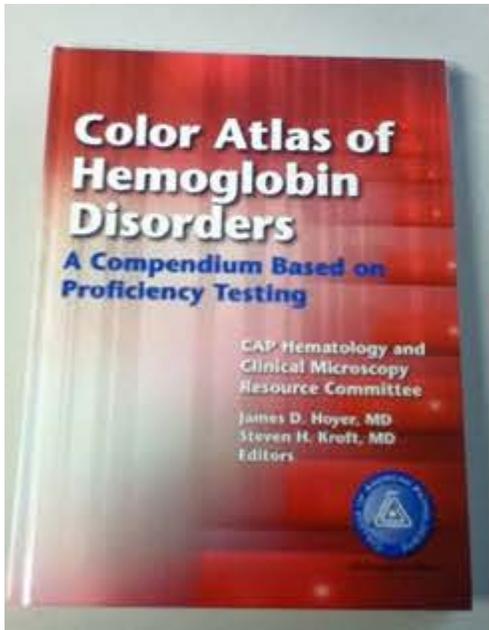
What do I need to know for the exam?

Residency is independent learning:

- Your staff can only guide your learning through teaching and mentorship
- Residency gives you a basic competency toolbox for practice
- YOU need to take the initiative to learn areas of the specialty not encounter with your staff etc.
- Attendance to rounds, half-day, case signout etc. are all critical to success at the exam and in practice

What resources are available?

- Human learning is cumulative, occurs over a 4-5 year period
- Some useful review resources include:



Canadian Hematopathology Review Course

Jason Quinn, MD, FRCPC

Assistant Professor, Dalhousie University

Department of Pathology and Laboratory Medicine

Dalhousie University

<https://www.hematopathologyreview.com/home>

Exam preparation

- Review books, reference websites
- Review slide collections (**starting thinking about digital pathology**)
- Speak with lab managers, especially about QA/QC
- Review CANMEDS
- Participate in practical exams
- Don't forget to review some key aspects of clinical heme, ex. ddx for cytopenias, basic prognostic scores, clinical presentations etc.
- Be familiar with basic concepts of **health informatics, AI and computational pathology**



Exam format 2021

1. Written component (now includes former practical component)
2. Applied component (formerly oral component)

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Changes in 2021 due to COVID

- Virtual delivery of oral component (now called applied)
- No microscopes or slides
- Computer-based in a controlled environment for applied
- The former practical component has been turned into a SAQ written component

Exam format: written

I. Written Component

A. Format of Written Component

The written component consists of two 3-hour short-answer questions (SAQs) papers. They may be single or multi-part questions, or scenario based evaluating more complex concepts and thought processes, and some are simply looking for facts. Each question focuses on one specific topic and has 3-5-sub short answer questions as part of that section. Questions may be accompanied by images or other diagnostic material requiring interpretation. Essays are not required. All questions should be answered, so candidates are urged to read the entire paper and to budget their time adequately. The written component measures knowledge and application of knowledge necessary to function as a competent specialist in Hematological Pathology

Exam format: written

B. Blueprint and Content of the Examination

The questions are designed to assess the principles and practice of hematological pathology. This includes questions related to relevant basic science areas required to understand disease mechanisms and diagnostic/prognostic testing of these disorders, current laboratory/pathology techniques, and diagnostic criteria for disease processes, prognostic indicators in disease, as related to hematological pathology, and the theory and practice of hematological pathology.

The subjects covered in this examination will include, but are not limited to:

- Malignant hematology;
- Benign hematology;
- Transfusion medicine;
- Thrombosis and hemostasis;
- Hemoglobinopathies;
- Laboratory/pathology techniques/devices/management.

Classification	% Marks*
1. General Hematology	25 – 45
2. Malignant Hematology	20 – 35
3. Hemostasis and Thrombosis	15 – 25
4. Transfusion Medicine	10 – 20

Exam format: written

Written component

- Write legibly
- Strive to answer all questions (no penalty for wrong answers)
- Consists of several booklets, pay close attention to how many
- Don't write any essays
- Watch the time!
- Very prescriptive format i.e.:
 - **“List three things that can cause X”**
 - Only three short spaces provides, gives you some guidance
 - Many questions want one word or very short, brief answers
 - Fill in tables may also be present

Exam format: applied

II. Applied Component

Due to the COVID-19 pandemic, the applied 2021 component of the examination for Hematological Pathology will be delivered **remotely through a computer-based platform**. The format of the exam will include # virtual stations of xx minutes duration. There may be more than one cases covered in a station. The remotely administered stations will all have an examiner present in addition to any relevant material. The material may include static images, videos or documents (e.g. handouts with lab results, etc...)

Examiners may also role-play during the examination to simulate an interaction with a patient or colleague.

In advance of the exam, we will provide candidates with detailed instructions about:

- Minimum technical requirements (OS, browser, camera, etc...)
- A demo of the examination
- How to log into the secure Royal College exam platform
- How to move virtually between each of the examination stations
- What to do / who to contact if a problem occurs.

Please bookmark this page and check back often as information is updated.

https://www.royalcollege.ca/rcsite/documents/ibd/hematological_pathology_examformat_e

Candidate I.D.	Affix sticker here
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Hematological Pathology

The following are examples of items that you would find in a short-answer question (SAQ) exam. Model answers are included for your information.

[Date]

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Booklet 1 of 1



Specialty Training Requirements in Hematological Pathology

2015
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Exam format: applied

Oral (applied) component:

- Laboratory management and oversight, issues of quality assurance and professionalism
- Remember the CANMEDS framework

Exam format: applied

Oral (applied) component:

- Listen carefully to the questions
- May be a prompt or lab values to review first or as you are taken through a case
- Examiners will walk you through the case, pay attention to cues as to what they are looking for
- If you don't know, say you don't know, would look it up or consult a colleague
- Looking for a safe and competent, reasonable and organized approach
- Try to be relaxed and think clearly, the examiners want to you succeed
- If you need to pause and organize your thoughts, that's okay

Exam outcome

- Success or failure is based on consideration of all components of the exam (RCPSC says 70% minimum in all components)
- The comprehensive objective examinations are considered a "whole" and cannot be fragmented
- Examiners are fair, friendly and genuinely want to see you succeed
- Questions are not meant to “surprise” or “trick” you etc.

My pearls for the exam, residency and practice

- Show genuine interest and enthusiasm for your specialty
- Work through residency with the frame of mind that you are taking responsibility for patient care as a staff person or lab director
- Attend educational events always and be engaged
- Always ask WHY at least three times for anything you see or encounter

Some useful resources

Transfusion:

- AABB Technical Manual (review key tables)
- AABB or CSTM transfusion standards
- Practical Guide to Transfusion Medicine
- AABB antibody case studies
- Don't forget to review maternofetal and pediatric transfusion medicine!
- <http://www.bbguy.org/>
- <https://www.hematopathologyreview.com/home>

Hemoglobinopathy / Red Cell Disorders

- Color Atlas of Hemoglobin Disorders
- Clinical hematology textbooks, ex. William's Hematology
- Unfortunately no one single "go-to" book for this

Some useful resources

Coagulation:

- An Algorithmic Approach to Hemostasis Testing (CAP)
- Laboratory Hemostasis: A Practical Approach
- IQMH (Ontario) validation / QC guidelines
- Know how to validate an INR or aPTT!
- <http://practical-haemostasis.com/>

Neoplastic

- WHO 2016
- Blood Journal Review Articles (know some key staging systems and treatments)
- Hematopathology textbooks, including basic lymph node pathology and lymphomas
- Also, don't forget to review basic pediatric hematopathology, esp. leukemias, IBMFS, hemoglobin disorders, congenital cytopenias etc.