



ROYAL COLLEGE OF  
PHYSICIANS OF IRELAND

Frederick House  
19 South Frederick Street, Dublin 2  
Telephone: +353 1 863 9700  
Facsimile: +353 1 672 4707  
Website: [www.rcpi.ie](http://www.rcpi.ie)

**FACULTY OF PATHOLOGY**

**CURRICULUM FOR HIGHER  
SPECIALIST TRAINING**

**IN**

**H A E M A T O L O G Y**

**SEPTEMBER 1997.**

# **HAEMATOLOGY**

## **INTRODUCTION**

The discipline of Haematology encompasses both clinical and laboratory aspects. Registration as a specialist in Haematology (and award of a CSD) will require satisfactory completion of a structured training programme with both clinical and laboratory components.

## **ENTRY REQUIREMENTS**

Applicants for Higher Medical Training (HMT) should have completed a minimum of two years of General Professional Training (GPT) in approved posts. The object is to gain experience over a wide field of clinical medicine. Experience in Clinical Haematology or Medical Oncology at Senior House Officer grade is desirable but not essential. GPT should provide a minimum of 24 months direct patient care with at least 12 months concerned with acute unselected medical intake. MRCP (I ) or (UK) should be obtained. Graduates of non Irish/UK Medical Schools without the MRCP (I) or (UK) who compete for HMT posts must provide evidence of knowledge, training and qualifications equivalent to MRCP (I) or (UK) standard.

## **ORGANISATION AND DURATION OF HMT**

The duration of HMT in Haematology is five years. The first two years will be directed towards acquiring broad general experience in clinical and laboratory Haematology in a supervised setting. The remaining three years will facilitate the development of independence in clinical and laboratory practice. During this time, individuals may choose to develop a subspecialty interest in one of the three major areas of Haematology: Haematological Oncology, Coagulation Medicine and Transfusion Medicine.

During the five years, it is expected that trainees will rotate through several Haematology units providing experience in primary unselected haematological practice as well as supra-regional referral practice. The trainee will have a designated Consultant Trainer for each component of the programme. All trainees will be required to devote at least three months to transfusion medicine. This component will be supervised by a Consultant Trainer with a special interest in transfusion medicine, and should include experience in a regional blood donation processing centre.

## **RESEARCH**

Research experience is encouraged and a period of relevant full time research can count for up to one year of HMT. The project should be related broadly to some aspect of Haematology, and will be supervised. Some trainees may wish to devote additional time to research. This will require stepping aside from the standard HMT programme, but Trainers will make every effort to facilitate such additional research in a flexible fashion.

## **ASSESSMENT & TRAINING RECORD**

*Assessment of trainees will be achieved by use of a training record and by formal examination.*

The training record will be maintained by the trainee and counter-signed by the relevant Trainer quarterly. The recommendation of the National Specialist Director of Higher Medical Training in Haematology and the Consultant Trainers will be submitted to the ICHMT which retains the final responsibility for advising the Medical Council on this matter. During the final three years of training, at least one review will involve external assessment. The Assessment Panel may indicate where specific deficiencies in the trainee's experience exist. If required, remedial action will be recommended. Under these circumstances, recognition of training will be withheld until the Assessors are satisfied that the remedial action has been successfully undertaken.

All trainees will be expected to take the formal MRCPPath Part I Examination after completion of the first two years of training. This structured examination, administered by the Royal College of Pathologists, tests particularly the trainee's theoretical knowledge of Haematology, ability in morphological diagnosis, and interpretation of laboratory coagulation and transfusion data. There will be an oral examination designed to test knowledge and skills in diagnosis and clinical management, including haematological aspects of General Medicine. The MRCPPath Part II will be taken towards the end of the training programme (year four or five), and comprises oral examinations in all aspects of clinical and laboratory haematology including audit and laboratory management.

Failure to obtain the MRCPPath Part I will not prevent progress to the next year of training, but it is necessary to pass both Parts I and II of the MRCPPath Examination for recognition of the completed five-year training programme.

## **TRAINING RESOURCES**

Consultant Trainers will be expected to develop a programme which includes formal instruction in laboratory Haematology, including morphology reporting, diagnostic blood counting, coagulation and transfusion. Trainees will participate in in-patient and out-patient clinical settings, closely supervised during the early stages of training, but with increasing independence as they progress through the five-year programme. Trainers will ensure that any aspect of management of individual cases can always be discussed with a Consultant. Trainees should have access to library facilities with appropriate general medical and haematological journals and texts, online computer search facilities, and clinical and research seminars/tutorials. Provision should be made for trainees to attend external formal courses in aspects of Haematology.

# CURRICULUM

The core curriculum includes laboratory and clinical aspects of Haematology. A formal introduction to Laboratory Haematology should occur during the first year of HMT. Trainees are expected to obtain practical experience in common laboratory methods, with an emphasis not on technical proficiency, but on understanding the uses and limitations of each method. The optional curriculum represents an extension of the core curriculum, and includes additional time and training in areas such as haemostasis and thrombosis, transfusion medicine, and blood and marrow transplantation. The timing of individual components of the curriculum is flexible, but trainees should have received some exposure to all the major components during the first two years of training.

## DETAILS OF CORE CURRICULUM

### 1) **General Laboratory Haematology**

Automated blood counting; preparation, staining and reporting of blood and bone marrow smears; histopathology of bone marrow trephines and lymph nodes. Automated methods in laboratory practice; local and external quality assurance. Reticulocyte counting; haemolytic anemia investigation, including laboratory diagnosis of paroxysmal nocturnal haemoglobinuria. Flow cytometry and immunophenotyping.

### 2) **General Coagulation**

Coagulation screening tests (technical aspects and interpretation): prothrombin time, partial thromboplastin time, thrombin clotting time, fibrinogen assay, fibrinogen degradation products, automated methods. Measurement of INR and anticoagulant dosing. Investigation of thrombophilia.

### 3) **General Transfusion**

Blood grouping; crossmatching of blood; identification and recognition of clinically important allonitibodies; direct and indirect antiglobulin test. Organisation of transfusion laboratory; routine pretransfusion testing; clerical and safety procedures in using blood; identification of blood transfusion reactions and recording same. Detection of anti-D and prevention of haemolytic disease of the newborn.

### 4) **Chemotherapy**

Hazards, handling, administration, indications and toxicity of chemotherapeutic agents used in Haematology. Technique of lumbar puncture/intrathecal chemotherapy. Venous access techniques (including care and maintenance).

**5) Radioisotopes**

Clinical and theoretical instruction in the diagnostic and therapeutic use of radioisotopes in Haematology; safety issues (handling, disposal); national and E.U. legislation regarding use of radioisotopes in medicine.

**6) Bone Marrow Examination**

Documented proficiency in performance of adult and paediatric bone marrow aspirate and biopsy; appropriate use of special bone marrow investigations including immunophenotype and cytogenetics.

**7) Laboratory Management**

Participation in management discussions; information technology; laboratory audit; quality control (internal and external); automation; near-patient testing.

**8) Pathophysiology, Diagnosis and Management of the Following Haematological Disorders**

- Acute and chronic leukaemias.
- Myeloma.
- Lymphoma: Hodgkin's disease and Non-Hodgkin lymphoma.
- Haemophilia, von Willebrand's disease and other inherited bleeding disorders.
- Acquired bleeding disorders (DIC, in renal and hepatic disease, massive transfusion, and obstetric complications).
- Thrombophilia: inherited and acquired.
- Haemoglobinopathies, including sickle cell disease and thalassaemia.
- Myelodysplastic syndromes.
- Aplastic anaemia.
- Myeloproliferative disorders.
- Anaemia, including iron-deficiency, megaloblastic, haemolytic (immune and non-immune).

**9) Blood and Marrow Transplantation**

Allogeneic and autologous marrow/stem cell transplant; techniques of progenitor cell collection and infusion; post-transplant complications including graft-versus-host disease.

**10) Additional Transfusion Medicine**

Preparation and use of leucocyte-depleted blood products; warm and cold autoantibody diseases; HLA-typing; viral safety; preparation and use of blood components; legal aspects of transfusion medicine. Principles and practice of plasmapheresis: indications, assessment of patients, technical aspects and complications.

**11) Additional Coagulation Medicine**

Specific clotting factor assays; investigation of von Willebrand's disease; identification and measurement of inhibitors; measurement of protein C, S, antithrombin, lupus anticoagulant, activated protein C resistance/Factor V Leiden. Platelet disorders; uses and limitations of platelet function assays; mechanisms and uses of antiplatelet drugs.

**12) Paediatric Haematology**

All of the above (1-11), with emphasis on paediatric applications, including neonatal haematology, haemorrhagic disease of the newborn, transfusion in childhood (including for haemoglobinopathies), thrombocytopenia in children, childhood leukaemia, inherited disorders of the red cell.

**13) Haematological Consultation**

All of the above (1-12), in the setting of providing a consultative service to medicine, surgery, intensive care units, and other specialties including obstetrics.

**14) General Aspects of Haematological Practices**

Communication skills (including diagnosis, toxicities, prognosis); palliative care; infection in immunocompromised patients (including antibiotic policies).

**OPTIONAL CURRICULUM:**

Development of one or more core components listed above (in particular 9, 10, 11 or 12).

## APPENDIX A

	<b>ICHMT</b>	<b>JCHMT/SAC</b>	<b>UEMS</b>
			No specifications yet
<b>Entry Requirements</b>	Competitive MRCP plus 2 years GMT	Competitive MRCP plus 2 years GMT	
<b>Duration of training</b>	5 years	5 years	
<b>Training Institutions</b>	Teaching/Regional Hospitals	Teaching/District General Hospitals	
<b>Research</b>	1 year (approved) recognised for HMT	1 year (approved) recognised for HMT	
<b>Curriculum</b>	As outlined (Follows JCHMT)	As outlined	
<b>Exam-based assessment</b>	MRCPath I and II	MRCPath I and II	
<b>Number of Procedures</b>	Not specified	Not specified	

## **APPENDIX B**

### **STATEMENT OF ORIGIN**

(For ICHMT curriculum for HMT in Haematology).

This curriculum has been prepared by Dr. Paul Browne (nominee of the Irish Haematology Society) and Professor T. J. McKenna (ICHMT). It has been reviewed by the President (Dr. Brian Otridge) and the Secretary (Dr. Owen Smith) of the Irish Haematology Society. All consultant members of the Irish Haematology Society have been sent a copy of this curriculum for review.