JCHMT

JOINT COMMITTEE ON HIGHER MEDICAL TRAINING

HIGHER MEDICAL TRAINING

CURRICULUM

FOR

HAEMATOLOGY

1 January 2003

Joint Committee on Higher Medical Training
5 St Andrews Place
Regent's Park
London NW1 4LB

Tel: 020 7935 1174
Fax: 020 7486 4160

Email: HMT@rcplondon.ac.uk

This curriculum is available on the JCHMT website:
http//www.jchmt.org.uk

TABLE OF CONTENTS

INTRODUCTION

Haematology in the UK encompasses both clinical and laboratory aspects of the speciality. Award of the CCST will require evidence of satisfactory completion of training in both of these aspects.

Entry Requirements

Applicants for Higher Medical Training (HMT) should have completed a minimum of two years 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 oncology is desirable but not essential for entry to HMT.

GPT is defined as follows:

- a minimum of 2 years in approved posts with direct involvement in patient care and offering a wide range of experience in a variety of specialties
- 18 months of the 2 years must be spent in posts providing experience in the admission and early follow-up of acute emergencies
- at least 6 of these 18 months must be spent on a service or services on which the emergency take is 'unselected'
- 'unselected take' is defined as acute medical intake encompassing the broad generality of medicine ie not restricted to any single or small group of specialties. If any major component of acute medicine (eg cerebrovascular accidents, myocardial infarctions) is excluded from the take, this experience must be obtained in other posts. During the period on 'unselected take' trainees should have an on-call commitment which averages no less than 4 takes per month

In addition to meeting GPT requirements entrants to Higher Medical Training must hold the MRCP (UK) or (I). The MRCPCH allied to paediatric GPT experience will also be acceptable. Non-UK graduates without the MRCP who compete for HMT posts must provide evidence of appropriate knowledge, training and experience, particularly in the care of acute medical conditions.

Higher Medical Training

HMT will occupy not less than five years. The first two years will be directed towards acquiring a broad general experience in Haematology under supervision with both formal and informal teaching.

During the subsequent three years the trainee will acquire a greater independence in clinical and laboratory practice. There should be some scope for pursuing sub-specialisation within haematology. Experience in research would also be encouraged but is not obligatory. One year of pure research may count towards HMT providing that the research is relevant to haematology. Further research may be undertaken during the period of sub-specialisation but this will need to be organised within the context of more specialist clinical training. Assurance that the research will count towards HMT should be obtained prospectively.

During the five years a period of time will be spent in a District General Hospital; this will

vary and should be at least six months but would not usually exceed two years. This would need to be discussed with the Regional Training Committee. It can be taken at any stage but the training received would need to be geared to the level of the trainee's previous experience.

Training record

A Training Record will be maintained by the trainee. It will be counter-signed as appropriate by the Educational Supervisors to confirm the satisfactory fulfilment of the required training experience and the acquisition of the competences that are enumerated in the Specialty Curriculum. It will remain the property of the trainee, and must be produced at the annual assessments.

Flexible training

Trainees who are unable to work full-time are entitled to opt for flexible training programmes. EC Directive 93/16/EEC requires that:

i Part-time training shall meet the same requirements as full-time training, from which it will differ only in the possibility of limiting participation in medical activities to a period of at least half of that provided for full-time trainees;

ii The competent authorities shall ensure that the total duration and quality of part-time training of specialists are not less than those of full-time trainees

The above provisions must be adhered to. Flexible trainees should undertake a pro rata share of the out of hours duties (including on-call and other out of hours commitments) required of their full-time colleagues in the same programme and at the equivalent stage.

For details of appointment and funding arrangements for flexible trainees, please see the revised 'Guide to Specialist Registrar Training' (February 1998).

Research

Some trainees may wish to spend two or three years in research, either before entering HMT or by stepping aside from clinical training after entering a programme. This is perfectly acceptable but only one full year will count towards the programme. For those undertaking an extended period of research *after entering a programme* and obtaining their NTN, a limited amount of additional educational credit may be granted at the discretion of the SAC for clinical work relevant to the programme undertaken in the course of research beyond the initial year. This concession does not apply to those undertaking research *prior to entry* to a higher training programme.

AIM OF THE CURRICULUM

The overall aim of this curriculum is to enable the trainee to acquire the skills and knowledge to provide a clinical and laboratory haematology service. It should be used in conjunction with the generic curriculum which precedes this specialist curriculum.

On completion of the educational programme the trainee will have acquired:

- An understanding of haematological laboratory practice.
- The diagnostic techniques required in the practice of haematology
- Understanding of the areas of clinical haematology detailed in the curriculum.
- A basic knowledge of specialist areas within haematology such as paediatric haematology and blood transfusion.
- The communication skills required for the practice of clinical haematology.
- The acquisition of some management skills required in the running of the haematology laboratory.
- Understanding of research, audit and team working, which underpin haematology practice.

SUBJECT MATTER

There are 4 main areas of subject matter included within the curriculum of haematology.

1. Laboratory aspects of haematology.

2. Specialist clinical haematology including the diagnosis and treatment of :

   - Anaemia
   - Acute leukaemia in adults
   - Chronic leukaemia
   - Myeloma and lymphoma
   - Haemophilia & related disorders
   - Thrombophilia & thrombosis
   - Acquired bleeding disorders
   - Haemoglobinopathies
   - Bone marrow failure syndromes
   - Myeloproliferative disorders

3. Specialist areas of haematology. The trainees will acquire a basic knowledge of transfusion medicine, paediatric haematology, haemostasis and thrombosis and marrow transplantation. Subspecialisation within these areas may be undertaken.

4. Communication and management issues in haematology.

TEACHING/LEARNING METHODS

The following teaching/learning methods within the following tables will be used to identify how individual objectives will be achieved.

A) Observation of, assisting and discussion with Senior Medical Staff.
B) Task specific on the job training.
C) Observation of laboratory methods.
D) Discussion with senior MLSO staff.
E) Practical bench work.
F) Personal study.
G) Appropriate post graduate education courses.
H) Tailored clinical experience.
I) Laboratory and clinical team meetings.

These appear on the tabulated curriculum to indicate learning methods against specific topics.

ASSESSMENT METHODS

Assessment of trainees will be based on the format of annual review including Penultimate Year Assessment (PYA). The award of CCST will be based on satisfactory completion of the entire series of annual assessments. The major summative assessment (examination) occurs at the end of the first two year period of training in the shape of the MRC Path. Part I. Training can progress despite failure to acquire Part I MRC Path. at the end of the second year, but both Parts I and II of the MRC Path. will be required for the eventual award of the CCST. Continuous assessment throughout training will be undertaken by the educational supervisor and other senior members of staff. **Accurate and systematic observation will be employed.** Key areas are:

a) Detailed and reliable history taking and clinical examination.
b) Accurate and timely diagnosis and formation of appropriate treatment plans.
c) Successful patient outcomes.
d) Patient and relatives views.
e) Demonstration of sound knowledge of laboratory methods, their limitations and the interpretation of laboratory results.

These appear on the tabulated curriculum to indicate assessment methods against specific topics.

EVIDENCE OF COMPETENCE

Detailed procedures observed by an independent assessor and judged to be satisfactory will be recorded in the trainees Log Book. A correctly maintained and up to date Log Book will be used as evidence for satisfactory progress. This will be supplemented by a trainer's report and the assessment process outlined above. Summative assessment will be in the shape of the MRC Path Parts 1 & 2.

ORGANISATION OF TRAINING

The training period will begin with a formal introduction to laboratory aspects of haematology and an introduction to the presentation and management of haematological disorders. Following the induction period the trainee will receive instruction and practical experience in further aspects of haematology both laboratory and clinical. During the second year the trainee will continue to broaden experience and understanding of common blood disorders and their management and this period of training will be formally assessed in the shape of the MRC Path Part I examination. During this period a formal blood transfusion course of four weeks would be appropriate.

Third, fourth and fifth years – the trainee entering the second part of the training programme will have a sound theoretical and practical knowledge of haematological practice but will not have had a great deal of unsupervised experience in applying that knowledge. Second phase of the training is thus devoted to acquiring self-sufficiency in the speciality during this period. The trainee will be expected to have specific instruction in blood transfusion, paediatric haematology, bone marrow transplantation and haemostasis and thrombosis. If desired, the trainee may extend the period of time spent in sub-speciality training. In addition, up to twelve months of this time may be used for an approved research project and will count towards training. District General Hospital experience should also be gained during the five years and this may vary from six months to two years, depending on the interests and experience of the trainee.

OBJECTIVES AND SUBJECT MATTER

These are tabulated in the following pages.

Introductory Training
(First 3-4 months)

A formal period of instruction takes place at the beginning of the Higher Medical Training to provide an introduction to laboratory aspects of haematology.

OBJECTIVES: this period of training is designed to equip the trainee with the core knowledge and skills required for the practice of clinical and laboratory haematology. By the end of this period the trainee would be expected to:

- Have gained an understanding of laboratory practice including Health & Safety and Quality Control.
- Have sufficient understanding of haematology to offer basic advice on the interpretation of laboratory results.
- Have a sufficient knowledge of laboratory techniques to underpin clinical laboratory practice.
- Have a basic knowledge of the presentation and management of the common haematologicaldisorders.
- Ensure knowledge of risk management issues as they apply to laboratory and clinical haematology.

Objective - To achieve sufficient understanding of laboratory haematology to offer basic advice on the interpretation of results

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Use of automated blood counters	Explain the principles behind automated counters Interpret results generated	Establishes close rapport and understanding with laboratory staff	A C D	e
Making and staining of peripheral blood films Use of different stains	Report blood films and differential white cell count Recognise malignant haematological disorders, red cell abnormalities & malarial parasites	Ensure liaison between laboratory and clinical staff	A D E F	e
Instruction in methods for obtaining bone marrow aspirate and trephine biopsies	Perform procedure with supervision Prepare slides and trephine roll preparations		ABD E F	e

Introduction to Haematology (2)

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Basic Blood Transfusion techniques	Perform and interpret:- Blood grouping Cross matching Direct antiglobulin test Recognise clinically significant antibodies	Relates blood transfusion laboratory practice to patient care	ABCDE	e
Techniques for coagulation testing including automation of coagulation tests Basic Thrombophilia testing	Perform and interpret PT, INR, APPT, Thrombin time, Fibrinogen assay and FDPs Be familiar with current methods for automated coagulation testing. Interpret thrombophilia testing results	Applies laboratory results to patient care	ABCDE	e
Presentation and management of common haematological disorders	Recognise in the laboratory and advise on the initial management of common anaemias, acute and chronic leukaemia, myeloma and lymphomas	Works as part of the clinical team in the management of these disorders	AHI	a b c

Laboratory Haematology
Objective – To be competent in the management of the haematology laboratory

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Interpretation of peripheral blood films including those flagged as abnormal by MLSO or automated counter	Accurately report red cell and platelet abnormalities. Recognise acute and chronic leukaemia and malarial parasites on blood films	Relates laboratory findings to clinical picture	ABCDEF	b e
Indications for and technique of performing bone marrow aspirate and trephine biopsies	Perform technique competently Accurately report results (initially with supervision) Be competent to report unsupervised by end of 2nd year	Treats patient with respect and dignity. Obtains appropriate advice in reporting findings	ABCEH	c e
Indications for use of cytochemical staining, immunophenotyping and cytogenetics as applied to blood and bone marrow samples	Interpret results	Relates laboratory results to patient care	ABCEF	e

Laboratory haematology (2)

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Lymph node histology and classification of lymphomas	Basic knowledge of lymph node histology Be familiar with classification of Hodgkin and non Hodgkin lymphomas particularly the REAL classification	Applies knowledge of histological classification to patient management	ACF	e
Interpretation of CSF cytology	Perform lumbar puncture competently and obtain CSF for cytospin preparation Recognise presence of malignant cells in CSF	Relates laboratory results to patient care	ACF	c e
Principles of laboratory management	Be familiar with:- ♦ Quality control including NEQAS schemes ♦ Commercially available laboratory computer systems ♦ Staff performance management and appraisals	Establishes rapport and understanding with laboratory staff	ADGI	e

CLINICAL HAEMATOLOGY

OBJECTIVES

By the end of the educational programme trainees would be expected to manage the following clinical problems:-

1. Anaemia
2. Acute leukaemia
3. Chronic leukaemia
4. Myeloma
5. Lymphoma
6. Congenital coagulation disorders
7. Thrombophilia
8. Anticoagulation
9. Acquired bleeding disorders
10. Platelet disorders
11. Haemoglobinopathies
12. Bone marrow failure syndromes
13. Myeloproliferative disorders

The curriculum identifies the areas of understanding and competence that the trainee should have acquired during the educational period:-

Assessment throughout will be by :

Observation by educational supervisor
Observation by other colleagues
Regular formative assessment
MRC Path Parts I & II
PYA

Evidence of competence will be found from the completed training record, reports of educational supervisor and the successful completion of the MRC Path.

Anaemia

Objective - Competent to manage patients presenting with anaemia

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Knowledge of the pathophysiology of anaemia	Distinguish between the various causes of anaemia including:- ♦ Iron deficiency ♦ Megaloblastic anaemia ♦ Congenital and acquired haemolytic anaemia ♦ Anaemia of chronic disorders		ACEFG	a b c e
Knowledge of the haematological, biochemical and radiological techniques required for the investigation of anaemia	On the basis of history, examination and laboratory results, formulate an appropriate management and treatment plan	Explains diagnosis and investigation to the patient and their relatives	ACDH	a b c d e
Knowledge of the underlying causes of anaemia		Referral to appropriate speciality	AHI	a b c d

Acute Leukaemia

Objective - Competent to manage patients with acute leukaemia

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Presentation, diagnosis and classification of acute leukaemia in adults and children	Recognise presenting features and conduct history and examination competently Use appropriate laboratory investigations to establish diagnosis Formulate a management plan and offer full explanation to patient	Aware of impact of diagnosis on patient and his/her family Acts with empathy in communicating the diagnosis	ABEFHI	a b c d e
Principles of chemotherapy regimens: knowledge of mode of action, side effects and interactions of agents used in the management of acute leukaemia.	Competent to prescribe and administer complex chemotherapy regimens Competent to safely perform lumbar punctures & administer intrathaecal chemotherapy.	Explains planned treatment clearly to the patient	AFHI	b c d
Use of trial protocols and importance of multicentre trials in acute leukaemia	Understand entry criteria Be familiar with ethical considerations of informed consent Collection of entry and follow up data	Provides full explanation of trial entry Obtains informed consent after full discussion with patient and relatives	AFHI	b c d

Acute Leukaemia (2)

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Use of supportive care in management of acute leukaemia	Appropropriate use of: ♦ Blood products ♦ Antibiotic regimens ♦ Central lines ♦ Antiemetics in patient management	Recognises the importance of supportive care for successful patient outcomes	AFHI	b c
Indications for autologous and allogeneic haemopoetic stem cell transplantation in the management of acute leukaemia	Assess suitability for stem cell transplantation Successfully manage patients undergoing stem cell transplantation Recognise complications of stem cell transplantation including post transplant viral syndromes and graft versus host disease	Explains use of transplantation and its limitations to patient and family	AFHI	c d

Chronic Leukaemia

Objective – Competent to manage patients with chronic leukaemia

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Presentation, natural history, molecular biology and pathogenesis of chronic leukaemia Classification and staging of chronic leukaemia	Recognise presenting features and conduct history and examination competently Use appropriate laboratory investigations to establish diagnosis		AFHI	a b c d e
Knowledge of therapeutic agents in the treatment of chronic leukaemia including their mode of action and side effects	Formulate a management plan and offer full explanation to patient	Acts with empathy in discussing the diagnosis	AFHI	b c d
Use of trial protocols and importance of multicentre trials in chronic leukaemia	Understand entry criteria Be familiar with ethical considerations of informed consent Collection of entry and follow up data	Provides full explanation of trial entry. Obtains informed consent after full discussion with patient and relatives	AFHI	c d
Indications for autologous and allogeneic haemopoetic stem cell transplantation in the management of chronic leukaemia	Formulate management plan and offer full explanation to patient	Explains use of transplantation and its limitations to patient and family	AFHI	b c d
Management of short and long term complications of chronic leukaemias	Recognise the impact of chronic disease on the patient and family	Works as part of multi-disciplinary team in managing complications	ABHI	b c d

Myeloma

Objective – Competent to manage patients with myeloma

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Classification, natural history and molecular biology of myeloma Familiar with presentation and staging	Recognise presenting features and conduct history and examination competently Use appropriate laboratory investigations to establish diagnosis and stage of disease		AFHI	a b c e
Knowledge of treatment regimens and trial protocols in the management of myeloma	Formulate a management plan and offer full explanation to patient	Acts with empathy in discussing diagnosis and treatment with patient and family	AFHI	b c d
Indications for intensive chemotherapy and haemopoietic progenitor cell transplantation in the management of myeloma	Assess suitability for stem cell transplantation Successfully manage patients undergoing stem cell transplantation Recognise complications of stem cell transplantation including post transplant viral syndromes and graft versus host disease	Explain use of transplantation and its limitations to patient and family	AFHI	b c d

Lymphoma

Objective – Competent to manage patients with Hodgkin's and non Hodgkin's lymphoma

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Natural history, classification and molecular biology of Hodgkin and non Hodgkin lymphoma Familiar with presentation and staging criteria	Recognise presenting features and conduct history and examination competently Use appropriate laboratory and radiological investigations to establish diagnosis and stage of disease		AFHI	a b c e
Basic knowledge of the histological classification of lymphomas particularly the REAL classification	Competently diagnose lymphoma on trephine biopsy Working knowledge of lymph node histology	Recognises importance of histology in patient management	AEFGI	a b c e
Knowledge of chemotherapy treatment regimens, place of radiotherapy and trial protocols in the management of lymphoma	Formulate a management plan and offers full explanation to patient	Acts with empathy in discussing diagnosis and treatment with patient and family	AFHI	b c d
Indications for intensive chemotherapy and haemopoietic progenitor cell transplantation in the management of lymphoma	Assess suitability for stem cell transplantation Successfully manage patients undergoing stem cell transplantation Recognise complications of stem cell transplantation including post transplant viral syndromes and graft versus host disease	Explains use of transplantation and its limitations to patient and family	AFHI	b c d

Congenital Coagulation Disorders

Objective - Competent to manage patients with congenital coagulation disorders

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Coagulation factors and current views on the coagulation pathway		Relates theoretical knowledge to patient management	ACDEF	e
Natural history, presentation and complications of congenital coagulation disorders including Haemophilia A, Haemophilia B and Von Willebrand's Disease	Be competent in taking history and conducting examination of patient. Formulate an appropriate management plan.	Acts with empathy in managing the disorder and its complications. Recognises impact of the condition on the patient and his family.	AFHI	a b c d
Knowledge of diagnostic methods used in assessment of coagulation disorders including specific factor assays	Interpret results of laboratory assays	Relates laboratory results to clinical practice	ACDEF	e
Use of molecular biological techniques to identify genetic disorders	Advises on role of these techniques in pre-natal and family testing		ACDEF	e
Types of Coagulation factor concentrates including their safety profile	Offers appropriate advice on prophylaxis and treatment of congenital coagulation disorders		ABFGHI	b c d

Thrombophilia

Objective – Competent to diagnose and manage patients with Thrombophilic disorders

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Coagulation inhibitors and fibrinolytic pathway including epidemiology and molecular basis of thrombophilia		Relates theoretical knowledge to patient management	ACDEF	e
Knowledge of natural history, presentation and complications of thrombophilia	Use of appropriate clinical and laboratory methods to reach a diagnosis Competent to advise on treatment and prophylaxis of thrombophilic conditions		AFHI	a b c e
Techniques for the measurement of Protein C, Protein S, ATIII, APCR and Lupus Anticoagulant. Methods for the detection of Factor V Leiden	Able to interpret and apply laboratory results to patient management		ACDEF	e
Effect of pregnancy and oral contraceptive pill and hormone replacement therapy in thrombophilia	Successful management of pregnancy in affected individuals	Liases closely with obstetric and other clinical teams	HI	a b c d

Anticoagulation

Objective – Safely manage patients requiring anticoagulation

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Mechanism of action and indications for the use of heparin and oral anticoagulants	Able to initiate and control heparin and oral anticoagulants		AFHI	b c
Be familiar with different models of anticoagulant control including computerised dosing methods and the use of the multi-professional team in delivering anticoagulant services	Be competent to advise on the follow up of patients receiving anticoagulants	Works as part of multi-professional team	ABDHI	a b c d e
Knowledge of side effects of anticoagulants	Offer advice on the management of over – anticoagulation Recognise and advise on heparin induced thrombocytopenia	Liases closely with other clinical teams	HI	a b c d

Acquired Bleeding Disorders

Objective – Competent to manage patients with acquired bleeding disorders

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Knowledge of the mechanism of bleeding disorders in relation to :- ♦ DIC ♦ Massive transfusion ♦ Renal & hepatic disease ♦ Obstetric complications ♦ Acquired Factor VIII deficiency	Interpret laboratory results correctly Able to formulate an appropriate plan in the management of these disorders	Close liaison with other clinical teams	ACEFHI	a b c e
Knowledge of available coagulation factors including their side effects	Advise on appropriate use of blood products including coagulation factors		AHI	b c e

Platelet disorders

Objective – Competent to manage congenital and acquired platelet disorders

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Knowledge of platelet structure and function. Platelet and vessel wall interaction		Relates theoretical knowledge to patient management	AFG	e
The measurement of platelet numbers by automated counters Knowledge of the use and limitations of platelet function tests	Diagnosis and management of congenital platelet disorders Diagnosis and management of acquired platelet disorders including:- Idiopathic thrombocytopenic purpura Thrombocytopenia associated with systemic disorders Essential thrombocythaemia		ACDEHI	a b c e
Mechanism of action of antiplatelet agents	Provide appropriate clinical advice on the use of antiplatelet agents		AFH	e

Haemoglobinopathies

Objective – Competent to manage patients with haemoglobinopathies

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Knowledge of the molecular basis of abnormal haemoglobins and thalassaemia syndromes			AF	e
Natural history, epidemiology, presentation and complications of thalassaemias, sickle cell disease and other haemoglobin abnormalities.	Use of clinical and laboratory methods to reach a diagnosis and formulate a management plan. Use of appropriate support eg pain relief and blood transfusion in the management of patients with haemoglobin disorders	Understands the impact of these disorders on the patient and their family	ACDHI	a b c d e
Knowledge of laboratory methods used in the screening and diagnosis of abnormal haemoglobins	Provide advice to hospital teams and general practitioners on antenatal diagnosis and screening of families potentially affected		ACDEH	a b c d e

Bone marrow failure syndromes

Objective – Competent to manage patients with bone marrow failure

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Aetiology, natural history and classification of pancytopenia including:- Aplastic anaemia Myelodysplastic syndromes	Use of clinical and laboratory methods to reach a diagnosis and formulate a management plan	Able to give a clear explanation of disorder and its long term management to patient and family	AEFHI	a b c d e
Use of blood product support and knowledge of the complications of long term transfusion	Appropriate use of blood transfusion and iron chelation regimens		AFHI	b c
Indications for use of chemotherapy, immunosuppression and haemopoietic progenitor cell transplant in the management of marrow failure syndromes	Initiate appropriate therapy		AFHI	a b c d

Myeloproliferative disorders

Objective – Competent to manage patients with myeloproliferative disorders

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Pathophysiology and classification of myeloproliferative disorders including:- Polycythaemia rubra vera Essential thrombocythaemia	Use of clinical and laboratory methods to achieve a diagnosis and formulate a management plan		AEFHI	a b c d
Knowledge of therapeutic options including :- Venesection Chemotherapy Other modalities of treatment	Able to competently perform therapeutic venesection		AH	b c d

Haematology relating to other medical specialities

Objective – Competent to advise on haematological problems arising in medical and surgical patients

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Gain an understanding of the haematological aspects of other specialities including:- ♦ Problems of massive transfusion ♦ Multi-organ failure in ITU patients ♦ Haemostatic problems in pregnancy ♦ Neonatal haematology	Able to interpret laboratory results in these clinical situations and provide appropriate and timely advice	Communicates clearly with colleagues in other specialities	ABCEFH	b c e

General aspects of haematology

Objective – Develop the communication and other generic skills required for the practice of clinical and laboratory haematology

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Communication skills	Elicit an accurate history Able to communicate the diagnosis clearly to patients and their relatives Able to explain treatment required and its side effects to patients and their relatives Demonstrate an ability to break bad news including the communication of a terminal prognosis Able to communicate clearly with colleagues in primary and secondary care via clinic letters	Understands impact of disease on the patient and their family Recognises the importance of good communication in the practice of haematology Works as part of a multidisciplinary team.	ABGHI	a b c d
Practical skills which should have been acquired throughout period of training	Insertion and care of central venous lines Use of antibiotic regimens for treatment and prophylaxis in the immunosuppressed patient Use and interpretation of radio-isotope methods in haematology		ABFHI	c
Audit – knowledge of the principles of clinical audit including the audit cycle	Involvement in ongoing audit Undertake at least one audit project	Recognises benefit of audit to clinical care		

TRAINING IN HAEMATOLOGY SUBSPECIALTIES

Blood Transfusion

The trainee will need to acquire a basic knowledge of blood transfusion practice to be able to provide advice in transfusion related matters to clinical colleagues and provide laboratory staff with clinical advice. The trainee wishing to pursue a career in blood transfusion may spend a significant period of training in the subspecialty after acquiring basic haematology training and the MRC Path. Part I. The MRC Path Part II may be slanted towards the subspeciality. Separate guidance and a detailed curriculum is available from the JCHMT and Regional Specialty Advisors.

Blood Transfusion

Objective – Acquire sufficient knowledge of blood transfusion practice to provide advice to clinical colleagues in a general hospital

Knowledge	Skills	Attitudes	Learning Methods	Assessment
Principles of blood transfusion laboratory practice including :- ♦ Identification of allo and auto antibodies ♦ Crossmatching techniques ♦ Automation in blood transfusion ♦ Use of computers in blood transfusion	Practical experience in laboratory techniques. This period of training will require formal secondment to a Blood Transfusion centre		ACDEFGH	e
Basic principles of donor selection and the preparation of blood components including:- ♦ Donor selection ♦ Donor safety ♦ Preparation of blood products ♦ Viral safety		Relates knowledge of principles of blood transfusion to patient management	AGH	e
Principles of clinical blood transfusion practice including :- ♦ Hazards of blood transfusion ♦ SHOT report ♦ The role of the Hospital Transfusion committee	Appropriate use of blood and blood transfusion Manage complications of blood transfusion appropriately Give appropriate advice in patients with allo or auto antibodies		ABDEFGH	b c

Paediatric Haematology

Trainees should receive instruction in and gain practical experience of the problems of haematology in children.

The training programme will usually require specific secondment to a paediatric haematology unit. Those wishing to pursue a career in paediatric haematology will spend a longer period in such a unit. Advice on GPT requirements & specific paediatric haematology training is available from the JCHMT and Regional Speciality Advisors