

TRAINING CURRICULUM

FOR THE

SUB-SPECIALTY OF METABOLIC

MEDICINE

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Joint Royal Colleges of Physicians Training Board

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Table of Contents

1	Introduction	3
2	Rationale	3
2.1	Purpose of the curriculum.....	3
2.2	Development.....	4
2.3	Training Pathway	4
2.4	Enrolment with the Royal College of Pathologists (Chemical Pathology trainees) or JRCPTB (GIM trainees).....	5
2.5	Duration of training	6
2.6	Less Than Full Time Training (LTFT).....	6
3	Content of learning.....	7
3.1	Programme content and objectives	7
3.2	Good Medical Practice	7
3.3	Syllabus	8
4	Learning and Teaching	55
4.1	The training programme	55
4.2	Teaching and learning methods	55
4.3	Research	57
4.4	Academic Training.....	58
5	Assessment.....	59
5.1	The Assessment System.....	59
5.2	Assessment Blueprint.....	60
5.3	Assessment methods	60
5.4	Decisions on progress (ARCP).....	61
5.5	Metabolic Medicine (Chemical Pathology) ARCP Decision Aid	63
5.6	Metabolic Medicine (GIM trainees) ARCP Decision Aid.....	65
5.7	Penultimate Year Assessment (PYA).....	68
5.8	Complaints and Appeals.....	68
6	Supervision and feedback.....	68
6.1	Supervision	68
6.2	Appraisal.....	69
7	Managing curriculum implementation	70
7.1	Intended use of curriculum by trainers and trainees	70
7.2	Recording progress	70
8	Curriculum review and updating	70
9	Equality and diversity	71
	Appendix 1.....	72
	Appendix 2.....	73

1 Introduction

Metabolic Medicine can be defined as a group of overlapping areas of clinical practice with common dependence on detailed understanding of basic biochemistry and metabolism. It therefore falls within the areas of expertise of both the physician and chemical pathologist. Other training programmes do not adequately meet all requirements, particularly with respect to nutritional disorders and adult patients with inborn errors of metabolism (IEM). The curriculum includes a wide range of long-term conditions which demand considerable expertise to achieve disease control and improved quality of life. The five clinical domains included are:

- Disorders of nutrition
- IEM
- Disorders of lipid metabolism and cardiovascular risk assessment
- Disorders of calcium metabolism and bone
- Diabetes mellitus

2 Rationale

2.1 Purpose of the curriculum

The purpose of this curriculum is to define the process of training and the competencies needed for the award of a certificate of completion of training (CCT) in General (Internal) Medicine (GIM) with Metabolic Medicine or Chemical Pathology (CP) with Metabolic Medicine.

This curriculum should be used in conjunction with, and is supported by, the following documents to produce a coordinated training package:

- Specific curricula in either GIM or CP
 - The GIM curriculum can be accessed through the JRCPTB website www.jrcptb.org.uk
 - The CP curriculum can be accessed through the Royal College of Pathologists website www.rcpath.org.uk
- A training and learning record including e-Portfolio or log book for GIM or CP
- A training and learning record including e-Portfolio or log book for Metabolic Medicine.

All examinations and assessments undertaken during training will be clearly linked to the content of the curriculum, and their reliability and validity will comply with General Medical Council (GMC) *Standards for curricula and assessments systems*. While the successful trainees will have adequate skills in all 5 clinical domains of the Metabolic Medicine curriculum, it is expected that they will develop additional advanced experience in one or two domains towards the end of the training programme.

Training in Metabolic Medicine will provide Chemical Pathology trainees with the skills necessary to lead a full clinical service at consultant level in one or more of the five domains described in this curriculum in addition to playing a leading role in the provision of the biochemistry laboratory service

Training in Metabolic Medicine will provide trainees from the GIM pathway with the skills necessary to lead a full clinical service at consultant level in one or more of the

five domains described in this curriculum in addition to playing a leading role in the provision of GIM services including acute admissions.

2.2 Development

This curriculum was developed by the curriculum sub-group of the Specialty Advisory Committee (SAC) for Metabolic Medicine (including a lay member and a trainee) under the direction of the Joint Royal Colleges of Physicians Training Board (JRCPTB) with input from the College Advisory Training Team (CATT) and SAC for CP of the of the Royal College of Pathologists (RCPath). See Appendix 1 for details of contributors. It replaces the previous version of the curriculum dated May 2007, with changes to ensure the curriculum meets GMC's standards for Curricula and Assessment, and to incorporate revisions to the content and delivery of the training programme. Major changes from the previous curriculum include the incorporation of generic, leadership and health inequalities competencies and the alignment of the diabetes domain with that of the Diabetes and Endocrinology curriculum.

A draft version of the curriculum was agreed by the Metabolic Medicine SAC and then put out for consultation to other interested parties including consultant chemical pathologists and consultants in Metabolic Medicine. The content of the curriculum was derived from current UK hospital and laboratory practice in Metabolic Medicine. Educational supervisors and trainees were involved in curriculum development via their representation on College committees.

2.3 Training Pathway

Specialty training in Metabolic Medicine consists of core and higher speciality training. Core training provides physicians with the ability to investigate, treat and diagnose patients with acute and chronic medical symptoms; and with high quality review skills for managing inpatients and outpatients. Higher speciality training then builds on these core skills to develop the specific competencies required to practise independently as a consultant in Metabolic Medicine.

Core training may be completed in either a Core Medical Training (CMT) or Acute Care Common Stem (ACCS) programme. The full curriculum for specialty training in Metabolic Medicine therefore consists of the curriculum for either CMT or ACCS plus this specialty training curriculum for Metabolic Medicine.

The approved curriculum for CMT is a sub-set of the Curriculum for General (Internal) Medicine (GIM). A "Framework for CMT" has been created for the convenience of trainees, supervisors, tutors and programme directors. The body of the Framework document has been extracted from the approved curriculum but only includes the syllabus requirements for CMT and not the further requirements for acquiring a CCT in GIM.

All applicants must possess Membership of the Royal College of Physicians (MRCP) UK or Ireland. Applicants must be accepted onto a GIM or CP training scheme.

Metabolic Medicine is a subspecialty of either GIM or CP and trainees will be National Training Number (NTN) holders in GIM or CP. The award of Certificate of Completion of Training (CCT) is in either GIM or CP and will require evidence of satisfactory completion of the GIM or CP curriculum. The award of subspecialty recognition in Metabolic Medicine on the Specialist Register will require satisfactory completion of training in Metabolic Medicine as outlined in this curriculum.

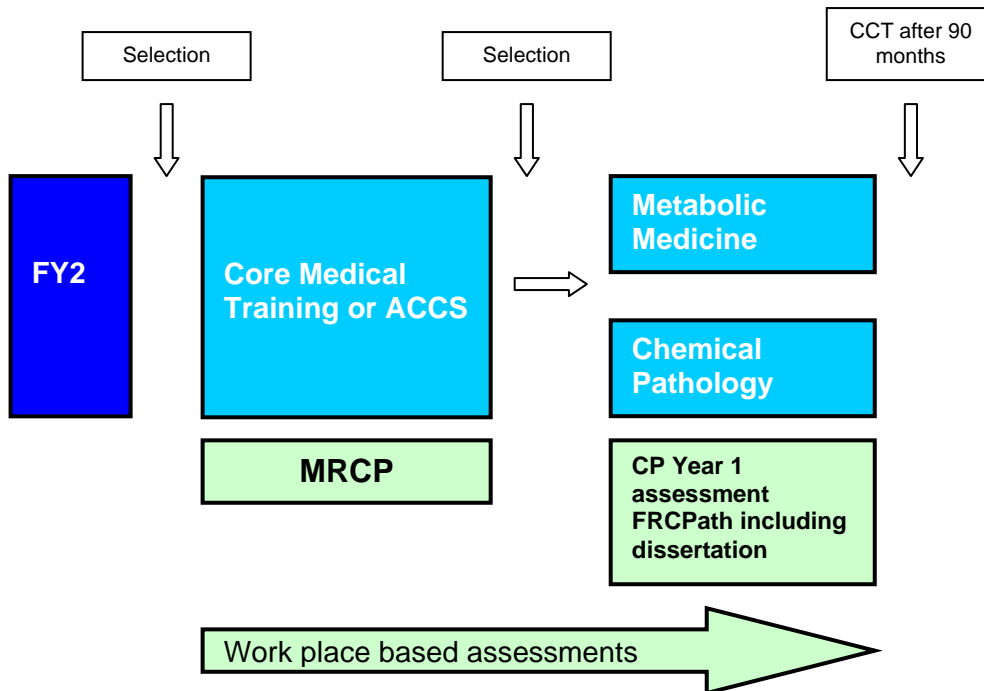


Fig 1.0 Training pathway of Metabolic Medicine with Chemical Pathology Trainee

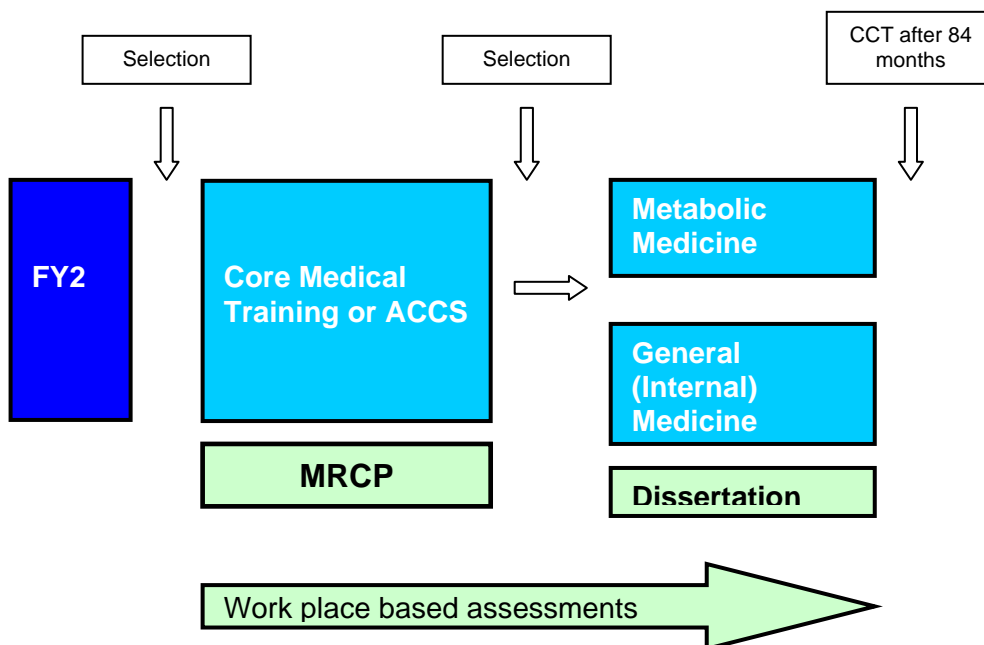


Fig 2.0 Training Pathway of a Metabolic Medicine with GIM Trainee

2.4 Enrolment with the Royal College of Pathologists (Chemical Pathology trainees) or JRCPTB (GIM trainees)

Chemical Pathology (Metabolic Medicine) trainees are required to register for specialist training with the Royal College of Pathologists at the start of their training programmes. Enrolment with RCPATH, including the complete payment of enrolment fees, is required before RCPATH will be able to recommend a trainee for a CCT / Certificate of Completion of CMT. Trainees can enrol online at <http://www.rcpath.org>.

GIM (Metabolic Medicine) trainees are required to register for specialist training with JRCPTB at the start of their training programmes. Enrolment with JRCPTB, including the complete payment of enrolment fees, is required before JRCPTB will be able to recommend trainees for a CCT / Certificate of Completion of CMT. Trainees can enrol online at www.jrcptb.org.uk

2.5 Duration of training

Although this curriculum is competency based, the duration of training must meet the European minimum of 4 years for full time specialty training adjusted accordingly for flexible training (EU directive 2005/36/EC). The duration of training is determined by the time taken to achieve competencies, but the SAC has advised that training from entry at ST3 will usually be completed within five and a half years of entry for CP with Metabolic Medicine and within five years for GIM with Metabolic Medicine. Metabolic Medicine training will occur in parallel with training in the parent specialty, either CP or GIM.

2.6 Less Than Full Time Training (LTFT)

Trainees who are unable to work full-time are entitled to opt for less than full time training programmes. EC Directive 2005/36/EC requires that:

- LTFT shall meet the same requirements as full-time training, from which it will differ only in the possibility of limiting participation in medical activities.
- The competent authorities shall ensure that the competencies achieved and the quality of part-time training is not less than those of full-time trainees.

The above provisions must be adhered to. LTFT 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.

EC Directive 2005/36/EC states that there is no longer a minimum time requirement on training for LTFT trainees. In the past, less than full time trainees were required to work a minimum of 50% of full time. With competence-based training, in order to retain competence, in addition to acquiring new skills, less than full time trainees would still normally be expected to work a minimum of 50% of full time. If you are returning or converting to training at less than full time please complete the LTFT application form on the JRCPTB website www.jrcptb.org.uk.

Funding for LTFT is from deaneries and these posts are not supernumerary. Ideally therefore 2 LTFT trainees should share one post to provide appropriate service cover.

Flexible/less than full time trainees should assume that their clinical training will be of a duration pro-rata with the time indicated/recommended, but this should be reviewed during annual appraisal by their TPD and chair of STC and Deanery Associate Dean for Flexible training. As long as the statutory European Minimum Training Time (if relevant), has been exceeded, then indicative training times as stated in curricula may be adjusted in line with the achievement of all stated competences

3 Content of learning

3.1 Programme content and objectives

The purpose of the curriculum for specialist training in Metabolic Medicine is to set the standards required by the JRCPTB and GMC for attainment of the award of sub speciality recognition in Metabolic Medicine and to ensure that trainees are fully prepared to provide a service in Metabolic Medicine at consultant level within the National Health Service (NHS).

The educational programme provides:

- experience of laboratory practice to enable the trainee to attain an understanding of the rationale for investigation and treatment of disease and the interpretation of test results
- knowledge of laboratory practices and techniques
- the opportunity to gain knowledge of the metabolic changes in disease
- training in the communication and teaching skills necessary for effective practice
- the acquisition of the ability to provide a specialist opinion in metabolic medicine as an independent practitioner
- the acquisition of management skills to lead a department providing an effective service
- the ability to manage time and resources for maximum benefit to patients
- experience of research and development projects and critical assessment of published work so as to contribute in a team and individually to the development of the service
- the acquisition of life-long habits of reading, literature searches, consultation with colleagues, teaching, attendance at scientific meetings, and the presentation of scientific work that are essential for continuing professional development (CPD)
- experience of the practice of clinical governance and audit (specialist and multidisciplinary) through evaluation of practice against the standards of evidence-based medicine which underpin biochemistry practice.

Educational background, personal interests and guidance from supervisors will influence the balance between practical laboratory and clinical training.

Trainees will acquire clinical competence in nutrition, IEM, disorders of lipid metabolism and cardiovascular risk assessment, disorders of calcium metabolism and bone and diabetes mellitus.

The curriculum will allow trainees to take control of their own learning and to measure achievement against objectives. It will help in the formulation of a regularly updated education plan in conjunction with an educational supervisor and the local Specialty Training Committee (STC). The attainment of sub speciality recognition will indicate suitability for independent professional practice.

3.2 Good Medical Practice

In preparation for the introduction of licensing and revalidation, the General Medical Council has translated Good Medical Practice (GMP) into a Framework for Appraisal and Assessment which provides a foundation for the development of the appraisal and assessment system for revalidation. The Framework can be accessed at http://www.gmc-uk.org/Framework_4_3.pdf_snapshot.pdf

The Framework for Appraisal and Assessment covers the following domains:

Domain 1 – Knowledge, Skills and Performance

Domain 2 – Safety and Quality

Domain 3 – Communication, Partnership and Teamwork

Domain 4 – Maintaining Trust

The “GMP” column in the syllabus defines which of the 4 domains of the Good Medical Practice Framework for Appraisal and Assessment are addressed by each competency. Most parts of the syllabus relate to “Knowledge, Skills and Performance” but some parts will also relate to other domains.

3.3 Syllabus

In the tables below, the “Assessment Methods” shown are those that are appropriate as **possible** methods that could be used to assess each competency. It is not expected that all competencies will be assessed and that where they are assessed not every method will be used. See section 5.2 for more details.

“GMP” defines which of the 4 domains of the Good Medical Practice Framework for Appraisal and Assessment are addressed by each competency. See section 3.2 for more details.

Trainees working towards a CCT in Chemical Pathology with Metabolic Medicine must fulfil the requirements of the Chemical Pathology Curriculum as stated by the RCPATH <http://www.rcpath.org>.

Trainees working towards a CCT in GIM with Metabolic Medicine must fulfil the requirements of the GIM curriculum as stated by the Royal College of Physicians <https://www.rcplondon.ac.uk/>

Syllabus Contents

Common Competencies	10
History Taking.....	10
Clinical Examination	11
Relationships with patients and communication within a consultation	11
Therapeutics and safe prescribing	13
Time management and decision making.....	14
Decision making and clinical reasoning	15
The patient as central focus of care	16
Prioritisation of patient safety in clinical practice	18
Team working and patient safety.....	19
Principles of quality and safety improvement	20
Breaking bad news	21
Complaints and medical error.....	22
Communication with colleagues and cooperation	23
Health promotion and public health	24
Principles of medical ethics and confidentiality	25
Valid consent	26
Legal framework for practice	26
Ethical research.....	28
Evidence and guidelines.....	28
Audit.....	29
Teaching and training	30
Personal behaviour.....	32
Management and NHS structure	34
Leadership Skills.....	35
Specialty Competencies	37
1. Disorders of Nutrition	37
a. Obesity	37
b. Malnutrition - Nutritional Assessment and Nutritional Support	37
2. Inborn Errors of Metabolism.....	39
3. Cardiovascular Risk Factors	41
a. Lipid Disorders	41
b. Other risk factors	41
4. Disorders of Calcium Metabolism	43
a. Disorders of calcium, phosphate and magnesium and metabolic bone disease	43
b. Renal Stones.....	44
c. Renal Bone Disease.....	45
5 Diabetes Mellitus.....	46
a. Diagnosis and General Management of Diabetes Mellitus.....	46
b. Management of Delivery of Diabetes Care	47
c. Conception and Pregnancy in Diabetes	48
d. Age-related Conditions and Diabetes	49
d. (i) Young People.....	49
d. (ii) Elderly People	49
e. Complications of Diabetes	50
e. (i) Screening for the Complications of Diabetes.....	50
e. (ii) Macrovascular Disease.....	50
e. (iii) Eye Disease in Diabetes	51
e. (iv) Renal Disease and Hypertension in Diabetes	52
e. (v) Neuropathy, Foot Disease and Erectile Dysfunction in Diabetes	53

Common Competencies

History Taking

To develop the ability to elicit a relevant focused history from patients with increasingly complex issues and in increasingly challenging circumstances

To record the history accurately and, taking into account relevant clinical examination findings, establish a problem list and differential diagnosis increasingly based on pattern recognition

To be able to formulate a management plan that takes account of likely clinical evolution

Knowledge	Assessment Methods	GMP
Recognise that patients do not present their history in structured fashion	mini-CEX, CbD	1, 3
Define the patterns of symptoms found in patients presenting with metabolic / biochemical disease	mini-CEX, CbD	1
Recognise the importance of social and cultural issues on health determinants and descriptions of disease	mini-CEX, CbD	1, 3, 4
Recognise the effects of exclusion and discrimination on physical and mental health	mini-CEX, CbD	1, 3, 4
Skills		
Identify and overcome possible barriers to effective communication	mini-CEX	1, 3
Manage time and draw consultation to a close appropriately	mini-CEX	1, 3
Recognise that effective history-taking in non-urgent cases may require several discussions with the patient and other parties over time	mini-CEX	1, 3, 4
Manage alternative and conflicting views from family, carers, friends and members of the multi-professional team	mini-CEX, CbD	1, 3, 4
Recognise and interpret appropriately the use of non-verbal communication from patients and carers	mini-CEX	1, 3, 4
Focus on relevant aspects of history	mini-CEX, CbD	1, 3
Maintain focus despite multiple and often conflicting agendas	mini-CEX	1, 3
Be able to take and analyse a clinical history in a relevant succinct and logical manner	mini-CEX, CbD	1,3
Be able to overcome difficulties of language, physical and mental impairment	mini-CEX	1,3,4
Use interpreters and advocates appropriately	mini-CEX	1,3,4
Aware of the possible influence of, and sensitively include questions about, social-economic status, household poverty, employment status and social capital in taking a medical history	mini-CEX, CbD	1,3
Behaviours		
Show respect to all nationalities and cultures, and behave in accordance with Good Medical Practice	mini-CEX, PS, MSF	3, 4
Show empathy with patients	PS, mini-CEX, MSF	3, 4
Appreciate the importance of psychological factors for patients and relatives	mini-CEX	3, 4
Appreciate the interaction of social factors and the patient's illness	mini-CEX, CbD	3, 4
Be aware of one's own behaviour and how it might impact on	MSF, PS	1, 3, 4

patient's health issues

Clinical Examination

To develop the ability to perform focused, relevant and accurate clinical examination in patients with increasingly complex issues and in increasingly challenging circumstances

To relate physical findings to history in order to establish diagnosis(es) and formulate a management plan

Knowledge	Assessment Methods	GMP
Understand the basis for clinical signs and the relevance of positive and negative physical signs	CbD, mini-CEX	1
Recognise constraints to performing physical examination (including social and cultural ones) and strategies that may be used to overcome them	CbD, mini-CEX	1, 4
Recognise the limitations of physical examination and the need for adjunctive forms of assessment to confirm diagnosis	CbD, mini-CEX	1
Recognise when the offer/ use of a chaperone is appropriate or required	CbD, mini-CEX	1, 4
Recognise the clinical signs found in metabolic diseases	CbD, mini-CEX	1
Skills		
Perform an examination relevant to the presentation and risk factors that is valid, targeted and time-efficient	CbD, mini-CEX	1
Recognise the possibility of deliberate harm (both self-harm and harm by others) in vulnerable patients and report to appropriate agencies	CbD, mini-CEX	1, 2
Actively elicit important clinical findings	CbD, mini-CEX	1
Perform relevant adjunctive examinations	CbD, mini-CEX	1
Behaviours		
Show respect and behave in accordance with Good Medical Practice	CbD, mini-CEX, MSF	1, 3, 4
Where social, cultural or religious boundaries to appropriate clinical examination are encountered, be able to communicate and make alternative arrangements where necessary	CbD, mini-CEX, MSF	1, 3, 4
Respect patients' dignity and confidentiality	CbD, mini-CEX, MSF	1, 4
Involve relatives appropriately	mini-CEX	1, 3, 4

Relationships with patients and communication within a consultation

To recognise the need, and develop the ability, to communicate effectively and sensitively with patients, relatives and carers

Knowledge	Assessment Methods	GMP
Know how to structure a consultation appropriately	CbD, mini-CEX, PS	1
Appreciate the importance of the patient's background, culture, education and preconceptions (beliefs, ideas, concerns, expectations) to the process	CbD, mini-CEX, PS	1
Know how to structure the interview to identify the patient's <ul style="list-style-type: none"> Concerns, problem list, priorities 	CbD, mini-CEX, PS	1, 3

- Expectations
- Understanding
- Acceptance

Skills

Establish a rapport with the patient and any relevant others (eg carers)	CbD, mini-CEX, PS	1, 3, 4
Utilise open and closed questioning appropriately	mini-CEX	1, 4
Listen actively and question sensitively to guide the patient and to clarify information	mini-CEX, PS	1, 3, 4
Identify and manage communication barriers, tailoring language to the individual patient and using interpreters when indicated	CbD, mini-CEX, PS	1, 3, 4
Deliver information compassionately, being alert to, and managing, their and your emotional response (anxiety, antipathy etc)	CbD, mini-CEX	1, 3, 4
Use, and refer patients to, appropriate written and other evidence-based information sources	CbD, mini-CEX	1, 3, 4
Check the patient's/carer's understanding, ensuring that all their concerns/questions have been covered	CbD, mini-CEX	1, 3, 4
Indicate when the consultation is nearing it's end and conclude with a summary and appropriate action plan; ask the patient to summarise back to check his/her understanding	CbD, mini-CEX	1, 3, 4
Make accurate contemporaneous records of the discussion	CbD, mini-CEX	1, 3
Manage follow-up effectively and safely utilising a variety if methods (eg phone call, email, letter)	CbD, mini-CEX	1, 4
Ensure appropriate referral and communications with other healthcare professional resulting from the consultation are made accurately and in a timely manner	CbD, mini-CEX	3, 4
Avoid jargon and use familiar language	CbD, mini-CEX	4
Reassure worried-well patients	CbD, mini-CEX	4

Behaviours

Act with courtesy, empathy, compassion and professionalism. Endeavour to ensure an appropriate physical environment.	CbD, mini-CEX, MSF, PS	1, 3, 4
Ensure appropriate personal language and behaviour. Use appropriate body language - act as an equal not a superior	CbD, mini-CEX, MSF, PS	1,4
Ensure that approach is inclusive and patient- centred. Respect the diversity of values in patients, carers and colleagues.	CbD, mini-CEX, MSF, PS	1, 3, 4
Be willing to provide patients with a second opinion	CbD, mini-CEX, MSF, PS	1, 3, 4
Use different methods of ethical reasoning to come to a balanced decision where complex and conflicting issues are involved	CbD, mini-CEX, MSF	1, 3, 4
Be confident and positive in one's own values	CbD, mini-CEX	1, 3, 4

Therapeutics and safe prescribing

To develop the ability to prescribe, review and monitor appropriate therapeutic interventions relevant to clinical practice including non – medication based and preventative indications.

Knowledge	Assessment Methods	GMP
Indications, contraindications, side effects, drug interactions and dosage of commonly used drugs	CbD, mini-CEX	1,2
Recall range of adverse drug reactions to commonly used drugs	CbD, mini-CEX	1,2
Outline tools to promote patient safety and prescribing, including electronic clinical record systems and other IT systems	CbD, mini-CEX	1,2
Define the effects of age, body size, organ dysfunction and concurrent illness on drug distribution and metabolism relevant to the trainees practice	CbD, mini-CEX	1,2
Recognise the roles of regulatory agencies involved in drug use, monitoring and licensing (e.g. National Institute for Clinical Excellence (NICE), Committee on Safety of Medicines (CSM), and Medicines and Healthcare products Regulatory Agency (MHRA) and hospital formulary committees	CbD, mini-CEX	1,2
Explain the pathophysiology of therapeutic interventions in metabolic / biochemical diseases	CbD, mini-CEX	1
Skills		
Review the continuing need for, effect of, and adverse effects of, long term medications relevant to clinical practice in the five domains of the curriculum	CbD, mini-CEX	1, 2
Anticipate and avoid defined drug interactions, including complementary medicines	CbD, mini-CEX	1
Advise patients (and carers) about important interactions and adverse drug effects	CbD, mini-CEX	1, 2, 3, 4
Prescribe appropriately in pregnancy, and during breast feeding	CbD, mini-CEX	1, 2
Make appropriate dose adjustments following therapeutic drug monitoring, or physiological change (e.g. deteriorating renal function)	CbD, mini-CEX	1,2
Use IT prescribing tools where available to improve safety	CbD, mini-CEX	1, 2
Employ validated methods to improve patient concordance with prescribed medication	mini-CEX	1, 2, 3, 4
Provide comprehensible explanations to the patient, and carers when relevant, for the use of medicines and understand the principles of concordance in ensuring that drug regimes are followed	CbD, mini-CEX	1, 3, 4
Understand the importance of non-medication based therapeutic interventions including the legitimate role of placebos	CbD, mini-CEX	1, 3, 4
Where involved in “repeat prescribing,” ensure safe systems for monitoring, review and authorisation	CbD, mini-CEX	1, 2
Behaviours		
Recognise the benefit of minimising number of medications taken by a patient to a level compatible with best care	CbD, mini-CEX	1,2
Appreciate the role of non-medical prescribers	CbD, mini-CEX, MSF	1, 2, 3
Remain open to advice from other health professionals on medication	CbD, mini-CEX, MSF	1, 2,3

issues		
Recognise the importance of resources when prescribing, including the role of a Drug Formulary and electronic prescribing systems	CbD, mini-CEX	1, 2
Ensure prescribing information is shared promptly and accurately between a patient's health providers, including between primary and secondary care	CbD	1, 3
Participate in adverse drug event reporting mechanisms	CbD	1, 2
Remain up to date with therapeutic alerts, and respond appropriately	CbD	1, 2
Clearly and openly explain treatments and the side effects of drugs	mini-CEX	1,2,3,4

Time management and decision making

To demonstrate increasing ability to prioritise and organise clinical and clerical duties in order to optimise patient care and the effectiveness of the clinical team resource

	Assessment Methods	GMP
Knowledge		
Understand that effective organisation is key to time management	CbD	1
Understand that some tasks are more urgent and/or more important than others	CbD	1
Understand the need to prioritise work according to urgency and importance	CbD, MSF	1
Maintain focus on individual patient needs whilst balancing multiple competing pressures, including recognising that some patients need more time than others	CbD, MSF	1,4
Understand that some tasks may have to wait or be delegated to others	CbD	1
Understand the roles, competences and capabilities of other professionals and support workers	CbD, MSF	1
Outline techniques for improving time management	CbD	1
Understand the importance of prompt investigation, diagnosis and treatment in disease and illness management	CbD, mini-CEX	1, 2
Skills		
Recognise the most urgent / important tasks and ensure that they are managed expediently	CbD, mini-CEX	1,2
Regularly review and re-prioritise personal and team work load	CbD, mini-CEX	1,2,3
Organise and manage workload effectively and flexibly	CbD, mini-CEX	1,2
Make appropriate use of the expertise of other professionals and support workers	CbD, mini-CEX	1, 2, 3
Behaviours		
Work flexibly and deal with tasks in an effective and efficient fashion	CbD, MSF	2,3
Recognise when you or others are falling behind and take steps to rectify the situation	CbD, MSF	2, 3
Communicate changes in priority to others	MSF	1,2,3
Remain calm in stressful or high pressure situations and adopt rational approach	MSF	1,2,3
Have realistic expectations of tasks to be completed by self or others	MSF	1, 3

Recognise when falling behind and re-prioritise or call for help	MSF	1, 3
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Decision making and clinical reasoning

To develop the ability to formulate a diagnostic and therapeutic plan for a patient according to the clinical information available

To develop the ability to prioritise the diagnostic and therapeutic plan

To be able to communicate a diagnostic and therapeutic plan appropriately

Knowledge	Assessment Methods	GMP
Conceptualise clinical problem in a medical and social context	CbD, mini-CEX	1
Understand the psychological component of disease and illness presentation	CbD, mini-CEX	1, 3
Generate hypothesis within context of clinical likelihood	CbD	1
Test, refine and verify hypotheses	CbD	1
Develop problem list and action plan	CbD, mini-CEX	1
Recognise how to use expert advice, clinical guidelines and algorithms	CbD, mini-CEX	1
Recognise and appropriately respond to sources of information accessed by patients	PS, CbD, mini-CEX	1, 3, 4
Recognise the need to determine the best value and most effective treatment both for the individual patient and for a patient cohort	CbD, mini-CEX	1, 2, 4
Define the concepts of disease natural history and assessment of risk	CbD, mini-CEX	1
Recall methods and associated problems of quantifying risk e.g. cohort studies	CbD	1
Outline the concepts and drawbacks of quantitative assessment of risk or benefit e.g. numbers needed to treat	CbD	1
Describe commonly used statistical methodology	CbD, mini-CEX	1
Know how relative and absolute risks are derived and the meaning of the terms predictive value, sensitivity and specificity in relation to diagnostic tests	CbD, mini-CEX	1, 2
Skills		
Interpret clinical features, their reliability and relevance to clinical scenarios including recognition of the breadth of presentation of common disorders	CbD, mini-CEX	1
Incorporate an understanding of the psychological, social and cultural elements of clinical scenarios into decision-making through a robust process of clinical reasoning	CbD, mini-CEX	1
Generate plausible hypothesis(es) following patient assessment	CbD, mini-CEX	1
Construct an appropriate management plan in conjunction with the patient, carers and other members of the clinical team and communicate this effectively to the patient, parents and carers where relevant	CbD, mini-CEX	1, 3, 4
Define the relevance of an estimated risk of a future event to an individual patient	CbD, mini-CEX	1, 3, 4
Use risk calculators appropriately	CbD, mini-CEX	1
Consider the risks and benefits of screening investigations	CbD, mini-CEX	1

Apply quantitative data of risks and benefits of therapeutic intervention to an individual patient	CbD, mini-CEX	1
Search and comprehend medical literature to guide reasoning	CbD	1
Behaviours		
Recognise the difficulties in predicting occurrence of future events	CbD, mini-CEX	1
Show willingness to discuss intelligibly with a patient the notion and difficulties of prediction of future events, and benefit/risk balance of therapeutic intervention	CbD, mini-CEX	1, 3, 4
Show willingness to adapt and adjust approaches according to the beliefs and preferences of the patient and/or carers	CbD, mini-CEX	1, 3, 4
Be willing to facilitate patient choice	CbD, mini-CEX	3, 4
Show willingness to search for evidence to support clinical decision making	CbD, mini-CEX	1, 2, 4
Demonstrate ability to identify one's own biases and inconsistencies in clinical reasoning	CbD, mini-CEX	1, 3
Be flexible and willing to change in the light of changing conditions	CbD, mini-CEX	1
Be willing to ask for help	MSF	3

The patient as central focus of care

To pursue a collaborative approach to prioritising the patient's agenda encompassing their beliefs, concerns, expectations and needs

Knowledge	Assessment Methods	GMP
Outline health needs of particular populations e.g. ethnic minorities and recognise the impact of health beliefs, culture and ethnicity in presentations of physical and psychological conditions	CbD, MSF	1, 4
Recognise how health systems can discriminate against patients from diverse backgrounds and how to minimise this discrimination	CbD	1,4
Be aware of the methods of obtaining feedback from patients, relatives, and staff to improve patient care.	CbD, MSF	1,3, 4
Ensure that all decisions and actions are in the best interests of the patient and the public good	CbD	1,3
Understand the effect of long term conditions on social interactions, behaviour and psychological health	CbD, mini-CEX	1
Skills		
Give adequate time for patients and carers to express their beliefs ideas, concerns and expectations	mini-CEX, PS	1, 3, 4
Respond to questions honestly and seek advice if unable to answer	CbD, mini-CEX, MSF	3, 4
Encourage the health care team to respect the philosophy of patient focussed care	CbD, mini-CEX, MSF	3, 4
Develop a self-management plan with the patient	CbD, mini-CEX, PS	1, 3, 4
Support patients, parents and carers where relevant to comply with management plans	CbD, mini-CEX, PS	3, 4
Encourage patients to voice their preferences and personal choices about their care	mini-CEX, PS	3, 4

Behaviours

Support patient self-management	CbD, mini-CEX, PS	3, 4
Recognise the duty of the medical professional to act as patient advocate	CbD, mini-CEX, MSF, PS	3, 4
Adopt assessments and interventions that are inclusive, respectful of diversity and patient-centred	CbD, mini-CEX	3,4

Prioritisation of patient safety in clinical practice

To understand that patient safety depends on the effective and efficient organisation of care and health care staff working well together

To understand that patient safety depends on safe systems, not just individual competency and safe practice

To never compromise patient safety

To understand the risks of treatments and to discuss these honestly and openly with patients so that patients are able to make decisions about risks and treatment options

To ensure that all staff are aware of risks in their clinical practice and to work together to minimise risk

Knowledge	Assessment Methods	GMP
Outline the features of a safe working environment	CbD, mini-CEX	1,2
Recall side effects and contraindications of medications prescribed	CbD, mini-CEX	1,2
Recall principles of risk assessment and management	CbD	1,2
Outline local procedures and protocols for optimal practice e.g. intravenous (IV) fluid protocol, safe prescribing	CbD, mini-CEX	1,2
Understand the investigation of significant events, serious untoward incidents and near misses	CbD	1,2
Understand the significance of reporting clinical incidents	CbD	1,2,3,4
Be aware of the National Patient Safety Agency (NPSA) and National Reporting and Learning System (NRLS)	CbD	1, 2
Skills		
Recognise limits of own professional competence and only practise within these	CbD, mini-CEX	1, 2
Recognise when a patient is not responding to treatment, reassess the situation, and encourage others to do so	CbD, mini-CEX	1, 2
Able to recognise and appropriately report a clinical incident	CbD	1, 2, 3
Ensure the correct and safe use of medical equipment, ensuring faulty equipment is reported appropriately	CbD, mini-CEX	1,2
Improve patients' and colleagues' understanding of the side effects and contraindications of therapeutic intervention	CbD, mini-CEX	1, 2, 3
Sensitively counsel a colleague following a significant untoward event, or near incident, to encourage improvement in practice of individual and unit	CbD	2, 3
Recognise and respond to the manifestations of a patient's deterioration or lack of improvement (symptoms, signs, observations, and laboratory results) and support other members of the team to act similarly	CbD, mini-CEX, MSF	1, 2
Behaviours		
Continue to maintain a high level of safety awareness at all times	CbD, mini-CEX	2
Encourage feedback from all members of the team on safety issues	CbD, mini-CEX, MSF	2, 3
Willing to be truthful and to admit errors to patients, relatives and colleagues	MSF	2, 3
Report serious untoward incidents and near misses and co-operate with the investigation of these	CbD, mini-CEX, MSF	2, 3, 4

Show willingness to take action when concerns are raised about performance of members of the healthcare team, and act appropriately when these concerns are voiced to you by others	CbD, mini-CEX, MSF	2,3, 4
Be aware of own limitations, and operate competently within these limitations	CbD, mini-CEX	1,4

Team working and patient safety

To develop the ability to work well in a variety of different teams and team settings – for example the ward team and the nutrition team, and to contribute to discussion on the team’s role in patient safety

To develop the leadership skills necessary to lead teams so that they are more effective and better able to deliver safe care

Knowledge	Assessment Methods	GMP
Outline the components of effective collaboration and team working	CbD	1
Describe the roles and responsibilities of members of the healthcare team	CbD	1
Outline factors adversely affecting a doctor’s and team performance and methods to rectify these	CbD	1
Skills		
Providing good continuity of care	CbD, mini-CEX	1,3,4
Keep accurate attributable notes including appropriate use of electronic clinical record systems	CbD, mini-CEX	1, 3
Prepare patient lists with clarification of problems and ongoing care plan	CbD, mini-CEX, MSF	1
Demonstrate leadership and management in the following areas: <ul style="list-style-type: none"> • Education and training of junior colleagues and other members of the healthcare team • Deteriorating performance of colleagues (e.g. stress, fatigue) • High quality care • Effective handover of care between shifts and teams 	CbD, mini-CEX, MSF	1, 2, 3
Lead and participate in interdisciplinary team meetings	CbD, mini-CEX	3
Provide appropriate supervision to less experienced colleagues	CbD, MSF	3
Behaviours		
Encourage an open environment to foster and explore concerns and issues about the functioning and safety of team working	CbD, MSF	2, 3
Recognise limits of own professional competence and only practise within these.	CbD, MSF	2, 3
Recognise and respect the request for a second opinion	CbD, MSF	3
Recognise the importance of induction for new members of a team	CbD, MSF	2, 3
Recognise the importance of prompt and accurate information-sharing with the Primary Care team following hospital discharge	CbD, mini-CEX , MSF	2, 3

Principles of quality and safety improvement

To recognise the desirability of monitoring performance, learning from mistakes and adopting a no-blame culture in order to ensure high standards of care and optimise patient safety

Knowledge	Assessment Methods	GMP
Understand the elements of clinical governance	CbD, MSF	1, 2
Recognise that governance safeguards high standards of care and facilitates the development of improved clinical services	CbD, MSF	1, 2
Define local and national significant event reporting systems relevant to specialty	CbD, mini-CEX	1
Recognise importance of evidence-based practice in relation to clinical effectiveness	CbD	1, 2
Outline local health and safety protocols (fire, manual handling etc)	CbD	1, 2
Understand risk associated with the trainee's specialty work including biohazards and mechanisms to reduce risk	CbD	1,2
Keep abreast of national patient safety initiatives including NPSA reports, National Confidential Enquiry into Patient Outcome and Death (NCEPOD) reports, NICE guidelines etc	CbD, mini-CEX	1,2
Skills		
Adopt strategies to reduce risk	CbD	1, 2
Contribute to quality improvement processes, for example: <ul style="list-style-type: none"> • Audit of personal and departmental/directorate/practice performance • Errors / discrepancy meetings • Critical incident and near miss reporting • Unit morbidity and mortality meetings • Local and national databases 	AA, CbD	2
Maintain a portfolio of information and evidence, drawn from personal medical practice	CbD	2
Reflect regularly on your standards of medical practice in accordance with GMC guidance on licensing and revalidation	AA	1, 2, 3, 4
Behaviours		
Show willingness to participate in safety improvement strategies such as critical incident reporting	CbD, MSF	3
Develop reflection in order to achieve insight into own professional practice	CbD, MSF	3
Demonstrate personal commitment to improve performance in the light of feedback and assessment	CbD, MSF	3
Engage with an open, no-blame culture	CbD, MSF	3
Respond positively to outcomes of audit and quality improvement	CbD, MSF	1, 3
Share best practice with others	MSF	1, 3
Co-operate with changes necessary to improve service quality and safety	CbD, MSF	1, 2

Breaking bad news

To recognise the fundamental importance of breaking bad news

To develop strategies for skilled delivery of bad news according to the needs of individual patients and their relatives / carers

Knowledge	Assessment Methods	GMP
Know that how bad news is delivered irretrievably affects the subsequent relationship with the patient	CbD, mini-CEX, MSF, PS	1
Be aware that every patient may desire different levels of explanation and have different responses to bad news	CbD, mini-CEX, PS	1, 4
Be aware that bad news is confidential but the patient may wish to be accompanied and that, once the news is given, patients are unlikely to take anything subsequent in, so an early further appointment should be made	CbD, mini-CEX, PS	1, 4
Be aware that breaking bad news can be extremely stressful for the doctor or professional involved.	CbD, mini-CEX	1, 3
Be aware that it is important to: <ul style="list-style-type: none"> • Prepare for breaking bad news • Set aside sufficient uninterrupted time • Choose an appropriate private environment and ensure that there will be no unplanned disturbances • Have sufficient information regarding prognosis and treatment • Ensure the individual has appropriate support if desired • Structure the interview • Be honest, factual, realistic and empathic • Be aware of relevant guidance documents 	CbD, mini-CEX	1, 3
“Bad news” has different connotations depending on the context, individual, social and cultural circumstances.	CbD, mini-CEX, PS	1
Skills		
Demonstrate to others good practice in breaking bad news	CbD, MSF	1, 3
Involve patients and carers in decisions regarding their future management	CbD, MSF	1, 3, 4
Recognise the impact of the bad news on the patient, carer, supporters, staff members and self	CbD, MSF	1,3,4
Encourage questioning and ensure comprehension	CbD,, MSF	1, 3, 4
Respond to verbal and visual cues from patients and relatives	CbD,, MSF	1, 3, 4
Act with empathy, honesty and sensitivity avoiding undue optimism or pessimism	CbD, MSF	1, 3, 4
Behaviours		
Respect the different ways people react to bad news	CbD, MSF	1, 4
Ensure appropriate recognition and management of the impact of breaking bad news on the doctor and other healthcare professionals	CbD, MSF	1

Complaints and medical error

To recognise the causes of error and to learn from them, to realise the importance of honesty and effective apology and to take a leadership role in the handling of complaints

Knowledge	Assessment Methods	GMP
Basic consultation techniques and skills described for Foundation programme include: <ul style="list-style-type: none"> • Describe the local complaints procedure • Recognise factors likely to lead to complaints (poor communication, dishonesty, clinical errors, adverse clinical outcomes etc) • Adopt behaviour likely to prevent causes for complaints • Deal appropriately with concerned or dissatisfied patients or relatives • Recognise when something has gone wrong and communicate this to appropriate staff • Act with honesty and sensitivity in a non-confrontational manner 	CbD, MSF	1, 4
Outline the principles of an effective apology	CbD, MSF	1, 4
Identify sources of help and support for patients and yourself when a complaint is made about yourself or a colleague	CbD, MSF	1, 3, 4
Skills		
Contribute to processes whereby complaints and learning points are reviewed	CbD, MSF	1,2
Explain comprehensibly to the patient the events leading up to a medical error or serious untoward incident, and sources of support for patients and their relatives	CbD, MSF	1, 3, 4
Distinguish between system and individual errors (personal and organisational)	CbD, MSF	1,2
Show an ability to learn from previous error	CbD, MSF	1,2
Be able to write a reply to a complaint which deals respectfully and appropriately with patients' or carers'/relatives' views	CbD	1,3,4
Behaviours		
Take leadership over complaint issues	CbD, MSF	1
Recognise the impact of complaints and medical error on staff, patients, and the NHS	CbD, MSF	1, 3
Contribute to a fair and transparent culture around complaints and errors	CbD, MSF	1
Recognise the rights of patients, family members and carers to make a complaint	CbD, MSF	1, 4
Recognise the impact of a complaint upon self and seeks appropriate help and support	CbD, MSF	1

Communication with colleagues and cooperation

To recognise and accept the role and responsibilities of the doctor in relation to other healthcare professionals

To communicate succinctly and effectively with other professionals as appropriate

Knowledge	Assessment Methods	GMP
Understand the section in "Good Medical Practice" on Working with Colleagues, in particular:	CbD, MSF	1, 3
Understand the roles played by all members of a multi-disciplinary team	CbD, MSF	1, 3
Understand the features of good team dynamics	CbD, MSF	1, 3
Understand the principles of effective inter-professional collaboration to optimise patient or population care	CbD, MSF	1, 3
Understand the principles of confidentiality that provide boundaries to communication	CbD, MSF	1
Skills		
Communicate accurately, clearly, promptly and comprehensively with relevant colleagues by means appropriate to the urgency of a situation (telephone, email, letter etc), especially where responsibility for a patient's care is transferred	CbD, mini-CEX	1, 3
Utilise the expertise of the whole multi-disciplinary team as appropriate, ensuring when delegating responsibility, that appropriate supervision is maintained	MSF	1, 3
Communicate effectively with administrative bodies and support organisations	MSF	1, 3
Employ behavioural management skills with colleagues to prevent and resolve conflict and enhance collaboration	CbD, mini-CEX, MSF	1, 3
Behaviours		
Be aware of the importance of multi-disciplinary teamwork, including adoption of a leadership role when appropriate, but also recognising where others are better equipped to lead	CbD, mini-CEX, MSF	3
Foster a supportive and respectful environment where there is open and transparent communication between all team members	CbD, mini-CEX, MSF	1, 3
Ensure appropriate confidentiality is maintained during communication with any member of the team	CbD, mini-CEX, MSF	1, 3
Recognise the need for a healthy work/life balance for the whole team, including yourself, but take any leave yourself only after giving appropriate notice to ensure that cover is in place	CbD, mini-CEX, MSF	1,2
Be prepared to accept additional duties in situations of unavoidable and unpredictable absence of colleagues ensuring that the best interests of the patient are paramount	CbD, MSF	1

Health promotion and public health

To develop the ability to work with individuals and communities to reduce levels of ill health, remove inequalities in healthcare provision and improve the general health of a community

Knowledge	Assessment Methods	GMP
Understand the factors which influence health and illness – psychological, biological, social, cultural and economic especially poverty and worklessness	CbD, mini-CEX	1
Understand the influence of lifestyle on health and the factors that influence an individual to change their lifestyle	CbD, mini-CEX	1
Understand the influence of culture and beliefs on patients perceptions of health	CbD, mini-CEX	1
Understand the purpose of screening programmes and know in outline the common programmes available within the UK	CbD, mini-CEX	1
Understand the positive and negative effects of screening on the individual	CbD, mini-CEX	1
Understand the possible positive and negative implications of health promotion activities	CbD, mini-CEX	1
Understand the relationship between the health of an individual and that of a community and vice versa	CbD, mini-CEX	1
Know the key local concerns about the health of communities such as smoking and obesity and the potential determinants	CbD, mini-CEX	1
Understand the role of other agencies and factors including the impact of globalisation in increasing disease and in protecting and promoting health.	CbD, mini-CEX	1
Demonstrate knowledge of the determinants of health worldwide and strategies to influence policy relating to health issues including the impact of the developed world strategies on the third world	CbD, mini-CEX	1
Outline the major causes of global morbidity and mortality and effective, affordable interventions to reduce these	CbD, mini-CEX	1
Skills		
Identify opportunities to promote changes in lifestyle and other actions which will positively improve health and/or disease outcomes.	CbD, mini-CEX	1, 2
Identify the interaction between mental, physical and social wellbeing in relation to health.	CbD, mini-CEX	1
Counsel patients appropriately on the benefits and risks of screening and health promotion activities	CbD, mini-CEX, PS	1, 3
Identify patient's ideas, concerns and health beliefs regarding screening and health promotions programmes and be capable of responding appropriately to these	mini-CEX, CbD	1,3
Work collaboratively with other agencies to improve the health of communities	CbD, mini-CEX	1
Recognise and be able to balance autonomy with social justice	CbD, mini-CEX	1, 3
Behaviours		
Engage in effective team-working around the improvement of health	CbD, MSF	1, 3
Encourage screening where appropriate to facilitate early intervention	CbD	1

Recognise issues of health that are related to social class	CbD	1
Seek out and utilise every opportunity to improve general health	CbD	1, 3, 4

Principles of medical ethics and confidentiality

To know, understand and apply appropriately the principles, guidance and laws regarding medical ethics and confidentiality

Knowledge	Assessment Methods	GMP
Demonstrate knowledge of the principles of medical ethics	CbD, mini-CEX	1
Outline and follow the guidance given by the GMC on confidentiality	CbD, mini-CEX	1
Define the provisions of the Data Protection Act and Freedom of Information Act	CbD, mini-CEX	1
Define the principles of Information Governance	CbD, mini-CEX	1
Define the role of the Caldicott Guardian and Information Governance lead within an institution, and outline the process of attaining Caldicott approval for audit or research	CbD, mini-CEX	1, 4
Outline situations where patient consent, while desirable, is not required for disclosure e.g. serious communicable diseases, public interest	CbD, mini-CEX	1, 4
Outline the procedures for seeking a patient's consent for disclosure of identifiable information	CbD, mini-CEX	1
Recall the obligations for confidentiality following a patient's death	CbD, mini-CEX	1, 4
Recognise the problems posed by disclosure in the public interest, without patient's consent	CbD, mini-CEX	1, 4
Recognise the factors influencing ethical decision making: including religion, personal and moral beliefs, cultural practices	CbD, mini-CEX	1, 4
Recognise the role and legal standing of advance directives	CbD, mini-CEX	1
Outline the principles of the Mental Capacity Act	CbD, mini-CEX	1
Understand the implications of disability discrimination legislation for healthcare	CbD, mini-CEX	1, 4
Skills		
Use and share information with the highest regard for confidentiality, and encourage such behaviour in other members of the team	CbD, mini-CEX, MSF	1, 2,3
Use and promote strategies to ensure confidentiality is maintained e.g. anonymization	CbD	1
Counsel patients on the need for information distribution within members of the immediate healthcare team	CbD, MSF	1, 3
Behaviours		
Encourage informed ethical reflection in others	CbD, MSF	1
Show willingness to seek advice of peers, legal bodies, and the GMC in the event of ethical dilemmas over disclosure and confidentiality	CbD, mini-CEX, MSF	1
Respect patient's requests for information not to be shared, unless this puts the patient, or others, at risk of harm	CbD, mini-CEX, PS	1, 4
Show willingness to share information about their care with patients, unless they have expressed a wish not to receive such information	CbD, mini-CEX	1, 3

Valid consent

To understand the necessity of obtaining valid consent from the patient and how to obtain it		
Knowledge	Assessment Methods	GMP
Outline the guidance given by the GMC on consent, in particular: <ul style="list-style-type: none"> Understand that consent is a process that may culminate in, but is not limited to, the completion of a consent form Understand the particular importance of considering the patient's level of understanding and mental state (and also that of the parents, relatives or carers when appropriate) and how this may impair their capacity for informed consent Aware of social and cultural issues that might affect consent 	CbD, MSF	1
Be familiar with and uphold the rights of children and vulnerable adults	CbD, mini-CEX	1
Skills		
Present all information to patients (and carers) in a format they understand, checking understanding and allowing time for reflection on the decision to give consent	CbD, mini-CEX, PS	1, 3
Provide a balanced view of all care options	CbD, mini-CEX, PS	1, 3, 4
Behaviours		
Respect a patient's rights of autonomy even in situations where their decision might put them at risk of harm	CbD, mini-CEX, PS	1, 4
Do not exceed the scope of authority given by a competent patient	CbD, mini-CEX, PS	1, 4
Do not withhold information relevant to proposed care or treatment in a competent patient	CbD, mini-CEX	1, 3, 4
Does not seek to obtain consent for procedures which they are not competent to perform	CbD, mini-CEX	1, 3
Show willingness to seek advance directives	CbD, MSF, mini-CEX	1, 4
Show willingness to obtain a second opinion, senior opinion, and legal advice in difficult situations of consent or capacity	CbD, mini-CEX, MSF	1, 3
Inform a patient and seek alternative care where personal, moral or religious belief prevents a usual professional action	CbD, mini-CEX, PS	1, 3, 4

Legal framework for practice

To understand the legal framework within which healthcare is provided in the UK		
Knowledge	Assessment Methods	GMP
All decisions and actions must be in the best interests of the patient	CbD, mini-CEX	1
Understand the legislative framework within which healthcare is provided in the UK and/or devolved administrations – in particular withdrawing and withholding treatment; medical risk and driving; Data Protection and Freedom of Information Acts; provision of continuing care and community nursing care by a local authorities; Disability Discrimination legislation.	CbD, mini-CEX	1, 2
Understand the NHS disciplinary processes	CbD, MSF	1
Understand the role of the medical practitioner in relation to personal health and substance misuse, and know the procedure to be followed	CbD, mini-CEX, MSF	1

when such abuse is suspected.

Skills

Be able to cooperate with other agencies with regard to legal requirements and reporting	CbD, mini-CEX	1
Be able to prepare appropriate medico legal statements	CbD, MSF	1
Practice and promote accurate documentation within clinical practice	CbD, mini-CEX	1, 3

Behaviour

Show willingness to seek advice from employers, appropriate legal bodies (including defence societies), and the GMC on medico-legal matters	CbD, mini-CEX, MSF	1
Promote informed reflection on legal issues by members of the team	CbD, mini-CEX, MSF	1, 3
Be aware that all decisions and actions must be in the best interests of the patient	CbD, mini-CEX	

Ethical research

To ensure that research is undertaken using relevant ethical guidelines		
Knowledge	Assessment Methods	GMP
Outline the GMC guidance on good practice in research	CbD	1
Understand the principles of research governance	AA, CbD, mini-CEX	1
Outline the differences between audit and research		
Describe how clinical guidelines are produced	CbD	1
Demonstrate a knowledge of research principles	CbD, mini-CEX	1
Outline the principles of formulating a research question and designing a project	CbD, mini-CEX	1
Comprehend qualitative, quantitative, bio-statistical and epidemiological research methods	CbD	1
Outline sources of research funding	CbD	1
Understand the difference between population-based assessment and unit-based studies and be able to evaluate outcomes for epidemiological work	CbD	1
Skills		
Develop critical appraisal skills and apply these when reading literature	CbD	1
Demonstrate the ability to write a scientific paper	CbD	1
Apply for appropriate ethical research approval	CbD	1
Demonstrate the use of literature databases	CbD	1
Demonstrate good verbal and written presentations skills	CbD,	1
Behaviour		
Follow guidelines on ethical conduct in research and consent for research	CbD	1
Show willingness to promote research	CbD	1

Evidence and guidelines

To develop the ability to make the optimal use of current best evidence in making decisions about the care of patients		
To develop the ability to construct evidence-based guidelines and protocols in relation to medical practice		
Knowledge	Assessment Methods	GMP
Understand the application of statistics in scientific medical practice	CbD	1
Understand the advantages and disadvantages of different study methodologies (randomised control trials, case controlled cohort etc)	CbD	1
Understand the principles of critical appraisal	CbD	1
Understand levels of evidence and quality of evidence	CbD	1
Understand the role and limitations of evidence in the development of clinical guidelines and protocols	CbD	1

Understand the advantages and disadvantages of guidelines and protocols	CbD	1
Understand the processes that result in nationally applicable guidelines (eg NICE and Scottish Intercollegiate Guidelines Network (SIGN))	CbD	1
Understand the relative strengths and limitations of both quantitative and qualitative studies, and the different types of each	CbD	1
Skills		
Ability to search the medical literature including use of PubMed, Medline, Cochrane reviews and the internet	CbD	1
Appraise retrieved evidence to address a clinical question	CbD	1
Apply conclusions from critical appraisal into clinical care	CbD	1
Identify the limitations of research	CbD	1
Contribute to the construction, review and updating of local (and national) guidelines of good practice using the principles of evidence based medicine	CbD	1
Behaviours		
Keep up to date with national reviews and guidelines of practice (e.g. NICE and SIGN)	CbD	1
Aim for best clinical practice (clinical effectiveness) at all times, responding to evidence based medicine	CbD, mini-CEX	1
Recognise the occasional need to practise outside clinical guidelines	CbD, mini-CEX	1
Encourage discussion amongst colleagues on evidence-based practice	CbD, mini-CEX, MSF	1

Audit

To develop the ability to perform an audit of clinical practice, apply the findings appropriately and complete the audit cycle

Knowledge	Assessment Methods	GMP
Understand the different methods of obtaining data for audit including patient feedback questionnaires, hospital sources and national reference data	AA, CbD	1
Understand the role of audit (improving patient care and services, risk management etc)	AA, CbD	1
Understand the steps involved in completing the audit cycle	AA, CbD	1
Understands the working and uses of national and local databases used for audit such as specialty data collection systems, cancer registries etc.	AA, CbD	1
Understands the working and uses of local and national systems available for reporting and learning from clinical incidents and near misses in the UK		
Skills		
Design, implement and complete audit cycles	AA, CbD	1, 2
Contribute to local and national audit projects as appropriate (e.g. National Confidential Enquiry into Patient Outcome and Death (NCEPOD))	AA, CbD	1, 2

Support audit by junior medical trainees and within the multi-disciplinary team	AA, CbD	1, 2, 3
Behaviours		
Recognise the need for audit in clinical practice to promote standard setting and quality assurance	AA, CbD	1, 2, 3

Teaching and training

To develop the ability to teach a variety of different audiences in a variety of different ways

To be able to assess quality of teaching

To be able to plan and deliver a training programme with appropriate assessments

Knowledge	Assessment Methods	GMP
Describe relevant educational theories and principles	CbD	1
Outline adult learning principles relevant to medical education:		
Demonstrate knowledge of relevant literature relevant to developments and challenges in medical education and other sectors	CbD	1
Outline the structure of an effective appraisal interview	CbD	1
Define the roles to the various bodies involved in medical education and other sectors	CbD	1
Identify learning methods and effective learning objectives and outcomes	CbD	1
Describe the difference between learning objectives and outcomes	CbD	1
Differentiate between appraisal and assessment and performance review and be aware of the need for both	CbD	1
Differentiate between formative and summative assessment and define their role in medical education	CbD	1
Outline the structure of the effective appraisal review	CbD	1
Outline the role of workplace-based assessments, the assessment tools in use, their relationship to course learning outcomes, the factors that influence their selection and the need for monitoring evaluation	CbD	1
Outline the appropriate local course of action to assist a trainee experiencing difficulty in making progress within their training programme	CbD	1
Skills		
Be able to critically evaluate relevant educational literature	CbD	1
Vary teaching format and stimulus, appropriate to situation and subject	CbD, TO	1
Provide effective and appropriate feedback after teaching, and promote learner reflection	CbD, MSF, TO	1
Conduct developmental conversations as appropriate eg: appraisal, supervision, mentoring	CbD, MSF	1
Perform effective lecture, presentation, small group and bed side teaching sessions	CbD, MSF, TO	1, 3
Provide appropriate career support, or refer trainee to an alternative effective source of career information	CbD, MSF	1, 3

Participate in strategies aimed at improving patient education e.g. talking at support group meetings	CbD, MSF	1
Be able to lead departmental teaching programmes including journal clubs	CbD	1
Recognise the trainee in difficulty and take appropriate action including, where relevant, referral to other services	CbD	1
Be able to identify and plan learning activities in the workplace	CbD	1
Contribute to educational research or projects eg: through the development of research ideas of data/information gathering. Be able to manage personal time and resources effectively to the benefit of the educational faculty and the need of the learners	CbD	1
Behaviour		
Act to maintain the dignity and safety of patients at all times in discharging educational duties	CbD, MSF	1, 4
Recognise the importance of the role of the physician as an educator within the multi-professional healthcare team and use medical education to enhance the care of patients	CbD, MSF	1
Balance the needs of service delivery with education	CbD, MSF	1
Demonstrate willingness to teach trainees and other health and social workers in a variety of settings to maximise effective communication and practical skills and to improve patient care	CbD, MSF	1
Demonstrate consideration for learners including their emotional, physical and psychological well being with their development needs. Ensure equality of opportunity for students, trainees, staff and professional colleagues	CbD, MSF	1, 3
Encourage discussions with colleagues in clinical settings to share knowledge and understanding	CbD, MSF	1, 3
Maintain honesty and objectivity during appraisal and assessment	CbD, MSF	1
Be willing to participate in workplace-based assessments and demonstrate a clear understanding of their purpose	CbD, MSF	1
Show willingness to take up formal training as a trainer and Clinical or Educational Supervisor according to GMC guidelines	CbD, MSF	1, 3
Demonstrate a willingness to become involved in the wider medical education activities and foster an enthusiasm for medical education activity in others	CbD, MSF	1
Recognise the importance of personal development as a role model to guide trainees in aspects of good professional behaviour	CbD, MSF	1
Demonstrate a willingness to advance own educational capability through continuous learning	CbD, MSF	1
Act to enhance and improve educational provision through evaluation of own practice	CbD, MSF	1
Contribute to educational policy and development at local or national levels	CbD, MSF	1, 3

Personal behaviour

To develop the behaviours that will enable the doctor to become a senior leader able to deal with complex situations and difficult behaviours and attitudes

To work increasingly effectively with many teams and to be known to put the quality and safety of patient care as a prime objective

To develop the attributes of someone who is trusted to be able to manage complex human, legal and ethical problems

To become someone who is trusted and is known to act fairly in all situations

Knowledge	Assessment Methods	GMP
Recall and build upon the competences defined in the Foundation Programme Curriculum: <ul style="list-style-type: none"> Deal with inappropriate patient and family behaviour Respect the rights of children, elderly, people with physical, mental, learning or communication difficulties Adopt an approach to eliminate discrimination against patients from diverse backgrounds including age, gender, race, culture, disability, spirituality, religion and sexuality Place needs of patients above own convenience Act with honesty, probity and sensitivity in a non-confrontational manner The main methods of ethical reasoning: casuistry, ontology and consequential The overall approach of value based practice and how this relates to ethics, law and decision-making 	CbD, mini-CEX, MSF, PS	1,2,3,4
Define the concept of modern medical professionalism	CbD	1
Outline the relevance of professional bodies (Royal Colleges, JRCPTB, GMC, Postgraduate Dean, British Medical Association, specialist societies, medical defence societies)	CbD	1
Skills		
Practise with professionalism including: <ul style="list-style-type: none"> integrity compassion altruism continuous improvement aspiration to excellence respect of cultural and ethnic diversity regard to the principles of equity 	CbD, mini-CEX, MSF, PS	1,2,3,4
Work in partnership with patients and members of the wider healthcare team	CbD, mini-CEX, MSF	3
Liaise with colleagues to plan and implement work rotas	MSF	3
Promote awareness of the doctor's role in utilising healthcare resources optimally and within defined resource constraints	CbD, mini-CEX, MSF	1, 3
Recognise and respond appropriately to unprofessional behaviour in other	CbD	1
Behaviour		

Recognise personal beliefs and biases and understand their impact on the delivery of health services	CbD, mini-CEX, MSF	1
Recognise the need to use all healthcare resources prudently and appropriately	CbD, mini-CEX	1, 2
Recognise the need for clinical leadership and management skills	CbD, mini-CEX	1
Recognise situations when it is appropriate to involve professional and regulatory bodies	CbD, mini-CEX	1
Show willingness to act as a leader, mentor, educator and role model	CbD, mini-CEX, MSF	1
Be willing to accept mentoring as a positive contribution to promote personal professional development	CbD, mini-CEX	1
Participate in professional regulation and professional development	CbD, mini-CEX, MSF	1
Take part in Multi Source Feedback as part of appraisal	CbD, MSF	1, 2, 4
Recognise and promote the right for equity of access to healthcare	CbD, mini-CEX,	1

Management and NHS structure

To understand the structure of the NHS and the management of local healthcare systems		
Knowledge	Assessment Methods	GMP
Understand the guidance given on management to doctors by the GMC	CbD	1
Understand the local structure of NHS systems in your locality recognising the potential differences between the four countries of the UK	CbD	1
Understand the structure and function of healthcare systems as they apply to your specialty	CbD	1
Understand the consistent debates and changes that occur in the NHS including the political, social, technical, economic, organisational and professional aspects that can impact on provision of service	CbD	1
Understand the principles of: <ul style="list-style-type: none"> • Clinical coding • European Working Time Regulations including rest provisions • National Service Frameworks • Health regulatory agencies (e.g., NICE, Scottish Government) • NHS Structure and relationships • NHS finance and budgeting, the contracting process and resource allocation • Consultant contract • The role of the Independent sector as providers of healthcare • Patient and public involvement 	CbD, mini-CEX	1
Understand the principles of recruitment and appointment procedures	CbD	1
Be familiar with the range of agencies that can provide care and support in and out of hospital, and how they can be accessed	CbD	1,3
Skills		
Participate in managerial meetings	CbD	1
Take an active role in promoting the best use of healthcare resources	CbD, mini-CEX	1
Work with stakeholders to create and sustain a patient-centred service	CbD, mini-CEX	1
Employ new technologies appropriately, including information technology	CbD, mini-CEX	1
Conduct an assessment of the community needs for specific health improvement measures	CbD, mini-CEX	1
Behaviour		
Recognise the importance of equitable allocation of healthcare resources and of commissioning	CbD	1, 2
Recognise the role of doctors as active participants in healthcare systems	CbD, mini-CEX	1, 2
Respond appropriately to health service objectives and targets and take part in the development of services	CbD, mini-CEX	1, 2

Recognise the role of patients and carers as active participants in healthcare systems and service planning	CbD, mini-CEX, PS	1, 2, 3
Show willingness to improve managerial skills (e.g. management courses) and engage in management of the service	CbD, MSF	1

Leadership Skills

To develop the ability and demonstrate the skills needed to lead a Chemical Pathology Department and Metabolic Medicine clinical team effectively enabling delivery of services to patients, service users, carers and the public

Knowledge	Assessment Methods	GMP
Recognise the ways in which individual behaviours impact on others	MSF	1,3
Demonstrate knowledge of the tools and techniques for managing stress	MSF	1,3
Can identify the local processes for dealing with clinical errors	MSF	1
Recognise the role of team dynamics in the way a department functions	MSF	1
Recognise the roles and responsibilities of the various team members within a clinical team and the Chemical Pathology department	MSF, CbD	1
Be aware of the wide range of leadership styles and their applicability to different situations and people	MSF	1,3
Demonstrate knowledge of how financial pressures within the department are managed	MSF, AA	1
Recognise how individual performance review is undertaken and the difference between appraisal, assessment and revalidation	MSF	1
Demonstrate knowledge of the importance of developing creative solutions to improving services	MSF, AA	1
Recognise the implications of change on systems and people	MSF, AA	1,3
Recognise the importance of looking to the future by scanning for ideas, best practice and emerging trends that will shape the system	MSF	1
Demonstrate knowledge of how decisions are made by individuals, teams and organisations	MSF, AA	1,3
Recognise the importance of effective communication strategies within organisations	MSF, AA	1,3
Recognise the barriers to change within organisations	MSF, AA	1,3
Skills		
Maintain and routinely practice critical self awareness including discussion of personal strengths and weaknesses with supervisor and changing behaviour accordingly	MSF, CbD	1,2,3,4
Recognise the manifestations of stress on self and others and know where to look for support	MSF	1,3
Take on differing and complementary roles within the different communities of practice where you work	MSF	1,3
Support bringing together different professionals and disciplines to provide high quality healthcare	MSF, AA	1,3
Identify and prioritise tasks and responsibilities including safe	MSF, AA	2,3

delegation and supervision.		
Use clinical audit to highlight resources required	AA	1,3
Manage time and resources effectively in terms of delivering services to patients	MSF, AA	3,4
Contribute to staff development and training, including mentoring, supervision and appraisal	MSF	3,4
Question existing practice in order to improve services	MSF, AA	3
Apply creative thinking in order to propose solutions to service issues	MSF, AA	1,3
Identify trends, future options and strategy relevant to the specialty	MSF	1,3
Use a range of scientific and policy publications relating to delivering healthcare services	MSF	1
Prepare for meetings by reading agendas, minutes and do background research on agenda items	MSF	1,3
Work collaboratively with a range of people outside the clinical setting	MSF, AA	3
Understand the wider impact of implementing change in healthcare provision	MSF, AA	1,3
Behaviours		
Adopt a patient-focused approach to decision making that acknowledges the rights and values of the patient	MSF, CbD	1,3,4
Recognise personal health as an important issue	MSF	1,3,4
Be prepared to accept responsibility	MSF, CbD	3,4
Interact effectively with professionals from other disciplines and respect their skills and contributions	MSF, AA	1,3,4
Show recognition of a team approach and willingness to consult and work as part of a team	MSF, AA	3
Commit to the proper use of public money and show a commitment to taking action when resources are not used efficiently or effectively	MSF, AA	3
Be willing to supervise the work of less experienced colleagues	MSF	1,2,3,4
Commit to good communication whilst also inspiring confidence and trust	MSF	3,4
Be open minded to new ideas	MSF	3
Have a proactive approach to new technologies and treatment	MSF	1,3
Support colleagues to voice ideas	MSF	3,4
Strive for continuing improvement in delivering patient care services	MSF, AA	1,2,3
Be able to understand issues and potential solutions before acting	MSF, AA	1,2,3
Participate in decision making processes beyond the immediate clinical care setting	MSF	3

Specialty Competencies

1. Disorders of Nutrition

a. Obesity

To be able to assess and manage adult patients with obesity in the outpatient setting		
Knowledge	Assessment Methods	GMP
Prevalence and causes of obesity and its risks and co-morbidities	mini-CEX, CbD	1
The dietary, pharmacological and surgical techniques for managing obesity and the associated medical and nutritional complications.	mini-CEX, CbD	1
Skills		
Ability to take an appropriate history and examine patients in order to define the level of obesity and identify potential complications.	mini-CEX, CbD	1
Measure skinfold thickness and bioimpedence and understand the limitations of these techniques	mini-CEX, CbD	1
Request appropriate investigations.	mini-CEX, CbD	1
Develop an appropriate treatment regimen including effective weight management strategies	mini-CEX, CbD	1, 2
Experience of treatment of complications.	mini-CEX, CbD	1
Ability to give dietary advice.	mini-CEX, CbD	1
Behaviours		
Work appropriately as part of a multi-disciplinary team	MSF	1, 3
Recognise obesity to be an illness and evaluate and treat patients in a sympathetic manner	MSF	1, 4
Utilise opportunity for health promotion and lifestyle counselling	CbD	1,3,4

b. Malnutrition - Nutritional Assessment and Nutritional Support

Competent to assess nutritional status and to manage patients with malnutrition and prescribe nutritional support by enteral and parenteral routes on a short-term or long-term basis		
Knowledge	Assessment Methods	GMP
Understand body composition, energy homeostasis, consequences of under nutrition and screening.	mini-CEX, CbD	1
Describe the principles of the various types of nutritional support available and the routes of administration	mini-CEX, CbD	1,2
Understand the use of intravenous feeding, its complications and appropriate monitoring for both short and long/home use	mini-CEX, CbD	1,2
Explain the various forms of enteral feeding including gastric and jejunal tube feeding	mini-CEX, CbD	1,2
Understand the laboratory monitoring of electrolytes, trace elements and vitamins in patients receiving nutrition support and factors influencing interpretation of results	mini-CEX, CbD	1,2
In depth understanding of fluid and electrolyte balance including management of patients with high losses.	mini-CEX, CbD	1,2

Management of patients with short bowel syndrome.	mini-CEX, CbD	1,2
Skills		
Able to detect under nutrition and apply knowledge to individual patients	mini-CEX, CbD	1,2
To be able to choose the appropriate route for nutrition support	mini-CEX, CbD	1
Prescribe appropriate enteral and intravenous feeding regimens and adjust as necessary as the patient's clinical condition alters.	mini-CEX, CbD	1
Supervise the management of feeding lines	mini-CEX, CbD	1
Able to confirm siting of nasogastric and nasojejunal tubes	mini-CEX, CbD	1
Monitor nutrition support patients to avoid refeeding syndrome and other biochemical complications	mini-CEX, CbD	1
Behaviours		
Be willing to assess different options for nutrition support and to discuss them with the patient	MSF, mini-CEX, CbD	1
Take account of fluid balance, fluid prescription, nutrient intake and drug prescription charts when prescribing nutritional support	MSF, mini-CEX, CbD	1
Develop leadership skills as part of multi-disciplinary team	MSF	1, 3
Handle acutely ill patients and their families sympathetically	MSF	1,3 ,4

2. Inborn Errors of Metabolism

Competent to manage patients with inborn errors of metabolism		
Knowledge	Assessment Methods	GMP
Be aware of the biochemical consequences of a primary enzyme block in a metabolic pathway and the way in which clinical and pathological signs may be produced.	mini-CEX, CbD	1
Trainees are not expected to have in depth knowledge of all Inherited Metabolic Defects but should be aware of the major categories; presentation, investigation, mechanisms of inheritance, scope of prenatal and newborn diagnosis, principles of treatment (coenzyme supplementation, enzyme inhibition, dietary manipulation.)	mini-CEX, CbD	1, 4
Understand the key issues in engaging young adults during the transition from paediatric to adult services.	mini-CEX, CbD	1,4
Adult impact of common IEMs especially: Phenylketonuria, Galactosaemia, Homocystinuria, Maple Sugar Urine Disease, Medium-chain acyl CoA dehydrogenase (MCAD) deficiency	mini-CEX, CbD	1,4
Understand the causes and treatment of: Hypoglycaemia Hyperammonaemia Metabolic acidosis Encephalopathy IEM affecting intermediate metabolism, e.g.: Urea cycle disorders Glycogen storage disorders Disorders of membrane transport eg cystinuria Lysosomal disorders eg Fabry's disease Peroxisomal metabolism e.g. Refsum's Disease Mitochondrial disorders Disorders of metal metabolism e.g. haemochromatosis and Wilson's Disease Porphyrias	mini-CEX, CbD	1
Outline the concept of patient self-care and the role of the expert patient	CbD, mini-CEX	1
Know about and practice within the key provisions of disability discrimination and other contemporary legislation	CbD	1
Skills		
Have a working knowledge of prenatal diagnosis and odds-ratio assessment	mini-CEX, CbD	1, 4
Be able to direct appropriate investigations and interpret them. Gain experience of working in a metabolic laboratory and the range of tests and sources of information available	mini-CEX, CbD	1, 2
Understand the effect of IEM on routine biochemical tests.	mini-CEX, CbD	1,2
Develop and agree a management plan with the patient (and carers), ensuring comprehension to maximise self-care within care pathways where relevant	CbD, mini-CEX	1, 3, 4

Be able to prescribe specialised dietary treatments and specific drug therapies	mini-CEX, CbD	1
Ability to start acute treatment to manage these conditions while specific diagnosis is in progress	mini-CEX, CbD	1,2
Be able to counsel affected families and offer advice on prevention and treatment of exacerbations of the disease in question.	mini-CEX, CbD	1,3,4
Gain experience of range of treatment options available and their potential problems e.g.Enzyme Replacement Therapy	mini-CEX, CbD	1,2
Develop and sustain supportive relationships with patients with whom care will be prolonged and potentially life long	CbD, mini-CEX	1, 4
Provide relevant evidenced-based information and, where appropriate, effective patient education with support of the multi-disciplinary team	CbD, mini-CEX	1, 3, 4
Promote and encourage involvement of patients in appropriate support networks, both to receive support and to give support to others	CbD, mini-CEX	1,3,4
Encourage and support patients in accessing appropriate information	CbD, mini-CEX	3,4
Maintain hope while setting long term realistic goals	CbD, mini-CEX	3,4
Behaviours		
Collaborate with other professionals (paediatricians, nurses, dieticians, pharmacists, clinical scientists, geneticists) in investigation and management of patients	MSF	1,3,4
Treat and monitor patients appropriately.	mini-CEX, CbD	1
Demonstrate an understanding of the need to involve patients and relatives/carers in decision-making	PS, MSF	1, 3, 4
Be able to interact well with patients and relatives	MSF	1,3
Handle acutely ill patients and their families in a sympathetic way.	MSF	1,4
Show willingness to maintain a close working relationship with other members of the multi-disciplinary team, primary and community care and adapt appropriately as those members change over time	CbD, mini-CEX, MSF, PS	3

3. Cardiovascular Risk Factors

a. Lipid Disorders

Competent to manage patients with hyperlipidaemia		
Knowledge	Assessment Methods	GMP
Understand the metabolic basis of lipid metabolism and the pattern of lipid abnormalities seen in inherited and acquired dyslipidaemias.	mini-CEX, CbD	1
Be able to critically appraise biochemical and genetic investigations for dyslipidaemia	mini-CEX, CbD	1
Be aware of need to screen and offer support to other members of patient's family in the case of severe familial dyslipidaemia	mini-CEX, CbD	1, 4
Pharmacology of lipid lowering agents.	mini-CEX, CbD	1,2
Gain experience of using the different lipid lowering agents alone and in combination	mini-CEX, CbD	1,2
Skills		
Assess cardiovascular risk in relation to patient's lipid profile	mini-CEX, CbD	1, 2
Be able to identify clinical features of genetic dyslipidaemias (xanthelasma, xanthoma - tendinous, eruptive and planar, corneal arcus, lipaemia retinalis) and evidence of macro- and micro-vascular disease.	mini-CEX, CbD	1
Diagnose and manage patients with primary and secondary dyslipidaemia.	mini-CEX, CbD	1, 2
Communicate the cardiovascular risk of hyperlipidaemia to patients	mini-CEX, CbD	1, 3, 4
Genetic counselling skills for advising affected families.	mini-CEX, CbD	1, 3, 4
Behaviours		
Work appropriately as part of a multi-disciplinary team	MSF	3
Treat and monitor patients appropriately	mini-CEX, CbD	1, 2

b. Other risk factors

Competent to assess cardiovascular risk and institute appropriate management		
Knowledge	Assessment Methods	GMP
Physiological basis for atheroma, coronary heart disease and associated risk factors, including chronic kidney disease and metabolic syndrome.	mini-CEX, CbD	1
Primary and secondary cardiovascular disease prevention.	mini-CEX, CbD	1
Know the current methods of calculating risk and their shortcomings.	mini-CEX, CbD	1
Assess global cardiovascular risk	mini-CEX, CbD	1
Know how to investigate patients with hypertension.	mini-CEX, CbD	1
Pharmacology of antihypertensive medication	mini-CEX, CbD	1
Complications of hypertension.	mini-CEX, CbD	1
Role of drugs in treating hypertension and how to combine them.	mini-CEX, CbD	1

Assessment of 24 hour BP monitoring.	mini-CEX, CbD	1
Skills		
Identify and manage factors contributing to atherosclerosis, including diabetes, obesity, renal disease, hypertension.	mini-CEX, CbD	1,2
Be able to give appropriate basic dietetic advice.	mini-CEX, CbD	1
Refer appropriately for specialist dietetic input.	mini-CEX, CbD	1
Ability to interpret additional risk factors and consider them in relation to standard CV risk factors.	mini-CEX, CbD	1
Assessment of hypertension including rare underlying causes and its complications.	mini-CEX, CbD	1
Ability to combine agents and consider role of anti-obesity and anti-diabetic/insulin resistance medication.	mini-CEX, CbD	1
Behaviours		
Ability to work in multi-disciplinary teams with biochemists, dieticians, etc.	MSF	1, 2, 3
Appropriate safe prescribing	mini-CEX, CbD	1,2
Recognise when to refer patients for specialised investigations and treatment (eg Cardiology, Vascular surgery)	mini-CEX, CbD	1,2,3,4

4. Disorders of Calcium Metabolism

a. Disorders of calcium, phosphate and magnesium and metabolic bone disease

Competent to diagnose and manage patients with disorders of calcium, magnesium and phosphate metabolism

Competent to diagnose and manage patients with metabolic bone disease

Knowledge	Assessment Methods	GMP
Detailed understanding of calcium, magnesium, phosphate, vitamin D, parathyroid hormone (PTH) and parathyroid hormone related peptide (PTHrP) metabolism and their perturbation by disease.	mini-CEX, CbD	1
Understand the bone cycle	mini-CEX, CbD	1
Causes of hypercalcaemia and hypocalcaemia and their treatments	mini-CEX, CbD	1,2
Be able to diagnose osteoporosis, vitamin D deficient states, Paget's disease, inherited causes of rickets and osteogenesis imperfecta.	mini-CEX, CbD	1
Be aware of the range of therapeutic drugs which have a role in treating bone disease.	mini-CEX, CbD	1
Be aware of the screening strategies for osteoporosis including the range of bone density scanning techniques and the FRAX score	mini-CEX, CbD	1, 2, 3
The physiological basis of biochemical bone markers and the clinical uses of these markers	mini-CEX, CbD	1,2
Causes and treatment of hypomagnesaemia	mini-CEX, CbD	1
Skills		
Ability to manage hypercalcaemia and hypocalcaemia	mini-CEX, CbD	1,2
Ability to assess risk factors for vitamin D deficiency including dietary factors and ethnicity.	mini-CEX, CbD	1,2,3
Diagnosis and management of vitamin D deficiency	mini-CEX, CbD	1
Assessment and management of existing osteoporosis	mini-CEX, CbD	1,2,3,4
Assessment and management of existing Paget's disease	mini-CEX, CbD	1
Ability to direct appropriate investigations of complex or inherited metabolic bone disorders	mini-CEX, CbD	1
Behaviours		
Demonstrate ability to assess, investigate and manage patients with metabolic bone disease	mini-CEX, CbD	1,2
Direct and interpret a range of radiological and biochemical tests to assess bone disease.	mini-CEX, CbD	1
Make appropriate referrals for bone densitometry and understand its value and limitations	mini-CEX, CbD	1,2,3,4
Refer appropriate patients with hyperparathyroidism for surgery	mini-CEX, CbD	1,2,3,4
Manage patients with hypoparathyroidism appropriately to prevent long-term complications eg nephrocalcinosis	mini-CEX, CbD	1,2,3,4
Work appropriately as part of a multidisciplinary team	MSF	3

Appreciate the effect of chronic bone disease on patients and their families	mini-CEX, CbD, MSF	4
Put patients in touch with the relevant agency including the voluntary sector from where they can procure appropriate equipment and devices	CbD, mini-CEX	1, 3
Recognise and respect the role of family, friends and carers in the management of the patient with a long term condition	CbD, mini-CEX, PS	1, 3
Shows a willingness to engage with expert patients and representatives of charities or networks that focus on diseases and recognise their role in supporting patients and their families/carers	CbD, mini-CEX, PS	3, 4

b. Renal Stones

Competent to diagnose and manage patients with renal stone disease		
Knowledge	Assessment Methods	GMP
Define the causes of renal stones and the circumstances under which they may manifest	mini-CEX, CbD	1
Describe the biochemical investigation and imaging techniques available	mini-CEX, CbD	1
Define the underlying tubular abnormalities which predispose to renal stone disease and their genetic basis	mini-CEX, CbD	1
Describe the indications for treatment to prevent the development of renal stone disease	mini-CEX, CbD	1
Skills		
To manage the appropriate investigation (biochemical and imaging) and treatment of patients with renal stones	mini-CEX, CbD	1
To recognise the limitations of medical treatment to prevent stones	mini-CEX, CbD	1,2
To encourage the use of simple methods to reduce the risk of stone development	mini-CEX, CbD	1,2,3,4
Behaviours		
To work as part of a multidisciplinary team	MSF	3

c. Renal Bone Disease

Competent to diagnose and manage patients with renal bone disease		
Knowledge	Assessment Methods	GMP
The pathophysiology of renal bone disease	mini-CEX, CbD	1
The use of biochemical tests, imaging techniques and histological methods in the diagnosis and management of renal bone disease.	mini-CEX, CbD	1
The indications for and the use of phosphate binders, calcimimetics, vitamin D preparations and parathyroidectomy and how to monitor treatment and adverse effects	mini-CEX, CbD	1,2
Skills		
Prevent, diagnose and manage renal bone disease in patients with chronic renal failure before and during renal replacement therapy	mini-CEX, CbD	1
Decide which patients need parathyroidectomy	mini-CEX, CbD	1
Behaviours		
Appreciate the multidisciplinary nature of management of renal bone disease	CbD, MSF	1

5 Diabetes Mellitus

a. Diagnosis and General Management of Diabetes Mellitus

Competent to manage patients with diabetes mellitus in an outpatient setting.		
Knowledge	Assessment Methods	GMP
Define the diagnostic criteria for diabetes mellitus and identify the different types	mini-CEX, CbD	1
Understand the underlying basis of the metabolic disturbances and principles of management	CbD	1, 2
Describe the systems used to monitor diabetic control including continuous glucose monitoring systems.	mini-CEX, CbD	1, 2
Describe the principles of lifestyle management of diabetes and be able to give basic dietary advice	mini-CEX, CbD	1, 3
Know the pharmacology of oral hypoglycaemic agents and identify appropriate use in the clinical setting	mini-CEX, CbD	1, 2
Describe the characteristics of the range of insulin preparations available and define their use	mini-CEX, CbD	1, 2
Acquire some knowledge of the use of technology in diabetes eg diabetes databases and the use of meter / pump downloads	mini-CEX, CbD	1,2
Understand the principles of structured education in the management of diabetes (eg Dose Adjustment For Normal Eating (DAFNE), Diabetes Education and Self Management for Ongoing and Newly Diagnosed (DESMOND))	mini-CEX, CbD	1, 2
Describe appropriate preventative strategies / treatments for prevention of micro and macrovascular complications.	mini-CEX, CbD	1, 2
Describe national evidence-based therapeutic targets.	mini-CEX, CbD	1, 2
Skills		
Be able to elucidate an appropriate history and interpret tests done to differentiate different types of diabetes.	mini-CEX, CbD	1,2,3, 4
Perform annual screening for complications of diabetes and manage appropriately	mini-CEX, CbD	1,2,3,4
Educate patients in the use of insulin delivery devices	mini-CEX, CbD, PS	1,2,3,4
Educate patients in the use of home blood glucose monitoring systems	mini-CEX, CbD, PS	1,2,3,4
Give advice on the indications for insulin therapy in type 2 diabetes and make appropriate dose adjustments including different regimens for insulin therapy including insulin pump therapy	mini-CEX, CbD, PS	1,2,3,4
Give advice about dosage adjustment in response to blood glucose concentrations, exercise, alcohol, etc	mini-CEX, CbD, PS	1,2,3,4
Identify patients who need psychological intervention	mini-CEX, CbD, PS	1,2,3,4
Give appropriate advice about employment, driving, exercise, alcohol, weight management, smoking and family planning.	mini-CEX, CbD, PS	1,2,3,4
Behaviours		
Understand the implications and concerns arising from a diagnosis of diabetes and provide advice in a non-judgemental manner	mini-CEX, CbD, PS, MSF	1,2,3,4

Recognise the central role of the patient in the management of their diabetes	MSF, CbD, PS	1,2,3,4
Understand the cultural and educational barriers to good glucose control	MSF, CbD, PS	1,2,3,4
Recognise the impact of diabetes on carers and their role in the patient's management.	mini-CEX, MSF, CbD, PS	1,2,3,4
Be able to personalise treatment and targets to the individual patient's circumstances	mini-CEX, MSF, CbD, PS	1,2,3,4

b. Management of Delivery of Diabetes Care

Describe the different settings in which diabetes care can be delivered and how these are integrated

Knowledge	Assessment Methods	GMP
Describe the different models of diabetes care delivery (i.e. primary care, intermediate care and secondary care)	CbD, mini-CEX	1,2,3
Understand the factors which influence commissioning of diabetes care within the NHS	CbD	1,2,3
Describe which aspects of diabetes care can be appropriately delivered in different clinical settings	mini-CEX, CbD	1,2,3
Describe the role of information technology in integrating care across different providers	mini-CEX, CbD	1,2,3
Describe the role of diabetes networks and advisory groups in the organisation of care	CbD, mini-CEX	1,2,3
Skills		
Identify appropriately patients who can be managed in different settings such as primary care, intermediate care and multidisciplinary (sub-speciality) specialist care	CbD, mini-CEX	1,2,3,4
Interact with different providers of care to develop cohesive local pathways for delivery of care	mini-CEX, CbD	1,2,3,4
Be able to develop business cases to improve delivery of care locally	mini-CEX, CbD	1,2,3,4
Behaviours		
Recognise the importance of multidisciplinary team working	Min-CEX, CbD	1,2,3,4
Recognise the importance of the primary secondary care interface in management	MSF	1,2,3,4
Recognise the importance of Primary Care Trusts and hospital management support in delivery of care	mini-CEX, CbD	1,2,3,4
Understand the economic and cultural barriers to the delivery of integrated diabetes care	mini-CEX, CbD	1,2,3,4

c. Conception and Pregnancy in Diabetes

Manage pre-conception, conception and pregnancy in the diabetic woman in order to optimise outcome		
Knowledge	Assessment Methods	GMP
Discuss the importance of glucose control in pre-conception and during pregnancy and the need for family planning in fertile women of all ages	CbD, mini-CEX	1,2
The effect of diabetes on the pregnant woman and her foetus, and strategies for their amelioration	CbD, mini-CEX	1,2
The effect of pregnancy on diabetes management and glycaemia	CbD, mini-CEX	1,2
The risk factors for gestational diabetes and current diagnostic criteria and appropriate screening strategies	CbD, mini-CEX	1,2
Describe the different available methods of contraception	CbD, mini-CEX	1,2
Skills		
Discuss the importance of diabetes in pregnancy and the need for family planning in fertile women of all ages	CbD, mini-CEX, PS	1,2,3,4
Advise women about the importance of pre-conception care and potential risks of diabetic pregnancy, including progression of complications	CbD, mini-CEX, PS	1,2,3,4
Advise women with diabetes regarding contraception	CbD, mini-CEX, PS	1,2,3,4
Optimise glycaemic and blood pressure control prior to and throughout pregnancy	CbD, mini-CEX	1,2,3,4
Manage other aspects of pregnancy such as folate supplements and rubella vaccination	CbD, mini-CEX	1,2,3,4
Diagnose and manage gestational diabetes	CbD, mini-CEX	1,2,3,4
Deliver antenatal care in the setting of a joint obstetric clinic	CbD, mini-CEX, MSF	1,2,3
Manage glycaemia during labour and delivery	CbD, mini-CEX	1,2,3,4
Manage intercurrent illness and events such as administration of steroids in order to mature fetal lungs	mini-CEX	1,2,3,4
Behaviours		
Exhibit a non judgemental attitude on women who have difficulty in achieving glycaemic targets prior to conception or during pregnancy and support their efforts to do so.	CbD	4
Communicate and work with obstetric and midwifery colleagues in the joint management of diabetic pregnancy	CbD, MSF	2,3

d. Age-related Conditions and Diabetes

d. (i) Young People

Ability to provide care to young people with diabetes in transition to adult services		
Knowledge	Assessment Methods	GMP
Outline the effects of diabetes on normal growth and development in children	CbD, mini-CEX	1,2
Describe the physiological, psychological and social factors affecting glycaemic control in adolescence	CbD, mini-CEX	1,2,3,4
Awareness of ways in which individual behaviour can impact on young people	CbD, mini-CEX, MSF	1,2,3,4
Awareness of the rights of children and young people	CbD	1,3,4
Skills		
Provide care to young persons with diabetes in transition to the adult service	mini-CEX, CbD	1,2,3,4
Recognise common risk taking behaviour in young persons and its effects on diabetes	mini-CEX, CbD	1,2,3,4
Recognise the potentially negative effects of adolescent behaviour on diabetes and the impact it may have on family and personal relationships	CbD, mini-CEX, MSF	1,2,3,4
Behaviours		
Exhibit a non judgemental attitude in addressing the problems of a young patient with diabetes and demonstrate preparedness to change behaviour in response to feedback and reflection	mini-CEX, MSF, PS	3,4
Respond to the physiological, psychological and social problems of maintaining glycaemic control in adolescence and the concerns and anxieties of parents / carers	CbD, mini-CEX, MSF	1,2,3,4
Adopt a patient focussed approach that acknowledges values that may not be shared by the trainee	mini-CEX, MSF, PS	3,4

d. (ii) Elderly People

Provide care for and manage elderly patients with diabetes		
Knowledge	Assessment Methods	GMP
Recognise the potential effects of co-morbidities associated with ageing on diabetes treatments and control	CbD, mini-CEX	1,2
Be aware of the effects of aging including associated disability on access to health care	CbD, mini-CEX	1,2,3,4
Be aware of the diversity of agencies and health care workers that can support elderly patients living in the community	CbD, mini-CEX	1,2,3
Skills		
Adapt therapeutic targets and diabetes treatment regimens to the individual patient taking account of co-morbidities	CbD, mini-CEX	1,2,3,4
Manage the specific social and medical needs of elderly patients with	CbD, mini-CEX	1,2,3,4

diabetes in the community		
Advise about the care of older people in residential and nursing care taking into account appropriate utilisation of health service resources	CbD, mini-CEX	1,2,3,4
Assess and advise so as to minimise risk especially for elderly vulnerable patients	CbD, mini-CEX	1,2,3,4
Behaviours		
Adopt a patient centred approach recognising that diabetes management and therapeutic targets may need adjustment in elderly patients with disability, social isolation and co-morbidity	CbD, mini-CEX, PS	1,2,3,4
Adopt a team approach in co-ordinating, in some cases leading but always acknowledging, the efforts of agencies and individuals managing older patients with diabetes	CbD, mini-CEX, MSF	1,2,3,4

e. Complications of Diabetes

e. (i) Screening for the Complications of Diabetes

Understand the principles and practice of screening for diabetic complications		
	Assessment Methods	GMP
Knowledge		
The principles and practice of screening	CbD, mini-CEX	1,2
Skills		
Practice effective strategies in the implementation of a screening programme for diabetes complications	CbD	1,2
Behaviours		
Recognise the criteria for urgent referral to appropriate services when diabetic complications are identified	CbD, MSF	1,2,3,4

e. (ii) Macrovascular Disease

Identify, investigate, treat and make appropriate referrals for patients with macrovascular disease		
	Assessment Methods	GMP
Knowledge		
The importance of hyperglycaemia as a risk factor for macroangiopathy	CbD	1,2
Other risk factors for macroangiopathy including elements of the so-called metabolic syndrome	CbD	1,2
The presenting features of cerebrovascular, cardiovascular and peripheral vascular disease	CbD	1,2
The available treatments for non glycaemic risk factors for macroangiopathy	CbD	1,2
Skills		
Identify and manage glycaemia and other modifiable risk factors for macroangiopathy	CbD, mini-CEX	1,2
Diagnose and manage heart failure in diabetes	CbD, mini-CEX	1,2
Investigate and manage diabetic patients with established macrovascular disease	CbD, mini-CEX	1,2

Manage diabetic patients suffering acute myocardial infarction and stroke	CbD	1,2
Behaviours		
Recognise when to refer patients for specialist investigation and treatment (e.g. Cardiology, Vascular surgery)	CbD, mini-CEX	1,2,3,4

e. (iii) Eye Disease in Diabetes

Identify and prevent diabetic eye disease		
Knowledge	Assessment Methods	GMP
How diabetes can affect different parts of the eye	CbD, mini-CEX	1,2
The pathogenesis and different stages of diabetic retinopathy	CbD	1,2
The importance of visual acuity testing and retinal screening	CbD	1,2
The available treatments for eye complications	CbD	1,2
The implications of eye complications on driving / employment	CbD, mini-CEX	1,2,4
The structure of a retinal screening programme	CbD, mini-CEX	1,2,3
Skills		
Diagnose cataract, and all grades of severity of retinopathy using direct ophthalmoscopy	mini-CEX	1,2
Interpret retinal photographs	CbD, mini-CEX	1,2
Identify other ocular disorders associated with diabetes	CbD, mini-CEX, SCE	1,2
Perform and interpret visual acuity testing	mini-CEX	1,2
Discuss the importance of glycaemic control and blood pressure management in diabetic eye disease	CbD, mini-CEX	1,2,3,4
Recognise the types of diabetic eye complications which need urgent ophthalmology referral	CbD, mini-CEX	1,2,3
Behaviours		
Practice primary prevention of diabetic eye disease	mini-CEX	1,2
Refer the appropriate patients for specialist ophthalmic assessment	CbD, mini-CEX, MSF	1,2,3
Communicate to patients and advise accordingly about the treatments available for eye complications and the implications of eye complications on driving / employment	mini-CEX, PS	1,2,3,4
Recognise the importance of retinal screening and contribute to local diabetic retinopathy screening programmes	CbD, MSF	1,3
Recognise the impact of diabetes eye complications on patients lifestyle	CbD, PS	1,3,4

e. (iv) Renal Disease and Hypertension in Diabetes

Prevent, identify and manage renal disease and hypertension in people with diabetes		
Knowledge	Assessment Methods	GMP
Describe how diabetes can affect different parts of the kidney	CbD	1
Describe the pathogenesis and different stages of diabetic nephropathy	CbD	1
Describe the effect of hypertension on diabetic nephropathy	CbD	1,2
Demonstrate understanding of the significance of proteinuria in the increased incidence of macroangiopathy	CbD	1,2
Define treatment thresholds of blood pressure in patients with diabetes and nephropathy	CbD, mini-CEX	1,2
Describe the available tests for diagnosing nephropathy and explain the importance of screening for early nephropathy	CbD, mini-CEX	1,2
Describe the treatments available for diabetic nephropathy and hypertension	CbD, mini-CEX	1,2
Skills		
Manage hypertension according to current guidelines	CbD, mini-CEX	1,2
Manage glycaemia in patients with renal impairment	CbD, mini-CEX	1,2,3
Diagnose nephropathy and distinguish between its different stages (early / late)	CbD, mini-CEX	1,2
Evaluate other macrovascular risk factors in patients with diabetic nephropathy	CbD, mini-CEX	1,2
Advise/counsel patients about the significance of nephropathy	mini-CEX, PS	1,4
Behaviours		
Communicate to patients the importance of blood pressure and glycaemic management in the prevention and slowing of progression of nephropathy	mini-CEX, PS	2,3,4
Communicate the significance of a diagnosis of nephropathy to patients	mini-CEX, PS	2,3,4
Communicate with colleagues in specialist nephrology services and refer patients appropriately	CbD, MSF	2,3
Recognise the implications of a diagnosis of diabetic nephropathy on patients, their carers and families.	CbD, mini-CEX, PS	2,4

e. (v) Neuropathy, Foot Disease and Erectile Dysfunction in Diabetes

To understand principles of management of diabetes related foot disease and erectile dysfunction

Knowledge	Assessment Methods	GMP
Describe how diabetes can affect different parts of the nervous system	CbD, SCE	1,2
Describe the pathogenesis and different manifestations of diabetic neuropathy	CbD, SCE	1,2
Understand the principles of infection control	CbD, mini-CEX	1
The risks of antibiotic therapy and importance of prescribing policies	CbD, mini-CEX	1
Skills		
Diagnose the different patterns of autonomic and somatic poly- and mononeuropathies, including performance of appropriate examination	CbD, mini-CEX	1,2
Manage the neuropathies, including neurogenic pain and the manifestations of autonomic neuropathy	CbD, mini-CEX, SCE	1,2,4
Assess vascular supply and neurological status of the lower limb	mini-CEX	1,2
Identify patients at risk of foot problems and advise on prevention	CbD, mini-CEX	1,2,4
Manage established diabetic foot problems including use of appropriate antibiotic treatment	CbD, mini-CEX, SCE	1,2
Evaluate and manage erectile dysfunction in diabetic men	CbD, mini-CEX	1,2
Counsel patients on matters of infection risk, transmission and control	CbD, mini-CEX, PS	2,3
Actively engage in local infection control procedures	CbD	1
Prescribe antibiotics according to local antibiotic guidelines and liaise appropriately with microbiological services	CbD, mini-CEX	1
Recognise potential for cross-infection in clinical settings	CbD, mini-CEX	1,2
Behaviours		
Select appropriate treatment particularly for neurogenic pain and manifestations of autonomic neuropathy	mini-CEX, SCE	1,2
Demonstrate effective management of established diabetic foot problems including communication of advice on prevention of foot ulceration	CbD, mini-CEX	1,2,4
Recognise the importance of the multidisciplinary team in the prevention and management of diabetic foot problems	CbD, MSF	1,2,3
Recognise when to refer patients for specialist foot care	CbD	1,3
Exhibit appropriate behaviours when discussing erectile dysfunction and communicating range of treatment options	mini-CEX, PS	1,3,4
Recognise the impact of amputation on patients and their carers and the importance of effective rehabilitation	CbD, mini-CEX	3,4
Encourage all staff, patients and relatives to observe infection control principles	CbD, MSF	1,3
Recognise the risk of personal ill-health as a risk to patients and colleagues in addition to its effect on performance	CbD, MSF	1,3

4 Learning and Teaching

4.1 The training programme

The educational programme provides:

- Opportunity to gain knowledge of metabolic changes in diseases.
- Acquisition of lifelong habits of reading, literature searches, consultation with colleagues.
- Attendance at scientific meetings, and the presentation of scientific work that is essential for continuing professional development (CPD).
- Experience of the practice of clinical governance and audit (specialist and multi-disciplinary) through evaluation of practice against the standards of evidence-based medicine, which underpin biochemistry practice.
- A balance between practical laboratory and clinical training, which will be influenced by the trainee's educational background, personal interests and guidance from supervisors.

Training programmes must include suitable rotational arrangements to ensure that the entire curriculum is covered and that unnecessary duplication and educationally unrewarding experiences are avoided. There should be an appropriate balance between teaching hospitals and district general hospitals. The length of attachments may vary, depending on the interests and experience of the trainee such that each trainee gains the breadth of training required for satisfactory completion of the curriculum and a wide exposure to different content, educational supervisors and methods. The exact rotational arrangements will vary according to the size of the departments in the various training hospitals, the number of placements on the training scheme and the number of other trainees on the training programme. The training scheme should be organised in such a way as to give each trainee some experience in all the recognised areas of subspecialisation. Where this is not possible with isolated training centres, secondment may be necessary to obtain specialised training. The sequence of training should ensure appropriate progression in experience and responsibility.

The organisation and delivery of postgraduate training is the statutory responsibility of the General Medical Council (GMC), which devolves responsibility for the local organisation and delivery of training to the deaneries. Each deanery oversees a "School of Medicine" which is comprised of the regional Specialty Training Committees (STCs) in each medical specialty. Responsibility for the organisation and delivery of specialty training in Metabolic Medicine in each deanery is, therefore, the remit of the regional Metabolic Medicine STC. Each STC has a Training Programme Director who coordinates the training programme in the specialty.

4.2 Teaching and learning methods

Trainees will achieve the competencies described in the curriculum through a variety of learning methods. There will be a balance of different modes of learning from formal teaching programmes to experiential learning 'on the job'. The proportion of time allocated to different learning methods may vary depending on the nature of the attachment within a rotation and the trainee's individual learning style.

Trainees will learn clinical skills appropriate to their level of training through attachments within the department.

This section identifies the types of situations in which a trainee will learn.

Learning with Peers - There are many opportunities for trainees to learn with their peers. Local postgraduate teaching opportunities allow trainees of varied levels of experience to come together for small group sessions. Examination preparation encourages the formation of self-help groups and learning sets.

Work-based Experiential Learning - The content of work-based experiential learning is decided by the local faculty for education but includes active participation in:

- **Medical clinics including specialty clinics.** After initial induction, trainees will review patients in outpatient clinics, under direct supervision. The degree of responsibility taken by the trainee will increase as competency increases. As experience and clinical competence increase trainees will assess 'new' and 'review' patients and present their findings to their clinical supervisor. There should be formal opportunities for the supervisor to review decisions made in the outpatient clinic and opportunity for the trainee to see patients along with the supervisor.
- **Personal ward rounds** and provision of ongoing clinical care on specialist medical ward attachments. Every patient seen, on the ward or in out-patients, provides a learning opportunity, which will be enhanced by following the patient through the course of their illness: the experience of the evolution of patients' problems over time is a critical part both of the diagnostic process as well as management. Patients seen should provide the basis for critical reading and reflection of clinical problems.
- **Consultant-led ward rounds.** Every time a trainee observes a consultant or fellow trainee seeing a patient or their relatives there is an opportunity for learning. Ward rounds should be led by a consultant and include feedback on clinical and decision-making skills.
- **Multi-disciplinary team meetings.** There are many situations where clinical problems are discussed with clinicians in other disciplines. These provide excellent opportunities for observation of, and participation in, clinical reasoning.
- Practical laboratory experience will be gained by working in the laboratory, to gain familiarity with procedures and techniques, working with various groups of staff within the laboratory, e.g., clinical scientist and biomedical scientists and attending laboratory educational, clinical and management meetings.

Formal Postgraduate Teaching – The content of these sessions is determined by the local faculty of medical education and will be based on the curriculum. There are many opportunities throughout the year for formal teaching in the local postgraduate teaching sessions and at regional, national and international meetings. Many of these are organised by the Royal Colleges of Physicians, Royal College of Pathologists, and the Association for Clinical Biochemistry.

Suggested activities include:

- A programme of formal bleep-free regular teaching sessions to cohorts of trainees (e.g. a weekly core training hour of teaching within a Trust)
- Case presentations
- Journal clubs
- Research and audit projects presentations
- Lectures and small group teaching
- Grand Rounds
- Clinical skills demonstrations and teaching
- Critical appraisal and evidence based-medicine courses and journal clubs
- Joint specialty meetings

- Attendance at training programmes organised on a deanery, regional or national basis, which are designed to cover aspects of the training programme outlined in this curriculum.

Independent Self-Directed Learning -Trainees will use this time in a variety of ways depending upon their stage of learning. Suggested activities include:

- Reading, including web-based material
- Maintenance of personal portfolio (self-assessment, reflective learning, personal development plan)
- Audit and research projects
- Reading journals
- Achieving personal learning goals beyond the essential, core curriculum
- Communication and consultation skills through supervision, observed consultations and formal training
- Learning through teaching of medical students, other health care professionals and patient support groups.

Formal Study Courses – It is encouraged that time be made available to attend formal courses, subject to local conditions of service. Examples include:

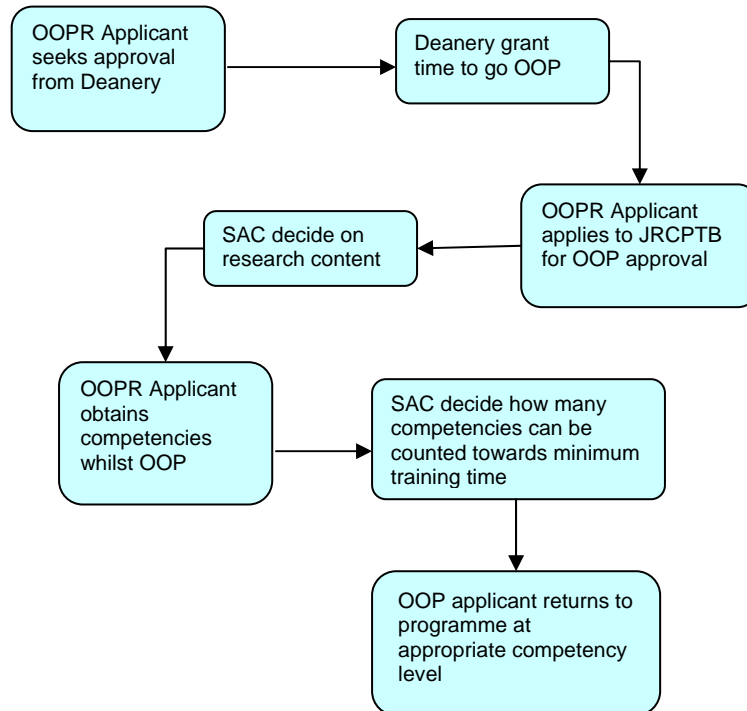
ACB training courses and training days
 MSc courses in Clinical Biochemistry
 Nutrition courses
 Foundation course in diabetes
 Advanced Diabetes Course

4.3 Research

Trainees, who wish to acquire research competencies, in addition to those specified in their specialty curriculum, may undertake a research project as an ideal way of obtaining those competencies. For those in specialty training, one option to be considered is that of taking time out of programme to complete a specified project or research degree. Applications to research bodies, the deanery (via an OOPR form) and the JRCPTB (via a Research Application Form) are necessary steps, which are the responsibility of the trainee. The JRCPTB Research Application Form can be accessed via the JRCPTB website. It requires an estimate of the competencies that will be achieved and, once completed, it should be returned to JRCPTB together with a job description and an up to date CV. The JRCPTB will submit applications to the relevant SACs for review of the research content including an indicative assessment of the amount of clinical credit (competence acquisition) which might be achieved. This is likely to be influenced by the nature of the research (eg entirely laboratory-based or strong clinical commitment), as well as duration (eg 12 month Masters, 2-year MD, 3-Year PhD). On approval by the SAC, the JRCPTB will advise the trainee and the deanery of the decision. The deanery will make an application to the GMC for approval of the out of programme research. All applications for out of programme research must be prospectively approved.

Upon completion of the research period the competencies achieved will be agreed by the OOP Supervisor, Educational Supervisor and communicated to the SAC, accessing the facilities available on the JRCPTB ePortfolio. The competencies achieved will determine the trainee's position on return to programme; for example if an ST3 trainee obtains all ST4 competencies then 12 months will be recognised towards the minimum training time and the trainee will return to the programme at ST5. This would be corroborated by the subsequent ARCP.

This process is shown in the diagram below:



Funding will need to be identified for the duration of the research period. Trainees need not count research experience or its clinical component towards a CCT programme but must decide whether or not they wish it to be counted on application to the deanery and the JRCPTB.

A maximum period of 3 years out of programme is allowed and the SACs will recognise up to 12 months towards the minimum training times.

4.4 Academic Training

For those contemplating an academic career path, there are now well-defined posts at all levels in the Integrated Academic Training Pathway (IATP) involving the National Institute for Health Research (NIHR) and the Academy of Medical Sciences (AMS). For full details see <http://www.nccrcd.nhs.uk/intetacatrain> and <http://www.academicmedicine.ac.uk/uploads/A-pocket-guide.pdf>. Academic trainees may wish to focus on education or research and are united by the target of a consultant-level post in a university and/or teaching hospital, typically starting as a senior lecturer and aiming to progress to readership and professor. A postgraduate degree will usually be essential (see “out of programme experience”) and academic mentorship is advised (see section 6.1). Academic competencies have been defined by the JRCPTB in association with AMS and the Colleges and modes of assessment have been incorporated in the latest edition of the Gold Guide (section 7, see <http://www.jrcptb.org.uk/forms/Documents/GoldGuide2009.pdf>).

Academic integrated pathways to CCT are a) considered fulltime CCTs as the default position and b) are run through in nature. The academic programmes are CCT programmes and the time set for the CCT is the time set for academic trainees. If a trainee fails to achieve all the required competencies within the notional time period for the programme, this would be considered at the ARCP, and recommendations to allow completion of clinical training would be made (assuming other progress to be satisfactory) see the guidelines for monitoring training and progress <http://www.academicmedicine.ac.uk/careersacademicmedicine.aspx>. Extension of a CCT date will be in proportion depending upon the nature of the research and will

ensure full capture of the specialty outcomes set down by the Royal College and approved by GMC.

All applications for research must be prospectively approved by the SAC and the regulator, see www.jrcptb.org.uk for details of the process.

5 Assessment

Trainees will be assessed in a number of different ways during their training. Satisfactory completion of all assessments and examinations will be monitored as part of the ARCP process and will be one of the criteria upon which eligibility to progress will be judged.

Trainees in Chemical Pathology with Metabolic Medicine must pass the Chemical Pathology Year 1 Assessment to progress from ST3 to ST4.

	Core medical training (ST1-2)	ST3 onwards
CP with Metabolic Medicine	MRCP	Metabolic Medicine curriculum CP curriculum CP Year 1 assessment FRCPATH including dissertation
GIM with Metabolic Medicine	MRCP	Metabolic Medicine curriculum GIM curriculum Dissertation

CCT will be awarded following –

- (1) Evidence of satisfactory completion of either the GIM or CP curricula
- (2) Trainees in CP with Metabolic Medicine must pass the FRCPATH examination (which includes a short research project).
- (3) Trainees in GIM with Metabolic Medicine must complete and write up a short research project which must be assessed as satisfactory by examiners of the RCPATH. Details of the RCPATH regulations and guidelines can be found at http://www.rcpath.org/resources/pdf/guid_cand_undertaking_p2exam_2010a.pdf
- (4) Demonstration at Penultimate year assessment (PYA) that all 5 clinical domains have been, or will be covered, by the final year and written support that the latter took place from the Postgraduate Dean's office.

5.1 The Assessment System

The purpose of the assessment system is to:

- enhance learning by providing formative assessment, enabling trainees to receive immediate feedback, measure their own performance and identify areas for development;
- drive learning and enhance the training process by making it clear what is required of trainees and motivating them to ensure they receive suitable training and experience;
- provide robust, summative evidence that trainees are meeting the curriculum standards during the training programme;

- ensure trainees are acquiring competencies within the domains of Good Medical Practice;
- assess trainees' actual performance in the workplace;
- ensure that trainees possess the essential underlying knowledge required for their specialty;
- inform the Annual Review of Competence Progression (ARCP), identifying any requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training programme;
- identify trainees who should be advised to consider changes of career direction.

The integrated assessment system comprises of workplace-based assessments and knowledge – base assessments. Individual assessment methods are described in more detail below.

Workplace-based assessments will take place throughout the training programme to allow trainees to continually gather evidence of learning and to provide trainees with formative feedback. They are not individually summative but overall outcomes from a number of such assessments provide evidence for summative decision-making. The number and range of these will ensure a reliable assessment of the training relevant to their stage of training and achieve coverage of the curriculum.

5.2 Assessment Blueprint

In the syllabus (3.3) the “Assessment Methods” shown are those that are appropriate as **possible** methods that could be used to assess each competency. It is not expected that all competencies will be assessed and that where they are assessed not every method will be used.

5.3 Assessment methods

The following assessment methods are used in the integrated assessment system:

Examinations and certificates

- Chemical Pathology Year 1 assessment to be taken in Year 1 for CP with Metabolic Medicine trainees
- FRCPath for CP with Metabolic Medicine trainees

Information about FRCPath, and the Chemical Pathology Year I assessment including guidance for candidates, is available on the Royal College of Pathologists website: www.rcpath.org

Workplace-based assessments (WPBAs)

- Multi-Source Feedback (MSF)
- mini-Clinical Evaluation Exercise (mini-CEX)
- Case-Based Discussion (CbD)
- Patient Survey (PS)
- Audit Assessment (AA)
- Teaching Observation (TO)

These methods are described briefly below. More information about these methods including guidance for trainees and assessors is available in the ePortfolio and on the JRCPTB website www.jrcptb.org.uk. WPBA should be recorded in the trainee's ePortfolio or log book. WPBAs include feedback opportunities as an integral part of the assessment process, this is explained in the guidance notes provided for the techniques.

Multisource feedback (MSF)

This tool is a method of assessing generic skills such as communication, leadership, team working, reliability etc, across the domains of Good Medical Practice. This provides objective systematic collection and feedback of performance data on a trainee, derived from a number of colleagues. 'Raters' are individuals with whom the trainee works, and includes doctors, administration staff, and other allied professionals. The trainee will not see the individual responses by raters, feedback is given to the trainee by the Educational Supervisor. MSFs are organised by the appropriate training college (Royal College of Physicians or Royal College of Pathologists).

mini-Clinical Evaluation Exercise (mini-CEX)

This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning. The trainee receives immediate feedback to aid learning. The mini-CEX can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available.

Case based Discussion (CbD)

The CbD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision-making and application of medical knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases by trainees. The CbD should include discussion about a written record (such as written case notes, out-patient letter, discharge summary). A typical encounter might be when presenting newly referred patients in the out-patient department.

Patient Survey (PS)

Patient Survey address issues, including behaviour of the doctor and effectiveness of the consultation, which are important to patients. It is intended to assess the trainee's performance in areas such as interpersonal skills, communication skills and professionalism by concentrating solely on their performance during one consultation.

Audit Assessment Tool (AA)

The Audit Assessment Tool is designed to assess a trainee's competence in completing an audit. The Audit Assessment can be based on review of audit documentation OR on a presentation of the audit at a meeting. If possible the trainee should be assessed on the same audit by more than one assessor.

Teaching Observation (TO)

The Teaching Observation form is designed to provide structured, formative feedback to trainees on their competence at teaching. The Teaching Observation can be based on any instance of formalised teaching by the trainee which has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors).

5.4 Decisions on progress (ARCP)

The Annual Review of Competence Progression (ARCP) is the formal method by which a trainee's progression through her/his training programme is monitored and recorded. ARCP is not an assessment – it is the review of evidence of training and assessment. The ARCP process is described in A Reference Guide for Postgraduate Specialty Training in the UK (the "Gold Guide" – available from www.mmc.nhs.uk).

Deaneries are responsible for organising and conducting ARCPs. The evidence to be reviewed by ARCP panels should be collected in the trainee's ePortfolio.

The ARCP Decision Aid is included in section 5.5, giving details of the evidence required of trainees for submission to the ARCP panels.

5.5 Metabolic Medicine (Chemical Pathology) ARCP Decision Aid

Assessment	ARCP end of ST3	ARCP end of ST4	ARCP end of ST5	ARCP end of ST6 (PYA)	ARCP end of ST7
Expected competence	Competent in management of patients in one or two metabolic medicine domains Evidence of meeting minimum standards for clinic and patient numbers	Competent in management of patients in two or three metabolic medicine domains Evidence of meeting minimum standards for clinic and patient numbers	Competent in management of patients in three or four metabolic medicine domains Evidence of meeting minimum standards for clinic and patient numbers	Competent in management of patients in four or five metabolic medicine domains Evidence of meeting minimum standards for clinic and patient numbers	Autonomously competent in management of patients in all five metabolic medicine domains with specialised knowledge in one or two. Evidence of meeting minimum standards for clinic and patient numbers
Assessments	CbD 3/domain mini-CEX 3/domain MSF Year 1 Assessment*)	CbD 3/domain mini-CEX 3/domain	CbD 3/domain mini-CEX 3/domain MSF	CbD 3/domain mini-CEX 3/domain	CbD 3/domain mini-CEX 3/domain MSF
Examinations		FRCPATH Part 1		FRCPATH Part 2	
Audit		Evidence of participation in an audit	Evidence of involvement in audit	Evidence of completion of an audit with major involvement in design, implementation, analysis, presentation of results and recommendations	Satisfactory portfolio of audit involvement
Management		Evidence of awareness of and participation in	Evidence of awareness of NHS managerial	Evidence of participation in managerial activity eg	Satisfactory portfolio of management activities

		some aspect of management eg organisation of rotas, teaching sessions, journal clubs	structure and function eg from attendance at relevant courses, participation in local meetings with defined responsibilities	by writing a business case, involvement in tendering for new equipment, dealing with HR issues	
Research	Evidence of critical thinking around clinical questions	Evidence of developing research awareness and competence eg participation in research studies, presentations at meetings	Evidence of developing research awareness and competence eg participation in research studies, presentations at meetings	Evidence of research competence eg completed study with presentations/publications	Satisfactory portfolio demonstrating research awareness and competence
Teaching		Evidence of understanding of the principles of adult education	Evidence of participation in teaching eg medical students and laboratory staff	Evidence of participation in teaching with results of students' evaluation of that teaching	Evidence of ongoing evaluated participation in teaching and of implementation of the principles of adult education
Events giving concern	The following events may trigger review of a trainee's progress and possible remedial training: aspects of professional behaviour, poor performance in work-place based assessments and MSF, issues arising from the educational supervisor's report and matters of patient safety.				

* Trainees must pass to progress to ST4

5.6 Metabolic Medicine (GIM trainees) ARCP Decision Aid

	ST3	ST4	ST5	ST6	ST7
ALS Certificate	Valid	Valid	Valid	Valid	Valid
mini-CEX	As required to gain the necessary common competencies, no less than 4/year PLUS 3 per Metabolic Medicine domain	As required to gain the necessary common competencies no less than 4/year PLUS 3 per Metabolic Medicine domain	As required to gain the necessary number of competencies no less than 4/year PLUS 3 per Metabolic Medicine domain	As required to gain the necessary number of competencies no less than 4/year PLUS 3 per Metabolic Medicine domain	As necessary to cover any deficiencies identified at PYA PLUS 3 per Metabolic Medicine domain
PS		Satisfactory			Satisfactory
ACAT	Minimum of 6/year	Minimum of 6/year	Minimum of 6/year	Minimum of 6/year	Minimum of 6/year
MSF	Satisfactory			Satisfactory	
Audit	Evidence of participation in audit	Evidence of participation in audit	Evidence of participation in audit	Evidence of completion of an audit with major involvement in design, implementation, analysis, presentation of results and recommendations	Satisfactory portfolio of audit involvement
Teaching		Evidence of understanding of the principles of adult education	Evidence of participation in teaching eg medical students and laboratory staff	Evidence of participation in teaching with results of students' evaluation of that teaching	Evidence of ongoing evaluated participation in teaching and of implementation of the principles of adult education
CbD	As required to gain the necessary common competencies. (No less than 4)year PLUS 3 per Metabolic Medicine domain	As required to gain the necessary common competencies (No less than 4)year PLUS 3 per Metabolic Medicine domain	As required to gain the necessary common competencies (No less than 4)year PLUS 3 per Metabolic Medicine domain	As required to gain the necessary common competencies (No less than 4)year PLUS 3 per Metabolic Medicine domain	As necessary to cover any deficiencies identified at PYA PLUS 3 per Metabolic Medicine domain

Acquisition of speciality (Metabolic Medicine) competences tracked to above assessments	Competent in management of patients in one or two metabolic medicine domains Evidence of meeting minimum standards for clinic and patient numbers	Competent in management of patients in two or three metabolic medicine domains Evidence of meeting minimum standards for clinic and patient numbers	Competent in management of patients in three or four metabolic medicine domains Evidence of meeting minimum standards for clinic and patient numbers	Competent in management of patients in four or five metabolic medicine domains Evidence of meeting minimum standards for clinic and patient numbers	Autonomously competent in management of patients in all five metabolic medicine domains with specialised knowledge in one or two. Evidence of meeting minimum standards for clinic and patient numbers
PS		Satisfactory			Satisfactory
TO		Satisfactory		Satisfactory	
GIM acute medical presentations (Symptom Based Competencies)	Demonstrate senior clinical management skills for Top 20 presentations and knowledge of at least half of the 'Other Presentations'	Competent in the senior-level clinical management of all Top 20 and the Other Presentations including some complex cases involving inpatients and acute take patients Successful completion of at least 2 GIM audits	Demonstrate adequate creation of management and investigation pathways and instigation of safe patient treatment for all of the top 20 and 'Other presentations' including the vast majority of complex cases that would be encountered in inpatients and on the medical take.		
Management and Leadership	Demonstrate acquisition of leadership skills in supervising the work of Foundation and Core Medical trainees during the acute medical take.	Demonstrate implementation of evidence based medicine whenever possible with the use of common guidelines. Demonstrate good practice in team working and contributing to multi-disciplinary teams.	Able to supervise and lead a complete medical take of at least 20 patients including management of complex patients both as emergencies and inpatients. Able to supervise more junior trainees and to liaise with other specialties	Awareness and implementation of local clinical governance policies and involvement in a local management role within directorates	

Supervisor's Report	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Logbook	Minimum of 1000 patients as seen on acute take during the period of dual training with evidence of individual activity to be provided. A minimum of 450 new outpatient referrals (including ambulatory care) and a minimum of 1500 follow-up outpatients during the period of dual training with evidence of activity provided. Evidence must be provided of a minimum number of 100 hours external GIM training during the period of dual training.				
Events giving concern	The following events may trigger review of a trainee's progress and possible remedial training: aspects of professional behaviour, poor performance in work-place based assessments and MSF, issues arising from the educational supervisor's report and matters of patient safety.				

5.7 Penultimate Year Assessment (PYA)

The penultimate ARCP prior to the anticipated CCT date will include one or two external assessor(s) from the SAC in Metabolic Medicine. JRCPTB and the deanery will coordinate the appointment of this assessor. This is known as "PYA". Whilst the ARCP will be a review of evidence, the PYA will include a face-to-face component.

5.8 Complaints and Appeals

All workplace-based assessment methods incorporate direct feedback from the assessor to the trainee and the opportunity to discuss the outcome. If a trainee has a complaint about the outcome from a specific assessment this is their first opportunity to raise it.

Appeals against decisions concerning in-year assessments will be handled at deanery level and deaneries are responsible for setting up and reviewing suitable processes. If a formal complaint about assessment is to be pursued this should be referred in the first instance to the chair of the Specialty Training Committee who is accountable to the regional deanery. Continuing concerns should be referred to the Associate Dean.

6 Supervision and feedback

Trainees have supervised responsibility for the care of in-patients. This includes day-to-day review of clinical conditions, note keeping, and referral to and liaison with clinical colleagues as necessary. The degree of responsibility taken by the trainee will increase as competency increases. There should be appropriate levels of clinical supervision throughout training with increasing clinical independence and responsibility as learning outcomes are achieved.

6.1 Supervision

All elements of work in training posts must be supervised with the level of supervision varying depending on the experience of the trainee and the clinical exposure and case mix undertaken. Outpatient and referral supervision must routinely include the opportunity to personally discuss all cases if required. As training progresses the trainee should have the opportunity for increasing autonomy, consistent with safe and effective care for the patient.

Trainees will at all times have a named Educational Supervisor and Clinical Supervisor, responsible for overseeing their education. Depending on local arrangements these roles may be combined into a single role of Educational Supervisor.

The responsibilities of supervisors have been defined by GMC in the document "Operational Guide for the GMC Quality Framework". These definitions have been agreed with the National Association of Clinical Tutors, the Academy of Medical Royal Colleges and the Gold Guide team at MMC, and are reproduced below:

Educational supervisor

A trainer who is selected and appropriately trained to be responsible for the overall supervision and management of a specified trainee's educational progress during a training placement or series of placements. The Educational Supervisor is responsible for the trainee's Educational Agreement.

Clinical supervisor

A trainer who is selected and appropriately trained to be responsible for overseeing a specified trainee's clinical work and providing constructive feedback during a training placement. Some training schemes appoint an Educational Supervisor for each placement. The roles of Clinical and Educational Supervisor may then be merged.

Ensuring Safe Practice

The Educational Supervisor, when meeting with the trainee, should discuss issues of clinical governance, risk management and any report of any untoward clinical incidents involving the trainee. The Educational Supervisor should be part of the clinical specialty team. Thus if the clinical directorate (clinical director) have any concerns about the performance of the trainee, or there were issues of doctor or patient safety, these would be discussed with the Educational Supervisor. These processes, which are integral to trainee development, must not detract from the statutory duty of the trust to deliver effective clinical governance through its management systems.

Methods of Feedback and Supervision

The trainee will meet with the Educational / Clinical supervisor on a regular basis to discuss progress and development needs and to set targets for the trainee. Other opportunities for feedback to trainees about their performance will arise through the use of the WPBA, other meetings and discussions with supervisors and colleagues, and feedback from ARCP.

Academic trainees are encouraged to identify an academic mentor, who will not usually be their research supervisor and will often be from outside their geographical area. The Academy of Medical Sciences organises one such scheme (see <http://www.acmedsci.ac.uk/index.php?pid=91>) but there are others and inclusion in an organised scheme is not a pre-requisite. The Medical Research Society organises annual meetings for clinician scientists in training (see http://www.medres.org.uk/j/index.php?option=com_content&task=view&id=54&Itemid=1) and this type of meeting provides an excellent setting for trainees to meet colleagues and share experiences.

6.2 Appraisal

A formal process of appraisals and reviews underpins training. This process ensures adequate supervision during training, provides continuity between posts and different supervisors and is one of the main ways of providing feedback to trainees. All appraisals should be recorded in the ePortfolio.

Induction Appraisal

The trainee and educational supervisor should have an appraisal meeting at the beginning of each post to review the trainee's progress so far, agree learning objectives for the post ahead and identify the learning opportunities presented by the post. Reviewing progress through the curriculum will help trainees to compile an effective Personal Development Plan (PDP) of objectives for the upcoming post. This PDP should be agreed during the Induction Appraisal. The trainee and supervisor should also both sign the educational agreement in the e-portfolio at this time, recording their commitment to the training process.

Mid-point Review

This meeting between trainee and educational supervisor is mandatory (except when an attachment is shorter than 6 months), but is encouraged particularly if either the trainee or educational or clinical supervisor has training concerns or the trainee has

been set specific targeted training objectives at their ARCP. At this meeting trainees should review their PDP with their supervisor using evidence from the e-portfolio. Workplace-based assessments and progress through the curriculum can be reviewed to ensure trainees are progressing satisfactorily, and attendance at educational events should also be reviewed. The PDP can be amended at this review.

End of Attachment Appraisal

Trainees should review the PDP and curriculum progress with their educational supervisor using evidence from the e-portfolio. Specific concerns may be highlighted from this appraisal. The end of attachment appraisal form should record the areas where further work is required to overcome any shortcomings. Further evidence of competence in certain areas may be needed, such as planned workplace-based assessments, and this should be recorded. If there are significant concerns following the end of attachment appraisal then the programme director should be informed.

7 Managing curriculum implementation

7.1 Intended use of curriculum by trainers and trainees

This curriculum and ePortfolio are web-based documents which are available from the Joint Royal Colleges of Physicians Training Board (JRCPTB) website www.jrcptb.org.uk.

The educational supervisors and trainers can access the up-to-date curriculum from the JRCPTB website and will be expected to use this as the basis of their discussion with trainees. Both trainers and trainees are expected to have a good knowledge of the curriculum and should use it as a guide for their training programme.

Each trainee will engage with the curriculum by maintaining a portfolio. The trainee will use the curriculum to develop learning objectives and reflect on learning experiences.

7.2 Recording progress

On enrolling with JRCPTB trainees will be given access to the ePortfolio/log book for Metabolic Medicine. The ePortfolio allows evidence to be built up to inform decisions on a trainee's progress and provides tools to support trainees' education and development.

The trainee's main responsibilities are to ensure the ePortfolio/log book is kept up to date, to arrange assessments and ensure they are recorded, to prepare drafts of appraisal forms, to maintain their personal development plan, to record their reflections on learning and record their progress through the curriculum.

The supervisor's main responsibilities are to use ePortfolio/log book evidence such as outcomes of assessments, reflections and personal development plans to inform appraisal meetings. They are also expected to update the trainee's record of progress through the curriculum, write end-of-attachment appraisals and supervisor's reports.

8 Curriculum review and updating

Curriculum review will be informed by a number of different processes. For instance the SAC will be able to use information gathered from specialty heads, specialty deans and the National Health Service. It will have available to it results of the trainee

survey, which will include questions pertaining to their specialty. Interaction with the NHS will be particularly important to understand the performance of specialists within the NHS and feedback will be required as to the continuing need for that specialty as defined by the curriculum. It is likely that the NHS will have a view as to the balance between generalist and specialist skills, the development of generic competencies and, looking to the future, the need for additional specialist competencies and curricula.

9 Equality and diversity

The Royal Colleges of Physicians will comply, and ensure compliance, with the requirements of equality and diversity legislation, such as the:

- Race Relations (Amendment) Act 2000
- Disability Discrimination Act 1995
- Human Rights Act 1998
- Employment Equality (Age) Regulation 2006
- Special Educational Needs and Disabilities Act 2001
- Data Protection Acts 1984 and 1998

The Federation of the Royal Colleges of Physicians believes that equality of opportunity is fundamental to the many and varied ways in which individuals become involved with the Colleges, either as members of staff and Officers; as advisers from the medical profession; as members of the Colleges' professional bodies or as doctors in training and examination candidates. Accordingly, it warmly welcomes contributors and applicants from as diverse a population as possible, and actively seeks to recruit people to all its activities regardless of race, religion, ethnic origin, disability, age, gender or sexual orientation.

Deanery quality assurance will ensure that each training programme complies with the equality and diversity standards in postgraduate medical training as set by GMC.

Compliance with anti-discriminatory practice will be assured through:

- monitoring of recruitment processes;
- ensuring all College representatives and Programme Directors have attended appropriate training sessions prior to appointment or within 12 months of taking up post;
- Deaneries must ensure that educational supervisors have had equality and diversity training (at least as an e learning module) every 3 years
- Deaneries must ensure that any specialist participating in trainee interview/appointments committees or processes has had equality and diversity training (at least as an e module) every 3 years.
- ensuring trainees have an appropriate, confidential and supportive route to report examples of inappropriate behaviour of a discriminatory nature. Deaneries and Programme Directors must ensure that on appointment trainees are made aware of the route in which inappropriate or discriminatory behaviour can be reported and supplied with contact names and numbers. Deaneries must also ensure contingency mechanisms are in place if trainees feel unhappy with the response or uncomfortable with the contact individual.
- monitoring of College Examinations;
- ensuring all assessments discriminate on objective and appropriate criteria and do not unfairly disadvantage trainees because of gender, ethnicity, sexual orientation or disability (other than that which would make it impossible to practise safely as a physician). All efforts shall be made to ensure the participation of people with a disability in training.

Appendix 1

Curriculum re-write sub-committee of the SAC

Dr Eileen Marks, Dr Ruth Ayling, Dr Brian Shine, Dr Paul Cook, Dr Clare Higgs and Mrs Susan Hills.

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Appendix 2

Acronyms

CCT	Certificate of Completion of Training
CP	Chemical Pathology
GIM	General (Internal) Medicine
GMC	General Medical Council
GMP	Good Medical Practice
JRCPTB	Joint Royal Colleges of Physicians Training Board
MRCP	Membership of the Royal College of Physicians
MRCP(I)	Membership of the Royal College of Physicians, Ireland
MM	Metabolic Medicine
NCEPOD	National Confidential Enquiry into Patient Outcome and Death
NHS	National Health Service
NICE	National Institute for Health and Clinical Excellence
NPSA	National Patient Safety Agency
NRLS	National reporting and Learning System
NTN	National Training Number
OOTE	Out Of Training Experience
PYA	Penultimate Year Assessment
RCPATH	Royal College of Pathologists
SAC	Specialist Advisory Committee
SIGN	Scottish Intercollegiate Guidelines Network
STC	Specialist Training Committee
WPBA	Workplace-Based Assessment