SPECIALTY TRAINING CURRICULUM

FOR

IMMUNOLOGY

2015

(Approved 4 November 2015)

Administrative change approved 8 September 2016

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1 Introduction

Immunology as a medical specialty deals with the clinical and laboratory care of patients with diseases due to disordered immunity. Immune-mediated disease covers a wide spectrum of disorders, ranging from failure of the immune system (immunodeficiency) to disorders characterised by heightened immune reactivity (allergy and autoimmunity). In practice, clinical immunologists take a lead role in the investigation and management of patients with immunodeficiency and severe allergy whilst working collaboratively with relevant organ-based specialists to provide optimal care for patients with systemic autoimmune disease and vasculitis. Alongside the provision of a clinical service to the aforementioned group of patients, immunologists direct a comprehensive diagnostic laboratory service which underpins the diagnosis and monitoring of this broad range of immunological diseases.

2 Rationale

2.1 Purpose of the Curriculum

The purpose of this curriculum is to define the process of training and the competencies needed to produce a consultant immunologist capable of independent practice in the United Kingdom. The award of a certificate of completion of training in the specialty will denote that a trainee is equipped with the requisite specialised scientific knowledge, clinical and laboratory skills required to diagnose, treat and where relevant, prevent diseases characterised by immunodeficiency, autoimmunity and allergy coupled with the ability to direct a diagnostic immunology laboratory service. The UK clinical practice of immunology is fully consistent with the World Health Organisation's (WHO) definition of Immunology as a specialty , encompassing clinical and laboratory activity dealing with the study, diagnosis and management of patients with diseases resulting from disordered immunological mechanisms, and conditions in which immunological manipulations form an important part of therapy(*Lambert PH et al.Clinical Immunology: -guidelines for its organisation, training and certification: relationships with allergology and other medical disciplines - a WHO/IUIS/IAACI report. Clin Exp Immunol 1993;93:484-91)*. In practice, this translates in to Immunologists providing combined clinical and laboratory services for patients with immunodeficiency, autoimmune disease, vasculitis and allergy.

The curriculum has been designed to build upon the knowledge and core competencies in general internal medicine that trainees will bring with them as they enter immunology training. Throughout specialty training, the curriculum provides a structured framework to enable incremental learning and reflection across the whole breadth of clinical and laboratory immunology.

2.2 Development

This curriculum was developed by the Immunology SAC of JRCPTB for Immunology which includes lay representation and training programme directors, in consultation with all stakeholders including trainees and trainers. The 2010 curriculum replaced the previous version to the GMC’s standards for Curricula and Assessment.

The 2014 amendments to this curriculum were made in response to trainee feedback received via a structured national survey. The curriculum developments were regularly discussed at SAC meetings with immunology training programme directors. Subsequently, all UK Immunologists were invited to comment on the proposed changes and patient’s views were obtained through the Primary Immunodeficiency Association (PiA); the national patient support organisation for patients with

immunodeficiencies. The content of this curriculum was chosen by the SAC to reflect current UK hospital practice in Immunology.

2.3 Training Pathway

Specialty training in Immunology 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 immunologist.

Core training may be completed in Core Medical Training (CMT), Acute Care Common Stem Medicine – Acute Medicine (ACCS-AM) or Paediatric Level 1 training. Completion of core training will be evidenced by satisfactory:

- Foundation competences
- Completion of CMT or ACCS-AM (which may include Broad Based Training) or Paediatric level 1 training

Assessments to ensure completion of CMT or ACCS will include success in the full MRCP(UK). Assessment to ensure completion of level 1 Paediatrics must include MRCPCH.

Doctors who have **not** completed CMT/ACCS-AM/Paediatrics level 1 must meet the following criteria:

- Success in the relevant examination: MRCP(UK) or MRCPCH
- A minimum of 12 months experience in a range of acute medical specialties that admin acutely ill adult medical patients and manage their immediate follow-up.
- A minimum of four months' experience of managing patients on unselected medical take that involves ongoing patient management (this four-month period can form part of the 12 months' acute adult hospital medical experience required above).
- A further 12 months of relevant post-foundation experience. This may include any of the physicianly specialties as defined by the JRCPTB. Other experience, aside from medical specialties, which may count towards eligibility includes experience in any of the following: anaesthetics, clinical oncology, emergency medicine, general paediatrics, general practice, HIV medicine, intensive care medicine, psychiatry and surgery. Up to **a maximum of six months' experience in any one specialty can be counted** towards the total experience required.
- Core medical competencies including the following practical procedures: pleural tap and aspiration, ascetic tap, advanced cardiorespiratory resuscitation (as evidenced by a current ALS certificate or equivalent), abdominal paracentesis. Acceptable evidence is only permitted via the alternative certificate of core competence.

Doctors will undergo competitive selection into immunology specialty training using a nationally agreed person specification.

2.4 Enrolment with JRCPTB

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 in Immunology. 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 (four) years for post registration in full time training adjusted accordingly for flexible training (EU directive 2005/36/EEC) requires that flexible training can be no less than 50% whole time equivalent). The SAC has advised that training from ST1 will usually be completed in 7 (seven) years in full time training.

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 are 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.

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 LTFT 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 competencies**.**

3 Content of Learning

3.1 Programme Content and Objectives

The syllabus (subject matter) for the curriculum comprises the following principal areas:

- Acquisition of a core body of knowledge in fundamental immunology and its applications
- Investigation and management of patients with congenital and acquired immunodeficiency disorders
- Investigation and management of patients with autoimmune (including rheumatic) disease and systemic vasculitides in liaison with appropriate organ-based specialist colleagues
- Investigation and management of patients with allergic diseases. As a group, Immunologists comprise the single biggest specialty currently providing specialist allergy services. In recognition of this important service need, trainees must demonstrate competence in the independent diagnosis and management of common allergic disorders of all degrees of severity
- Delivery of a diagnostic immunology laboratory service in accordance with accreditation standards laid down by Clinical Pathology Accreditation (CPA UK) or other recognised accrediting bodies
- In addition, trainees should be able to explain the principles underlying solid organ and stem cell transplantation
- Acquire “Generic Skills” required for immunology, in accordance with Good Medical Practice (see below)

On completion of the immunology training programme, the trainee must have acquired and be able to demonstrate:

- Appropriate attitudes and behaviours in order to be able to work as a consultant
- Good working relationships with colleagues and the appropriate communication skills required for the practice of immunology
- Knowledge, skills, attitudes and behaviours to act in a professional manner at all times
- Knowledge, skills, attitudes and behaviours to provide appropriate teaching and to participate in effective research to underpin immunology practice
- Understanding of the context, meaning and implementation of clinical governance
- Knowledge of the structure and organisation of the NHS
- Acquisition of management skills required for the running of an Immunology laboratory
- Familiarity with health and safety regulations, as applied to the work of an Immunology department

3.2 Good Medical Practice

Good medical practice (2013) is the GMC’s core guidance for doctors. It sets out the values and principles on which good practice is founded.

The guidance is divided into the following four domains:

1. Knowledge, skills and performance

2. Safety and quality
3. Communication, partnership and teamwork
4. Maintaining trust

Good medical practice is supported by a range of explanatory guidance which provides more detail on various topics that doctors and others ask us about.
The “GMP” column in the syllabus defines which of the 4 domains of Good Medical Practice are addressed by each competency.

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 4.2 for more details.

“GMP” defines which of the 4 domains of the Good Medical Practice (2013) are addressed by each competency. See section 3.2 for more details.

Each section of the curriculum outlines the knowledge, skills and behaviours that must be obtained by the trainee in order to successfully complete training. During their training, it is expected that the trainee will progress through three levels of competence, as outlined below:

> **Level 1: Introductory** - The trainee has comprehensive understanding of principles and practices under direct supervision.
>
> **Level 2: Intermediate** - The trainee has a good general knowledge and understanding of most principles and practices under indirect supervision. He/she should be able to deal with most of the day-to-day issues in a hospital immunology laboratory and outpatient clinic/ward to an adequate level but will still require consultant input with regard to complex management and clinical issues.
>
> **Level 3: Independent** - The trainee has an in-depth knowledge and understanding of principles. He/she should be competent to discuss and deal with the subject (or, where appropriate, perform the task/procedure), demonstrating a level of clinical or professional judgement commensurate with independent practice at consultant level. It is anticipated that a trainee at this level should have consultant input readily available at all times where required.

Syllabus Contents

1. Common Competencies

1.1 History Taking

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

To record the history accurately and synthesise this with relevant clinical examination, establish a problem list increasingly based on pattern recognition including differential diagnosis and formulate a management plan that takes account of likely clinical evolution

Knowledge	Assessment methods	GMP
Comprehends the importance of different elements of the history	mini-CEX, MCR	1
Comprehends that patients do not always present their history in a structured fashion	mini-CEX, MCR	1,3
Knows the likely causes and risk factors for conditions relevant to mode of presentation	mini-CEX, MCR	1
Recognises that the patient's wishes and beliefs and the history should inform examination, investigation and management	mini-CEX, MCR	1
Recognises the importance of social and cultural issues and practices that may have an impact on health	mini-CEX, MCR	1
Skills		
Identifies and overcomes possible barriers to effective communication	mini-CEX, MCR	1,3
Communicates effectively with patients from diverse backgrounds and those with special communication needs, such as those who need interpreters	mini-CEX, MCR	
Manages time and draws consultation to a close appropriately	mini-CEX, MCR	1,3
Comprehends that effective history taking in non-urgent cases may require several discussions with the patient and other parties, over time	mini-CEX, MCR	1,3
Supplements history with standardised instruments or questionnaires when relevant	mini-CEX, MCR	1,3
Manages alternative and conflicting views from family, carers, friends and members of the multi-professional team and maintains focus	mini-CEX, MCR	1,3
Assimilates history from the available information from patient and other sources including members of the multi-professional team.	mini-CEX, MCR	1,3
Where values and perceptions of health and health promotion conflict, facilitates balanced and mutually respectful decision making	mini-CEX, MCR	
Recognises and interprets appropriately the use of non verbal communication from patients and carers	mini-CEX, MCR	1,3
Focuses on relevant aspects of history	mini-CEX, MCR	1,3
Behaviours		
Shows respect and behaves in accordance with Good Medical Practice	mini-CEX, MCR	3,4

1.2 Clinical Examination

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 and formulate a management plan

Knowledge	Assessment Methods	GMP
Understands the need for a targeted and relevant clinical examination	CbD, mini-CEX, MCR	1
Understands the basis for clinical signs and the relevance of positive and negative physical signs	CbD, mini-CEX, MCR	1
Comprehends constraints (including those that are cultural or social) on performing physical examination and strategies that may be used to overcome them	CbD, mini-CEX, MCR	1
Comprehends the limitations of physical examination and the need for adjunctive forms of assessment to confirm diagnosis	CbD, mini-CEX, MCR	1
Recognises when the offer/use of a chaperone is appropriate or required	CbD, mini-CEX, MCR	1
Skills		
Performs a valid, targeted and time efficient examination relevant to the presentation and risk factors	CbD, mini-CEX, MCR	1
Recognises the possibility of deliberate harm (both self harm and harm by others) in vulnerable patients and reports to appropriate agencies	CbD, mini-CEX, MCR	1,2
Actively elicits important clinical findings	CbD, mini-CEX, MCR	1
Performs relevant adjunctive examinations	CbD, mini-CEX, MCR	1
Behaviours		
Shows respect and behaves in accordance with Good Medical Practice	CbD, mini-CEX, MSF, PS, MCR	1,4
Considers social, cultural and religious boundaries to clinical examination, appropriately communicates and makes alternative arrangements where necessary	CbD, mini-CEX, MSF, PS, MCR	1,4

1.3 Therapeutics and Safe Prescribing

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

Knowledge	Assessment Methods	GMP
States indications, contraindications, side effects, drug interactions and dosage of commonly used drugs	CbD, mini-CEX, MCR	1
Recalls range of adverse drug reactions to commonly used drugs, including complementary medicines	CbD, mini-CEX, MCR	1
Recalls drugs requiring therapeutic drug monitoring and interprets results	CbD, mini-CEX, MCR	1

Outlines tools to promote patient safety and prescribing, including electronic clinical record systems and other IT systems	CbD, mini-CEX, MCR	1,2
Defines the effects of age, body size, organ dysfunction and concurrent illness on drug distribution and metabolism relevant to the trainees practice	CbD, mini-CEX, MCR	1,2
Understands the roles of regulatory agencies involved in drug use, monitoring and licensing (e.g. National Institute for Clinical Excellence (NICE), Medical Healthcare Products Regulatory Agency (MHRA) and hospital formulary committees	CbD, mini-CEX, MCR	1,2
Understands the importance of non-medication based therapeutic interventions including the legitimate role of placebos	CbD, mini-CEX, MCR	1,2
Recalls in detail the propensity of drugs to elicit IgE-mediated and non-IgE mediated systemic anaphylactic reactions in certain individuals and the capacity of structurally related drugs to cross-react	CbD, mini-CEX, MCR	
Recalls a rational basis for the use of alternative drugs in drug allergic patients	CbD, mini-CEX, MCR	
Is familiar with the indications, products, modes of delivery and dosage regimens for allergen immunotherapy	CbD, mini-CEX, MCR	
Skills		
Reviews the continuing need for, effect of and adverse effects of long term medications relevant to the trainees clinical practice	CbD, mini-CEX, MCR	1, 2
Anticipates and avoid defined drug interactions, including complementary medicines	CbD, mini-CEX, MCR	1
Advises patients (and carers) about important interactions and adverse drug effects	CbD, mini-CEX, MCR	1,3
Prescribes appropriately in pregnancy, and during breast feeding	CbD, mini-CEX, MCR	1
Makes appropriate dose adjustments following therapeutic drug monitoring, or physiological change (e.g. deteriorating renal function)	CbD, mini-CEX, MCR	1
Uses IT prescribing tools where available to improve safety	CbD, mini-CEX, MCR	1,2
Employs validated methods to improve patient concordance with prescribed medication	mini-CEX, MCR	1,3
Provides comprehensible explanations to the patient, and carers when relevant, for the use of medicines and understands the principles of concordance in ensuring that drug regimes are followed	CbD, mini-CEX, PS, MCR	1,3
Ensures safe systems for monitoring, review and authorisation where involved in “repeat prescribing”	CbD, mini-CEX, MCR	1
Recognises the importance of resources when prescribing, including the role of a Drug Formulary and electronic prescribing systems	CbD, mini-CEX, MCR	1
Is able to provide advice on, and perform relevant skin prick and other challenge tests for drug allergy and interpret the results	CbD, mini-CEX, DOPS, MCR	1,2
Behaviours		
Minimises the number of medications taken by a patient to a level compatible with best care	CbD, mini-CEX, MCR	1

Appreciates the role of non-medical prescribers	CbD, mini-CEX, MCR	1,3
Remains open to advice from other health professionals on medication issues	CbD, mini-CEX, MCR	1,3
Ensures prescribing information is shared promptly and accurately between a patient's health providers, including between primary and secondary care	CbD, MCR	1,3
Participates in adverse drug event reporting mechanisms	CbD, MCR	1
Takes particular care to disseminate information about drug allergies appropriately and instructs patients to do the same	CbD, mini-CEX, MCR	1
Remains up to date with therapeutic alerts, and responds appropriately	CbD, MCR	1

1.4 Time Management and Decision Making

Learn how to prioritise and organise clinical and clerical duties in order to optimise patient care and make appropriate clinical and clerical decisions in order to optimise the effectiveness of the clinical team resource.

Knowledge	Assessment Methods	GMP
Understands that effective organisation is key to time management	CbD, MCR	1
Understands that some tasks are more urgent and/or more important than others	CbD, MCR	1
Understands the need to prioritise work according to urgency and importance	CbD, MCR	1
Understands that some tasks may have to wait or be delegated to others	CbD, MCR	1
Understands the roles, competences and capabilities of other professionals and support workers	CbD, MCR	1
Outlines techniques for improving time management	CbD, MCR	1
Understands the importance of prompt investigation, diagnosis and treatment in disease and illness management	CbD, mini-CEX, MCR	1,2
Skills		
Maintains focus on individual patient needs whilst balancing multiple competing pressures	CbD, PS, MCR	1
Identifies clinical and clerical tasks requiring attention or predicted to arise	CbD, mini-CEX, MCR	1,2
Estimates the time likely to be required for essential tasks and plans accordingly	CbD, mini-CEX, MCR	1
Groups together tasks when this will be the most effective way of working	CbD, mini-CEX, MCR	1
Recognises the most urgent / important tasks and ensures that they managed expediently	CbD, mini-CEX, MCR	1
Regularly reviews and re-prioritises personal and team work load	CbD, mini-CEX, MCR	1
Organises and manages workload effectively and flexibly	CbD, mini-CEX, MCR	1
Makes appropriate use of other professionals and support workers	CbD, mini-CEX,	1

	MCR	
Behaviours		
Works flexibly and deals with tasks in an effective and efficient fashion	CbD, MSF, MCR	3
Recognises when self or others are falling behind and takes steps to rectify the situation	CbD, MSF, MCR	3
Communicates changes in priority to others	MSF, MCR	1
Remains calm in stressful or high pressure situations and adopts a timely, rational approach	MSF, MCR	1
Appropriately recognises and handles uncertainty within the consultation	MSF, MCR	1

1.5 Decision Making and Clinical Reasoning

Acquire the ability to formulate a diagnostic and therapeutic plan for a patient according to the clinical information available.

Acquire the ability to prioritise the diagnostic and therapeutic plan.

Acquire the ability to communicate a diagnostic and therapeutic plan appropriately.

Knowledge	Assessment Methods	GMP
Defines the steps of diagnostic reasoning	CbD, mini-CEX, MCR	1
Conceptualises clinical problems in a medical and social context	CbD, mini-CEX, MCR	1
Understands the psychological components of disease and illness presentation	CbD, mini-CEX, MCR	1
Recognises how to use expert advice, clinical guidelines and algorithms	CbD, mini-CEX, MCR	1
Recognises and appropriately responds to sources of information accessed by patients	CbD, mini-CEX, MCR	1
Defines the concepts of disease natural history and assessment of risk	CbD, mini-CEX, MCR	1,2
Outlines methods and associated problems of quantifying risk e.g. cohort studies	CbD, mini-CEX, MCR	1
Outlines the concepts and drawbacks of quantitative assessment of risk or benefit e.g. numbers needed to treat	CbD, MCR	1
Describes commonly used statistical methodology	CbD, MCR	1
Knows how relative and absolute risks are derived and the meaning of the terms predictive value, sensitivity and specificity in relation to diagnostic tests	mini-CEX, MCR	1
Skills		
Interprets clinical features, their reliability and relevance to clinical scenarios including recognition of the breadth of presentation of common disorders	CbD, mini-CEX, MCR	1
Incorporates an understanding of the psychological and social elements of clinical scenarios into decision making through a robust process of clinical reasoning	CbD, mini-CEX, MCR	1
Interprets history and clinical signs	CbD, mini-CEX, MCR	1
Generates hypothesis within context of clinical likelihood	CbD, mini-CEX, MCR	1
Tests, refines and verifies hypotheses	CbD, mini-CEX, MCR	1
Develops problem list and action plan	CbD, mini-CEX, MCR	1
Comprehends the need to determine the best value and most effective treatment both for the individual patient and for a patient cohort	CbD, mini-CEX, MCR	1
Recognises critical illness and respond with due urgency	CbD, mini-CEX, MCR	1

Generates plausible hypotheses following patient assessment	CbD, mini-CEX, MCR	1
Constructs a concise and applicable problem list using available information	CbD, mini-CEX, MCR	1
Constructs 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, MCR	1,3,4
Applies the relevance of an estimated risk of a future event to an individual patient	CbD, mini-CEX, MCR	1
Uses risk calculators appropriately	CbD, mini-CEX, MCR	1
Considers the risks and benefits of screening investigations	CbD, mini-CEX, MCR	1
Applies quantitative data to assess the risks and benefits of therapeutic intervention in an individual patients	CbD, mini-CEX, MCR	1
Searches and comprehends the medical literature to guide reasoning	CbD, mini-CEX, MCR	1
Behaviours		
Recognises the difficulties in predicting occurrence of future events	CbD, mini-CEX, MCR	1
Shows 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, PS, MCR	3
Shows willingness to adapt and adjust approaches according to the beliefs and preferences of the patient and/or carers	CbD, mini-CEX, PS, MCR	3
Shows willingness to facilitate patient choice	CbD, mini-CEX, PS, MCR	3
Shows willingness to search for evidence to support clinical decision making	CbD, mini-CEX, MCR	1,4
Demonstrates ability to identify one's own biases and inconsistencies in clinical reasoning	CbD, mini-CEX, MCR	1,3

1.6 The Patient as Central Focus of Care

Prioritises the patient's wishes encompassing their beliefs, concerns, expectations and needs

Knowledge	Assessment Methods	GMP
Outlines 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, MCR	1
Ensures that all decisions and actions are in the best interests of the patient and the public good	CbD, MCR	1
Skills		
Gives adequate time for patients and carers to express their beliefs ideas, concerns and expectations	Mini-CEX, PS, MCR	1,3,4
Encourages the health care team to respect the philosophy of patient focussed care	CbD, mini-CEX, MSF, MCR	3

Develops a self-management plan with the patient	CbD, mini-CEX, MCR	1,3
Supports patients, parents and carers where relevant to comply with management plans	CbD, mini-CEX, PS, MCR	3
Encourages patients to voice their preferences and personal choices about their care	mini-CEX, PS , MCR	3
Behaviours		
Supports patient self-management	CbD, mini-CEX, PS, MCR	3
Responds to questions honestly and seeks advice if unable to answer	CbD, mini-CEX, PS, MCR	3
Recognises the duty of the medical professional to act as patient advocate	CbD, mini-CEX, MSF, PS, MCR	3,4
Responds to people in an ethical, honest and non-judgmental manner	CbD, mini-CEX, MSF, PS, MCR	1,3
Adopts assessments and interventions that are inclusive, respectful of diversity and patient-centred	CbD, mini-CEX, MSF, PS, MCR	1,3

1.7 Prioritisation of Patient Safety in Clinical Practice

To understand that patient safety depends on:

- **The effective and efficient organisation of care**
- **Health care staff working well together**
- **Safe systems not just individual competency and safe practice**

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

To understand that all staff should be made aware of risks and work together to minimise risk

To act always to promote patient safety

Knowledge	Assessment Methods	GMP
Outline the features of a safe working environment	CbD, mini-CEX, MCR	1
Outlines the hazards of medical equipment in common use	CbD, MCR	1
Recalls unwanted effects and contraindications of medications prescribed	CbD, mini-CEX, MCR	1
Recalls principles of risk assessment and management	CbD, MCR	1
Recalls the components of safe working practice in personal, clinical and organisational settings	ACAT, CbD, MCR	1
Outlines human factors theory and understands its impact on safety	CbD, MCR	1
Knows about root cause analysis	CbD, MCR	1
Knows about significant event analysis	CbD, MCR	1
Outlines local procedures and protocols for optimal practice e.g. GI bleed protocol, safe prescribing	CbD, mini-CEX, MCR	1
Understands the investigation of significant events, serious untoward incidents and near misses	CbD, mini-CEX, MCR	1
Is very familiar with the principles of management of systemic	CbD, mini-CEX,	1

anaphylaxis and the governance required to deal with the possibility of anaphylaxis in the allergen challenge clinic	MCR	
Skills		
Recognises limits of own professional competence and practises only within these	ACAT, CbD, mini-CEX, MCR	1
Recognises when a patient is not responding to treatment, reassesses the situation and encourages others to do so	CbD, mini-CEX, MCR	1
Ensures the correct and safe use of medical equipment, ensuring faulty equipment is reported appropriately	CbD, mini-CEX, MCR	1
Improves patients' and colleagues' understanding of the side effects and contraindications of therapeutic intervention	CbD, mini-CEX, MCR	1,3
Sensitively counsels a colleague following a significant untoward event, or near incident, to encourage improvement in practice of individual and unit	CbD, MCR	3
Recognises and respond to the manifestations of a patient's deterioration or lack of improvement (symptoms, signs, observations, and laboratory results) and supports other members of the team to act similarly	CbD, mini-CEX, MSF, MCR	1
Behaviours		
Maintains a high level of safety awareness and consciousness at all times	CbD, mini-CEX, MCR	2
Encourages feedback from all members of the team on safety issues	CbD, mini-CEX, MSF, MCR	3
Reports serious untoward incidents and near misses and co-operates with the investigation of the same	CbD, mini-CEX, MSF, MCR	3
Shows 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, MCR	3
Continues to be aware of own limitations, and operates within them competently	CbD, mini-CEX, MCR	1

1.8 Team Working and Patient Safety

To work well in a variety of different teams and team settings and to contribute to discussion on the team's role in patient safety

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

Knowledge	Assessment Methods	GMP
Outlines the components of effective collaboration and team working	CbD, MCR	1
Describes the roles and responsibilities of members of the healthcare team	CbD, MCR	1
Outlines factors adversely affecting a doctor's and team performance and methods to rectify these	CbD, MCR	1
Skills		
Practises with attention to the important steps of providing good continuity of care	CbD, mini-CEX, MCR	1,3,4
Keeps accurate and attributable notes including appropriate use of electronic clinical record systems	CbD, mini-CEX, MCR	1,3
Demonstrates leadership and management in education and training of junior colleagues and other members of the healthcare team	CbD, mini-CEX, MCR	1,2,3
Recognises deteriorating performance of colleagues (e.g. stress, fatigue)	CbD, mini-CEX, MCR	1,2,3
Provides high quality care	CbD, mini-CEX, MCR	1,2,3
Leads and participates in interdisciplinary team meetings	CbD, mini-CEX, MCR	3
Provides appropriate supervision to less experienced colleagues	CbD, MSF, MCR	3
Behaviours		
Encourages an open environment to foster and explore concerns and issues about the functioning and safety of team working	CbD, MSF, MCR	3
Recognises limits of own professional competence and practises within these	CbD, MSF, MCR	3
Recognises and respect the request for a second opinion	CbD, MSF, MCR	3
Recognises the importance of induction for new members of a team	CbD, MSF, MCR	3
Recognises the importance of prompt and accurate information sharing with Primary Care team following hospital discharge	CbD, mini-CEX, MSF, MCR	3

1.9 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
Understands the elements of clinical governance	CbD, MSF, MCR	1
Defines local and national significant event reporting systems relevant to allergy	CbD, mini-CEX, MCR	1
Outlines local health and safety protocols (fire, manual handling etc)	CbD, MCR	1
Understands risks associated with training in allergy including biohazards and mechanisms to reduce risk	CbD, MCR	1
Outlines the use of patient early warning systems to detect clinical deterioration	CbD, mini-CEX, MCR	1
Keeps abreast of national patient safety initiatives including National Patient Safety Agency , NCEPOD reports, NICE guidelines etc	CbD, mini-CEX, MCR	1
Skills		
Adopts strategies to reduce risk	CbD, MCR	1,2
Recognises that governance safeguards high standards of care and facilitates the development of improved clinical services	CbD, MCR	1,2
Recognises importance of evidence-based practice in relation to clinical effectiveness	CbD, MCR	1
Reflects regularly on personal standards of medical practice in accordance with GMC guidance on licensing and revalidation	AA, QIPAT, MCR	1,2,3, 4
Behaviours		
Shows willingness to participate in safety improvement strategies such as critical incident reporting	CbD, MSF, MCR	3
Develops reflection in order to achieve insight into own professional practice	CbD, MSF, MCR	3
Demonstrates personal commitment to improve self performance in the light of feedback and assessment	CbD, MSF, MCR	3
Contributes to quality improvement processes such as: • 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	CbD, MSF, MCR	3
Maintains a portfolio of information and evidence drawn from personal medical practice	CbD, MSF, MCR	3

Engages with an open no blame culture	CbD, MSF, MCR	3
Responds positively to outcomes of audit and quality improvement	CbD, MSF, MCR	1,3
Co-operates with changes necessary to improve service quality and safety	CbD, MSF, MCR	1,2

1.10 Infection Control

To learn how to manage and control infection in patients, including controlling the risk of cross-infection, appropriately managing infection in individual patients, and working appropriately within the wider community to manage the risk posed by communicable diseases.

Knowledge	Assessment Methods	GMP
Understands the principles of infection control as defined by the GMC	CbD, mini-CEX, MCR	1
Understands the principles of preventing infection in high risk groups (eg managing antibiotic use to reduce *Clostridium difficile* infection) including understanding the local antibiotic prescribing policy	CbD, mini-CEX, MCR	1
Understands the role of Notification of diseases within the UK and identify the principle notifiable diseases for UK and international purposes	CbD, mini-CEX, MCR	1
Understands the role of the Health Protection Agency and Consultants in Health Protection (previously Consultants in Communicable Disease Control – CCDC)	CbD, mini-CEX, MCR	1
Understands the role of the local authority in relation to infection control	CbD, mini-CEX, MCR	1
Knows how to access and use local health data	CbD, mini-CEX, MCR	1
Skills		
Recognises the potential for infection within patients being cared for	CbD, MCR	1,2
Counsels patients on matters of infection risk, transmission and control	CbD, mini-CEX, PS, MCR	2,3
Recognises potential for cross-infection in clinical settings	CbD, mini-CEX, MCR	1,2
Practices aseptic technique whenever relevant	DOPS, MCR	1
Behaviours		
Actively engages in local infection control procedures	CbD, MCR	1
Actively engages in local infection control monitoring and reporting processes	CbD, MCR	1,2
Prescribes antibiotics according to local antibiotic guidelines and works with microbiological services where this is not possible	CbD, MCR	1
Encourages all staff, patients and relatives to observe infection control principles	CbD, MSF, MCR	1

Recognises personal ill-health as a risk to patients and colleagues and its effect on performance	CbD, MSF, MCR	1,3

1.11 Managing Long-Term Conditions and Promoting Patient Self-Care

To learn how to pursue a holistic and long term approach to the planning and implementation of patient care, in particular to identify and facilitate the role of the patient, the family and other carers in the long term management of severe allergic diseases

Knowledge	Assessment Methods	GMP
Describes the natural history of allergic diseases that run a chronic course	CbD, mini-CEX, MCR	1
Defines the role of services and the multi-disciplinary teams to facilitate long-term care of patients with allergic diseases	CbD, mini-CEX, MCR	1
Outlines the concept of quality of life and how this can be measured whilst understanding the limitations of such measures for individual patients	CbD, mini-CEX, MCR	1
Outlines the concept of patient self-care and the role of the expert patient	CbD, mini-CEX, MCR	1
Works with an appropriate knowledge of guidance documents on supporting people with long term conditions to self care	CbD, mini-CEX, MCR	1
Knows, understands and is able to compare and contrast the medical and social models of disability	CbD, mini-CEX, MCR	1
Knows about and practises within the key provisions of disability discrimination and other contemporary legislation	CbD, mini-CEX, MCR	1
Understands the relationship between local health, educational and social service provision including the voluntary sector and how they can be accessed	CbD, mini-CEX, MCR	1
Is familiar with the range of agencies that can provide care and support in and out of hospital and how they can be accessed	CbD, mini-CEX, MCR	1
Skills		
Develops and agrees a management plan with the patient (and carers), ensuring awareness of alternatives to maximise self-care within care pathways where relevant	CbD, mini-CEX, PS, MCR	1,3
Assesses the patient's ability to access various services in the health and social system and offer appropriate assistance	CbD, mini-CEX, MCR	1,3
Advocates and facilitates appropriate self care	CbD, mini-CEX, MCR	1,3
Develops and sustains supportive relationships with patients with whom care will be prolonged and potentially life long	CbD, mini-CEX, MCR	1,4
Provides relevant evidence-based information and where appropriate effective patient education, with support of the multi-disciplinary team	CbD, mini-CEX, MCR	1,3,4
Provides relevant and evidence based information in an appropriate medium to enable sufficient choice, when possible	CbD, PS, MCR	1,3
Behaviours		
Shows willingness and support for patient in his/her own	CbD, mini-	1,3

advocacy, within the constraints of available resources and taking into account the best interests of the wider community	CEX, PS, MCR	
Promotes and encourages involvement of patients in appropriate support networks, both to receive support and to give support to others	CbD, mini-CEX, MCR	3,4
Recognises the potential impact of long term conditions on the patient, family and friends	CbD, MCR	1
Ensures equipment and devices relevant to the patient's care are discussed	CbD, mini-CEX, MCR	1,2,3,4
Puts patients in touch with the relevant agency including the voluntary sector from where they can procure the items as appropriate	CbD, mini-CEX, MCR	1,3
Provides the relevant tools and devices when possible	CbD, mini-CEX, MCR	1,2
Shows willingness to facilitate access to the appropriate training and skills in order to develop the patient's confidence and competence to self care and adapt appropriately as needs change with time	CbD, mini-CEX, PS, MCR	1,3,4
Shows willingness to maintain a close working relationship with other members of the multi-disciplinary team, primary and community care	CbD, mini-CEX, MSF, MCR	3
Shows willingness to engage with expert patients and representatives of charities or networks that focus on diseases and comprehends their role in supporting patients and their families/carers	CbD, mini-CEX, MSF, PS, MCR	1,3
Recognises and respect the role of family, friends and carers in the management of the patient with a long term condition	CbD, mini-CEX, PS, MCR	1,3
Puts patients in touch with the relevant agencies including the voluntary sector from where they can procure the items as appropriate	CbD, mini-CEX, MSF, PS, MCR	1,3

1.12 Relationships with Patients and Communication within a Consultation

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

Knowledge	**Assessment Methods**	**GMP**
Demonstrates how to structure a consultation appropriately	CbD, mini-CEX, PS, MCR	1
States the importance of the patient's background, culture, education and preconceptions (beliefs, ideas, concerns, expectations) to the process	CbD, mini-CEX, PS, MCR	1
Skills		
Establishes a rapport with the patient and any relevant others Utilises open and closed questioning appropriately	CbD, mini-CEX, PS, MCR	1,3
Listens actively and questions sensitively to guide the patient and to clarify information	mini-CEX, PS, MCR	1,3

Identifies and manages communication barriers, tailoring language to the individual patient and others and using interpreters when indicated	CbD, mini-CEX, PS, MCR	1,3
Delivers information compassionately, being alert to and managing personal and patients emotional responses	CbD, mini-CEX, PS, MCR	1,3,4
Uses, and refers patients to, appropriate written and other evidence based information sources	CbD, mini-CEX, MCR	1,3
Checks the patient's/carer's understanding, ensuring that all their concerns/questions have been covered	CbD, mini-CEX, PS, MCR	1,3
Indicates when the consultation nearing its end and conclude with a summary and appropriate action plan; ask the patient to summarise back to check his/her understanding	CbD, mini-CEX, PS, MCR	1,3
Makes accurate contemporaneous records of the discussion	CbD, mini-CEX, MCR	1,3
Manages follow-up effectively and safely utilising a variety of methods	CbD, mini-CEX, MCR	1
Ensures appropriate referral and communications with other healthcare professional resulting from the consultation are made accurately and in a timely manner	CbD, mini-CEX, MCR	1
Behaviours		
Approaches situations with courtesy, empathy, compassion and professionalism, especially by appropriate body language and endeavouring to ensure an appropriate physical environment, acting as an equal not a superior	CbD, mini-CEX, MSF, PS, MCR	1,3,4
Ensures appropriate personal language and behaviour	CbD, mini-CEX, MSF, PS, MCR	1.3
Ensures that the approach is inclusive and patient centred and respects the diversity of values in patients, carers and colleagues.	CbD, mini-CEX, MSF, PS, MCR	13
Is willing to provide patients with a second opinion	CbD, mini-CEX, MSF, PS, MCR	1,3
Uses different methods of ethical reasoning to come to a balanced decision where complex and conflicting issues are involved	CbD, mini-CEX, MSF, MCR	1,3
Is confident and positive in personal values	CbD, mini-CEX, MCR	1,3

1.13 Breaking Bad News

To recognise the fundamental importance of breaking bad news

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

Knowledge	Assessment Methods	GMP
Understands that how bad news is delivered irretrievably affects the subsequent relationship with the patient	CbD, mini-CEX, MSF, PS, MCR	1

Appreciates that every patient may desire different levels of explanation and have different responses to bad news	CbD, mini-CEX, PS, MCR	1,4
Knows that although bad news is confidential the patient may wish to be accompanied	CbD, mini-CEX, PS, MCR	1
Appreciates 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, MCR	
Appreciates that breaking bad news can be extremely stressful for the doctor or professional involved	CbD, mini-CEX, MCR	1,3
Is aware that the interview during which bad news is delivered may be an educational opportunity	CbD, mini-CEX, MCR	1
States and understands the importance of adequate preparation for breaking of bad news	CbD, mini-CEX, MCR	1,3
Knows that “bad news” may be expected or unexpected and cannot always be predicted	CbD, mini-CEX, MCR	1
Knows that sensitive communication of bad news is an essential part of professional practice	CbD, mini-CEX, MCR	1
Knows that “bad news” has different connotations depending on the context, individual, social and cultural circumstances	CbD, mini-CEX, PS, MCR	1
Understands that a post mortem examination may be required and what this involves	CbD, mini-CEX, PS, MCR	1
Is familiar with the local organ retrieval process	CbD, mini-CEX, MCR	1
Skills		
Demonstrates to others good practice in breaking bad news	CbD, DOPS, MSF, MCR	1,3
Involves patients and carers in decisions regarding their future management	CbD, DOPS, MSF, MCR	1,3,4
Comprehends the impact of the bad news on the patient, carer, supporters, staff members and self	CbD, DOPS, MSF, MCR	1,3,4
Encourages questioning and ensures comprehension	CbD, DOPS, MSF, PS, MCR	1,3
Responds to verbal and visual cues from patients and relatives	CbD, DOPS, MSF, MCR	1,3
Acts with empathy, honesty and sensitivity avoiding undue optimism or pessimism	CbD, DOPS, MSF, PS, MCR	1,3
In preparing to break bad news: • Sets aside sufficient uninterrupted time • Chooses an appropriate private environment and ensures that there will be no unplanned disturbances • Has sufficient information regarding prognosis and treatment	CbD, DOPS, MSF, PS, MCR	1,3

• Ensures the individual has appropriate support if desired • Structures the interview • Is honest, factual, realistic and empathic		
Is aware of relevant guidance documents	CbD, MCR	1
Structures the interview: • Sets the scene • Establishes understanding • Discusses diagnosis, implications, treatment, prognosis and subsequent care	CbD, MCR	1,3
Behaviours		
Take leadership in breaking bad news	CbD, DOPS, MSF, MCR	1
Respects the different ways people react to bad news	CbD, DOPS, MSF, MCR	1
Ensures appropriate recognition and management of the impact of breaking bad news on the doctor	CbD, DOPS, MSF, MCR	1

1.14 Complaints and Medical Error

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

Knowledge	Assessment Methods	GMP
Describes the local complaints procedure	CbD, MSF, MCR	1
Recognises factors likely to lead to complaints (poor communication, dishonesty, clinical errors, adverse clinical outcomes etc)	CbD, MSF, MCR	1
Outlines the principles of an effective apology	CbD, MSF, MCR	1
Identifies sources of help and support for patients and doctors when a complaint is made about self or a colleague	CbD, MSF, MCR	1
Skills		
Contributes to processes whereby complaints are reviewed and learned from	CbD, DOPS, MSF, MCR	1
Explains 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, DOPS, MSF, MCR	1,3
Recognises when something has gone wrong and identifies appropriate staff with whom to communicate this	CbD, DOPS, MSF, MCR	1
Delivers an appropriate apology and explanation	CbD, DOPS, MSF, MCR	1,3,4
Distinguishes between system and individual errors (personal and organisational)	CbD, DOPS, MSF, MCR	1
Shows ability to learn from previous errors	CbD, DOPS, MSF, MCR	1

Behaviours		
Takes leadership over complaint issues	CbD, DOPS, MSF, MCR	1
Adopts behaviour likely to prevent causes for complaints	CbD, DOPS, MSF, MCR	1,3
Deals appropriately with concerned or dissatisfied patients or relatives	CbD, DOPS, MSF, MCR	1
Acts with honesty and sensitivity in a non-confrontational manner	CbD, DOPS, MSF, MCR	1
Acts with honesty and sensitivity in a non-confrontational manner	CbD, DOPS, MSF, MCR	1
Recognises the impact of complaints and medical error on staff, patients and the National Health Service	CbD, DOPS, MSF, MCR	1
Contributes to a fair and transparent culture around complaints and errors	CbD, DOPS, MSF, MCR	1
Recognises the rights of patients, family members and carers to make a complaint	CbD, DOPS, MSF, MCR	1,4
Recognises the impact of a complaint upon self and seeks appropriate help and support	CbD, DOPS, MSF, MCR	1,4

1.15 Communication with colleagues and cooperation

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

To communicate succinctly and effectively with other professionals as appropriate

Knowledge	Assessment Methods	GMP
Understands the section in "Good Medical Practice" on Working with Colleagues, in particular:	CbD, MSF, MCR	1
States the roles played by all members of a multi-disciplinary team	CbD, MSF, MCR	1
States the features of good team dynamics	CbD, MSF, MCR	1
States the principles of effective inter-professional collaboration to optimise patient, or population, care	CbD, MSF, MCR	1
Understands the principles of confidentiality that provide boundaries to communication	CbD, MSF, MCR	1
Acts with appropriate knowledge of professional and ethical conduct in challenging situations	CbD, MCR	1
Knows techniques to manage anger and aggression in self and colleagues	CbD, MCR	1
Knows personal responsibilities when managing physical and/or mental ill health in self and colleagues	CbD, MCR	1
Skills		
Communicates 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, MCR	1,3

Utilises the expertise of the whole multi-disciplinary team as appropriate, ensuring when delegating responsibility that appropriate supervision is maintained	CbD, mini-CEX, MSF, MCR	1,3
Communicates effectively with administrative bodies and support organisations	CbD, mini-CEX, MSF, MCR	1,3
Employs behavioural management skills with colleagues to prevent and resolve conflict and enhance collaboration	CbD, mini-CEX, MSF, MCR	1,3
Behaviours		
Shows awareness of the importance of, and takes part in 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, MCR	3
Fosters a supportive and respectful environment where there is open and transparent communication between all team members	CbD, mini-CEX, MSF, MCR	1,3
Ensures appropriate confidentiality is maintained during communication with any member of the team	CbD, mini-CEX, MSF, MCR	1,3
Recognises the need for a healthy work/life balance for the entire team, but takes any personal leave only after giving appropriate notice to ensure that cover is in place	CbD, mini-CEX, MSF, MCR	1
Accepts additional duties in situations of unavoidable and unpredictable absence of colleagues ensuring that the best interests of the patient are paramount	CbD, MSF, MCR	1

1.16 Health Promotion and Public Health

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

Knowledge	Assessment Methods	GMP
Understands the factors which influence the incidence and prevalence of common conditions	CbD, mini-CEX, MCR	1
Understands the factors which influence health and illness – psychological, biological, social, cultural and economic especially poverty and unemployment	CbD, mini-CEX, MCR	1
Understands the influence of lifestyle on health and the factors that influence an individual to change their lifestyle	CbD, mini-CEX, MCR	1
Understands the influence of culture and beliefs on patients perceptions of health	CbD, mini-CEX, MCR	1
Understands the purpose of screening programmes and knows in outline the common programmes available within the UK	CbD, mini-CEX, MCR	1
Understands the positive and negative effects of screening on the individual	CbD, mini-CEX, MCR	1
Understands the possible positive and negative implications of health promotion activities (e.g. immunisation)	CbD, mini-CEX, MCR	1
Understands the relationship between the health of an	CbD, mini-	1

individual and that of a community and vice versa	CEX, MCR	
Knows key local concerns about health of communities such as smoking and obesity and the potential determinants	CbD, mini-CEX, MCR	1
Understands the role of other agencies and factors including the impact of globalisation in increasing disease and in protecting and promoting health	CbD, mini-CEX, MCR	1
Demonstrates 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, MCR	1
Outlines the major causes of global morbidity and mortality and effective, affordable interventions to reduce these	CbD, mini-CEX, MCR	1
Recalls the effect of addictive and self harming behaviours, especially substance misuse and gambling, on personal and community health and poverty	CbD, mini-CEX, MCR	1
Skills		
Identifies opportunities to prevent ill health and disease in patients	CbD, mini-CEX, PS, MCR	1,2
Identifies opportunities to promote changes in lifestyle and other actions which will positively improve health and/or disease outcomes.	CbD, mini-CEX, MCR	1,2
Identifies the interaction between mental, physical and social wellbeing in relation to health.	CbD, mini-CEX, MCR	1
Counsels patients appropriately on the benefits and risks of screening and health promotion activities	CbD, mini-CEX, PS, MCR	1,3
Identifies patient's ideas, concerns and health beliefs regarding screening and health promotions programmes and is capable of responding appropriately	mini-CEX, CbD, MCR	1,3
Works collaboratively with other agencies to improve the health of communities	CbD, mini-CEX, MCR	1
Behaviours		
Engages in effective team-working around the improvement of health	CbD, MSF, MCR	1,3
Encourages where appropriate screening to facilitate early intervention	CbD, MCR	1
Seeks out and utilises opportunities for health promotion and disease prevention	CbD, MCR	1

1.17 Environmental Protection and Emergency Planning

To understand the relationship of the physical environment to health

To be able to identify situations where environmental exposure may be the cause of ill health and to relate to emergency planning arrangements both in relation to environmental matters and other issues in clinical practice

Knowledge	Assessment Methods	GMP
Understands in outline the mechanisms by which environmental chemicals have an impact on human health	CbD, MCR	1

Understands in outline the mechanisms by which adverse chemical exposure can be mitigated (decontamination, specific antidotes)	CbD, mini-CEX, MCR	1
Knows the potential sources of information and guidance to manage a case of chemical etc exposure. (including local, regional and national sources)	CbD, MCR	1
Understands the principles of emergency planning	CbD, MCR	1
Knows in outline the emergency plan for health care organisation they currently work for and specifically knows their duties and responsibilities within the plan	CbD, MCR	1
Skills		
Recognises the potential for chemical or other hazardous environmental exposure in relation to an individual patient.	CbD, MCR	1,2
Manages patients in an appropriate manner according to guidance	CbD, mini-CEX, MCR	1,2
Appropriately performs duties and tasks when required in accordance with Trust emergency plans	CbD, MCR	1,3
Behaviours		
Actively engages in emergency planning arrangements including exercises in accordance with Trust plans	CbD, MSF, MCR	2,3
Openly considers the possibility of chemical or environmental exposure in clinical work	CbD, MSF, MCR	1,2

1.18 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
Demonstrates knowledge of the principles of medical ethics	CbD, mini-CEX, MCR	1
Outlines and follows the guidance given by the GMC on confidentiality	CbD, mini-CEX, MCR	1
Defines the provisions of the Data Protection Act and Freedom of Information Act	CbD, mini-CEX, MCR	1
Defines the principles of Information Governance	CbD, mini-CEX, MCR	1
Defines 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, MCR	1,4
Outlines situations where patient consent, while desirable, is not required for disclosure e.g. serious communicable diseases, public interest	CbD, mini-CEX, MCR	1,4
Outlines the procedures for seeking a patient's consent for disclosure of identifiable information	CbD, mini-CEX, MCR	1
Recalls the obligations for confidentiality following a patient's death	CbD, mini-CEX, MCR	1,4
Defines the standards of practice defined by the GMC when	CbD, mini-	1

deciding to withhold or withdraw life-prolonging treatment	CEX, MCR	
Knows the role and legal standing of advance directives	CbD, mini-CEX, MCR	1
Outlines the principles of the Mental Capacity Act	CbD, mini-CEX, MCR	1
Skills		
Uses and shares information with the highest regard for confidentiality, and encourages such behaviour in other members of the team	CbD, mini-CEX, MSF, MCR	1,2,3
Recognises the problems posed by disclosure in the public interest, without the patient's consent	CbD, mini-CEX, MSF, MCR	1,4
Recognises the factors influencing ethical decision making: including religion, personal and moral beliefs, cultural practices	CbD, mini-CEX, MSF, PS, MCR	1
Uses and promotes strategies to ensure that confidentiality is maintained, for example anonymisation	CbD, MCR	1
Counsels patients on the need for information distribution within members of the immediate healthcare team	CbD, MSF, MCR	1,3
Counsels patients, family, carers and advocates tactfully and effectively when making decisions about resuscitation status, and withholding or withdrawing treatment	CbD, mini-CEX, PS, MCR	1,3
Behaviours		
Encourages informed ethical reflection in others	CbD, MSF, MCR	1
Shows 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, MCR	1
Respects patient's requests for information not to be shared, unless this puts the patient, or others, at risk of harm	CbD, mini-CEX, PS, MCR	1,4
Shows willingness to share information about care with patients unless they have expressed a wish not to receive such information	CbD, mini-CEX, MCR	1,3
Shows willingness to seek the opinion of others when making decisions about resuscitation status, and withholding or withdrawing treatment	CbD, mini-CEX, MSF, MCR	1,3

1.19 Obtaining of Consent

To understand the necessity of obtaining valid consent from the patient, and when and how to obtain it

Knowledge	Assessment Methods	GMP
Outlines the guidance given by the GMC on consent, in particular:	CbD, MSF, MCR	1
Understands that consent is a process that may culminate in, but is not limited to, the completion of a consent form	CbD, MSF, MCR	1
Understands the particular importance of considering the patient's level of understanding and mental state (and also	CbD, MSF, MCR	1

that of the parents, relatives or carers when appropriate) and how this may impair their capacity for informed consent		
Understands the social and cultural issues that might affect consent	CbD, MSF, MCR	1
Skills		
Presents 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, MCR	1,3
Provides a balanced view of all care options	CbD, mini-CEX, PS, MCR	1,3,4
Behaviours		
Respects a patient's rights of autonomy even in situations where their decision might put them at risk of harm	CbD, mini-CEX, PS, MCR	1
Keeps within the scope of authority given by a competent patient	CbD, mini-CEX, PS, MCR	1
Provides all information relevant to proposed care or treatment in a competent patient	CbD, mini-CEX, MCR	1,3,4
Seeks consent for procedures within own capabilities Shows willingness to seek advance directives	CbD, mini-CEX, MCR	1,3
Shows willingness to obtain a second opinion, senior opinion, and legal advice in difficult situations of consent or capacity	CbD, mini-CEX, MSF, MCR	1,3
Informs patients and seeks alternative care where personal, moral or religious belief prevents a usual professional action	CbD, mini-CEX, PS, MCR	1,3,4

1.20 Legal Framework for Practice

To understand the legal framework within which healthcare is provided in the UK and/or devolved administrations in order to ensure that personal clinical practice is always provided in line with this legal framework.

Knowledge	Assessment Methods	GMP
Knows that all decisions and actions must be in the best interests of the patient	CbD, mini-CEX, MCR	1
Understands the legislative framework within which healthcare is provided in the UK and/or devolved administrations – in particular death certification and the role of the Coroner/Procurator Fiscal; child protection legislation; mental health legislation (including powers to detain a patient and giving emergency treatment against a patient's will under common law); advanced directives and living Wills; withdrawing and withholding treatment; decisions regarding resuscitation of patients; surrogate decision making; organ donation and retention; communicable disease notification; medical risk and driving; Data Protection and Freedom of Information Acts; provision of continuing care and community nursing care by a local authorities.	CbD, mini-CEX, MCR	1,2
Is familiar with disability and other equality legislation	CbD, mini-CEX, MCR	1,2
Understands the differences between health related legislation in the four countries of the UK	CbD, MCR	1
States sources of medical legal information	CbD, mini-CEX, MCR	1
Understands disciplinary processes in relation to medical malpractice	CbD, mini-CEX, MSF, MCR	1
Understands the role of the medical practitioner in relation to personal health and substance misuse, including understanding the procedure to be followed when such abuse is suspected	CbD, mini-CEX, MSF, MCR	1
Skills		
Cooperates with other agencies with regard to legal requirements – including reporting to the Coroner's/Procurator Officer, the Police or the proper officer of the local authority in relevant circumstances	CbD, mini-CEX, MCR	1
Prepares appropriate medical legal statements for submission to the Coroner's Court, Procurator Fiscal, Fatal Accident Inquiry and other legal proceedings and be prepared to present such material in court	CbD, MSF, MCR	1
Incorporates legal principles into day to day practice	CbD, mini-CEX, MCR	1
Practices and promotes accurate documentation within clinical practice	CbD, mini-CEX, MCR	1,3
Behaviour		
Shows willingness to seek advice from employer, appropriate legal bodies (including defence societies), and the GMC on	CbD, mini-CEX, MSF,	1, 3

medico-legal matters	MCR	
Promotes informed reflection on legal issues by members of the team	CbD, mini-CEX, MSF, MCR	1,3
Demonstrates that all decisions and actions must be in the best interests of the patient	CbD, mini-CEX, MSF, MCR	1,3

1.21 Ethical Research

To be equipped to ensure that research is undertaken using relevant ethical guidelines.

Knowledge	Assessment Methods	GMP
Outlines the GMC guidance on good practice in research	CbD, MCR	1
Knows about local and national research guidelines	CbD, MCR	1
Knows the principles of research governance Outlines the differences between audit and research	AA, QIPAT, CbD, mini-CEX, MCR	1
Describes how clinical guidelines are produced	CbD, MCR	1
Demonstrates a knowledge of research principles	CbD, mini-CEX, MCR	1
Outlines the principles of formulating a research question and designing a project	CbD, mini-CEX, MCR	1
Comprehends the principal qualitative, quantitative, bio-statistical and epidemiological research methods	CbD, MCR	1
Outlines sources of research funding	CbD, MCR	1
Skills		
Uses critical appraisal skills and applies these when reading literature	CbD, MCR	1
Demonstrates the ability to write a scientific paper	CbD, MCR	1
Applies for appropriate ethical research approval	CbD, MCR	1
Demonstrates the use of literature databases	CbD, MCR	1
Demonstrates good verbal and written presentations skills	CbD, DOPS, MCR	1
Understands the difference between population-based assessment and unit-based studies and be able to evaluate outcomes for epidemiological work	CbD, MCR	1
Behaviour		
Follows guidelines on ethical conduct in research and consent for research	CbD, MCR	1
Shows willingness to encourage and take part in research	CbD, MCR	1

1.22 Evidence and Guidelines

To learn 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 practise

Knowledge	Assessment Methods	GMP
Outlines the principles of critical appraisal	CbD, MCR	1
Knows the advantages and disadvantages of different study methodologies (quantitative and qualitative) for different types of questions	CbD, MCR	1
Outlines levels of evidence and quality of evidence	CbD, MCR	1

Knows how to apply statistics in scientific medical practice	CbD, MCR	1
Understands the use and differences between the basic measures of risk and uncertainty	CbD, MCR	1
Describes the role and limitations of evidence in the development of clinical guidelines and protocols	CbD, MCR	1
Understands the processes that result in nationally applicable guidelines (eg NICE and SIGN)	CbD, MCR	1
Skills		
Searches medical literature with relevant tools including PubMed, Medline, Cochrane reviews and the internet	CbD, MCR	1
Appraises retrieved evidence to address a clinical question	CbD, MCR	1
Applies conclusions from critical appraisal into clinical care	CbD, MCR	1
Contributes to the construction, review and updating of local (and national) guidelines of good practice using the principles of evidence based medicine	CbD, MCR	1
Behaviours		
Aims for best clinical practice (clinical effectiveness) at all times, as informed by evidence based medicine	CbD, mini-CEX, MCR	1
Recognises knowledge gaps and keeps a logbook of clinical questions	CbD, mini-CEX, MCR	1
Keeps up to date with national reviews, key new relevant research, and guidelines of practice (e.g. NICE and SIGN)	CbD, MCR	1
Recognises the common need to practise outside clinical guidelines	CbD, mini-CEX, MCR	1
Communicates risk information, and risk-benefit trade-offs in ways appropriate for individual patients	CbD, mini-CEX, MCR	
Encourage discussion amongst colleagues on evidence-based practice	CbD, mini-CEX, MSF, MCR	1

1.23 Presentation Skills, Audit and Quality Improvement

Knowledge	Assessment Methods	GMP
An understanding of the importance and processes of audit.	AA, MCR	1,2,3
Understands the differences between audit and quality improvement	AA, QIPAT, CbD, MCR	1
Understands steps involved in completing a quality improvement project (which may include audit)	AA, QIPAT, CbD, MCR	1
Skills		
Ability to give a range of oral presentations with the use of appropriate audio-visual aids including *PowerPoint* presentations. Presentations may involve clinical cases, audits or research papers.	TO, MCR	1,3
Ability to instigate and collate an audit project.	AA, MCR	1,2,3
Ability to answer questions from members of the audience.	TO, MCR	
Describes measurement for improvement	AA, QIPAT, CbD, MCR	1,2
Demonstrates the learning from the experience	AA, QIPAT, CbD, MCR	1,2
Behaviours		
Ability to adjust level of presentation dependent upon the anticipated audience.	TO, MCR	1,3
Recognises and commits to the culture of continuous improvement in clinical practice to promote safe and high quality care	AA, QIPAT, CbD, MCR	1, 2
Ability to reflect upon changes in patient management as the result of a completed audit project.	AA, MCR	1,2,3

1.24 Teaching and Training

To teach a variety of different audiences in a variety of different ways.
To assess the quality of the teaching.
To plan and deliver a training programme with appropriate assessments.
To supervise, teach and mentor learners (trainees) in a work setting.

Knowledge	Assessment Methods	GMP
Describes relevant educational theories and principles Outlines adult learning principles relevant to medical education:	CbD, MCR	1
Demonstrates knowledge of relevant literature relevant to developments and challenges in medical education and other sectors	CbD, MCR	1
Outlines the structure of an effective appraisal interview	CbD, MCR	1
Defines the roles to the various bodies involved in medical education and other sectors	CbD, MCR	1
Recalls learning methods and effective learning objectives and outcomes		

Describes the differences between learning objectives and outcomes		
Differentiates between appraisal and assessment and performance review and aware of the need for both Differentiates between formative and summative assessment and define their role in medical education Outlines the structure of the effective appraisal review	CbD, MCR	1
Outlines 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, MCR	1
Outlines the appropriate local course of action to assist a trainee experiencing difficulty in making progress within their training programme	CbD, MCR	1
Skills		
Critically evaluates relevant educational literature Varies teaching formats and stimuli, appropriate to the situation and the audience	CbD, MCR	1
Provides effective and appropriate feedback after teaching, and promotes learner reflection	CbD, MSF, TO, MCR	1
Conducts developmental conversations as appropriate eg: appraisal, supervision, mentoring	CbD, MSF, MCR	1
Demonstrates effective lecture, presentation, small group and bed side teaching sessions	CbD, MSF, MCR	1,3
Provides appropriate career support, or refers trainee to an alternative effective source of career information	CbD, MSF, TO, MCR	1,3
Participates in strategies aimed at improving patient education e.g. talking at support group meetings	CbD, MSF, MCR	1
Leads departmental teaching programmes including journal clubs	CbD, TO, MCR	1
Recognises the trainee in difficulty and take appropriate action including where relevant referral to other services	CbD, TO, MCR	1
Is able to identify and plan learning activities in the workplace	CbD, MCR	1
Contributes to educational research or projects eg: through the development of research ideas of data/information gathering. Is able to manage personal time and resources effectively to the benefit of the educational faculty and the need of the learners	CbD, TO, MCR	1
Factors in safeguards to protect the patient when teaching and training is being conducted using patients	CbD, MCR	1
Behaviour		
Maintains the dignity and safety of patients at all times in discharging educational duties	CbD, MSF, MCR	1,4
Recognises the importance of the role of the physician as an educator within the multi-professional healthcare team and uses medical education to enhance the care of patients	CbD, MSF, MCR	1
Balances the needs of service delivery with education	CbD, MSF, MCR	1
Demonstrates willingness to teach trainees and other health	CbD, MSF,	1

and social workers in a variety of settings to maximise effective communication and practical skills and to improve patient care	MCR	
Demonstrates consideration for learners including their emotional, physical and psychological well being with their development needs. Acts to endure equality of opportunity for students, trainees, staff and professional colleagues	CbD, MSF, MCR	1
Encourages discussions with colleagues in clinical settings to colleagues to share knowledge and understanding	CbD, MSF, TO, MCR	1,3
Maintains honesty and objectivity during appraisal and assessment	CbD, MSF, MCR	1
Shows willingness to participate in workplace-based assessments and demonstrates a clear understanding of their purpose	CbD, MSF, MCR	1
Shows willingness to take up formal training as a trainer and respond to feedback obtained after teaching sessions	CbD, MSF, TO, MCR	1,3
Demonstrates willingness to become involved in the wider medical education activities and fosters an enthusiasm for medical education activity in others	CbD, MSF, TO, MCR	1
Recognises the importance of personal development as a role model to guide trainees in aspects of good professional behaviour	CbD, MSF, TO, MCR	1
Demonstrates willingness to advance own educational capability through continuous learning	CbD, MSF, MCR	1
Acts to enhance and improve educational provision through evaluation of own practice	CbD, MSF, MCR	1
Contributes to educational policy and development at local or national levels	CbD, MSF, MCR	1

1.25 Personal Behaviour

To acquire and nurture behaviours that will enable the trainee to become a senior leader able to deal with complex situations and difficult behaviours and attitudes

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

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

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

Knowledge	Assessment Methods	GMP
Recalls and build upon the competences defined in the Foundation Programme Curriculum	CbD, mini-CEX, MCR	1,2,3,4
Outlines the main methods of ethical reasoning: casuistry, ontology and consequential	CbD, mini-CEX, MCR	1,2,3,4
Is familiar with the overall approach of value based practice and how this relates to ethics, law and decision-making	CbD, mini-CEX, MCR	1,2,3,4
Defines the concept of modern medical professionalism	CbD, MCR	1
Outlines the relevance of professional bodies (Royal Colleges, NHSMEE , GMC, Postgraduate Dean, BMA, specialist societies, medical defence societies etc)	CbD, MCR	1
Skills		
Practises with professionalism including: • Integrity • Compassion • Altruism • A view to continuous improvement • Aspiration to excellence • Respect of cultural and ethnic diversity • Regard to the principles of equity	CbD, mini-CEX, MSF, PS, MCR	1,2,3,4
Works in partnership with patients and members of the wider healthcare team	CbD, mini-CEX, MSF, MCR	3
Liaises with colleagues to plan and implement work rotas	MSF, MCR	3
Promotes awareness of the doctor's role in utilising healthcare resources optimally and within defined resource constraints	CbD, mini-CEX, MSF, MCR	1,3
Recognises and responds appropriately to unprofessional behaviour in others	CbD, MCR	1
Provides specialist support to hospital and community based services if appropriate and permitted	CbD, MSF, MCR	1
Handles enquiries from the press and other media effectively	CbD, DOPS, MCR	1,3
Behaviour		
Recognises personal beliefs and biases and understands their impact on the delivery of health services	CbD, mini-CEX, MSF, MCR	1

Appropriately refers patients where personal beliefs and biases could impact upon professional practice		
Uses all healthcare resources prudently and appropriately	CbD, mini-CEX, MCR	1,2
Improves clinical leadership and management skill	CbD, mini-CEX, MCR	1
Recognises situations when it is appropriate to involve professional and regulatory bodies	CbD, mini-CEX, MCR	1
Acts as a leader, mentor, educator and role model	CbD, mini-CEX, MSF, MCR	1
Reviews competences defined in the Foundation programme: • Deals with inappropriate patient and family behaviour • Respects the rights of children, elderly, people with physical, mental, learning or communication difficulties • Adopts an approach to eliminate discrimination against patients from diverse backgrounds including age, gender, race, culture, disability, spirituality and sexuality • Places needs of patients above own convenience • Behaves with honesty and probity • Acts with honesty and sensitivity in a non-confrontational manner	CbD, mini-CEX, MCR	1
Accepts mentoring as a positive contribution to promote personal professional development Participates in professional regulation and professional development	CbD, mini-CEX, MSF, MCR	1
Takes part in 360 degree feedback as part of appraisal	CbD, MSF, MCR	1,2,4
Promotes the right for equity of access to healthcare	CbD, mini-CEX, MCR	1
Demonstrates reliability and accessibility throughout the healthcare team	CbD, mini-CEX, MSF, MCR	1

1.26 Management and NHS Structure

Understand the structure of the NHS and the management of local healthcare systems in order to be able to participate fully in managing healthcare provision

Knowledge	Assessment Methods	GMP
Understands the guidance given on management and doctors by the GMC	CbD, MCR	1
Understands the local structure of NHS systems recognising the potential differences between the four countries of the UK	CbD, MCR	1
Recalls the range of agencies that can provide care and support in and out of hospital, and how they can be accessed	CbD, MCR	1

Understands the structure and function of healthcare systems as they apply to your specialty	CbD, MCR	1
Understands 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, MCR	1
Understands the importance of local demographic, socio-economic and health data and the use to improve system performance	CbD, MCR	1
Understands the principles of: • 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 • Consultant contract and the contracting process • Resource allocation • The role of the Independent sector as providers of healthcare • Patient and public involvement processes and role	CbD, mini-CEX, MCR	1
Understands the principles of recruitment and appointment procedures	CbD, MCR	1
Skills		
Participates in managerial meetings	CbD, MCR	1
Works with stakeholders to create and sustain a patient-centred service	CbD, mini-CEX, MCR	1
Employs new technologies appropriately, including information technology	CbD, mini-CEX, MCR	1
Conducts an assessment of the community needs for specific health improvement measures	CbD, mini-CEX, MCR	1
Behaviour		
Recognises the importance of equitable allocation of healthcare resources and of commissioning	CbD, MCR	1,2
Recognises the role of doctors as active participants in healthcare systems	CbD, mini-CEX, MCR	1,2
Responds appropriately to health service objectives and targets and take part in the development of services	CbD, mini-CEX, MCR	1,2
Recognises the role of patients and carers as active participants in healthcare systems and service planning	CbD, mini-CEX, PS, MCR	1,2,3
Takes an active role in promoting the best use of healthcare resources	CbD, MCR	1
Shows willingness to improve leadership and managerial skills (e.g. management courses) and engage in leadership and management of the service	CbD, MSF, MCR	1

2. Medical Leadership and Management

2.1 Personal Qualities

To identify personal strengths, limitations and the impact of personal behaviour and to be able to change this in the light of feedback and reflection

Knowledge	Assessment Methods	GMP
Demonstrates different methods of obtaining feedback	CbD, MSF, MCR	1
Demonstrates awareness of personal values and principles and how these may differ from those of other individuals and groups		1,3,4
Realises the importance of best practice transparency and consistency		1
Skills		
Maintains and routinely practices critical self awareness, including being able to discuss strengths and weaknesses with supervisor and recognising external influences and changing behaviour accordingly		1
Uses assessment, appraisal, complaints and other feedback to discuss and develop an understanding of personal development needs		1.3
Identifies personal strengths and weaknesses	MSF, MCR	1,3
Organises and manages workload effectively and flexibly	CbD, MSF, MCR	1,3
Behaviours		
Recognising and showing respect for diversity and differences in others		1
Shows commitment to continuing professional development which involves seeking training and self development opportunities, learning from colleagues and accepting criticism		1,3
Demonstrate self management: organising and managing themselves while taking account of the needs and priorities of others.	CbD, PS, MCR	3

2.2 Working with Others

To adopt a team approach, acknowledging and appreciating efforts, contributions and compromises. To continue to recognise the common purpose of the team and respect the decisions of its members

Knowledge	Assessment Methods	GMP
Demonstrates a wide range of leadership styles and approaches and the applicability to different situations and people	MSF, MCR	1
Skills		
Enables individuals, groups and agencies to implement plans and make decisions		1,3
Assesses and appraises of more junior clinical colleagues or		1,3

students		
Builds and maintains relationships by listening, supporting others, gaining trust and showing understanding	MSF, MCR	3
Shows willingness to act as a leader, mentor, educator and role model		3
Behaviours		
Shows recognition of a team approach, respecting colleagues, including non-medical professionals		1,3

2.3 Managing Services

To support team members to develop their roles and responsibilities and continue to review performance of team members to ensure that planned service outcomes are met

Knowledge	Assessment Methods	GMP
Demonstrates knowledge of relevant legislation and HR policies		1
Shows knowledge of the duties, rights and responsibilities of an employer and co-worker		1
Demonstrates knowledge of individual performance review		1
Comprehends the roles, competences and capabilities of other professionals and support workers		1,3,4
States the role of audit (improving patient care and services, risk management etc).		1
States the steps involved in completing the audit cycle		1
Skills		
Continues to contribute towards staff development and training, including mentoring, supervision and appraisal		1,3
Is able to write a job description, including person specification and short listing criteria		1
Contributes to the development of an organisational response to emerging health policy.		1
Behaviours		
Commitment to good communication whilst also inspiring confidence and trust		1,3
Managing resources: knowing what resources are available and using influence to ensure that resources are used efficiently and safely		1
Managing people: providing direction, reviewing performance and motivating others		1,3
Managing performance: holding self and others accountable for service outcomes.		1,3

2.4 Improving Services

To ensure patient safety at all times, continue to encourage innovation and facilitate transformation		
Knowledge	**Assessment Methods**	**GMP**
Demonstrates knowledge of risk management issues and risk management tools		1,2
Demonstrates understanding of how healthcare governance influences patient care		1
Demonstrates knowledge of a variety of methodologies for developing creative solutions to improving services		1,2
Recalls principles of risk assessment and management		1,2
Identifies risk management guidance such as safe prescribing, sharps disposal, needle stick injury		1,2
Skills		
Reports clinical incidents	.	1,2
Assesses and manages risk to patients		2
Monitors the quality of equipment and safety of the environment relevant to the specialty		1,2
Ensures the correct and safe use of medical equipment, ensuring faulty equipment is reported appropriately		2
Questions existing practice in order to improve the services		1,2
Behaviours		
Seeks advice and or assistance whenever concerned about patient safety		1,2,3
Supports colleagues to voice new ideas and is open minded to new thoughts		1,3

2.5 Setting Direction

To be able to identify contexts for change and make decisions		
Knowledge	**Assessment Methods**	**GMP**
Demonstrates knowledge of the functions and responsibilities of national bodies, College and faculties, representatives, regulatory bodies		1
Demonstrates effective communication strategies within organisations		1
Skills		
The ability to discuss the local, national and UK health priorities and how they impact on the delivery of health care relevant to the specialty	.	1
Is able to run committee meetings and work collegiately and collaboratively with a wide range of people outside the immediate clinical setting		1,3
Behaviours		

Willingness to articulate strategic ideas and use effective influencing skills	1,3
Willingness to participate in decision making processes beyond the immediate clinical care setting	1,3
Applies knowledge and evidence to construct an evidence-based challenge to systems and processes in order to identify opportunities for service improvements	1
Makes decisions: integrates values with evidence to inform decisions	1,3

3. Content of learning

3.1 Fundamental Immunology

The science underpinning immunology is a very rapidly evolving field. To overcome the problem of capturing a completely up to date list of topics (and to ensure obsolete or anachronistic topics are not included) we refer to external sources.

Acquisition of fundamental immunology competencies may be through one or more of the following routes: MSc, PhD, attendance at a recognised course, annual meeting of the BSI, BSACI and UKPIN etc or self-directed study.

A reading list is provided on the European Academy of Allergy and Clinical Immunology (EAACI) website (www.eaaci.org).This reading list illustrates the depth of reading required at its time of writing, but will not be up to date.

The levels of competency for fundamental immunology are:
Level 1: Introductory - Understanding of principles
Level 2: Intermediate - Detailed knowledge & understanding

The trainee will acquire a sound knowledge of Fundamental Immunology required to underpin clinical and laboratory practice			
Level	**Knowledge**	**Assessment Methods**	**GMP**
Level 1	Understands an overview of the immune system in its entirety, commensurate with the shorter Immunology texts (eg, Parham, Geah, Nairn & Helbert, Misbah, Chapel and Haeney).	FRCPath CbD, MCR	1
Level 2	Has a detailed, broad understanding of the immune system commensurate with a current edition of an advanced text book, for example Janeway and Travers. Able to critically assess and evaluate new knowledge, commensurate with reviews in current scientific journals (see for example EAACI reading list*).	FRCPath, CbD, MCR	1
	Skills		
Level 1	Able to write 500 word essays on a broad range of immunology Able to use electronic resources to search for scientific literature. Able to critically review and present original findings from a scientific paper (to level of a journal club).	FRCPath, CbD, MCR	1
Level 2	Management or Communication This might be a piece of public engagement or teaching, providing evidence of the ability to communicate with non-specialists and lay people	CbD, MSF, MCR,	**3**
Level 2	Able to critically assess and evaluate new knowledge, commensurate with reviews in current scientific journals (see for example EAACI reading list*).	CbD FRCPath, MCR	1
	Behaviours		
Level 2	Shows an interest in fundamental immunology and eagerness to keep abreast of developments.	CbD, MCR	1

3.2 Primary Immunodeficiency Diseases

The rationale for splitting 1) rare monogenic PIDS, 2) new SCID and Periodic Fevers and 3) the dozen common adult PIDS is as follows:

- Patients with many of the rare disorders will not be managed by most Immunologists. There are sound arguments that the majority of these individuals will be diagnosed by specialist centres (for example those doing TH1 or complement component testing) and managed jointly with specialist centres.
- It will not be practical for trainees to have considerable exposure to many of these disorders
- -Consultant Immunologists need Level 1 understanding of the rare disorders because they do come into the differential diagnosis of many presentations and their advice will be sought on these.

There are over 100 PIDs and it is acknowledged that new PIDs are characterised from time to time and cannot be listed here. An understanding of these can be expected when they have been presented at meetings (UKPIN/ESID) and/or in the publication in journals (for example the current WHO/IUIS and classification).

The trainee will acquire and be able to apply a comprehensive body of knowledge relating to the clinical presentation, investigation and management of patients with primary immunodeficiency diseases

Level	Knowledge	Assessment Methods	GMP
Level 1	Understands the biology of all the major categories of PIDS.	FRCPath/ CBD/Mini CEX, MCR	1
Level 1	Understands diagnostic criteria and their application (for a non-exhaustive list refer to www.esid.org)	FRCPath/ CBD/Mini CEX, MCR	1
Level 1	Understands the tests used in diagnosis. Does not need to know technical details of specific tests done only in specialist centres in the UK, although will need to know testing strategies, uses and applications.	FRCPath/ CBD/Mini CEX, MCR	1
Level 1	Understands the principles of management	FRCPath/ CBD/Mini CEX, MCR	1,2,3
Level 2	Understanding of first line treatments (eg PCP prophylaxis for a new SCID) and shared care (of a periodic fever patient).	FRCPath/ Mini CEX/CDB, MCR	1,2,3
Level 2	CVID, SpAD, IGAD, XLA,HIGM syndromes, transient hypogamma of infancy Job's, CGD, HAE) Long term management of the disease and most frequent complications. Is not expected to demonstrate ability to practice autonomously, but is able to demonstrate when to seek senior help.	FRCPath / CBD/Mini CEX/MSF, MCR	1,2,3
Level 2	Understands the different physical, psychological and social needs of young adults with PID. Principles of transitional (children to adult) care.	CBD/Mini CEX/MSF, MCR	1,2,3, 4

Level 3	Have sufficient knowledge to deliver a detailed, critical case presentation. This must be at sufficient level to link to an up to date discussion of pathogenesis, diagnosis and treatment, commensurate with a presentation at a Grand Round, departmental MDT or submission as a case report.	FRCPath / CBD, MCR	1,2,3, 4
Level 3	Will have broad experience of how to autonomously conduct genetic testing and offer patient support for genetic disease in general.	FRCPath / CBD/Mini CEX, MCR	3,4
Level 3	Awareness of relevant clinical and professional guidelines for diagnosis and management - including NICE, Professional societies etc.	FRCPath / CBD, MCR	1,2,3, 4
Level 3	Knowledge of how to assess evidence for introduction or evaluation or clinical validation of new tests or therapies	FRCPath / CBD, MCR	1,2,3
Level	**Skills**	**Assessment Methods**	**GMP**
Level 2	How and when to refer to genetic services	FRCPath / CBD/Mini CEX/MSF, MCR	1,2,3
Level 3	Understands when to suspect PID and how to investigate.	FRCPath / CBD/Mini CEX, MCR	1,2,3
Level 3	Able to exclude immunodeficiency in patients with symptoms suggestive of PID. Able to manage these patients and their transition back to primary or organ-based specialist care	CBD/Mini CEX, MCR	1,2,3
Level 3	Able to practice at a consultant level autonomously for common adult PIDs (CVID, SpAD, IGAD, XLA,HIGM syndromes, Job's, CGD, HAE)	FRCPath / CBD/Mini CEX, MCR	1,2,3
Level 3	SCID, WAS, CGD: long term care of adults post stem cell transplant or post gene therapy. Able to manage autonomously, although it is anticipated that shared care will often be available.	FRCPath / CBD/Mini CEX, MCR	1,2,3
Level 3	Refer to genetic services when appropriate.	CBD, MCR	3,4
Level 3	Able to present a case with critical detail	CBD, MCR	3
Level 3	Clinical audit	Portfolio, MCR	2,3
Level 3	Management or Communication This might be a business case for a new service, establishment of Trust guidelines regarding use of a specific therapy; etc. Alternatively, to demonstrate communication skills, this might be a patient leaflet, providing evidence of the ability to communicate with patients, lay people or non-specialists.	Mini-CEX, CbD, MCR	3
Level	**Behaviours**	**Assessment Methods**	**GMP**
Level 2	Recognise importance of understanding genetic basis of immunodeficiencies and the importance of genetic counselling in disease prevention	FRCPath, CbD, MCR	1,3
Level 2	Provide support for families affected by genetic conditions	CBD, Mini CEX, MSF,	3,4

		MCR	
Level 2	Refers to palliative care services when indicated. Understand how to approach referral.	CBD, Mini CEX,MSF, MCR	3,4
Level 2	As the primary physician for patients with immunodeficiencies, recognise importance of patient and service advocacy in leading and developing clinical and laboratory services for this group of patients.	FRCPath, MCR	1,3
Level 2	Recognise the need for audit of clinical practice in immunodeficiency to promote standard setting and quality assurance	AA, CbD, MCR	1,2

3.3 Systemic Autoimmune Rheumatic Disease and Systemic Vasculitides

The trainee will acquire and be able to apply a comprehensive body of knowledge relating to the clinical presentation, investigation and management of patients with systemic autoimmune rheumatic disease and systemic vasculitides

Level	Knowledge	Assessment Methods	GMP
Level 1	Understands biological basis, classification and diagnostic tests for organ specific autoimmune disease, connective tissue disease, vasculitis and auto inflammatory disease.	FRCPath CBD, MCR Mini CEX, MCR	1
Level 3	Have sufficient knowledge to deliver a detailed, critical case presentation. This must be at sufficient level to link to an up to date discussion of pathogenesis, diagnosis and treatment, commensurate with a presentation at a Grand Round, departmental MDT, national Training Day or submission as a case report.	FRCPath CBD, MCR	1,2,3 4
Level	**Skills**	**Assessment Methods**	**GMP**
Level 2	Able to recognise and can critically discuss the principles of treatment for Systemic lupus erythematosus, Inflammatory myositis and variants, Scleroderma and variants, Sjogren's syndrome, Rheumatoid arthritis, ANCA associated vasculitides, Hypocomplementaemic urticarial vasculitis, Cryoglobulinaemic vasculitis, Giant cell arteritis; Henoch-Schonlein purpura, Haemolytic uraemic syndrome/TTP; Bechet's disease, Glomerulo nephritis (membranous, post infectious and membrano prolifertiave), Perioidic fever syndromes.	FRCPath CBD, Mini CEX, FRCPath, MCR	1
Level 2	Aware of paediatric presentations and complications of these conditions.	FRCPath, CbD, Mini-CEX, MCR	1
Level 3	Able to liaise and refer when these conditions arise in allergic or immune deficient patients.	FRCPath, CbD, Mini-CEX, MCR	1,2,3, 4
Level 3	Able to liaise the evidenced based treatments for example with anti inflammatory and immunosuppressive drugs (including biologics, colchicine, thalidomide).	FRCPath, CbD, Mini-CEX, MCR	1,2,3 4
Level	**Behaviours**	**Assessment Methods**	**GMP**
Level 3	Able to liaise and refer for each of these conditions.	FRCPath, CbD, Mini-CEX, MCR	1,2,3, 4

3.4 Therapeutics

Level	Knowledge	Assessment Methods	GMP
Level 1	Understands the mechanisms of Immuno-suppressive drugs including T cell signalling inhibitors (Ciclosporin, Mycohenolate, Tacrolimus, Sirolimus) and anti-proliferative agents (cyclophosphamide, azathioprine)	FRCPath CBD Mini CEX, MCR	1
Level 1	Understands the mechanisms of Conventional anti inflammatory drugs (NSAIDS, Methotrexate) and corticosteroids	FRCPath CBD Mini CEX, MCR	1
Level 1	Understands the mechanisms actions of recombinant proteins including cytokines, cytokine antagonists, ligand antagonists, monoclonal antibodies	FRCPath CBD Mini CEX, MCR	1
Level 1	Understands the production, action and principles underlying the administration schedules of all UK administered Vaccines. Understands the different types of vaccines and the applications of therapeutic vaccines.	FRCPath CBD Mini CEX, MCR	1
Level 1	For immunoglobulin, understands the manufacture, supply, mechanisms of action and side effects.	FRCPath CBD Mini CEX, MCR	1
Level 1	Understands the process of donor selection, H&I tests, immunosuppressive drugs and their impact on drug toxicities and rejection in solid organ and SC transplantation.	FRCPath CBD Mini CEX, MCR	1
Level 1	Understands the principles of gene therapy for PID	FRCPath CBD Mini CEX, MCR	1
Level 2	Understands and able to give detailed advice on the toxicities and interactions of Immunosuppressive drugs	FRCPath CBD Mini CEX, MCR	1
Level 2	Understands and able to give detailed advice on the toxicities of Conventional anti inflammatory drugs and corticosteroids	FRCPath CBD Mini CEX, MCR	1
Level 2	Understands and able to give detailed advice on the toxicities of recombinant proteins including cytokines, cytokine antagonists, ligand antagonists, monoclonal antibodies	FRCPath CBD Mini CEX, MCR	1
Level 2	Understands and able to give detailed advice on the toxicities of Vaccines	FRCPath CBD Mini CEX, MCR	1
Level 2	For immunoglobulin, understands the UK regulatory framework, risk management and evidence base.	FRCPath CBD Mini CEX, MCR	1

Level	Skills	Assessment	GMP

		Methods	
Level1	Able to critically review and present original findings from an RCT, meta analysis or systematic review (to level of a journal club)	CBD, MCR	1,2,3
Level1	Clinical audit on therapeutics	AA, MCR	1,2
Level 2	Able to liaise regarding application and toxicity of these drugs, with organ based specialists / relevant colleagues.	CBD, MCR	1,2,3
Level 2	Able to deliver a detailed, critical case presentation. This must be at sufficient level to link to an up to date discussion of pathogenesis, diagnosis and treatment, commensurate with a presentation at a Grand Round, departmental MDT, national Training Day or submission as a case report.	CBD, MCR	1,2
Level 3	Able to participate in Department of Health Immunoglobulin Demand Management plan	CBD, MCR	1,2,3
Level 3	Management or Communication- this might be a business case for a new service, establishment of Trust guidelines regarding use of a specific therapy; etc. Alternatively, to demonstrate communication skills, this might be a patient leaflet, providing evidence of the ability to communicate with patients, lay people or non-specialists.	FRCPath QIPAT, MCR	1,2,3
Level 3	Awareness of relevant clinical and professional guidelines for diagnosis and management - including NICE, Professional societies etc.	FRCPath CBD, MCR	1,2
Level	**Behaviours**	**Assessment Methods**	**GMP**
Level 2	Listens to patient's or their family's views on treatment.	CBD, PS, MCR	3,4
Level 2	Clearly explains risks and benefits of treatment options. Obtains informed consent before starting treatment.	FRCPath CBD, PS, MCR	1,2,3, 4

3.5 Lymphoid malignancy, secondary immunodeficiency and transplant

Level	Knowledge	Assessment Methods	GMP
Level 1	Understands principles of malignancy – cellular lineage/classification, diagnosis and liaison for lymphoma and thymoma. Flow cytometry, monoclonality, asynchronous expression of markers (eg CD19,5)	FRCPath CBD, MCR	**1**
Level 2	Aware of the differential diagnosis of secondary immune deficiency	FRCPath CBD, MCR	1
Level	**Skills**	**Assessment Methods**	**GMP**
Level 2	Able to diagnose and carry out clinical liaison for drug induced ID (anticonvulsant, corticosteroids, DMARDS), hypercatabolism and protein loss, thymoma and auto immune cytokine deficiencies.	FRCPath CBD Mini CEX, MCR	1,2,3
Level 2	Able to diagnose and carry out clinical liaison for HIV. Does not require sufficient knowledge and skills for autonomous long term management.	CBD Mini CEX, MCR	1,2,3
Level 2	Solid organ and SC transplant- scientific basis, outline of	FRCPath	1,2,3

	complications, tests and drugs used to prevent rejection and GVHD. Does not require sufficient knowledge and skills for autonomous long term management	CBD Mini CEX, MCR	
Level 2	Able to diagnose and carry out clinical liaison for Myeloma / lymphoid malignancy. Does not require sufficient knowledge and skills for autonomous long term management	FRCPath CBD Mini CEX, MCR	1,2,3
Level 2	On going care of patients with drug induced ID (anticonvulsant, corticosteroids, DMARDS), hypercatabolism and protein loss, thymoma and auto immune cytokine deficiencies. This care would be shared with other specialists.	FRCPath CBD Mini CEX, MCR	1,2,3
Level 3	Able to present a case lymphoid malignancy, transplant, or secondary immunodeficiency at sufficient level to link to an up to date discussion of pathogenesis, diagnosis and treatment, commensurate with a presentation at a Grand Round, departmental MDT, national Training Day or submission as a case report.	CBD, MCR	1,2,3
Level 3	Clinical audit- lymphoid malignancy, transplant, or secondary immunodeficiency	AA, MCR	1,2,3 ,
Level 3	Management or Communication This might be a business case for a new service, establishment of Trust guidelines regarding use of a specific therapy; etc. Alternatively, to demonstrate communication skills, this might be a patient leaflet, providing evidence of the ability to communicate with patients, lay people or non-specialists.	FRCPath QIPAT, MCR	1,2,3
Level 3	Awareness of relevant clinical and professional guidelines for diagnosis and management - including NICE, Professional societies etc.	FRCPath CBD, MCR	1,2,3
Level 3	Able to assess evidence for introduction or evaluation or clinical validation of new tests or therapies e.g. vaccine responses, new applications of flow cytometry etc	FRCPath CBD QIPAT, MCR	1,2,3

3.6 Allergic Diseases

Whilst completion of the allergy competencies included in the Immunology curriculum will enable independent practice in the areas defined, it does not lead to a CCT in Allergy. Trainees wishing to practise purely in allergy will need to enrol on a dedicated ST3 programme in allergy for this purpose.

Level 3 of the allergy topic curriculum broadly corresponds with The World Allergy Organisation 2008 competencies, except for the following:
Immunologists are not required to be competent in performance of bronchial challenge, patch testing, rhinoscopy, rhinometry, exhaled nitric oxide, whole-body plethysmography and impulse oscillometry and assessment of environmental hazards in occupational allergy

The trainee will acquire and be able to apply a comprehensive body of knowledge relating to the clinical presentation, investigation and management of patients with allergic diseases of all degrees of severity

Level	Knowledge	Assessment Methods	GMP
Level 1	Understands the biology of all the conditions listed below (allergic and non allergic)	FRCPath CBD, MCR	1

Level 1	Understands diagnostic criteria for all the conditions listed below (allergic and non allergic)	FRCPath CBD, MCR	1
Level 1	Understands principles and performance characteristics of , the specific IgE tests, skin prick, intradermal and challenge testing (including DBPCFC) and mast cell tryptase.	FRCPath CBD, MCR	1
Level 1	Understands the indications for patch testing, bronchial and nasal challenge and diagnostic tools in occupational allergy.	FRCPath CBD, MCR	1
Level 1	Understands the principles of allergy management	FRCPath CBD, MCR	1
Level 2	Understands the principles of immunotherapy and its conduct in practice.	FRCPath, CbD, MCR	1
Level 2	Understands the evidence –base for the various therapeutic options to treat these patients, including anti-histamines, leukotriene antagonists, steroids and therapeutic monoclonal antibodies and other biologic agents.	FRCPath, CbD, MCR	1
Level 2	Understands special needs of adolescents and how these are managed in transitional services.	CBD, MCR	1
Level 2	Understands the psychological needs of allergy patients	CBD, MCR	1
Level 3	Understands the evidence for, the role of & limitations of specialist allergy tests including component resolved diagnosis and basophil activation.	CBD, MCR	1
Level	**Skills**	**Assessment Methods**	**GMP**
Level 1	Able to administer life support for anaphylaxis- as per resuscitation Council Guidelines. Can be included in BLS training.	BLS, MCR	1,2
Level 1	Able to do adrenaline prescription/training for self administration.	CBD/Mini CEX, MCR	1,2,3
Level 1	Able to take an allergic history	CBD/Mini CEX/DOPS, MCR	1,2,3
Level 1	Able to do skin prick testing, request & interpret blood tests	CBD/Mini CEX/DOPS, MCR	1,2,3
Level 1	Recognises and ensures patients enter the appropriate pathways for the following non allergic illnesses: Contact dermatitis Chronic idiopathic urticaria Coeliac disease Lactose intolerance IBD Patients who have had “alternative” allergy tests but do not have allergic symptoms. ACE inhibitor reactions Hypersensitivity pneumonitis Non allergic causes of raised IgE Chronic fatigue syndrome	CBD/Mini CEX, MCR	1,2,3
Level 2	Able to diagnose and manage the following diseases and most frequent complications. Is not expected to demonstrate ability to practice autonomously, but is able to demonstrate when to seek senior help: Refractory allergic rhinitis	FRCPath, CBD/Mini CEX, MCR	1,2,3

	Anaphylaxis regardless of cause Idiopathic angioedema Oral allergy syndrome Food allergy Venom allergy Latex allergy Drug, vaccine and anaesthetic allergy. Complex multi system allergy. 'Mast cell disorders' Mastocytosis Cold and physical urticarias Exercise induced urticarial		
Level 2	Able to provide first line treatments for and makes arrangements for shared care of Asthma Occupational asthma Eosinophilc oesophagitis	CBD/Mini CEX, MCR	1,2,3
Level 2	Able to do intradermal tests	DOPS, MCR	1,2
Level 2	Able to risk assess and discuss pros and cons of challenge	CBD, MCR	1,2,3
Level 2	Able to participate in the post mortem diagnosis of anaphylaxis	CBD, MCR	1,2
Level 2	Audit of aspects of clinical allergy	QIPAT, AA, MCR	1,2
Level 3	Able to autonomously diagnose and manage Refractory allergic rhinitis Anaphylaxis regardless of cause Idiopathic angioedema Oral allergy syndrome Food allergy Venom allergy Latex allergy Drug, vaccine and anaesthetic allergy. Complex multi system allergy. 'Mast cell disorders' Mastocytosis Cold and physical urticarias Exercise induced urticaria	FRCPath, CBD/Mini CEX, MCR	1,2,3
Level 3	Able to risk assess for and carry out intra dermal testing for drugs, monitor and treat complications.	DOPS/ CBD/Mini CEX, MCR	1,2
Level 3	Able to risk assess and carry out immunotherapy, monitor and treat complications.	DOPS/ CBD/Mini CEX, MCR	1,2,3
Level 3	Able to risk assess for challenge (including DBPCFC), monitor and treat complications.	DOPS/ CBD/Mini CEX, MCR	1,2,3
	Able to deliver a detailed, critical case presentation. This must be at sufficient level to link to an up to date discussion of pathogenesis, diagnosis and treatment, commensurate with a presentation at a Grand Round, departmental MDT, national Training Day or submission as a case report.	CBD, MCR	1,2,3, 4
Level	**Behaviours**	**Assessment Methods**	**GMP**

Level 1	Recognises the importance of obtaining valid informed consent from the patient for desensitisation immunotherapy	FRCPath, CbD, DOPS, MCR	1,2,3
Level 1	Appreciates need for close monitoring of patients to prevent/minimise adverse effects of therapy	FRCPath, CbD, MCR	1,2
Level 2	Recognises the importance of making optimal use of current best evidence in making decisions about desensitisation immunotherapy, immunosuppressive therapy and treatment with therapeutic monoclonal antibodies and other biologics. Recognises the role of NICE.	FRCPath, QIPAT, CbD, MCR	1,2
Level 2	Recognises the importance of service leadership in providing a diagnostic immunology service for patients with allergic diseases	QIPAT FRCPath, MCR	1,2,3, 4
Level 3	Able to listen to and sensitively manage patients referred for investigation who do not have allergy	Patient survey, MCR	1,2,3, 4
Level 3	Able to listen to and sensitively manage patients who have had “alternative” allergy tests but do not have allergic symptoms.	Patient survey, MCR	1,2,3, 4

3.7 Laboratory Immunology

In the new curriculum the material in this section has been combined with the material in the Laboratory Training Manual. A single 3 level – competency grading is also used.

Level	Knowledge	Assessment Methods	GMP
Level 1	Organisation and management: Understands Benefits & limitations of IT systems: laboratory information management systems, patients administration systems, electronic patient records	FRCPath, CBD, MCR	1,3
Level 1	Organisation and management: Understands Data protection Act, Caldicott guardian	FRCPath, CBD, MCR	1,3,4
Level 1	Organisation and management: Understands Patient confidentiality and consent	FRCPath, CBD, MCR	1,2,3,4
Level 1	Organisation and management: Understands Sample management; Initiation of request by clinician; demand management, pre-analytical, analytical & post analytical process (for definitions: see United Kingdom Accreditation Service - UKAS)	FRCPath, CBD, MCR	1
Level 1	Organisation and management: Understands Laboratory staffing; roles, training, registration and career pathways	CBD, MCR	1,3
Level 1	Laboratory quality management: Understands Laboratory accreditation systems – UKAS	FRCPath, CBD, MCR	1,2
Level 1	Laboratory quality management: Understands Quality assurance; internal quality control, external quality assurance	FRCPath, CBD, MCR	1,2
Level 1	Laboratory quality management: Understands the principles and applications of Document control	CBD, MCR	1,2
Level 1	Laboratory quality management: Understands the principles and applications of Reference ranges	FRCPath, CBD, MCR	1,2
Level 1	Laboratory quality management: Understands the principles and applications of Standard operating procedure (SOP)	CBD, MCR	1,2
Level 1	Laboratory quality management: Understands Verification of manufacturer's stated test performance, tracability	FRCPath, CBD, MCR	1,2
Level 1	Basic laboratory techniques; Understands the principles and applications of Capillary zone electrophoresis	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques: statistics: Understands the principles and applications of Levy Jennings plots	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques: statistics: Understands the principles and applications of Sensitivity and specificity, Negative and positive predictive value	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques: statistics: Understands the principles and applications of Standard deviation, Standard error of the mean, Confidence intervals, measurement of uncertainty, calibration	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques: statistics: Understands the principles and applications of Receiver operated characteristic curves	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques; Understands Advantages and disadvantages of automation	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles	FRCPath,	1

	and applications of flow cytometry	CBD, MCR	
Level 1	Basic laboratory techniques; Understands the principles and applications of Bead based serological techniques	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Cell proliferation, activation and cytokine secretion: Principles (different platforms, flow, ELISPOT, supernatant, tritium/thymidine incorporation), practice and applications of	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Chip based serological techniques	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Densitometry	FRCPath, CBD , MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of DNA and cDNA characterisation for mutation detection, polymorphism, TCR/BCR restriction	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of ELISA	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Haemolytic assays for complement determination	FRCPath, CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of ImmunoCap	FRCPath CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Isoelectric focusing for oligoclonal band determination	FRCPath CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of MHC, HLA and Tissue Typing	FRCPath CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Nephelometry /Turbidimetry	FRCPath CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Principles of PCR including RNA or DNA extraction, amplification	FRCPath CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Radioactivity in the laboratory; H&S and Radioimmunoassay	FRCPath CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of Tissue matching for Renal, Solid Organ and BM transplantation	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Cardiolipin antibody testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Cryoglobulin testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of ds DNA antibodies testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Extractable nuclear antigens: Ro, La, Sm, RNP, Jo1, Scl 70 testing. Awareness required of rarer ENA specificities	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Glomerular basement membrane antibodies testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Intrinsic factor antibodies testing	FRCPath	1

		CBD, MCR	
Level 1	Basic Immunology Assays; Understands the principles and applications of Thyroid autoantibodies testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Autoantibodies associated with nervous system disease	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of CCP testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Complement: C3, C4, C1inhibitor testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of DHR assay testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Functional antibody testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Functional complement and inhibitor assays	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Rheumatoid factor testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Total and specific IgE testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of C3 nephritic factor testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Free light chains (serum and urine) testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Immunoglobulins and subclasses testing	FRCPath CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Tryptase testing	FRCPath CBD, MCR	1
Level 1	Understands the broad principles of genomic screening and its implications in Immunology	FRCPath CBD, MCR	1
Level 2	Organisation and management: Understands the processes of costing a contracting a laboratory service.	FRCPath CBD, MCR	1,2
Level 2	Laboratory quality management: Knows of existing reference materials, calibration and comparability of methods	FRCPath CBD, MCR	1,2
Level 2	Laboratory quality management: Knows Relevant national guidance on tests stated in curriculum (NICE, British standards in clinical haematology)	FRCPath CBD , MCR	1,2
Level 2	Understands the regulatory framework underpinning complaints.	CBD, MCR	1,2,3,4
Level	**Skills**	**Assessment Methods**	**GMP**
Level 1	Laboratory quality management: Participates in a simple Laboratory audit; for example a vertical audit.	AA, MCR	1,2
Level 1	Laboratory quality management: Understands and practices Health and Safety	FRCPath H&S induction, MCR	1,2

Level 1	Basic laboratory techniques; Understands and can use Centrifugation	FRCPath DOPS, MCR	1
Level 1	Basic laboratory techniques; Understands and can use Liquid handling using pipettes	DOPS, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications and can use Light microscopes	FRCPath CBD DOPS, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of and can use UV microscopes	FRCPath CBD DOPS, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of and can do Radial immunodiffusion	FRCPath CBD DOPS, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of and can read Direct immunofluorescence	FRCPath CBD DOPS, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of, can set up and read, Indirect immunofluorescence	FRCPath CBD DOPS, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Endomysial antibodies testing IgA and IgG. Can recognise by immunofluorescence.	FRCPath DOPS CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Gastric parietal cell antibodies testing. Can recognise by immunofluorescence.	FRCPath DOPS CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Mitochondrial antibodies testing. Can recognise by immunofluorescence.	FRCPath DOPS CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Pancreatic islet cell antibodies testing. Can recognise by immunofluorescence.	FRCPath DOPS CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Smooth Muscle antibodies testing. Can recognise by immunofluorescence.	FRCPath DOPS CBD, MCR	1
Level 1	Basic laboratory techniques; Understands the principles and applications of and can do Electrophoresis and immunofixation	FRCPath CBD DOPS, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of and can do Monoclonal protein characterisation	FRCPath DOPS CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of Antinuclear antibodies testing. Can read ANA by immunofluorescence.	FRCPath DOPS CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of CD45,CD3, CD4, CD8, CD19, CD20, CD56, DR, MHC class I, naive / memory, CD5, CD25 testing. Can read and interpret dot plots and histograms.	FRCPath DOPS CBD, MCR	1
Level 1	Basic Immunology Assays; Understands the principles and applications of ANCA testing. Can read ANCA by immunofluorescence.	FRCPath DOPS CBD, MCR	1
Level 2	Organisation and management: has participated in business planning/writing a business case	FRCPath CBD QIPAT, MCR	1,2,3

Level 2	Organisation and management: has participated in the processes involved in UKAS & Lab Quality Systems	CBD DOPS, MCR	1,2
Level 2	Organisation and management: Patient safety. Has carried out root cause analysis in relation to an error or complaint.	CDB, MCR	1,2,3,4
Level 2	Laboratory quality management: Has participated in analysing NEQAS and IQC reports for all the above assays	FRCPath CBD, MCR	1,2
Level 2	Laboratory quality management: Has participated in introducing and validating a new assay	FRCPath CBD, MCR	1,2
Level 2	Laboratory quality management: Has produced a document using Document Control	FRCPath CBD, MCR	1,2
Level 2	Plan and undertake a laboratory audit of medium complexity. For example, how laboratory testing complies with national or mandatory standards (for example health and safety).	FRCPath AA, MCR	1,2
Level 2	Basic laboratory techniques: statistics: Has calculated Sensitivity and specificity, Negative and positive predictive value and drawn a ROC curve, for example in test validation, case presentation.	FRCPath CBD, MCR	1
Level 2	Basic laboratory techniques: statistics: Has used Standard deviation, Standard error of the mean, Confidence intervals, measurement of uncertainty, calibration (for example in generation of reference ranges, preparation for accreditation, research data, case presentation)	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Monoclonal proteins	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Beads for serological testing	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Cell proliferation, activation and cytokine secretion: Principles (different platforms, flow, ELISPOT, supernatant, tritium/thymidine incorporation), practice and applications	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Chips for serological testing	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Densitometry	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Direct immunofluorescence for skin and kidney	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Electrophoresis, Capillary zone electrophoresis and immunofixation	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of ELISA	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of flow cytometry	FRCPath CBD, MCR	1

Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Haemolytic assays for complement function	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of ImmunoCap	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Indirect immunofluorescence	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Isoelectric focusing for oligoclonal band determination	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of MHC, HLA and Tissue Typing	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Nephelometry /Turbidimetry	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of PCR including DNA extraction, amplification and characterisation for mutation detection, polymorphism, TCR/BCR restriction	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Radial immunodiffusion	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of Tissue matching for Renal, Solid Organ and BM transplantation	FRCPath CBD, MCR	1
Level 2	Immunology laboratory techniques: Understands applications, quality control, calibration and limitations of UV microscopes	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Free light chains (serum and urine)	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Anti-neutrophil cytoplasmic antibodies: c-ANCA, p-ANCA Anti-MPO,PR3	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Antinuclear antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Autoantibodies associated with adrenal and gonadal disease	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Autoantibodies associated with nervous system disease	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of C3 nephritic factor	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Cardiolipin antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of CCP	FRCPath	1

		CBD, MCR	
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of CD45,CD3, CD4, CD8, CD19, CD20, CD56, DR, MHC class I, RO/RA, CD5, CD25	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Complement: C3, C4, C1inhibitor	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of DHR assay	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of ds DNA antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Extractable nuclear antigens: Ro, La, Sm, RNP, Jo1, Scl 70	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Functional complement assays: CH50 and AP50, C1 inhibitor	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Gastric parietal cell antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Glomerular basement membrane antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Immunoglobulins and subclasses	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Intrinsic factor antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Mitochondrial antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Pancreatic islet cell antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Rheumatoid factor	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Smooth Muscle antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Thyroid autoantibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Total and specific IgE	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Tryptase	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of TTG, Endomysial and gliadin antibodies	FRCPath CBD, MCR	1
Level 2	Immunology Assays: Understands applications, quality	FRCPath	1

	control, calibration and limitations of Cryoglobulins	CBD, MCR	
Level 2	Immunology Assays: Understands applications, quality control, calibration and limitations of Functional antibodies	FRCPath CBD, MCR	1
Level 3	Able to horizon scan for new tests and applications	CBD, MCR	1.2
Level 3	Able to write financial case introducing a new assay	FRCPath CBD QIPAT, MCR	1,2,3
Level 3	Awareness of relevant clinical and professional guidelines for diagnosis and management - including NICE, Professional societies etc.	FRCPath CBD, MCR	1,2
Level 3	Organisation and management : Able to solve Data protection Act, Caldicott guardian and ethical problems	CBD, MCR	1,2,3,4
Level 3	Organisation and management : Able to solve patient confidentiality and consent problems	CBD, MCR	1,2,3,4
Level 3	Organisation and management : Devise a validation plan or interpret validation data for introducing a new assay	FRCPath CBD QIPAT, MCR	1,2
Level 3	Organisation and management : Write a business case	FRCPath CBD, MCR	1,2,3
Level 3	Organisation and management : Write a response to a complaint	CBD MSF, MCR	1,2,3,4
Level 3	Organisation and management : Write an SOP	CDB, MCR	1,2
Level 3	Organisation and management : Investigate a complaint	FRCPath CBD, MCR	1,2,3,4
Level 3	Laboratory quality management: Establish QC for a test understand use of Westgard rules and differences between QC in qualitative and quantitative assays	FRCPath CBD, MCR	1,2
Level 3	Laboratory quality management: Establishes and addresses problems with Reference Ranges	FRCPath CBD, MCR	1,2
Level 3	Laboratory quality management: Initiates and completes a complex audit. For example, an audit assessing clinicians needs (tests, turnaround, results) and how well these are met, or an audit across several centres.	FRCPath AA, MCR	1,2
Level 3	Laboratory quality management: Solves validation, QA, QC and liaison problems for all required tests	FRCPath CBD, MCR	1,2
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Radial immunodiffusion	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Densitometry	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Monoclonal antibody panels	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Automated fluorimetric method	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Beads	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Cell proliferation, activation and cytokine secretion: Principles (different platforms, flow, ELISPOT, supernatant, tritium/thymidine	FRCPath CBD, MCR	1

	incorporation), practice and applications		
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Direct immunofluorescence	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Electrophoresis, Capillary zone electrophoresis and immunofixation	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new ELISA	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Haemolytic assays for complement determination	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Indirect immunofluorescence	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Isoelectric focusing for oligoclonal band determination	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Nephelometry /Turbidimetry	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new Principles of flow cytometry	FRCPath CBD, MCR	1
Level 3	Immunology laboratory techniques: Uses knowledge to trouble shoot methods or implement new UV microscope techniques	FRCPath CBD, MCR	1
Level 3	Laboratory quality management: Ability to apply existing tests to new situations	FRCPath CBD QIPAT, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Anti-neutrophil cytoplasmic antibodies: c-ANCA, p-ANCA Anti-MPO,PR3	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Antinuclear antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Cardiolipin antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: CCP	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: CD45,CD3,CD4,CD8,CD19,CD20,CD56,DR, MHC class I, naive and memory T cells, CD5, CD25	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Complement: C3, C4, C1inhibitor	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret	FRCPath CBD, MCR	1

	complex clinical results from: Cryoglobulins		
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: DHR and NBT assays of oxidative burst	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: ds DNA antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Extractable nuclear antigens: Ro, La, Sm, RNP, Jo1, Scl 70	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Free light chains (serum and urine) tests	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Functional antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Functional assays of complement and complement inhibitors.	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Gastric parietal cell antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Glomerular basement membrane antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Immunoglobulins and subclass tests	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Mitochondrial antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Monoclonal protein tests	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Pancreatic islet cell antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Rheumatoid factor	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Smooth Muscle antibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Thyroid autoantibodies	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble	FRCPath	1

	shoot methods or implement new, report and interpret complex clinical results from: Total and specific IgE	CBD, MCR	
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: Tryptase	FRCPath CBD, MCR	1
Level 3	Specific immunology assays: Uses knowledge to trouble shoot methods or implement new, report and interpret complex clinical results from: TTG, Endomysial and gliadin antibodies – IgA and IgG	FRCPath CBD, MCR	1
Level	**Behaviours**	**Assessment Methods**	**GMP**
Level 1	Organisation and management: Understands and works in the multi-disciplinary team (MDT)	MSF, MCR	3,4
Level 3	Organisation and management: Understands and works in the multi-disciplinary team (MDT)	MSF, MCR	3,4

Learning and Teaching

3.8 The Training Programme

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 Immunology in each deanery is, therefore, the remit of the regional Immunology STC. Each STC has a Training Programme Director who coordinates the training programme in the specialty.

Immunological diseases may have both adult and paediatric presentations. Collaborative training with paediatricians, particularly in relation to immunodeficiency will be undertaken. This will include a dedicated period of secondment to a recognised paediatric immunology centre where in-depth experience in the assessment and management of immunodeficient children will be obtained. The assessment and management of children with suspected severe combined immunodeficiency (SCID) will form an important component of this period of secondment. This will allow the trainee to develop the required skills essential for liaising with paediatric colleagues.

The training programme is structured to deliver a solid grounding in fundamental immunology in ST3 and ST4 years whilst simultaneously enabling trainees to acquire Level 1 competencies in clinical and laboratory immunology. As trainees progress through ST5 and ST6, they will broaden their experience and understanding of applied clinical and diagnostic laboratory immunology, culminating with the completion of the FRCPath examination in immunology prior to completion of training at the end of ST7.

In addition to paediatric immunology, it is recognised that trainees will require a period of secondment to other regional or national centres (typically 2-3 months) for acquisition of experience in those subject areas which may not be available in the local training programme e.g drug allergy, desensitisation immunotherapy.

The sequence of training should ensure appropriate progression in experience and responsibility. The training to be provided at each training site is defined to ensure that, during the programme, the entire curriculum is covered and also that unnecessary duplication and educationally unrewarding experiences are avoided. However, the sequence of training should ideally be flexible enough to allow the trainee to develop a special interest.

Acting up as a consultant (AUC)

"Acting up" provides doctors in training coming towards the end of their training with the experience of navigating the transition from junior doctor to consultant while maintaining an element of supervision.

Although acting up often fulfills a genuine service requirement, it is not the same as being a locum consultant. Doctors in training acting up will be carrying out a consultant's tasks but with the understanding that they will have a named supervisor at the hosting hospital and that the designated supervisor will always be available for support, including out of hours or during on-call work. Doctors in training will need to

follow the rules laid down by the Deanery / LETB within which they work and also follow the JRCPTB rules which can be found at www.jrcptb.org.uk/trainingandcert/Pages/Out-of-Programme.

3.9 Teaching and Learning Methods

The curriculum will be delivered through a variety of learning experiences. Trainees will learn from practice, clinical skills appropriate to their level of training and to their attachment within the department.

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.

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:

- Immunology and Allergy clinics, including immunoglobulin infusion and desensitisation immunotherapy. 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
- Depending on the stage of training, trainees will actively participate in connective tissue disease clinics
- Assessment of in-patients referred for immunological or allergy opinions. 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 another doctor, 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 clinical reasoning
- Laboratory-based learning – trainees will undertake a range of immunological techniques as required by the curriculum, initially under supervision to be followed by independent performance when fully competent
- Management of common laboratory issues including assessment of new diagnostic tests, audit, troubleshooting and evaluation of data relating to quality assurance

Formal Postgraduate Teaching – The content of these sessions are 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, the Royal College of Pathologists, the Association of Clinical Pathologists, the British Society for Immunology and the British Society for Allergy and Clinical Immunology.

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
- Lectures and small group teaching
- Grand Rounds
- Clinical skills demonstrations and teaching
- Critical appraisal and evidence based medicine and journal clubs
- Joint specialty meetings
- Attendance at national Immunology FRCPath training days (organised by the Association of Clinical Pathologists), 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

Formal Study Courses - Time to be made available for formal courses is encouraged, subject to local conditions of service. Examples include management courses and communication courses.
It is implicit that active participation in the above learning and teaching opportunities will enhance a trainee's knowledge and skills which eventually translates in to a fully competent immunologist able to meet the needs of patients with a wide range of immune-mediated disease, including immunodeficiency, systemic autoimmune disease and serious allergy.

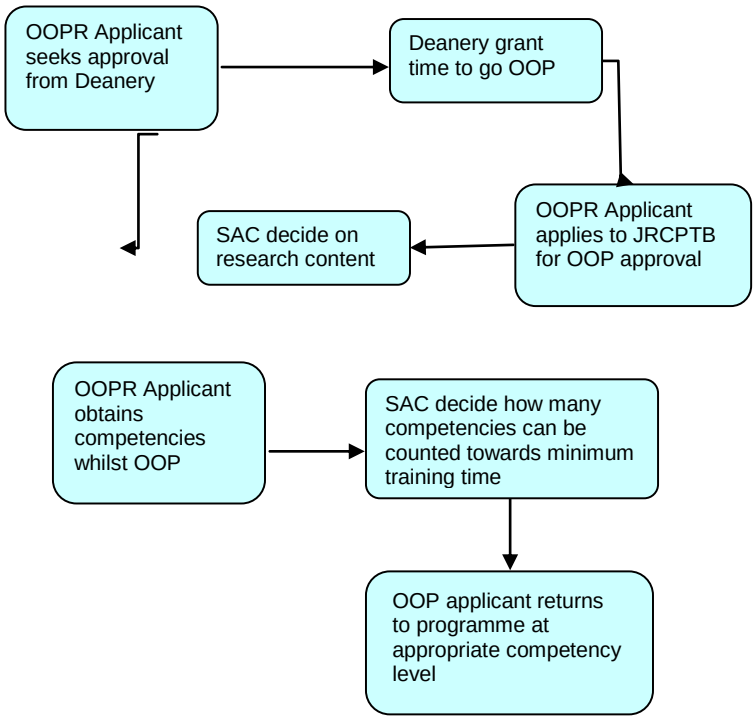
3.10 Research

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.

3.11 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.

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.

4 Assessment

4.1 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 a combination of workplace-based assessments and knowledge – based 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.

4.2 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.

4.3 Assessment Methods

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

Examinations and Certificates

- The FRCPath examination in Immunology: Part I, Part II
- Advanced Life Support Certificate (ALS)

The FRCPath Examination in Immunology comprises two parts.

The Part I examination comprises 2 written papers covering fundamental immunology and clinical problem-solving. The part I examination is designed to test a candidate’s grasp of fundamental immunology and ability to integrate knowledge and experience to critically evaluate clinical cases and laboratory results.

The Part II examination is composed of a written component, an objective structured practical examination (OSPE), followed by an extended objective structured oral examination (OSOE). Successful completion of the FRCPath part II examination denotes that a candidate has reached the standard required for independent practice as a consultant immunologist.

FRCPath examiners are appointed to the Panel of Examiners for a five year period. They will have been in a substantive post for at least five years and be actively involved in training and educational supervision and be undertaking continuous professional development. Examiners are required to undertake training in, and contribute to the ongoing development of, the examinations process. They are expected to examine a minimum number of times during the five year period as defined in the RCPath examination regulations. Their examining work can be in one or all of the examination components, as determined by the Chair of the Panel of Examiners.

Information about the FRCPath, including guidance for candidates, is available on the Royal College of Pathologist’s website:
http://www.rcpath.org/index.asp?PageID=114&SearchStr=frcpath .

Workplace-Based Assessments

- Multi-Source Feedback (MSF)
- Multiple Consultant Report(MCR)
- mini-Clinical Evaluation Exercise (mini-CEX)
- Direct Observation of Procedural Skills (DOPS)
- Case-Based Discussion (CbD)
- Patient Survey (PS)
- Audit Assessment (AA)
- Teaching Observation (TO)
- Quality Improvement Project Assessment Tool (QIPAT)

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. Workplace-based assessments should be recorded in the trainee's ePortfolio. The workplace-based assessment methods 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.

Multiple Consultant Report (MCR)
The Multiple Consultant Report (MCR) captures the views of consultant supervisors on a trainee's clinical performance. The MCR year summary sheet summarises the feedback received, outcomes for clinical areas and comments which will give valuable insight to how well the trainee is performing, highlighting areas of excellence and areas of support required. MCR feedback will be available to the trainee and included in the educational supervisor's report.

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.

Direct Observation of Procedural Skills (DOPS)
A DOPS is an assessment tool designed to assess the performance of a trainee in undertaking a practical procedure, against a structured checklist or standard operating procedure. The trainee receives immediate feedback to identify strengths and areas for development.

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 (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.

Quality Improvement Project Assessment Tool (QIPAT)
The Quality Improvement Project Assessment tool is designed to assess a trainee's competence in completing a quality improvement project. The Quality Improvement Project Assessment can be based on review of quality improvement project documentation OR on a presentation of the quality improvement project at a meeting. If possible the trainee should be assessed on the same quality improvement project 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 who has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors).

4.4 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.

In each year of training, acquisition of knowledge and competencies relating to each of the main subject areas of the curriculum will be assessed by a combination of mini-CEX, DOPS, CbD, AA and TO. These methods of formative assessment will be complemented by summative assessment in the form of the FRCPath examination in Immunology, which will be taken at defined points in the training programme – part I of the FRCPath will generally be taken at the end of ST4 or early in ST5 with part II being taken towards the end of ST6 or early in ST7. Successful completion of the FRCPath examination coupled with satisfactory progress through the ARCP process is essential pre-requisites for the award of a CCT in Immunology.

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

Each section of the syllabus outlines the knowledge, skills and behaviours that must be obtained by the trainee in order to successfully complete training. During their training, it is expected that the trainee will progress through three levels of competence, as outlined below:

> Level 1: Introductory - The trainee has comprehensive understanding of principles and practices under direct supervision.
>
> Level 2: Intermediate - The trainee has a good general knowledge and understanding of most principles and practices under indirect supervision. He/she should be able to deal with most of the day-to-day issues in a hospital immunology laboratory and outpatient clinic/ward to an adequate level but will still require consultant input with regard to complex management and clinical issues.

Level 3: Independent - The trainee has an in-depth knowledge and understanding of principles. He/she should be competent to discuss and deal with the subject (or, where appropriate, perform the task/procedure), demonstrating a level of clinical or professional judgement commensurate with independent practice at consultant level. It is anticipated that a trainee at this level should have consultant input readily available at all times where required.

4.5 ARCP Decision Aid

The table that follows includes a column for each training year which documents the targets that have to be achieved for a satisfactory ARCP outcome at the end of the training year. Trainees and trainers should refer to the JRCPTB website (www.jrcptb.org.uk) for the most up to date version of the ARCP decision aid.

Curriculum topic	ST3	ST4	ST5	ST6	ST7
Fundamental Immunology	Level 1 competent	Level 2 competent	Level 2 competent	Level 3 competent	Level 3 competent
Primary immunodeficiency	Level 1 competent	Level 2 competent	Level 2 competent	Level 2 competent	Level 3 competent
Autoimmune disease and systemic vasculitides	Level 1 competent	Level 2 competent	Level 2 competent	Level 2 competent	Level 3 competent
Allergic diseases	Level 1 competent	Level 2 competent	Level 2 competent	Level 2 competent	Level 3 competent
Laboratory Immunology (see laboratory training manual and record)	Level 1 competent	Level 2 competent	Level 2 competent	Level 3 competent in all core areas of laboratory immunology	
Audit assessment (AA) or Quality Improvement Project Assessment tool (QIPAT)		1 completed project		1 completed project	
Teaching observation (TO) episodes	1	1	1	1	1
Acquisition of common competencies - *see below*	20%	40%	60%	80%	100%
ALS	Valid	Valid	Valid	Valid	Valid
Examinations			FRCPath part I		FRCPath part II
MSF		Satisfactory		Satisfactory	
Patient Survey	Satisfactory		Satisfactory		

Minimum number of SLEs (mini-CEX and CbD) and DOPS	8 – to include 2 for laboratory competencies	8 – to include 2 for laboratory competencies	8 – to include 2 for laboratory competencies	8 – to include 2 for laboratory competencies	8 – to include 2 for laboratory competencies
Detailed, critical case presentation	0	2	2	2	2
Educational Supervisor's Report	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Multiple Consultant Report	2	2	2	2	2

The above table serves as a guide to ARCP panels in assessing the progress of trainees in Immunology. The rate at which each individual trainee will acquire the necessary knowledge base in the 5 main subject areas of the curriculum (fundamental immunology, immunodeficiency, autoimmune disease, allergy and laboratory immunology) will inevitably vary. The incremental nature of acquisition of competencies (L1 to L3) is mapped against key learning outcomes as defined in the curriculum. It is meant to be interpreted flexibly and designed to ensure that the progress of trainees is measurable. While failure to achieve coverage of the precise proportion of the curriculum at the end of each year should not be seen as an insurmountable barrier to trainee progress, it is necessary for all trainees to achieve Level 3 competence across the curriculum and complete the FRCPath examination by the end of the training programme.

Common competencies

Evidence such as reflective logs, courses, teaching and SLEs should be used to demonstrate exploration of these curriculum competencies. The following common competencies will be repeatedly observed and assessed but do not require linked evidence in the ePortfolio:

- History taking
- Clinical examination
- Therapeutics and safe prescribing
- Time management and decision making
- Decision making and clinical reasoning
- Team Working and patient safety
- Managing long term conditions and promoting patient self-care
- Relationships with patients and communication within a consultation
- Communication with colleagues and cooperation
- Personal Behaviour

4.6 Penultimate Year Assessment (PYA)

The penultimate ARCP prior to the anticipated CCT date will include an external assessor from outside the training programme. 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.

4.7 Complaints and Appeals

FRCPath Examinations

A trainee who has taken any Royal College of Pathologists examination has the right of appeal if there is evidence of a procedural or administrative irregularity by the College or its contracted examination centres in the conduct or content of the examination that has adversely affected the trainee’s result. The appeals procedure is outlined in the Regulations and Guidelines for Membership Exams and Diplomas on the College website. The regulations and guidelines are reviewed annually, at which time the appeals procedure will automatically be reviewed.

Appeals submitted on the grounds that a candidate seeks to challenge the professional or academic judgement of the examiners will not be considered and in no circumstances will the examination be re-marked. The principle underlying this is that the written papers and options are double blind marked and the reliability of the marking decisions in oral and practical assessments is greatest at the time of the initial examiners’ judgement. Subsequent review by different or senior examiners or by independent assessors cannot guarantee increased accuracy or reliability. Moreover, in the case of the oral and some practical assessments there is no residual physical evidence of the candidate’s performance, which could be revisited.

Any appeal must be made by the trainee in writing to the Examinations Department within one month of issue of the examination result. The appeal will be considered by the Director of Examinations and Assessment, who will arrange an appropriate investigation of the appeal. This will include checking that no administrative, procedural, numerical, data transcription or computing errors have occurred, and that the declared result accurately reflects the judgement of the examiners. The Director may also ask the Chair of the Panel of Examiners for a report on the examination in question. Where a procedural irregularity is found the Director may authorise a refund of the examination fee or waiver of the fee to re-sit the relevant component of the examination. Only in exceptional circumstances, where it is clear that a paper has been overlooked or marks incorrectly totalled, will a fail mark be converted to a pass.

There is a complaints procedure for all activities managed by the Examinations Department not directly linked to an outcome of an examination. The complaints procedure is available on the College website.

The Examinations Manager is responsible for the complaints procedure and for maintaining a register of complaints detailing the nature of the complaint and the outcome. The register will be reviewed on a periodic basis by the Director of Examinations and Assessment who will aim to identify trends that indicate a need to review regulations and procedures. The Chair of the Panel of Examiners will also be advised of all complaints relating to the specialty. Candidates dissatisfied by the outcome of the examinations complaints procedure can take the matter further by going through the College’s complaints procedure and referring the matter to the

Chief Executive. Complaints referred to the Chief Executive are reviewed on a periodic basic by the College's Executive Committee

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.

5 Supervision and Feedback

5.1 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. Given the small size of the specialty of Immunology, these roles have been combined into a single role of Educational Supervisor.

The responsibilities of supervisors have been defined by GMC in the document "Operational Guide for the PMETB 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.

Trainees will at all times have a named Educational Supervisor and Clinical Supervisor, responsible for overseeing their education. All trainers and educational supervisors will be consultants of at least 1years standing who will have undergone appropriate training to fulfil these roles, as determined by the local postgraduate deanery.

The educational supervisor will be responsible for performing an induction appraisal soon after the trainee is appointed followed by 2 to 3 appraisals per year where developmental goals are agreed and previous goals reviewed. In co-ordinating training, the educational supervisor will ensure that the curriculum is followed, write the supervisor's report, provide feedback, communicate with other supervisors as required and support the under-performing trainee.

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.

Opportunities for feedback to trainees about their performance will arise through the use of the workplace-based assessments, regular appraisal meetings with supervisors, other meetings and discussions with supervisors and colleagues, and feedback from ARCP.
Deaneries will be responsible for ensuring that trainers and assessors are appropriately trained to undertake their educational responsibilities. Trainers and assessors will be expected to be fully conversant with the curriculum and assessment methods and work in conjunction with the SAC to deliver effective training.

5.2 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.

6 Managing Curriculum Implementation

6.1 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.

Local mechanisms for curriculum implementation will be overseen by the relevant schools of medicine under the aegis of LETBs/ deaneries. Regular feedback from trainee representatives on the SAC in Immunology at JRCPTB, the SAC in Immunology at the Royal College of Pathologists and the Intercollegiate Joint Committee on Immunology and Allergy will ensure that trainees' views on curriculum implementation are adequately represented.

6.2 Recording progress

On enrolling with JRCPTB trainees will be given access to the ePortfolio. 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 or relevant paper copies are kept up to date, arrange assessments and ensure they are recorded, prepare drafts of appraisal forms, maintain their personal development plan, record their reflections on learning and record their progress through the curriculum.

The supervisor's main responsibilities are to use ePortfolio or paper-based 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.

Trainees will be expected to document acquisition of laboratory immunology competencies by recording progress in the Laboratory Training Manual (Laboratory logbook).

7 Curriculum Review and Updating

The curriculum will remain under regular review as a standing item on the agenda for meetings of the SAC in Immunology at JRCPTB held 3 times a year. Trainee and lay representation on the committee will enable the SAC to respond to any issues raised by these groups. In addition to these meetings, the SAC will formally review the curriculum at its joint annual meeting with Regional Specialty Advisors. These meetings will ensure that the curriculum remains relevant to current practice and that the SAC responds swiftly to advances in basic and applied immunological science which impact on the quality of care provided to patients with immune-mediated disease.

8 Equality and Diversity

The Royal Colleges of Physicians will comply, and ensure compliance, with the requirements of equality and diversity legislation set out in the Equality Act 2010.

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.

LETB 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;
- LETBs must ensure that educational supervisors have had equality and diversity training (for example, an e learning module) every 3 years
- LETBs 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. LETBs 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. LETBs 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.