Training in microbiology

To work as a consultant in microbiology, you can begin your career as a medical doctor or as a clinical scientist. Medically-qualified experts need to complete specialty training in general microbiology and have the option of training further in infectious diseases and tropical medicine. Scientists need to complete Higher Specialty Specific Training (HSST) in microbiology to become a consultant clinical scientist.

The medical route

What are the entry requirements?

To enter training to be a consultant medical microbiologist, you'll need to:

- qualify as a doctor
- register with the General Medical Council (GMC)
- complete the UK Foundation Training Programme or equivalent
- complete two years Core Medical Training (CMT) or Acute Care Common Stem (ACCS) training
- gain membership to the Royal College of Physicians.

How long will it take?

After your CMT or ACCS, training to be a consultant medical microbiologist takes four years if you're training full-time. You'll spend two years in Combined Infection Training, and two years of higher specialty training in medical microbiology.

If you want to specialise in infectious diseases, you'll need to complete an additional year of training after your higher specialty training. There might be other opportunities to extend your training, by undertaking research or out-of-programme training.

What will my training cover?

The training is designed to equip to you to run a full medical microbiology service at consultant level in the National Health Service (NHS).

Combined Infection Training

For the first two years, you'll complete Combined Infection Training, which will give a baseline of knowledge and experience of infectious disease, virology and microbiology. During CIT, you will be required to attend specific training at different work placements, including:

- six months of clinical microbiology training associated with a diagnostic laboratory
- six months of clinical infection consult duties
- six months of appropriate infection reed clinics where the major focus of the clinic is managing patients with infection. A combination of clinics could include HIV clinics, travel clinics or GUM clinics
- six months of clinical inpatient care of patients with infection.

Higher Specialty Training

You'll then specialise for a further two years on microbiology specifically. This will equip you with a broad understanding of the diagnosis and management of infectious disease from a clinical and laboratory perspective, and the diagnostic techniques used within clinical microbiology. You'll develop your knowledge of infection control, public health and health protection, honing your communication skills through teaching and working within research and development projects. The training will give you experience of clinical governance, service audits and working with the standards of

evidence-based medicine which underpin medical microbiology practice.

What exams will I need to take?

To complete your training, you'll be required to pass the following.

FRCPath Part 1 in Infection – this aims to determine whether you have successfully acquired a core body of knowledge that will underpin your ability to practise in Medical Microbiology.

FRCPath Part 2 in Medical Microbiology – this is designed to test your practical skills and understanding, and show that you can apply your expertise appropriately and safely.

Autoclaves

Autoclaves Steam sterilization of materials is a dependable procedure for the destruction of all forms of microbial life. Steam sterilization generally denotes heating in an autoclave utilizing saturated steam under a pressure of approximately 15 pounds per square inch (psi) to achieve a chamber temperature of at least 121ºC (250ºF) for a minimum of 15 minutes (for small loads). The time is measured after the temperature of the material being sterilized reaches 121ºC (250ºF). Mechanical indicators such as pressure gauges and thermometers are widely used to verify proper autoclave operation. However, these are considered secondary to the use of appropriate biological indicators placed on or throughout the material being autoclaved. The biological indicator most widely used for wet heat sterilization is a Bacillus stearothermophilus spore suspension or strip. If sterilization is associated with patient diagnosis, the biological indicator and associated documentation is required by law, as these are the best indicator of sterilization. The FSU Biological Safety Office can test departmental autoclaves on an as-needed basis to verify

sterilization using the B. stearothermophilus spore test. Additional testing may be requested if sterilization problems have been observed or are suspected. Call the Biological Safety Office for more information. FSU researchers should test every sterilization load with autoclave tape or other indicators. The choice of sterilization test may be made at the discretion of the researcher. Information provided below may assist researchers in selecting the appropriate autoclave verification method.

Figure below shows Autoclaves

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Fundamentals of Personal Protective Equipment (PPE) in Clinical Laboratories

Description

Safety is imperative when working with potentially harmful materials and other hazards in the laboratory. This course is designed to assist clinical and public health laboratory professionals with applying risk management strategies to identify hazards, assess risks, and select appropriate personal protective equipment (PPE) options.

Accessibility

Course content is closed captioned, where applicable, and optimized for a screen reader.

Objectives

At the end of this course, learners should be able to:

- Describe how PPE helps protect laboratory professionals.
- Recognize hazards and risks associated with laboratory procedures.
- Identify PPE options, limitations, and considerations for selecting appropriate PPE.
- Select appropriate PPE options for given clinical laboratory scenarios.