Medical laboratory scientist

Job description

Medical laboratory scientists, also known as biomedical scientists, are involved in lab-based tasks such as sampling, testing and measuring in the field of medicine. They study samples obtained from the human body. The outcomes of their research inform medical practice and procedure and can help to tackle major diseases.

In small laboratories they perform many types of tests, whereas those in large hospital laboratories generally specialise on one of the following medical laboratory sciences:

• Medical microbiology
  Examining and identifying bacteria and other microorganisms causing disease.
• Clinical chemistry
  Preparing specimens and analysing the chemical and hormonal contents of body fluids.
• Transfusion science
  Collecting, typing and preparing blood and its components for transfusions.
• Haematology
  Studying the structures and functions of the different types of blood cells.
• Histopathology
  Examining tissue samples.
• Cytology
  Preparing slides of body cells and examining them microscopically for abnormalities that may signal the beginning of a cancerous growth.
• Immunology
  Examining elements of the human immune system and its response to foreign bodies.
• Virology
  Identifying infections and viruses such as hepatitis, AIDS and rubella.

Work activities

• Examining and analysing body fluids and cells to look for bacteria, parasites, and other microorganisms.
• Analysing the chemical reactions to determine concentrations of compounds such as blood glucose and cholesterol levels.
• Identifying blood groups and cross matching blood for transfusions.
• Monitoring the effects of medication by testing how a patient is responding to treatment.
• Using microscopes, cell counters, and other sophisticated laboratory equipment.
• Relaying results to relevant medical staff, who use the information to diagnose and treat the patient’s illness.
• Keeping accurate records and writing reports.
• Assisting in the production and updating of laboratory documentation, particularly relating to policies and standard operating procedures.
• Maintaining and updating professional knowledge and taking responsibility for continuing professional development (CPD).
• Ensuring the service is provided in an accurate, efficient and cost effective manner.

Work conditions

Travel: not normally part of the working day.
Working hours: can involve shift work, evenings, weekends and on-call work.
Location: mainly in large towns or cities throughout the country.
Opportunities for self-employment: unlikely.

Typical employers

Medical laboratory scientists work in a variety of settings including diagnostic laboratories and pathology departments in public voluntary hospitals and private hospitals as well as the Irish Blood Transfusion Service in Ireland. Other employers include pharmaceutical companies, independent laboratories, universities, medical schools and research institutes, and government agencies such as the Health Protection Surveillance Centre (Ireland) and the Health Protection Agency (UK).

(continued overleaf)
Medical laboratory scientist (continued)

Career development
Long term prospects include laboratory management, research and teaching.

Salaries
Republic of Ireland: Medical Scientists earn €33,000–€50,400 with chief medical scientists earning in excess of €75,000.

Entry requirements and training
Membership or eligibility for membership of the Academy of Medical Laboratory Science (AMLS) is a requirement to practice in the profession in Ireland.

Specific degree subjects required
An honours degree in a science course approved by the AMLS is essential. The course must contain a significant biomedical science component.

In addition to academic qualifications, candidates also need at least one year’s structured training in a suitable medical laboratory in order to get eligibility for membership of the AMLS.

Entry in the UK is restricted to those holding a degree validated by the Institute of Biomedical Science (IBMS). In addition, in-service training in an approved laboratory is required for state registration.

Postgraduate study
A pre-entry postgraduate qualification is not a requirement for entry level posts. Applicants for senior roles will be expected to hold postgraduate qualifications.

Specific entry requirements
Republic of Ireland: In addition to academic qualifications, at least one year’s structured training in a suitable medical laboratory is required in order to get eligibility for membership of either the AMLS and IBMS.

UK: In order to practice in the UK as a biomedical scientist, you must be registered with the Health Professions Council.

Skills and qualities
• Aptitude for biology and chemistry.
• Patience, decisiveness and meticulousness.
• A desire to contribute to patient care and treatment.
• A responsible and mature approach to their work.
• Excellent IT skills.
• Accuracy, with good attention to detail.
• A systematic approach to tasks and the ability to follow instructions and set procedures.
• Ability to work as part of a team as well as supervise the work of more junior staff in the laboratory.