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Dear students

If you're good in science and like to investigate medical topics, you might consider becoming a "medical detective".

This week we will learn more about this exciting field, the educational requirements and training you need to succeed as **Medical Laboratory Technologist**.

-Martina

WHAT DOES MEDICAL LABORATORY TECHNOLOGIST DO ?

Medical laboratory technologists and scientists conduct medical laboratory tests to provide information for diagnosing, treating and preventing disease. They work as part of a team with doctors, pathologists, scientists, technicians and laboratory assistants. They may be required to supervise the work of other technical officers and assistants and advise medical practitioners on the interpretation of tests.

Medical laboratory technologists assist doctors and pathologists in the diagnosis of diseases by performing all kinds of clinical laboratory tests. The three main lines of work are: diagnostic work; research work; and the preparation of serum and vaccines. The medical laboratory technologist does not work directly with patients. He or she forms part of a laboratory team, assisting a "professional officer" who has a degree. Some technologists identify disease-causing organisms, parasites, fungi, viruses and cancer cells, some do research and develop new laboratory techniques, while others teach at tertiary institutions. Medical laboratory technologists train and supervise laboratory aides and other technologists.

Medical laboratory technologists and scientists study blood and its diseases, count blood cells and examine blood slides with a microscope. They identify blood diseases such as anaemia and leukaemia and determine the suitability of blood for transfusion by cross-matching the blood with the patient and checking for the presence of diseases such as hepatitis and AIDS. They test blood for blood group antibodies that may cause disease in new-born babies and check the compatibility of bone marrow, kidney and other organs for transplantation.

Medical laboratory technologists also determine the chemical composition of specimens such as blood and urine, which is important in the diagnosis and treatment of kidney disease, liver disease and diabetes. They grow disease-causing organisms such as bacteria, viruses and fungi that are taken from a variety of clinical specimens. They prepare body tissues (taken from the body during surgery or post-mortem examinations) for microscopic examination by pathologists. They prepare body fluids for microscopic examination and diagnose abnormalities.

They isolate and examine genetic material (DNA and RNA) for alterations specific to genetic diseases and cancer, which assist in the diagnosis and treatment of these conditions.



REQUIREMENTS

Secondary Education

The minimum requirement in Namibia is a **HIGCSE/NSSCH/IGCSE/NSSCO** Grade 12 meeting diploma requirements for a Diploma course

Compulsory subject

Mathematics, Physical Science , Life Science / Biology

Recommended subjects

None

Tertiary Education

Each institution will have their own minimum entry requirements

Diploma: N.Dip: Medical Technology or Biomedical Technology - Cape Peninsula Univ of Tehnology, NUST, DUT, MUT, TUT, VUT. Postgraduate - MTech and DTech

The duration of the course is three years. After obtaining the diploma, the student is then required to apply to a laboratory, which is registered as a training laboratory with the HPCSA (Health Professions Council). This enables the student to complete a fourth year of practical training in medical technology. Once the above is completed the student must pass a final examination to enable him to register and practise as a medical technologist.

A graduate with a BSc degree (which includes the relevant subjects) who wishes to qualify as a medical laboratory technologist should contact the Interim National Medical and Dental Council of South Africa / Namibia for further information.

Abilities

- good judgement and decision-making ability
- responsible, conscientious and extremely accurate workers
- interest in and aptitude for medical science
- concern for human welfare
- good health
- manual dexterity
- normal colour vision
- able to make clear and precise observations
- able to work accurately with attention to detail
- good verbal and written communication skills
- able to identify and analyse problems and develop practical solutions
- able to perform under pressure
- able to organize and prioritize work



Work Opportunities

- hospitals
- government health departments
- private pathologists
- industrial firms
- research organizations
- private clinics
- universities (medical and veterinary)
- blood transfusion services

After a two-year period of practising as a medical technologist you can apply to the HPCSA (Health Professions Council) to practise privately. You can either work for yourself or enter into a group practice with a medical doctor.

POSSIBLE CAREER PATHS FOR MEDICAL LAB TECHNOLOGIST

Some areas of specialization include:

- Blood Banking and Transfusion Science
- Clinical Biochemistry
- Cytology (Cancer Diagnosis)
- Haematology (study of blood cells)
- Immunology
- Parasitology
- Virology
- Chemical Pathology
- Cytogenetics
- Forensic Pathology
- Histopathology
- Microbiology
- Pharmacology

There is a great demand for qualified medical laboratory technologists as a result of the phenomenal development of medical science and this is likely to continue because of constant research and advancements in this field. Medical laboratory technologists often take further education courses, attend seminars or read professional journals to keep up with these changes. Since some research is financed by private and government sources, opportunities in the research field may be influenced by the economic conditions in the country.

Medical laboratory technologists work indoors in laboratories that are usually well-equipped, spacious and well ventilated. Considerable attention is given to sterilization of surroundings and apparatus.

Satisfying Aspects

- being an important part of the medical field
- the opportunity to work part-time
- being independent, working with a minimum of supervision
- being able to specialize in an area of one's choice

Demanding aspects

- working in an environment which may occasionally have unpleasant odours
- working nights, holidays or weekends in some work settings.



References : Namibia Careers , Pace careers

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