

# Pathology – the basis for understanding

**What is pathology?**

Pathology is the branch of medicine involved in understanding the cause and processes of disease.

Pathologists do this by looking at changes in the tissues of the body and in blood and other body fluids. Some of these changes show the causes of the disease while others reflect the severity of the disease and are used to track the effects of treatment.

When a doctor or specialist has difficulty diagnosing the exact cause of his patient's illness, he will send a specimen to the local pathology laboratory for analysis.

**What training is required to qualify as a pathologist?**

All pathologists first qualify as general practitioners. They then do an additional four to five years' post-graduate study in laboratory medicine (depending on their speciality) in order to qualify as pathologists.

**What is the difference between a pathologist and a medical laboratory technologist?**

A pathologist is a medically trained doctor with a specific post-graduate qualification in laboratory

medicine. A pathologist's academic background and clinical experience enable him to analyse and interpret test results and then provide professional, diagnostic advice to the referring doctor and his patient.

The pathologist works together with his team of medical technologists and technicians, who are trained to operate sophisticated laboratory equipment.

A technologist can provide the test results, but, lacking a medical background as a doctor, is not able to offer clinical advice on patient treatment and disease prevention/intervention.

Technologists train at technicians and receive in-service training in laboratories.

**What happens when a specimen arrives at the laboratory?**

Medium to large sized pathology laboratories receive between 3 000-5 000 specimens a day.

These samples are carefully labelled and bar coded to ensure that they correct results get returned to each patient.

The samples are then distributed to the various departments, where they undergo a variety of tests that have been requested by the patient's doctor.

For example, tissue samples are

dissected into thin sections and stained on glass slides for analysis by the pathologist; bacteria are cultured for identification and tested against various antibiotics to ensure that the best medicine is recommended for treatment.

Once the laboratory technologists have obtained the results for a particular specimen, these are forwarded to the pathologist for examination and analysis.

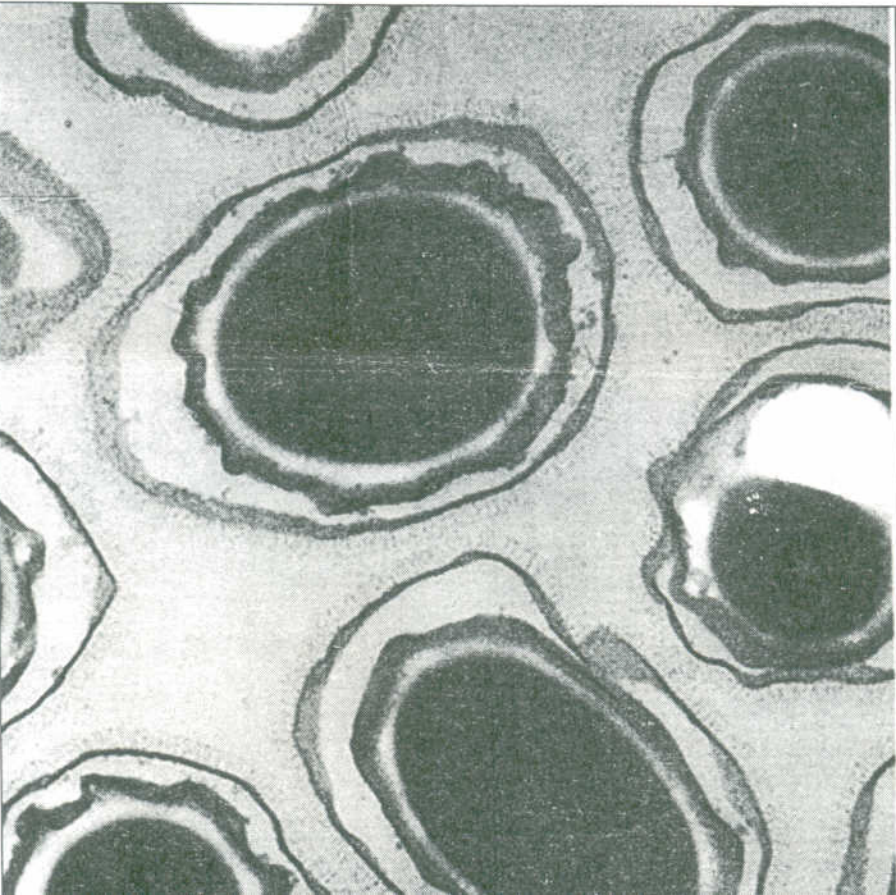
When the pathologist has made his final diagnosis and recommendation, a report is typed up and forwarded to the referring doctor.

**A day in the life of a pathologist**

A working pathologist's day is typically composed of examining test results and clinical liaison with the referring general practitioner or specialist.

This involves advising clinicians about appropriate tests for the investigation of a particular clinical problem, the interpretation of results and follow-up, and the effect of interferences, e.g. the impact of prescription drugs on test results.

The working day also has a large component devoted to the validation and interpretation of test results, particularly for unusually abnormal results, or more uncommon



**DEADLY SLIDE:** A prepared culture of Anthrax spores.