**Ministry of Higher Education**

**And Scientific Research**

**Al Hikma University College**

**Department of Medical Laborator**y **Techniques**

**Lab Management: Lecture 4**

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Main purpose of this laboratory is to assist in the diagnosis of infectious diseases. ... The patient's physician then orders specific tests to clarify the presence of an infectious disease.

**What is the infection control in microbiology?? (HAls(**

They include detection of outbreaks of hospital-acquired infections, screening for multi-resistant organisms, advice to clinicians about disinfection, sterilization and isolation procedures, and the sensible use of antibiotics.

**What is a clinical microbiology laboratory?**

The Clinical Microbiology Laboratory is a full-service laboratory offering **diagnostic bacteriology**, **mycology**, **parasitology**, **virology**, and **mycobacteriology**.

**What is the role of microbiologist in hospital??**

Medical microbiologists provide services to aid the diagnosis and management of infectious diseases and help ensure the safety of those at risk of acquiring infectious diseases, both in hospitals and the community. Although this role is laboratory-based, the microbiologist's role is increasingly clinical.

**Why Microbiology is important??**

A fundamental understanding of how a cell works has come through the study of microorganisms. But microbiology also is an applied science, helping **agriculture**, **health**, **medicine** and maintenance of the **environment**, as well as the **biotechnology industry**. ... Microorganisms are extremely important in our life every day.

**Surveillance of Nosocomial Infections**

Surveillance, which is an essential element of an infection control program, provides the data to identify infected patients and determine the site of infection and the factors that contributed to the infection. When infection problems are recognized, the hospital is able to institute appropriate intervention measures and evaluate their efficacy. Surveillance data are also used to assess the quality of care in the hospital.

The microbiology Laboratory contributes to the work of the Infection Control Program by fulfilling its technical responsibilities through Outbreak Recognition and Investigations, Maintaining Cultures of Specimens from **Hospital** **Personnel** and the **Environment**.

**Mission of Laboratory in Patient care and Community Health**

Public health laboratories are responsible for providing timely and reliable results primarily for the purpose of disease control and prevention.

Clinical laboratories are healthcare facilities providing a wide range of laboratory procedures which aid the physicians in carrying out the diagnosis, treatment, and management of patients.

These laboratories are manned by medical Technician (laboratory scientists) who is trained to perform various tests and sample specimen's collection from the patients.

Most of the clinical laboratories are initiated within or near hospital facilities to provide access to both physicians and their patients.

**Classifications** of clinical laboratories indicated below reveal that these facilities can provide quality laboratory tests that are significant for addressing medical and public health needs.

* According to **Ownership** - can be government-owned (**public**) which is usually part of hospitals and medical centers under the department of pathology. Or can be a (**private**) facility as part of a privately-owned medical/healthcare institution
* According to **Function** - can be (**general**) clinical laboratory which provide common diagnostic laboratory tests. Or can be (**special**) laboratory that provide disease-specific diagnostic and confirmatory tests.
* According to **Test Specialization** - facilities can provide tests on a particular field of interest listed below:
  + **Clinical Chemistry**
  + **Clinical Microbiology**
  + **Hematology**
  + **Blood banking and Serology (Immunohematology, Transfusion Medicine)**
  + **Clinical Microscopy**
  + **Histopathology and Cytopathology**
  + **Molecular Biology**
  + **Public Health** - providing tests such as water analysis, testing for environmental substances, and microbiological testing of food, dairy products among other tests concerning public and environmental health.

To provide broad, professional, cost effective and recognized microbiological testing of food and water through of protecting the public from infection through routine surveillance and outbreak investigation.

To carry out relevant and cost effective research into specific and relevant aspects of food and water quality and safety, as determined by the needs of Public Health through the national Food Standards Agency and the Standardization and quality control.

To provide advice, training, conference and meetings as required for public companies and private companies.

**Objectives**

* To educate the students to establish working relationship with families.
* To teach regarding delivery of effective nursing care to assigned families using community health nursing process.
* To demonstrate practical skills in performing home nursing procedures.
* To stimulate the students for providing planned and incidental health teachings to families and individuals.