

MEDICAL LABORATORY SCIENCES



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INTRODUCTION:

- In the era of modern technology, health care delivery system involves so many different personnel and specialties that the caregiver must have an understanding and working knowledge of other professional endeavors, including the role of diagnostic evaluation.
- Basically, laboratory and diagnostic tests are tools by and of themselves, they are not therapeutic.
- In conjunction with a pertinent history and physical examination, these tests can confirm a diagnosis or provide valuable information about a patient status and response to therapy.
- In addition to these, laboratory findings are essential for epidemiological surveillance and research purposes.

Contd...

- If the entire network of a laboratory service is to be effectively utilized and contribute to health care and disease prevention, every member of its work force need to:
 - ✓ Understand the role of the laboratory and its contribution to the nation's health service;
 - ✓ Appreciate the need to involve all members in the provision of health service;
 - ✓ Follow professional ethics and code of conduct;
 - ✓ Experience job satisfaction and have professional loyalty.

Medical laboratory science

Medical laboratory science is a complex field embracing a number of different disciplines such as

- Microbiology,
- Hematology,
- Clinical Chemistry,
- Urinalysis,
- Immunology,
- Serology,
- Histopathology,
- Immunohematology and
- Molecular biology and others.

Medical Laboratory Technology

- **Introduction to Medical Laboratory Technology** is a basic course that equips the student with the most essential knowledge and skill pertaining to medical laboratories such as:
 - ✓ Importance of laboratory services;
 - ✓ Role of medical laboratory technologist;
 - ✓ Use of laboratory wares, instruments and sterilization techniques;
 - ✓ Prevention and control of laboratory accidents and;
 - ✓ Institution of quality control system.

Contd...

- Moreover, this course is extremely important for the student as it paves the ways to easily understand various professional courses such as Hematology, Bacteriology, Urinalysis, Parasitology, and others.
- Hence, great emphasis should be given to this subject matter so as to train qualified, competent and task oriented medical laboratory technologists.

HISTORY OF MEDICAL LABORATORY SCIENCE

History of Medical Laboratory Science:

- It is difficult to exactly say when and where medical laboratory science was started.
- However, some early historical references have shown that there was examination of body fluid around the era of Hippocrates.
- The laboratory's contribution to modern medicine has only recently been recognized by historians as something more than the addition of another resource to medical science and is now being appreciated as the seat of medicine, where clinicians account for what they observe in their patients.
- The first medical diagnoses made by humans were based on what ancient physicians could observe with their eyes and ears, which sometimes also included the examination of human specimens.

Contd...

- The ancient Greeks attributed all disease to disorders of bodily fluids called humors, and during the late medieval period, doctors routinely performed uroscopy.
- Later, the microscope revealed not only the cellular structure of human tissue, but also the organisms that cause disease.
- More sophisticated diagnostic tools and techniques—such as the thermometer for measuring temperature and the stethoscope for measuring heart rate—were not in widespread use until the end of the 19th century.
- The clinical laboratory would not become a standard fixture of medicine until the beginning of the 20th century.

Contd...

- The most important event that contributes for the development of the profession was the discovery of microscope by a German scientist Antony Van Leeuwenhoek.
- Improvements in the microscope allowed further exploration of the cellular and microbial worlds in the 19th century.
- Previously one cannot talk about the field of medical laboratory science without also talking about the medical specialty of pathology.
- Early laboratory practitioners were physicians, pathologists or both.
- But sooner medical laboratory profession was developed into a separate discipline having its own educational requirements and standards.

Ancient diagnostic methods:

- In ancient, the earliest physicians made diagnoses and recommended treatments based primarily on observation of clinical symptoms.
- Other less-than-scientific methods of diagnosis used in treating the middle and lower classes included divination through ritual sacrifice to predict the outcome of illness.
- Usually a sheep would be killed before the statue of a god. Its liver was examined for malformations or peculiarities; the shape of the lobes and the orientation of the common duct were then used to predict the fate of the patient.

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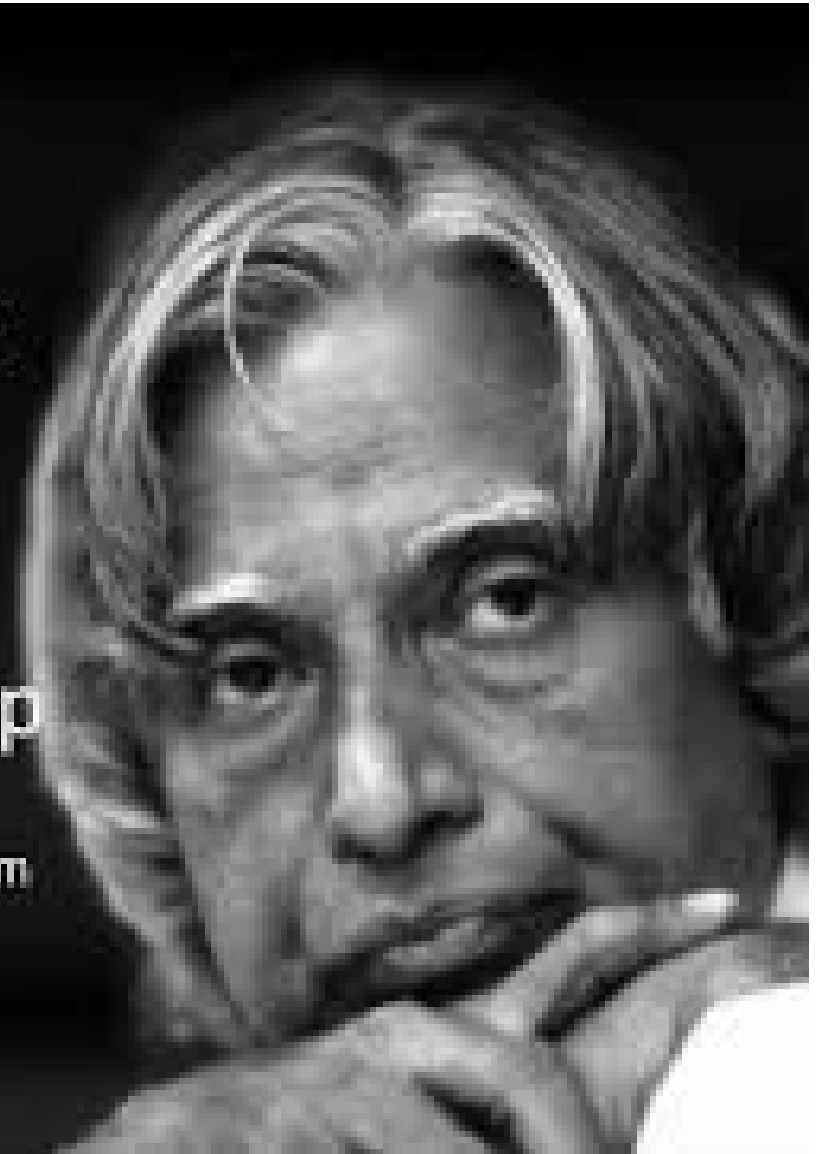
- Ancient physicians also began the practice of examining patient specimens. The oldest known test on body fluids was done on urine in ancient times (before 400 BC). Urine was poured on the ground and observed to see whether it attracted insects. If it did, patients were diagnosed with boils.
- The ancient Greeks also saw the value in examining body fluids to predict disease.
- At around 300 BC, Hippocrates promoted the use of the mind and senses as diagnostic tools, a principle that played a large part in his reputation as the “Father of Medicine.”

Dreams

is not what you see
in sleep

is the thing which
doesn't let you sleep

• A. P. J. Abdul Kalam



**ROLE OF
MEDICAL/CLINICAL LABORATORY SCIENCE
IN HEALTH CARE**

Role of Medical/Clinical laboratory science in Health Care:

- The medical laboratory services play a pivotal role in the promotion, curative and preventive aspects of a nation's health delivery system.
- The service gives a scientific foundation by providing accurate information to those with the responsibility for:
 - Treating patients and monitoring their response to treatment,
 - Monitoring the development and spread of infectious and dangerous pathogens (disease causing organisms),
 - Deciding effective control measures against major prevalent disease,
 - Deciding health priorities and allocating resources.

Contd...

Without reliable laboratory services:

- The source of a disease may not be identified correctly.
- Patients are less likely to receive the best possible care.
- Resistance to essential drugs may develop and continue to spread.
- Epidemic diseases may not be identified on time and with confidence.

WHY THE LABORATORY IS NEEDED IN HEALTH CARE:

- The clinical laboratory science has an important role in improving the:
 - Quality,
 - Efficiency,
 - Cost-effectiveness,
 - Planning and management of district health care.

What difference can the laboratory make to the quality of health care?

- ❑ *Laboratory investigations increase the accuracy of disease diagnosis:*

Many infectious diseases and serious illnesses can only be diagnosed reliably by using the laboratory. **For example**, errors in the diagnosis of malaria have been shown to be particularly high when diagnosis is based on clinical symptoms alone.

Contd...

Misdiagnosis or late diagnosis can lead to:

- Incorrect treatment with misuse and waste of drugs.
- Increased morbidity and mortality.
- Hospitalization and need for specialist care.
- Patient dissatisfaction leading to negative responses to future health interventions.
- Underutilization of health facilities.
- Lack of confidence and motivation of health personnel.
- Increased risk to the community from inappropriate disease management and untreated infectious disease.

Contd...

❑ *The laboratory has an essential role in screening for ill health and assessing response to treatment:*

At district level the laboratory is needed to:

- Assess a patient's response to drug therapy.
- Assist in monitoring the condition of a patient and help to decide when it may be necessary to refer for specialist care.
- Screen pregnant women for anaemia, proteinuria, and infections which if not treated may cause disease in the newborn, premature birth, low birth weight, or significant maternal illness.

Contd...

- Screen the contacts of persons with infectious diseases such as tuberculosis and sexually transmitted diseases.
- Detect inherited abnormalities such as haemoglobin-S as part of district family planning health services.
- Screen whole blood and blood products for transfusion transmitted pathogens.

Contd...

- ❑ *The laboratory is needed to work with others in reducing infection in the community and investigating epidemics rapidly*
- The public health functions of a district health laboratory service include:
 - Detecting the source(s) of infection, identifying carriers, and contact tracing.
 - Participating in epidemiological surveys.
 - Assisting in disease surveillance and in the selection, application, and evaluation of control methods.

Contd...

- Helping to control hospital acquired infections.
- Participating in health education.
- Examining designated community water supplies for indicators of faecal and chemical pollution.
- Responding rapidly when an epidemic occurs, including appropriate on-site testing and the collection and despatch of specimens to the Regional or Central Microbiology Laboratory for pathogen identification.

In what ways can the laboratory contribute to achieving efficiency and cost effectiveness in health care System?

The laboratory can help to reduce expenditure on drugs

- When the laboratory is used to improve the accuracy of diagnosis, perform appropriate antimicrobial susceptibility testing, and monitor a patient's response to treatment:
- Drugs can be used more selectively and only when needed.
- Patterns of emerging drug resistance can be identified more rapidly and monitored.

Contd...

- ❑ *The laboratory can lower health care costs by identifying disease at an early stage*

Early successful treatment following early correct laboratory diagnosis can help to:

- Reduce the number of times a patient may need to seek medical care for the same illness.
- Prevent complications arising from advanced untreated disease.
- Avoid hospitalization and further costly investigations.

Contd...

- ❑ *Significant savings can be made when the laboratory participates in local disease surveillance and control*

This is because:

- The spread of infectious disease can be contained more rapidly.
- Disease control measures can be selected and targeted more effectively.
- Sources of infection and disease carriers can be identified.

What information can the laboratory provide to achieve rational health planning and good health management?

- ❑ *Reliable laboratory test results with relevant patient data, provide information on the health status of a community, health patterns, and disease trends*
- This information is needed to establish health care priorities and plan:
- Health care programmes and location of health facilities.
- Training of district health personnel and delivery of health services.
- Treatment schedules and changes in drug usage.
- Financing of district health care programmes.

Contd...

- ❑ *Public health laboratory activities provide accurate epidemiological information for health planning*
- This information can help to determine:
- Causes of ill health in the community and risk factors contributing to the presence and spread of diseases.
- Prevalence and incidence rates of important infectious diseases.
- Effectiveness of health care programmes, drug treatments, and immunization programmes.
- Which methods have appropriate sensitivity and specificity to be useful.

S ee your goal

U nderstand the obstacles

C reate a positive mental picture

C lear your mind of self doubt

E mbrace the challenge

S tay on track

S how the world you can do it

**ROLE OF
MEDICAL/CLINICAL
LABORATORY SCIENTISTS**

Role of Medical/Clinical Laboratory Scientists:

The medical laboratory scientist has the best of both worlds with the challenges and rewards of medicine and science.

- The medical laboratory scientist performs a full range of laboratory tests—from simple pre-marital blood tests, to more complex tests to uncover diseases such as AIDS, diabetes, and cancer. The medical technologist is also responsible for confirming the accuracy of test results and reporting laboratory findings to the pathologist and other doctors.
- Medical laboratory scientists work quickly and carefully. They hold life and death in their hands, because the information they give to the doctor influences the medical treatment a patient receives.

Contd...

- In their search for data on a patient's health, medical technologists do much more than examine specimens through a microscope. They operate complex electronic equipment, computers, and precision instruments.
- Medical laboratory scientists are self-sufficient, precise and thorough. They are trouble-shooters who not only report accurate results, but also know when results are incorrect and need to be rechecked.
- Medical laboratory scientists work in five major areas of the laboratory: **Blood banking, Chemistry, Hematology, Immunology and Microbiology.**

Role of medical laboratory technologist:

Some of the major roles of medical laboratory technologist are to:

- Carry out routine and advanced laboratory tests using standard laboratory methods;
- Apply problem-solving strategies to administrative, technical and research problems;
- Conduct community – based researches in collaboration with other categories of health professionals;
- Provide professional consultancy on matters related to the establishment, renovation, upgrading and reorganization of medical laboratories of intermediate levels.

Medical Laboratory

Technicians:

- The challenges and rewards of medicine and science — the medical laboratory technician has the best of both worlds.
- The medical laboratory technician performs general tests in all laboratory areas — Blood banking, Chemistry, Hematology, Immunology and Microbiology. Working with the supervision of a medical technologist, a medical laboratory technician hunts for clues to the absence, presence, extent, and causes of diseases.
- Medical laboratory technicians must be accurate, dedicated and skilled. They must also be self-motivated, and take the initiative to do what must be done every day — to pitch in to help the healthcare team.

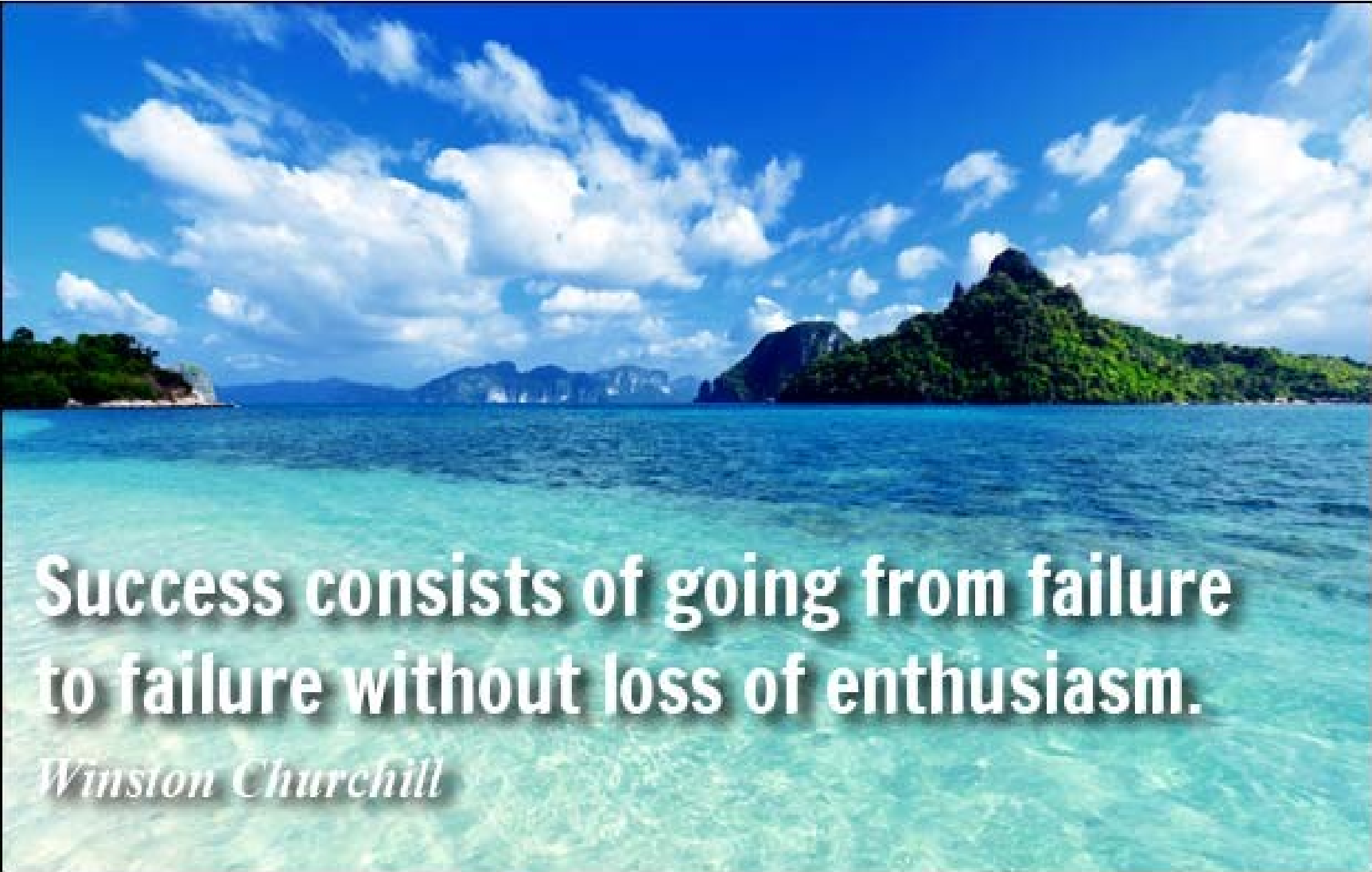
Phlebotomy technicians:

- Phlebotomy technicians must like challenge and responsibility.
- They must also be accurate, work well under pressure and communicate effectively.
- Because the phlebotomy technician works directly with the patient, he or she must also act as the "eyes and ears" of the doctors, nurses and laboratory professionals.
- The phlebotomist must notice and relay any important information gathered during interaction with patients.
- Phlebotomists must set high standards for themselves and they must be deeply committed to quality health care delivery.

Contd...

NOTE: All medical laboratory scientists have certain common characteristics.

- They are problem-solvers.
- They like challenge and responsibility.
- They are accurate, reliable, work well under pressure and are able to finish a task once started.
- They communicate well, both in writing and speaking.
- They set high standards for themselves and expect quality in the work they do.
- But, above all, they are deeply committed to their profession, and are truly fascinated by all that science has to offer. *For someone who chooses a career in the medical laboratory, the exploration never ends.*



**Success consists of going from failure
to failure without loss of enthusiasm.**

Winston Churchill

LABORATORY ORGANIZATION

Laboratory organization:

Organization: - is a system, an orderly structure, putting things together into a working order, and making arrangements for undertakings that involve co-operations.

- The emphasis is on arrangements that enable peoples working together and accomplishing common objectives in an efficient, planned and economic manner.
- In a single medical laboratory at least there are two interlocking components of organizations.
- These are laboratory head and other staff having their own duties and responsibilities.

Structure of medical/Clinical laboratory services:

A laboratory service network consists of:

1. Community based primary health care laboratory:

Duties:

- To support primary health care in investigating, controlling and preventing major diseases in the country.
- Promoting health care by integrated health education

Contd...

Main activities are to:

- Investigate by referral or testing on site, important diseases and health problems affecting the local community. Such investigations usually include bacterial diseases, parasitic diseases and other causes of illness.
- Assist health care worker in deciding the severity of a patient's conditions.
- Collect and refer specimens for testing to the district laboratory.
- Notify the district hospital at an early stage of any laboratory results of public health importance and send specimens for confirmatory tests.

Contd...

- Screen pregnant women for anemia, proteinuria, malaria, and refer serum for antibody testing.
- Promote health cares and assists in community health education
- Keep records, which can be used by health authorities in health planning and for epidemiological purposes.
- Keep an inventory of stocks and order supplies.
- Send an informative monthly report to the district hospital laboratory.

2. District hospital laboratory:

Duties:

- In addition to the works stated above, these laboratories have an important role in supervising the work of the peripheral community based laboratories, testing referred specimens, and performing a range of tests compatible with the work of district hospital

Main activities are to:

- Perform a range of tests relevant to the medical, surgical, and public health activities of the district hospital.

Contd...

- Support the work of the community-based laboratories by testing referred specimens, providing reagents, controls, standards, specimen containers, and other essential laboratory supplies. And also visit each primary health care laboratory in their catchments area to inspect and discuss the investigations being performed and, comment on their quality assurance system, record keeping, safety procedures, as well as the status of equipment maintenance.

Contd...

- Refer specimens to the regional laboratory for test (s) that cannot be performed in district laboratory.
- Notify the regional laboratory of any result of public health importance and to send specimens for confirmatory tests.
- Participate in the external quality assurance programme organized by the regional laboratory.
- Prepare and send periodical reports to the regional laboratory.

3. Regional hospital laboratory:

Duties:

- In addition to the duties done at the two above lower levels, the regional laboratory assists and supervises the district laboratories. It analyses referred specimens and performs a range of specialized and other tests as required by the work of the regional hospital.

Main activities are to:

- Operate a regional blood transfusion center;
- Prepare reagents, controls, standard solutions and others as found necessary;

Contd...

- Investigate epidemics and perform tests of public health importance in the region;
- Supervise and support the work of district laboratories;
- Send specimens that require special investigation to the central and public health laboratory;
- Prepare periodical reports and send to the central and public health laboratory.

4. Central and public health laboratory:

Duties:

- The central and public health laboratory is responsible for planning, advising and overall coordinating of medical laboratory services in the region.

Main activities are to:

- Formulate a professional code of conduct to medical laboratory personnel.
- Perform a range of special tests not normally undertaken in the regional laboratories such as viral, histopathological, cytological, immunological, forensic and genetic investigations.

Contd...

- Carry out appropriate research of importance in order to mitigate public health problems.
- Evaluate new technologies and standardize techniques.
- Purchase supplies and equipments for the national laboratory service and organize an efficient system of requisition, distribution, and maintenance of equipment.
- Communicate and collaborate with International Organizations in promoting laboratory standards.

Contd...

- Organize laboratory-teaching seminars and prepare training manuals for the different laboratory-training programmes.
- Support the work of the regional hospital laboratories.
- Organize refreshment training and seminars/ workshops for district and primary health care laboratory personnel.
- Prepare training manuals for the different laboratory training programmes.
- Participate in the prompt laboratory investigation of epidemics and outbreaks of serious illness among communities.



**Your Aim is Yours
So Dont Change it For Others
But
Your Character is Not Yours
So Change It For Others.**

**“INTERNATIONAL AND NATIONAL
ORGANIZATION IN LABORATORY PRACTICE”**

1.Nepal Public Health Laboratory (NPHL)

Introduction:

- National Public health Laboratory (NPHL) is the government national reference laboratory under the Department of health services (DoHS) and Ministry of Health and Population (MoHP).
- It is directly linked with different levels of 277 government laboratories in the country. It was established in 1968 as Central Health Laboratory.
- The name was changed to National Public Health Laboratory in 1991 with the mandate for organizational and administration responsibilities for the health laboratory services (public health and clinical diagnostic) in both public and private sectors throughout the country.

Contd...

- Networking, Licensing, monitoring, supervision, capacity, strengthening and conducting research activities and NEQAS of the laboratories are the major functions of NPHL.
- Currently, NPHL has facility of biosafety level (BSL) II lab with real time PCR (RT-PCR) which is in use for testing viral load & Avian Influenza including Swine flu.

Vision:

- To develop National Public Health Laboratory as centre of excellence in diagnosis.

Contd...

Mission:

- To provide quality laboratory services (diagnostic and public health related) to the people of Nepal through central, Regional, Sub-regional, Zonal, District and PHC based laboratories.

Goal:

- Extend laboratory services in all hospital and health care institution upto PHC level.
- To develop NPHL a national reference laboratory for diagnostic and public health services.
- To address the diagnostic needs due to emerging and re-emerging diseases.

Contd...

Objectives:

- To upgrade and introduce new facilities at NPHL.
- To introduce new technology for specified test not available at other laboratories
- To strengthen overall capacity of health laboratory services through NEQAS and supervision and monitoring.
- To procure quality equipment and reagents according to the need.
- To practice Good Laboratory practice (GLP) by all the laboratories in the country.
- To assist the laboratory in introducing specialized tests by NPHL.

7 Lovely Logics

1) Make Peace with your Past
so it doesn't spoil your Present.

2) What others Think of you is
None Of your Business.

3) Time Heals Almost Everything,
Give the Time, Some Time.

4) No one is the Reason of your Happiness
Except You yourself.

5) Don't compare your Life with others,
You have No Idea what their journey is all about.

6) Stop Thinking too much,
Its Alright not to know all the Answers.

7) Smile, you don't own
all the Problems in the World.

2.Nepal Health Professional Council (NHPC)

Introduction:

- Nepal Health Professional Council is an autonomous body established in terms of the Act No. 30 of the year 2053 (1997 A.D).
- We are committed to serving and protecting the public and providing guidance to registered healthcare practitioners.
- We achieve our mandate by regulating the health professions in Nepal in aspects pertaining to registration, education and training, professional conduct and ethical behavior, ensuring continuing professional development, and fostering compliance with healthcare standards.

Contd...

Mission:

- A Health Professional Council is hereby established for the operation of health services in a systematic manner and registration of the names of health professional according to the qualifications.

Contd...

Functions, duties and powers of Council:

- To make necessary policies for smoothly operating the health profession related activities.
- To determine the curricula, terms of admission and policies on examination system of educational institutions imparting teaching and learning on health profession and evaluate and review the related matters.
- To determine the qualifications of health professionals and to provide for the registration of the names of health professionals having required qualifications.

Contd...

Meeting and Decision of Council:

- The Council shall meet as prescribed by the chairperson.
- The Council shall normally hold its meeting three times a year; and the chairperson may, if he/she considers necessary, call meetings more times.
- The meeting of the Council shall be presided over by the chairperson; and in the absence of the chairperson, it shall be presided over by the person selected by the members present at the meeting from amongst themselves.
- The presence of fifty percent members of the total number of members of the Council shall be deemed to constitute a quorum for a meeting of the Council.

Contd...

- A majority opinion shall prevail at the meeting of the Council. In the event of a tie, the person presiding over the meeting may exercise the casting vote.
- The decisions of the Council shall be authenticated by the registrar.
- The allowances and other facilities receivable by the members for attending the meeting shall be as prescribed.
- Other procedures relating to the meeting of the Council shall be as determined by the Council itself.

Contd...

Delegation of powers:

- The Council may, as per necessity, delegate its powers to the chairperson, any member or any committee of members, as prescribed.

Committees:

- The Council may, for the implementation of its decisions, form various thematic committees, as prescribed.
- The provisions functions, duties and powers, and other procedures relating to the meeting of, the committee to be formed pursuant to Sub-section (1) shall be as specified by the Council.
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Success Secrets

6 Humorous Advices by Albert Einstein

The secret to creativity is knowing how to hide your sources.

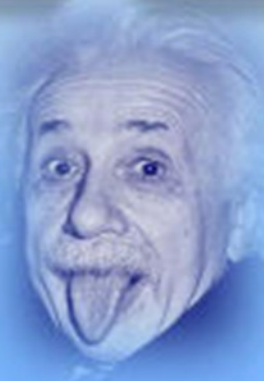
The only thing that interferes with my learning is my education.

I never think of the future. It comes soon enough.

I don't know, I don't care, and it doesn't make any difference!

Success in life = $X + Y + Z$.
Work is X; Y is play; and Z is keeping your mouth shut.

I want to know God's thoughts... the rest are details.



3.Nepal Health Research Council (NHRC)

About NHRC:

- The Nepal Health Research Council (NHRC) was developed as an example of commitment of Nepal Government (NG) Nepal to promote scientific study and quality research in health in Nepal.
- It started as Nepal Health Research Committee under the Ministry of Health, chaired by the Secretary of Health in 1982 AD (BS 2039).
- On 12 April 1991 (29 Chaitra 2047 BS), the committee was developed into the Nepal Health Research Council, a statutory and autonomous body as promulgated by the Nepal Health Research Council Act No. 129 of the year 1991 of NG. With the consent of the Council of Ministers pursuant of Article 129 of the constitution of the government of Nepal, 1990 enacted the NHRC.

Contd...

Objectives:

- To do or cause to do study and research on problems in the field of health being encountered or likely to be encountered in future.
- To conduct programs relating to consultancy service and information in order to make the study and activities relating to health more useful, and
- To acquire information about studies, researchers and works on various problems relating to health in the world and inform it to HMG from time to time.

Contd...

Functions, Duties and Right of the Council:

- To do or cause to do study and research in the various fields relating to health within the republic of Nepal subject to the health policy of Nepal government.
- To formulate National health research policy and give a definite direction for the promotion, aspects of health in Nepal.
- To undertake research on health system, including, biomedical, behavioral and other related health sciences.
- To undertake studies on prevention, diagnosis, treatment of disease and ailments.

Contd...

- To specify the priority sectors of study and research relating to health.
- To give consent for study and research in subjects related to health, to determine authenticity and recommended to Nepal government.
- To co-ordinate, guide and evaluate research works related to health and make appropriate recommendation.
- To publish and publicize the know how experiences and the results of research relating national and international levels.

Contd...

- To give consent to carry out some part of the research in a foreign country if there is no facility to carry out such research within the kingdom of Nepal.
- To provide outstanding as well as young research award to the most deserving researchers of the country.
- To provide travel grant to those researchers who is going to present a paper in international conference/ congress/ seminar.
- To keep records of research relating to health.
- To strength the research capability through training.

NEVER FORGET

3 TYPES OF PEOPLE IN YOUR LIFE..

1. WHO HELPED YOU IN YOUR DIFFICULT TIMES.
2. WHO LEFT YOU IN YOUR DIFFICULT TIMES
3. WHO PUT YOU IN DIFFICULT TIMES

4.American Association for Clinical Chemistry (AACC)

Introduction:

- AACC is a global scientific and medical professional organization dedicated to clinical laboratory science and its application to healthcare.
- Our leadership in education, advocacy and collaboration helps lab professionals adapt to change and do what they do best: provide vital insight and guidance so patients get the care they need.

AACC's Vision:

Better health and healthcare through laboratory medicine.

AACC's Mission:

AACC provides global leadership in advancing the practice and profession of clinical laboratory science and medicine

Contd...

AACC Strategic Plan 2016-2018

- AACC has made tremendous progress in implementing its previous Strategic Plan, set in place in 2013.
- The result of an intense process, the 2013-2015 plan included five goal areas and 19 strategies to guide the association's activities as it worked to advance its mission.
- The 2016-2018 plan builds upon the previous plan and the successes realized as a result of unwavering commitment to executing that plan.
- In the context of current trends, the new plan stays true to the association's vision and mission, maintaining a focus on constant priorities even while extending the plan's strategies to ensure AACC meets the needs of the full breadth of professionals in today's laboratory medicine environment.

Contd...

AACC's strategic plan set goals for innovation, growth, and influence in five areas:

- **Goal Area 1: Member Community**

Provide a meaningful and rich member experience in which laboratory medicine professionals can network, collaborate, and connect to the larger laboratory medicine community

- **Goal Area 2: Science & Innovation**

Advance new knowledge in laboratory medicine and its application to healthcare to improve patient outcomes

- **Goal Area 3: Content & Education**

Provide contemporary and cutting-edge information to enhance knowledge in the field of laboratory medicine for the advancement of patient care and improved health outcomes

Contd...

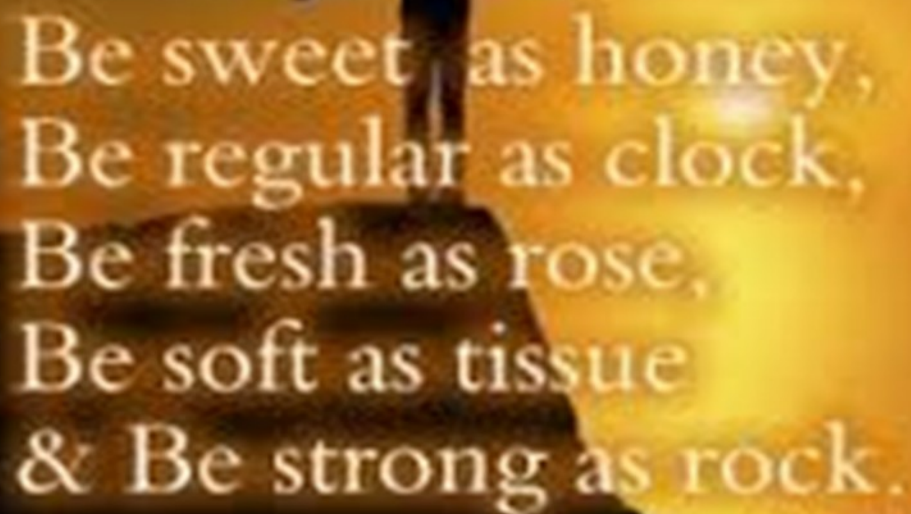
- **Goal Area 4: Advocacy & Influence**

Enhance awareness of the value of laboratory medicine and of the unique knowledge of clinical laboratory experts, and advocate for policies that affect the field and improve the professional lives of AACC members

- **Goal Area 5: Resources & Capacity**

Strengthen and expand the association's financial resources to ensure continued vitality and growth and ensure its infrastructure and governance align with its goals.

To Achieve Success in life:

A silhouette of a person standing on a rock with arms outstretched, set against a warm, golden sunset background. The person is positioned centrally, with the rock they stand on extending from the bottom left towards the center. The background is a gradient of yellow and orange, suggesting a bright sun low on the horizon.

Be sweet as honey,
Be regular as clock,
Be fresh as rose,
Be soft as tissue
& Be strong as rock.

www.healthythoughts.in

5. International Federation of Clinical Chemistry (IFCC) and Laboratory Medicine

History of the IFCC:

- In 1952, Professor E J King of the Royal Postgraduate Medical School in London suggested that the then emerging national societies of clinical chemistry should organize into an international body under the auspices of the International Union of Pure and Applied Chemistry (IUPAC).
- This was accomplished on July 24, 1952, at the Second International Congress of Biochemistry in Paris, by the formation of the International Association of Clinical Biochemists.
- A year later, in Stockholm, it was resolved to change the name to the International Federation of Clinical Chemistry, and this was formally adopted at the next meeting which took place in 1955 in Brussels.

Contd...

Introduction:

- The International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) is a worldwide, non-political organization for clinical chemistry and laboratory medicine.
- As such it has a range of roles that includes:
- global standard setting in collaboration with other international organizations,
- supporting its members through scientific and educational endeavour, and
- providing a series of congresses, conferences and focussed meetings in order for laboratory medicine specialists to meet and present original findings and best practice.

Contd...

Objectives:

- The initial objectives of the Federation were to "advance knowledge and promote the interests of biochemistry in its clinical (medical) aspects".

Mission:

- Our mission is to be the leading organization in the field of Clinical Chemistry and Laboratory Medicine worldwide.
- Through leadership and innovation in science and education we will strive to enhance the scientific level and the quality of diagnosis and therapy for patients throughout the world.

Contd...

- We will build on the professionalism of our members to provide quality services to patients.
- We will aim to communicate effectively with our members, other healthcare providers and the public to ensure knowledge of our excellent scientific and educational achievements.
- We will focus always on scientific standards, publications, education and communications.
- We will hold outstanding congresses and conferences to bring the efforts of IFCC to the global community.

A scenic coastal landscape featuring a rocky coastline with a blue ocean and white waves crashing against the shore. In the foreground, there are vibrant yellow flowers. The background shows a clear blue sky and distant hills. The entire scene is framed by a black border.

*Joy in looking
and comprehending
is nature's most
beautiful gift.
- Albert Einstein*

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