

## Laboratory Medicine – the core foundation of clinical care excellence

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Diagnostic laboratory services, provincially, nationally, and globally, play a major role in various clinical disciplines and healthcare systems. Laboratory Medicine certainly is one of the most diverse Medical Disciplines, where *technology*, *innovation*, and *quality* meet to foster clinical care excellence at both individual and community levels. The current COVID pandemic has clearly highlighted how we, as the Laboratory Medicine Community, lead in fighting this deadly disease by not only testing but using technology in developing vaccines and pertinent therapies.

Anatomical Pathology is one of the areas of Laboratory Medicine, where the diagnosis of diseases including cancers are made. We now understand that cancer is just not a disease, but a large diverse group of diseases. It is the second leading cause of death globally, accounting for an estimated 9.6 million deaths. The burden of cancer (physically, emotionally, and financially) continues to grow worldwide, impacting patients, families, communities, and healthcare systems. In economically developed countries such as ours, access to timely quality diagnosis and treatment is possible, leading to improved survival rates of many types of cancers.

Anatomical Pathology is the foundation of cancer care. In fact, it is fair to say that with no tumor pathology diagnosis, there will be no proper treatment. Historically, malignant tumors were treated with few limited and often ineffective and possibly harmful chemotherapeutic regimens. In the 21st century, precision medicine (also known as personalized medicine) has revolutionized our approach to cancer treatment. This includes the use of biomarkers, molecular testing, and targeted therapies to deliver a personalized approach to cancer therapy through the use of molecular and genomic information about individual cancers. This is because each cancer can be unique in its molecular signature and the uniqueness of this approach lies in discovering effective therapies for individual cancers based on the specific abnormalities of the tumors.

We, as laboratory healthcare professionals, are on the frontline of fighting cancer every day. This fight effectively happens in various laboratory services on daily basis including cytology, histology, hematopathology, immunohistochemistry, cytogenetic and molecular pathology. Integration of the three pillars of our Discipline (*technology*, *innovation*, and *quality*) has further allowed new discoveries and improvements in diagnostics, prognostics, and therapeutics aspects of cancer care. This has proudly made us all be Patient-Centered Laboratory Professionals. And that we directly and/or indirectly provide the best care possible to our patients as a dedicated Team/Family.