
AUBMC 2020 VISION
"FIRSTS
AND
ONLYS"



AMERICAN UNIVERSITY of BEIRUT MEDICAL CENTER

المركز الطبي في الجامعة الأميركية في بيروت

Our lives are dedicated to yours

www.aubmc.org

The American University of Beirut Medical Center's (AUBMC) name is synonymous with advancing and revolutionizing medical care in Lebanon and the region since 1902. Our mission has been and will continue to be an academic medical center dedicated to the passionate pursuit of improving the health of the community in Lebanon and the region through the delivery of exceptional and comprehensive quality care to our patients, excellence in education and training, and leadership in innovative research. AUBMC has led the way by pioneering medical services and providing exceptional standards of quality health care for over a century.

Today, AUBMC – thriving to meet the needs of over 360,000 patient visits annually – is the only medical institution in the Middle East to have earned the four international accreditations of the Joint Commission International (JCI), Magnet®, College of American Pathologists (CAP), and the Accreditation Council for Graduate Medical Education – International (ACGME-I) attesting to its superior standards in patient-centered care, nursing, pathology/ laboratory services, and graduate medical education.

Persevering to provide the highest standards of excellence in patient-centered care, education, and research in the Middle East, AUB secured dynamic new leadership for AUBMC in 2009 with the appointment of Dr. Mohamed H. Sayegh Vice President for Medical Affairs and Dean of the Faculty of Medicine at AUB, and Endowed Professor of Medicine and Pediatrics at Harvard Medical School. Shortly after his arrival, Dean Sayegh announced an ambitious new vision known as AUBMC 2020, propelling the Medical Center and medical care in the region to new levels of excellence.

As part of the AUBMC 2020 Vision and our commitment to honoring our tradition and legacy as the leading provider of health care in Lebanon, over the past four years AUBMC has introduced many “first” and “only” health care advances to Lebanon or the region. Inside this brochure you will learn more about these breakthroughs and advancements that have solidified AUBMC's role as the leading provider of health care, medical education and research in the region. AUBMC is committed to raising the level of health care in Lebanon and the region to standards that are similar to the best academic medical centers in the west. All of this is to provide patients with the level of care they deserve in the Middle East. After all, at AUBMC, our lives are dedicated to yours.

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Unprecedented Recruitment and “Reverse Brain Drain”

Since July 2009, the AUB Faculty of Medicine and AUBMC have been able to do what no other institution in Lebanon or the region has done – and that is bring back to Lebanon

108 new faculty members

from top institutions around the world (over 70% come from top US institutions such as Harvard, Yale, Mayo Clinic, MD Anderson, Columbia University, etc.). These renowned researchers and clinicians have brought unique skills to the Middle East that allow patients to get treated in Lebanon for procedures that may have required them to travel abroad in the past.



Groundbreaking procedures and treatments

In line with AUBMC's mission to work tirelessly to improve patients' lives in the region by providing unequalled quality of patient-centered care – numerous departments, units and services have performed pioneering procedures taking health care provision to even higher levels of excellence.

Cardiology and cardiac care:

To remain abreast of the region's medical needs, the Office of Clinical Affairs and the Heart and Vascular faculty and staff at AUBMC have jointly established the framework for the first Heart and Vascular Center of Excellence – set to open in 2016. With cardiovascular disease and stroke being rapidly growing health issues in our region, and with the prevalence of diabetes and hypertension in the Arab Middle East being among the highest in the world, a heart and vascular center that addresses these issues is essential to reducing the burden of the disease in Lebanon and the region.

In order to prevent cardiovascular disease and strokes in patients, the division is also focusing a significant amount of its efforts on prevention and in December 2012 opened the first Preventive Cardiology Clinic (PCC) in Lebanon, in addition to establishing the only Salt Reduction Program in the Middle East.

AUBMC cardiologists have also performed the first ablation of atrial fibrillation which is an abnormal heart rhythm originating in the top chambers of the heart (atria) and a major cause of stroke. This can adversely impact quality of life, and is associated with increased mortality. Atrial fibrillation ablation (also called pulmonary vein antrum isolation or PVAI), is a treatment for atrial fibrillation, proving successful with low risk of complications.

Among the division's cutting-edge equipment is the FFR (fractional flow reserve), which is the most objective and reliable way to evaluate the indication for treating a vessel by angioplasty or surgical technique. The division also applies the Angiojet, one of the most effective methods in cleaning blood vessels from clots.

The first to develop the Inherited Cardiovascular Disease program and perform the left ventricular assist device implantation procedure, AUBMC is the only medical center in Lebanon and the Arab region with advanced and comprehensive cardiac MRI, CT and heart failure programs.

Pediatric Cardiology:

Heart specialists at AUBMC Children's Heart Center (CHC) successfully performed the cutting-edge Hybrid Norwood heart surgery to treat a week-old baby with Hypoplastic Left Heart Syndrome (HLHS). AUBMC is the first medical center in Lebanon and the region to use hybrid surgery for the treatment of HLHS, a procedure which has only been carried out in very few selected centers in the US, Canada and Europe.

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Otolaryngology and head and neck surgery:

The Department of Otolaryngology and Head and Neck Surgery has been leading the way, and continued to introduce many firsts and onlys over the past four years. These include the treatment of vocal cord paralysis under local anesthesia only using fiberoptic endoscopy, use of a minimally - invasive technique unique to Lebanon and the region – to treat cases of disability in the vocal cords and of incomplete closure of the cords as a result of neurologic disorders such as multiple sclerosis and Parkinson’s (conducted by experts at the Hamdan Voice Unit) and endoscopic laser cancer resections such as partial laryngectomies (partial removal of the larynx).

The Advanced Head and Neck Oncology and Microvascular Reconstructive Surgery Program in the Department of Otolaryngology delivers state-of-the-art cancer care and is among very few in the region that deliver microvascular free tissue transplant procedures. Free tissue transfer consists of transplanting tissue (skin, muscle, bone) from one region of the body to another. The transplanted tissue is shaped and molded to recreate missing structures or damages to the human body that may have resulted from trauma or sustained after tumor removal. Such reconstructive capabilities remarkably improve the oncological, functional (speech, swallowing, feeding) and aesthetic outcomes of our patients. Free tissue transplants allow treating otherwise unresectable tumors. The program is unique with its inherent expertise and a remarkable success rate.

The free flap program performed several procedures including oral tongue reconstruction to preserve speech and swallowing functions, mandibular reconstruction to maintain the normal form and function of the face, the reconstruction of the pharyngoesophagus – or the superior portion of the esophagus to restore the feeding function, and several limb reconstructions like the near-total reconstruction of the humerus of a child (the long bone of the arm extending from the shoulder to the elbow), and the reconstruction of the femur or thigh bone and the foot metatarsal (the group of five long bones in the foot).

The latest pioneering surgery – the Scapular Tip free flap procedure – was performed on a patient with maxillary cancer. Maxillary cancer is a tumor that originates in the sinuses and spreads to the cheekbones and mouth. The tumor resection resulted in a complete bilateral loss of the patient’s mid-face beyond prosthetic rehabilitation, as well as incomprehensible speech and the inability to eat properly. The Scapular Tip free flap procedure reconstructed the patient’s mid-face restoring his abilities to speak and eat, and avoided devastating deformity.

A pioneering surgery - the scapular tip free flap procedure - was performed on a patient with maxillary cancer.



Eye care and ophthalmology:

The Department of Ophthalmology at AUBMC has been the first in the region to venture in the treatment of presbyopia – a condition where the eye exhibits a progressively diminished ability to focus on near objects – using the Acufocus inlay procedure. Pioneers at the department have also been the first performing the 25 gauge suture-less pars plana vitrectomy in the region since 2004. This is a surgical procedure to remove the vitreous gel from the eye through minimal incisions. The 25 gauge vitrectomy causes significantly less trauma to the ocular tissue and requires less time for visual rehabilitation due to the minimally invasive nature of the surgery.

In collaboration with the Children's Cancer Center of Lebanon (CCCL) at AUBMC, the department is the first in Lebanon and the Arab region to establish and implement a Retinoblastoma Program, accepting patients throughout the region. Retinoblastoma is a malignant tumor on the retina, occurring most often in children under the age of five, and can be present in one or both eyes. The pediatric ophthalmology service along with the CCCL has been active in enrolling and treating retinoblastoma patients from the region for years. Local treatment, including thermotherapy (using the long pulse Diode laser) for retinoblastoma is delivered uniquely at AUBMC at the national and immediate regional level.

Recently, the RetCam (a special retinal camera for children) has been acquired to facilitate diagnosis, follow-up and treatment of this tumor. AUBMC is the first in the region to acquire this technology which is also instrumental in managing retinopathy of prematurity and other blinding retinal disorders in infants.

The department is also the first in the region to introduce the "Diode Laser Endocyclophotocoagulation." Endocyclophotocoagulation offers direct visualization and precise treatment of the ciliary body, with a predictable, complication-free and sustained result. Now, advanced Glaucoma patients previously considered doomed to blindness have hope. This procedure replaces previous treatments which lacked the accuracy and reliability of Endocyclophotocoagulation while producing additional side effects.

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Liver Transplant

Since performing the first liver transplant in Lebanon 14 years ago, AUBMC is currently still the only medical center in the country that provides this important service.

Interventional Radiology:

In June 2012, AUBMC Interventional Radiologists performed the first renal denervation procedure for the treatment of hypertension in Lebanon and the region which involves inserting a catheter into each renal artery and performing controlled radiofrequency ablation to stop the effect of the sympathetic nervous system on the kidneys. Currently this procedure is indicated for people with uncontrolled blood pressure on three or more antihypertensive medications who meet other criteria, but the indications are broadening to involve not only hypertensive patients, but patients with obstructive sleep apnea, congestive heart failure, chronic kidney disease and the metabolic syndrome.

Neurology and neuroscience:

The Abu-Haidar Neuroscience Institute (AHNI) (a center of excellence dedicated to clinical and basic neurosciences) with the introduction of its "firsts" and "onlys" has established centers that provide care to patients that may have previously had to travel abroad to the west to receive care or settle for a suboptimal treatment approach to their disease.

In October 2011, the first Multiple Sclerosis (MS) Center in the region was inaugurated at AUBMC. The AUBMC MS Center offers state-of-the-art resources to provide the most advanced specialized care, supported by an extensive program of research and education, in order to improve the lives of patients with MS, a degenerative disease that affects patients that are in their prime with the age of diagnosis usually ranging between 20 - 30 years.

In February 2012, the first Special Kids Clinic in Lebanon was opened wherein expert pediatric neurologists, and speech, physical, occupational, psychomotor and feeding specialists will provide early detection and outstanding expert diagnosis and coordinated, developmental, neurological and total care for neurologically impaired kids, especially special needs kids from Lebanon and the region, in an integrated and affordable manner.

In October 2013, AUBMC inaugurated Lebanon's first comprehensive, multidisciplinary Neuroscience Outpatient Center - consolidating all of the medical center's neurology and neurosurgery services. The center also consists of sub-specialized clinics including the well-established Epilepsy Program and establishes the framework for a new Movement Disorders Program, which will address diseases of balance, motor coordination and tremor such as Parkinson's disease and dystonia.

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Obstetrics and gynecology:

AUBMC's Department of Obstetrics and Gynecology has also contributed to the introduction of firsts to the region. Two gynecological surgical procedures have revolutionized care in Lebanon and they are the first single port laparoscopic surgery for gynecologic surgery with reusable instruments in the country (a minimally invasive surgical procedure in which the surgeon operates almost exclusively through a single entry point, typically the patient's navel thus reducing recovery time and complications from radical surgery), and the first minimally invasive surgical procedure – Laparoscopic Vecchietti (which is basically the surgical construction of a vagina) – to treat vaginal agenesis – a congenital disorder of the reproductive system affecting one in 5,000 females.

Oncology and cancer care:

In November 2011, at the Naef K. Basile Cancer Institute (NKBCI) at AUBMC (a center of excellence dedicated to the treatment of adult cancer), oncologists and cancer care experts at AUBMC successfully performed the first unrelated donor allogeneic bone marrow transplant in Lebanon. This procedure was only possible due to the physicians' skills and experience, institutional readiness, and ability to meet international criteria. The NKBCI is also leading the way in cancer care with an oncology program consisting of multidisciplinary services targeting the treatment of diffuse abdominal carcinomatosis by surgical debulking – removal of part of a malignant tumor which cannot be completely excised to enhance the effectiveness of chemotherapy - followed by hyper thermic intraperitoneal chemotherapy (HIPEC). In the fight against breast cancer, physicians at AUBMC have also performed the first RadioFrequency (RF) ablation of a breast mass – where a breast tumor was destroyed by using the heat generated from the high frequency alternating current. From the different procedures listed above, what makes the experience of patients visiting the NKBCI a successful one is not only the caliber of physicians and health care providers, but the multi-disciplinary nature of the team that allows a patient to not only work with oncologists but surgeons, radiologists, radiation oncologists, amongst others to provide patients with an entire team dedicated to providing them the best care and highest possibility for successful treatment.



Oncologists & cancer care experts at AUBMC successfully performed the first unrelated donor allogeneic bone marrow transplant in Lebanon.



Psychiatry and mental illness:

AUBMC's Department of Psychiatry has paved the way for introducing a highly specialized non-medication based treatment for depression by conducting the first Transcranial Magnetic Stimulation (TMS) treatment for severe depression in the entire region. This is only possible due to the expertise of our physicians and the availability of the necessary equipment.



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Pulmonary and critical care:

In the field of pulmonary and critical care, breakthroughs and advancements are also being made.

In November 2011 our expert physicians executed the first endo-bronchial ultrasound (EBUS)-guided needle aspiration of thoracic lymph glands in the region, to identify and diagnose thoracic cancer.

In January 2013, the first Pulmonary Rehabilitation Program in Lebanon was also opened to help patients suffering from chronic obstructive pulmonary disease (COPD), an epidemic in Lebanon and the region due to the high prevalence of smoking in our population.



Radiation Oncology:

AUBMC's Radiation Oncologists have accumulated multiple "firsts" and "onlys" in the field throughout the region. They were the first to start with the Intensity Modulated Radiotherapy treatment (IMRT) for optimized dose distribution, to deliver high doses of radiation to cancer tissues while keeping the exposure of adjacent normal areas to a minimum – this means improved efficacy with reduced side-effects. They were also the first to implement the Image Guided Radiotherapy (IGRT), to enable CT scanning while patient is on radiotherapy treatment to ensure superiorly accurate geometrical targeting of the tumor.

Moreover, experts in radiation oncology at AUBMC were the first to use Stereotactic RadioSurgery (SRS) for submillimetric stereotactically accurate high dose treatment delivery – a treatment modality using a solid frame of reference fixed onto the patient's skull, offering a 3-dimensional localization and targeting of intracranial tumors. They were also pioneers in adopting the High Dose Rate fast and computer optimized brachytherapy treatment (HDR), which places high dose rate radionuclide optimally at computer controlled positions within the tumor to allow better dose-shaping with very short treatment duration and minimal patient motion thus increased targeting accuracy.

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Surgery:

Physicians at AUBMC's Department of Surgery have also been working diligently to bring a number of "first" and "only" procedures to Lebanon and the region. They have established the first comprehensive multidisciplinary program for the management of peritoneal surface malignancies in Lebanon.

Also, in November 2012 the Department of Plastic and Reconstructive Surgery performed the first tip of the toe to tip of the finger micro-reconstructive surgery in Lebanon. This sophisticated procedure was conducted on a 15-year-old patient who lost the tip of his finger in a firework accident. This spared the patient from finger amputation.

First Virtually Augmented Surgery in the Middle East

The first virtually augmented surgery in the Middle East and only the third outside of the United States was conducted at AUBMC in April 2014, as part of the Global Smile Foundation (GSF) MENA mission in Lebanon in collaboration with the Division of Plastic and Reconstructive Surgery at AUBMC. The virtually augmented surgery was carried out as part of a pilot program utilizing software by Vipaar, a remote video software company, which uses Google glasses to allow surgeons to communicate from thousands of miles away. The software was used during the surgical procedure on a two and a half year old girl with a cleft lip.

AUBMC and the Global Smile Foundation MENA have been partnering together since 2012 to provide surgeries for patients with cleft lip in Lebanon and the region.



First of their kind Clinical Centers:

Opening of the first Multiple Sclerosis Center in the region.



Opening of the first center in the Middle East dedicated women's breast health - the Mamdouha El Sayed Bobst Breast Unit.



Opening of the first Special Kids Clinic in Lebanon and the region.



Opening of the first comprehensive multidisciplinary Balance Center in Lebanon.



Opening the first Partial Hospitalization program for adolescents in Lebanon.



Opening the first Preventive Cardiology Clinic in Lebanon.



Opening of the first Pulmonary Rehabilitation Program in Lebanon.



First of their kind Research and Academic Centers:

Consistent with its pioneering role in delivering cutting-edge medical research, the AUB Faculty of Medicine and AUBMC have established:

The first Clinical Research Institute (CRI) in the region in 2010, to provide the required infrastructure to support and promote innovative clinical research leading to the advancement of clinical practice and improvement in patient care outcomes, positioning AUBMC as the hub for regional research.

The first Human Research Protection Program in 2010, to set regional standards for human subject research.

The first foundations for 5 Basic Translational Research Centers Of Excellence - Cardiovascular Sciences, Immunology Program, Genetics, Therapeutic Stem Cells, and Cancer Biology.

The first Bioethics and Professionalism Program in the region – the Salim El Hoss Bioethics and Professionalism Program – the first initiative in the Arab World targeted at enhancing public awareness, understanding and scholarly work on contemporary issues related to bioethics, humanism and professionalism and promoting the development of requisite skills and attitudes among medical practitioners.

The first regional center for mental health studies in collaboration with the WHO – the Arab Regional Center for Research and Training and Policy-Making in Mental Health.

The first Vascular Medicine Program in Lebanon.



