

Two Cardiac Surgical Innovative Treatments At Al-Rassoul Al-Azam Hospital



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Beirut Cardiac Institute at Al-Rassoul Al-Azam Hospital is at the forefront of medical innovation, continuously integrating the latest advancements to provide world-class care in cardiac surgery. With state-of-the-art technology and a team of highly skilled specialists, our cardiac surgeons perform even the most complex heart surgeries with exceptional precision and safety. One of our most advanced offerings is Off-Pump Coronary Artery Bypass Surgery (OPCAB), a revolutionary technique that allows heart procedures to be performed without the use of a heart-lung machine. Another innovative treatment for structural heart diseases is the use of Minimally Invasive cardiac Surgery (MICS) that significantly reduce the physical impact of surgery while ensuring excellent outcomes. Detailed data for both techniques is presented as follows:

I. Off-Pump Coronary Artery Bypass (OPCAB):

1. This technique includes partial stabilization of the heart where unlike conventional bypass surgery, the heart isn't stopped. A heart stabilizer device is used to immobilize only the specific area where the grafting will take place, while the rest of the heart continues beating and pumping blood to the body.

2. Benefits of Off-Pump Surgery:

- Lower risk of stroke and neurological complications compared to traditional bypass surgery.
- Reduced blood loss thus lessening the need for blood transfusions.
- Faster recovery and shorter hospital stay.
- Decreased risk of kidney failure, especially in patients with diabetes or pre-existing kidney disease.

3. Candidates for Off-Pump Surgery:

- Patients with chronic kidney disease or lung disease, where a heart-lung machine could increase complications.
- High-risk patients for cardiopulmonary bypass complications.
- Patients needing redo coronary artery bypass surgery (Redo-CABG), where avoiding re-exposure to bypass is beneficial.



II. Minimally Invasive Cardiac Surgery (MICS)

1. MICS Technique: Unlike traditional open-heart surgery, which requires a large incision through the sternum, minimally invasive cardiac surgery involves small incisions (often between the ribs) and the use of specialized instruments and high-definition imaging.

2. Benefits of MICS:

- Reduced surgical trauma – No need for full sternotomy, preserving the chest structure.
- Less postoperative pain – Smaller incisions lead to less discomfort.
- Lower risk of complications – Reduced risk of infection, bleeding, and other surgical complications.
- Faster recovery and shorter hospital stays – Many patients are discharged sooner and return to daily activities more quickly.
- Better cosmetic outcomes – Smaller scars compared to traditional surgery.

3. Candidates of MICS are patients complaining from a variety of structural heart diseases:

- Heart valve disorders (such as mitral or aortic valve repair/replacement)
- Congenital heart defects
- Atrial septal defects (ASD) and patent foramen ovale (PFO) closures
- Cardiac tumor removal
- Left Ventricular Assist Device Implantation (LVAD)
- Other structural abnormalities

With our commitment to “Excellence” and “Patient-centered Care” as two of the hospital’s core values, we are continuously striving to provide personalized, cutting-edge treatments that prioritize patient safety, comfort, and long-term health. By combining modern surgical techniques with the expertise of our dedicated cardiac team, we ensure that our patients receive the highest standard of care, tailored to their individual needs. Our mission is to continue pushing the boundaries of cardiac surgery, making innovative and minimally invasive procedures accessible to all who need them.



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