

# Follow Your HEART

## Aortic Valve Replacement in Guatemala City

Sit quietly, breathe deeply, meditate inward, and appreciate the rhythm of your heartbeat. The thumping sound you hear is the mitral and aortic valves of your heart opening and closing to allow your blood to flow like a river of healing energy. Every day, the heart pumps about 2,000 gallons, or 7,500 liters, of blood through these chambers, then throughout 60,000 miles of blood vessels. The heart beats about 100,000 times per day to supply all 75 trillion cells in the body with freshly oxygenated blood.

Four heart chambers work in unison: two atria, or "entrance halls" in Latin, and two ventricles, meaning "little belly" or "panza chica," below them. The heart's contractions force blood through the three leaflets of the aortic valve to the body's primary artery, the aorta. More importantly, the leaflets snap shut to block a leakage of blood back into the left ventricle.

Delicate valves can suffer from stenosis, becoming blocked by calcification or hardening, so that they constrict the blood flow. Others become floppy and inefficient, allowing for regurgitation, typically known as a "leaky heart valve." Replacement aortic heart valves could be mechanical, made from incredibly durable substances that can exist within the body without infection. Bioprosthetics are biological valve replacements, made from tissue from the patient or a donor.

Our day starts early at UNICAR Cardiac Surgery Hospital in Guatemala City. By 7 a.m., today's patient is calm and prepared, ready to undergo open-heart surgery, an aortic valve replacement.

The operating room, or "theatre" to our British friends, is exactly that. As with any major production, a crucial part of a live performance happens behind ...cont. page 36

PHOTO ABOVE: Dr. Rodolfo Bonilla, Surgical Team at UNICAR, Guatemala City

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## Follow your Heart cont. from page 32

the scenes. Skilled and devoted technicians prepare every tiny detail of the setting, to assure an absolutely flawless performance.

Wardrobe has selected a sea of blue surgical garments from head to toe, the only exception being the frame of the patient's chest, at center stage. Lighting design includes huge disks, with specialized O.R. bulbs, which drop from the ceiling to illuminate the scene, because we wouldn't want to miss a thing.

Entering stage left, the surgical staff interacts seamlessly, with respect and affection, like a tight-knit cast who have been rehearsing together for many years. The doctors' iPod choice for today's procedure is Brazilian jazz, Spanish guitars, and Imagine by John Lennon.

Dra. Carolina Gallardo administers the anesthesia, and Dr. José Morales, the cardiovascular perfusionist, prepares the cardiopulmonary bypass machine to take over the patient's circulation during the operation. For more than an hour, cardiac surgeon Dra. Sandra Domínguez and her assistant prepare the chest cavity and open the pericardium.

Enter our star and director, cardiothoracic surgeon, Dr. Rodolfo Bonilla, with over 25 years of experience performing thousands of cardiac procedures, from angioplasties to coronary artery bypass grafts. In this role, the script requires Dr. Bonilla to stop the heart from beating, redirect the blood to the heart-lung machine, remove and replace the faulty heart valve, and then resume blood flow and normal heart rhythm.

Every 60 seconds, five liters of blood flow over valves that open and close 70 to 80 times, but the doctors and their assistants need to work on a calm heart, with neither fluids nor motion. They must divert the blood to a desk-sized heart-lung ma-



UNICAR Operating Room in Guatemala City

chine filled with oxygenators, filters, gauges, pumps, reservoirs, tubes, plugs and clamps. It's astounding to contemplate the miraculous efficiency and reliability of our little 11-ounce heart, squeezing and sucking, opening and closing, doing exactly the same thing for 24 hours every day of our lives.

Four hours later, the delicate surgery is a brilliant success, worthy of the highest critical acclaim. But we hear neither applause nor ovation. Dr. Bonilla and his cardiac surgery team will repeat this procedure tomorrow, and the next day too, just as they have done together for years.

This real-life drama does not end with a curtain closing, but with a following act, appreciating every day that ...cont. page 42

## Follow your Heart cont. from page 36

our hearts continue to be active, healthy and rhythmic. Imagine.

It's important to note that some people experience no symptoms, not even a tiny heart murmur, and still live with the threat of severe aortic valve disease. Without timely surgical intervention, a patient could experience major complications, like an enlarged heart muscle, potentially leading to congestive heart failure.

If your doctor recommends a heart valve replacement, be sure to investigate the level of insurance coverage you can depend on, because without financial assistance, prices for open heart surgery can exceed \$150,000 in the United States. In Guatemala, you can depend on medical providers with the same surgical skills and technology as the best hospitals worldwide. This superior medical attention, plus VIP personal care with your medical advocate, will likely cost you less than \$25,000.

Breathe deeply, consider carefully and follow your heart. 🍀



Open heart surgery in Guatemala City