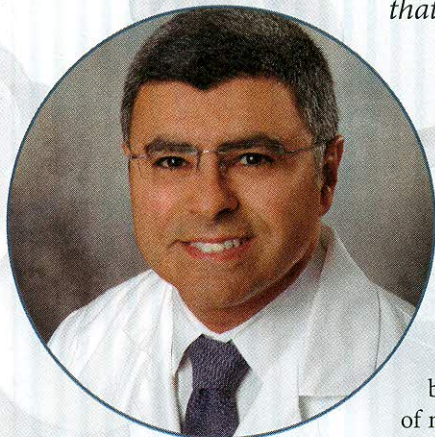


Medical wonders

Much has changed in the 15 years City & Shore has been bringing readers news about our community, and the world of medicine is no exception. Researchers have developed new techniques and treatments that extend life and improve its quality in that short period of time. We asked doctors to talk about four advancements that have been particular game-changers in that time.

By Jana Soeldner Danger



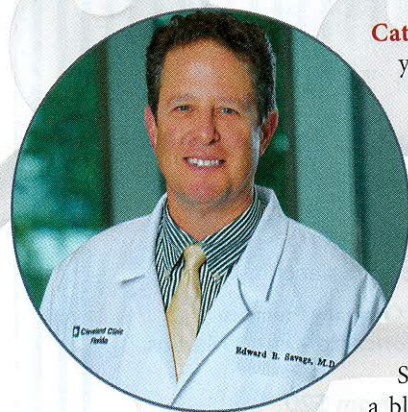
Dr. Ahmed Osman

Completion of the human genome project. Scientists are now able to catalog and map the billions of DNA units that form the human genome, says **Dr. Ahmed Osman**, medical director of the cardiac electrophysiology laboratory at Broward Health Medical Center. That knowledge has opened the door to development of new ways to treat and manage disease.

Targeted cancer therapies. One of the results of the human genome project is that researchers now better understand the range of types and the numbers of mutations, or DNA errors, in individual tumor cells, says **Dr. Louise Morrell**, medical director of the Lynn Cancer Institute at Boca Regional Hospital. Using this knowledge, science has been able to develop medications that target the specific abnormal pathways that characterize a cancer in an individual instead of attacking all the cells in the body as chemotherapy does.



Dr. Louise Morrell



Dr. Edward Savage

Catheter-based cardiac valve therapies. Until about five years ago, heart valves were replaced only through open surgery, a procedure that requires opening the chest and temporarily stopping the heart, says **Dr. Edward Savage**, chairman of the department of cardiothoracic surgery at Cleveland Clinic Florida. Now for some patients, aortic valves can be replaced by guiding a new valve through the vessels in the groin. Likewise, leaking mitral valves can be repaired in a similar fashion by inserting a clip that brings the leaflets of the valve together so they meet properly.

Catheter-based mechanical thrombectomy for ischemic stroke treatment. Since the 1990s, treatment for ischemic stroke, caused by a blockage of a blood vessel in the brain, has been clot-busting medications that had to be delivered within 4 ½ hours of the stroke's onset. Longer delays created the risk of complications like bleeding in the brain. Now, retrievable stents can be inserted through an artery in the groin and guided to the problem area, says **Dr. Brijesh Mehta**, director of stroke and neurocritical care at Memorial Neuroscience Institute. The physician draws the device across the clot and ensnares it. The stent, which is attached to a wire, is then removed along with the entire clot, opening the blockage. The treatment can be administered for up to 12 hours after the stroke occurs.



Dr. Brijesh Mehta