Learn about the latest advances in interventional cardiology

The field of interventional cardiology continues to advance at a rapid pace, with many new and exciting developments in the past year. Bioabsorbable stents, now commercially available in Europe, gradually dissolve to CO2 and water over several months. The long-term safety of second and third generation drug-eluting stents has clearly been established. New devices and approaches have dramatically increased the success rate of opening chronic coronary artery occlusions, formerly the “Achilles heel” of percutaneous intervention. Stenting of left main disease is acceptable in carefully selected patients. Supersaturated oxygen therapy and mesh-covered stents appear to improve outcomes for patients with acute myocardial infarction. New intra-coronary imaging techniques, including optical coherence tomography and near-infrared spectroscopy, are providing exciting new insights into coronary atherosclerosis and stenting. Transradial catheterization has emerged as the safest approach for diagnostic and interventional procedures. The dangers of blood transfusion after PCI have led to new best practice guidelines restricting use of blood products. Finally, leading-edge programs such as ours have emphasized the importance of team-based approaches to management of complex coronary, valve and structural heart disease. It is incredibly exciting to come to work every day and learn about these new advances. For more information, read our article in the Journal of the American College of Cardiology, (Vol. 59, No. 17).

Treat atrial fibrillation through pulmonary vein isolation

Atrial fibrillation is the most common arrhythmia seen in clinical practice with more than three million Americans affected. The longer a heart is in atrial fibrillation the more resistant it is to treatment, so the sooner we identify and treat these patients the better.

It is known that paroxysmal atrial fibrillation stems from distinct triggers that can be identified and frequently arise from the pulmonary veins. Beaumont specializes in catheter ablation which heats (via radiofrequency energy) the atrial myocardium to destroy the arrhythmogenic tissue. Click here to learn more.

RESEARCH

Beaumont’s Heart and Vascular Research department is one of the largest in the country with many ongoing leading edge clinical research trials.

Selected Current Trials

ISCHEMIA Trial

Beaumont is participating in the ISCHEMIA trial, which compares the effectiveness of two initial management strategies in patients with moderate or severe ischemia on stress imaging. One approach will require an invasive strategy with cardiac catheterization and optimal revascularization plus optimal medical therapy. The other approach will be conservative in nature with optional medical therapy; catheterization will be reserved only for patients who fail medical therapy. This trial is a follow up to the well-known COURAGE trial, which suggested that an approach using optimal medical therapy was equal or superior in many ways to coronary revascularization in patients with known coronary disease.

The ISCHEMIA trial is enrolling patients who qualify on the basis of demonstrated ischemia and have normal renal function. Patients will undergo blinded coronary CT angiography (CCTA) to exclude left main disease and to confirm patient has obstructive coronary artery disease. Patients will be randomized to either the medical or interventional treatments.

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CANARY: Coronary assessment by near-infrared of atherosclerotic rupture-prone yellow

Balloon dilation of lipid-rich coronary stenoses has been associated with a higher risk of procedural complications, such as distal embolization and myocardial infarction. The CANARY trial is designed to determine whether use of filter-based distal protection during PCI will improve procedural safety and results. Patients with a high-risk lipid core plaque as assessed by NIR spectroscopy with the InfraReDx LipiScan Coronary Imaging system will be randomized to undergo stenting with or without a distal filter. The primary endpoint is the incidence of peri-procedural MI.

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Understand changes in physician environment: private practice, PSA or employed model

A fiscal reality of our current health care economy is the financial challenges imposed on private practices. With an ever-shrinking revenue base, the paradigm of independent private practice has become increasingly difficult to maintain. With an effort towards cost containment and financial viability, a majority of cardiology practices have turned to integration with hospital systems to enhance profitability and cut costs (particularly the cost of physician practices competing with hospital systems). Integration typically comes in two possible forms: either outright acquisition/employment of the practice by the hospital (with central management) or a practice services agreement (PSA), which is a leasing arrangement with the hospital. In a PSA, the hospital leases out a particular set of physician service activities at a fair market value conversion of relative work units (RVU’s). Either option might make sense depending on the particular needs and capabilities of the practice and the hospital. Click here to learn more.

Treat varicose veins with endovenous ablation therapy

Varicose veins are an increasingly common problem encountered in medical practice. The underlying condition is referred to as venous reflux disease and may lead to swelling, skin changes, and eventually ulceration. Venous duplex is the main stay of diagnosis and treatment is focused on compression stocking, local skin treatment and decreasing salt intake. Endovenous ablation therapy with laser or radio frequency has replaced surgical stripping and is a relatively painless, office-based procedure. Click here to learn more.