The Future of Cardiac Medicine and Cardiovascular Surgery—A Look into the Crystal Ball

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Coronary Artery Disease
Structural Heart Disease (Valves and Walls)
Aortic Disease
Hypertension
Arrhythmias
Congestive Heart Failure
How it started….Before Machines
The Beginning
Stents
Progression of Drug Eluting Stent Technology

Nonabsorbable coatings

Cypher™
Taxus™
Endeavor™
Xience™

Bioabsorbable coatings & fillings

Have the polymer & drug disappear

Fully Bioabsorbable

Have the entire stent disappear

We don’t need a permanent metal scaffold to prevent vascular recoil and remodeling
Limone sul Garda

• No Cardiovascular Disease

• Hereditary Circulating Protein alters the way Cholesterol is metabolized

• Vaccine??
TAVR for Aortic Stenosis
MitraClip Implantation
Mitral Valve Procedures
Aortic Aneurysms
Hypertension - Renal Artery Ablation
Arrhythmias-AFib
Left Atrial Appendage Occlusion
Imaging
Congestive Heart Failure

Many causes, predominantly CAD

Number one Medicare diagnosis

5,000,000 Americans currently living with CHF

550,000 new cases diagnosed each year

Affects all ages, 1,400,000 under 60 years old

Treatment: underlying disease, drugs, devices, transplant, Stem Cells?
Stem Cells

1. Stem cells are filtered from bone marrow removed from a patient's hip.

2. The cells are injected into the heart's damaged area.

3. The cells embed themselves and produce proteins that signal the growth of new blood vessels and heart muscle.

Rejuvenated heart tissue.
Heart “Surgery” in the Morning…..
Home by dinner!
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Less invasive procedures, catheter and minimally invasive surgery

Advanced imaging to assist in planning and navigation

Angioplasty with Bio-Absorbable Stents

Automated Arrhythmia procedures

Totally closed Chest Assist Devices

Stem Cells and Vaccines (cures?)
It's kind of fun to do the impossible.

Walt Disney
Thank You!