HEART BEAT

Heart Lesson: Decades of Discovery

Winning the Battle to Keep Heart Vessels Open

(NAPSA)—Clogged heart vessels are one of nature's greatest challenges and the leading cause of heart attacks. Read about the remarkable advances that have revolutionized the treatment of coronary arteries—the vessels so important to keeping you alive.

1960s: Surgery Rules

The surgical procedure called *coronary artery bypass grafting* becomes the treatment of choice for severe coronary artery blockages. The surgeon uses a piece of vessel, usually from the leg, to build a detour or "bypass" around the area of blockage. This operation, while effective, is hard on the patient. Recovery is long and the risks are substantial.

1970s: Balloons Take Center Stage

Physicians learn a gentler way to treat large numbers of heart patients. In a procedure called *balloon angioplasty*, a thin plastic tube (catheter) with a small balloon on its tip is inserted into a vessel in the thigh. Using x-ray to guide the path, the doctor carefully threads the catheter through the large vessels in the abdomen and up to the heart. Once the catheter reaches the blocked coronary artery, the balloon is inflated to clear the blockage. While the results of balloon angioplasty are good, many vessels respond by producing scar tissue that reblocks the artery. This process is called restenosis and it occurs in about 50 percent of balloon angioplasty-treated vessels.

1990s: Stents Improve Results

To reduce the problem of reblockage, doctors begin implanting tiny metal scaffolding devices called *stents*. They use balloon angioplasty to open the blockage and then insert a stent to keep the vessel braced open. Stenting is a dramatic improvement over balloon angioplasty by itself, but scar tissue still presents a problem. Approximately 20 to 30 percent of patients continue to develop significant reblockages, and more than one-third of those need to be retreated.

Scientists continue to develop new methods for the treatment of coronary arteries.

2003: Finally, a One-Time Treatment is Possible

In 2003, the treatment of coronary artery disease takes a giant step forward with the new drug-device combination called the CYPHER™ Sirolimus-eluting Coronary Stent. The stent props the vessel open and gradually releases the drug sirolimus into the vessel wall. Sirolimus tends to reduce the cells in the vessel lining from forming scar tissue. The vessel is more likely to stay open, reducing the potential rate of reblockage and retreatment to five percent. At last, doctors can offer patients a first-time treatment for blocked coronary arteries.

For more information, visit www.cypherusa.com.