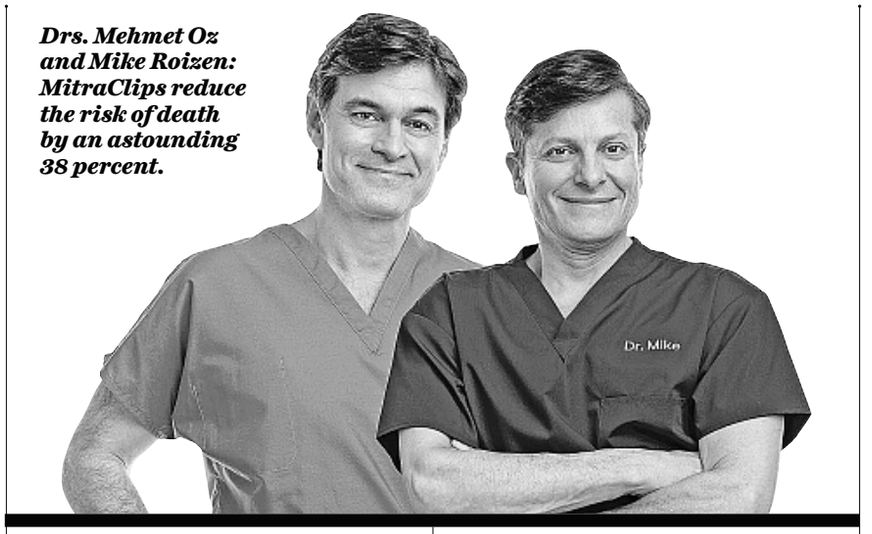
DRS. OZ AND ROIZEN

Quick, effective mitral valve repair device

Imagine that you are chronically fatigued and short of breath even when lying down. Your legs and ankles are swollen, and you have an increased heart rate. These are symptoms that almost 6 million Americans may contend with because they have heart failure – the inability of the heart to pump enough blood throughout the body to keep organs and tissue healthy and happy.

If you have this condition, it can cause the heart muscle to weaken and stretch out like an overblown balloon. That pulls apart the mitral valve – its job is to open and close the door between the heart's upper left-hand chamber (the atrium) and the lower chamber (the ventricle). When that happens, the flow of oxygen-rich blood out of your heart to the rest of your body backs up, and you develop what's called mitral regurgitation. Your symptoms worsen and your risk of death from heart failure increases.

But if a surgeon can fix the valve, even if the heart cannot be replaced, your well-being will improve greatly. Unfortunately, until now, heart failure with mitral valve regurgitation often made mitral valve repair or replacement necessary, complete with cracking open your rib cage and stopping your heart so that surgeons can go deep inside it. These are risky procedures, especially for people who have heart failure. Not surprisingly, many patients are unable to undergo the procedures. They simply have to live with the chronic, severe symptoms, making frequent and expensive hospital readmissions necessary.



Drs. Mehmet Oz and Mike Roizen: MitraClips reduce the risk of death by an astounding 38 percent.

But what if doctors developed a stealthy treatment that allowed them to sneak inside your heart without the trauma and risk of open heart surgery? That would be terrific, and they have!

In a stunning example of medical innovation, doctors, engineers and entrepreneurs worked for two decades to develop the MitraClip.

The clip is attached to your sagging mitral valve and allows the valve to once again open and then close completely in synchronization with your beating heart.

This dime-size device was originally conceived by Dr. Oz in 1996. It is based on insights into the workings of the mitral valve by an Italian surgeon named Antonio Alfieri. Says Dr. Oz: "Alfieri explained that the mitral valve works like a zipper, and when it fails in this way, all surgeons need to do is place one stitch to restart the closing process. Once stitched, the faulty valve naturally snaps shut again on its own!

"I kept thinking, if we only need one stitch, I should be smart enough to create a noninvasive process using a catheter to accomplish this goal, like we do with the placement of a heart stent.

"My colleagues and I at Columbia University immediately patented the device. In 2003, with a remarkably creative team led by Ferolyn Powell, we released a device which we've used at my NewYork-Presbyterian Hospital and around the world – in 30,000 implants since then."

There had been some resistance to using the device, because large clinical trials hadn't yet demonstrated success. Well, that's old news now.

In a recently published study in the New England Journal of Medicine, lead author Greg Stone (Dr. Oz's colleague from NewYork-Presbyterian) and dozens of collaborators published evidence of the MitraClip's effectiveness.

Their study followed 614 patients (303 received the device; the rest received standard treatments). Over two years, those receiving the clip saw their risk of getting admitted to the hospital cut in half. Even more importantly, over five years of follow-up, the device reduced the risk of death in those receiving the clip by an astounding 38 percent.

"The trial proved for the first time, without a shadow of a doubt, that the device works," said Dr. Oz. And, he said, this life-saving device's journey from concept to acquisition, and research support from a major pharma company, Abbott, "epitomizes how this country supports medical innovation."

The result? Lives saved, quality of life enhanced, medical costs reduced. Win. Win. Win.

Dr. Mehmet Oz hosts "The Dr. Oz Show," and Buffalo native Dr. Mike Roizen is chief wellness officer of the Wellness Institute at Cleveland Clinic.

LIFELINE

Study finds tree compound kills cancer cells

A new derivative of a compound found in the bark of a rare Chinese tree has powerful anticancer properties and a low toxicity profile, according to researchers at Roswell Park Comprehensive Cancer Center.

Results of their study of the effects of the compound F118 in pancreatic cancer were published this month in the Journal of Experimental & Clinical Cancer Research.

Pancreatic cancer is one of the most difficult cancers to treat. Even with aggressive treatment, only 6 to 8 percent of patients will survive five years beyond the time of diagnosis. Pancreatic tumors are very dense, making the delivery of cancer-fighting drugs challenging, and most tumors quickly develop resistance to treatment.

Camptothecin, a compound naturally found in tree bark and used in traditional Chinese medicine for centuries, was first isolated more than 50 years ago for use as an anticancer agent. Although several thousand synthetic camptothecin analogues have since been developed and tested, only two – irinotecan and topotecan – have been approved by the FDA for cancer treatment. Both target a protein critical for the growth and spread of cancer cells, but because that protein is also needed for renewal and growth of normal tissue, irinotecan and topotecan are highly toxic to humans, severely limiting their treatment benefit. A team of Roswell Park researchers led by Fengzhi Li, associate professor of oncology in the Department of Pharmacology and Therapeutics, previously found that a novel approach that does not use the protein as its anticancer therapeutic target effectively eliminated human colorectal and head/neck tumors that had become resistant to the two FDA-approved camptothecin compounds.

Encouraged by these results, Li and his team tested the effectiveness in preclinical pancreatic cancer models. In the current study, researchers found that the newly derived compound, either alone or in combination with other chemotherapeutic agents, preferentially killed drug-resistant cancer cells and reduced the formation of new tumorspheres by killing cancer stem cells. The approach also was generally well tolerated at therapeutic dose levels.