

# Groundbreaking robotic surgery in Wisconsin.

## At the forefront of minimally-invasive cardiac procedures.

A 72-year-old patient in need of aortic valve replacement because of a leaky aortic valve specifically requests robotic surgery. The procedure, completed in early 2010, was a milestone: the first human robotic endoscopic aortic valve replacement ever completed in the Midwest—and the second in the U.S. His surgeon, Dr. Husam H. Balkhy of the Wisconsin Heart Hospital in Milwaukee, is a pioneer in minimally-invasive procedures.

The patient received the ATS 3f<sup>®</sup> Aortic Bioprosthesis, the only stentless valve that can be used in robot-assisted procedures. "The ATS 3f valve is stentless and completely pliable in its design. The way it forms a tube is ideally suited to minimally-invasive implantation," said Balkhy. "I've never implanted an ATS 3f valve yet where I wasn't completely happy with the way the echo looked afterwards—and that's hard to come by in a stentless valve. I've already got my eye on the next generation, the ATS 3f Enable<sup>®</sup> valve."

Dr. Balkhy is affiliated with four hospitals in the Milwaukee area, and about 80–90% of his patients are now asking for sternal-sparing surgery. In 2009, he treated more than 65% of his patients with minimally-invasive procedures, and he sees this percentage increasing significantly in the future. He also anticipates doing more and more robotically, which he actually has come to prefer because the robot gives him greater dexterity and leverage inside the chest.

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*"From my perspective, ATS Medical is one of the few companies that's truly interested in, and committed to, minimally-invasive heart surgery—and not just product development but also education and training. I applaud them for their vision in clearly seeing the far-reaching potential."*

**Dr. Husam Balkhy**

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Not only does Dr. Balkhy use other ATS products in his minimally-invasive procedures, but he has also become an enthusiastic supporter of their ground-breaking features. "I use the ATS CryoMaze<sup>®</sup> Probe for stand-alone atrial fibrillation surgery as well as concomitant procedures for patients with valve disease. The probe is easy to wield and provides one of the easiest methodologies for creating the full Maze III lesion set. I'm also a big fan of the ATS Stimulus<sup>®</sup> Annuloplasty Ring. I like the semi-rigid support it provides and the way the anterior part of the annulus is very flexible, so it's easy to insert with a running suture."

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### Minimally-Invasive Surgery

#### ATS Stimulus<sup>®</sup> Annuloplasty Rings/Bands

*Ushering in a new era of physiologic repair.*

With technology revealing new insights into the way the heart functions, ATS has responded with innovative annuloplasty products that better accommodate physiologic movement of the heart. The ATS Stimulus line of annuloplasty rings and bands has many surgeons rethinking repair possibilities, including their expanded use in minimally-invasive procedures. As a result, the repair business continues to make important gains. In 2009, revenues grew 30% with both the U.S. and international markets contributing to this growth.



#### ATS CryoMaze<sup>®</sup> Surgical Ablation System

*Facilitating minimally-invasive treatments for cardiac arrhythmias.*

With new technologies combining robotic application with a malleable ablation device capable of creating a fully transmural lesion using hypothermic energy, the ATS CryoMaze System accomplishes the goal of being minimally invasive while replicating the original Maze III lesion pattern. This provides a "best of both worlds" outcome in robotic surgery and the treatment of atrial fibrillation. 2010 will see the launch of a next generation ATS CryoMaze Clamp that will further enhance the Argon cryoablation platform's functionality in minimally-invasive atrial fibrillation surgical procedures.





Dr. Husam Balkhy  
WISCONSIN, USA

### ATS 3f® and ATS 3f Enable® Aortic Bioprosthesis

*Creating new possibilities in valve replacement procedures.*

With the recent introduction of the ATS 3f Aortic Bioprosthesis to the U.S. and the ATS 3f Enable Aortic Bioprosthesis in Europe, cardiac surgeons have quickly recognized the unique potential of the world's first stentless valve in less invasive port access and robot-assisted procedures. Speaking of the ATS 3f Enable, Dr. Jerry Sadowski of the Department of CV Surgery and Transplantology in Poland's Jagiellonian University said, "The valve is an important step toward the goal of reducing procedure time and allowing for a more minimally-invasive approach to conventional valve surgery." Dr. Sadowski and his surgical team performed the first human implant of the ATS 3f Enable valve.

