Understanding Minimally Invasive Heart Valve Surgery
Increasingly, more heart valve procedures are being performed using minimally invasive techniques—potentially reducing pain, scarring, and recovery time.
Valve replacement and repair surgeries have been performed safely and effectively for years. Recent advances in technologies and procedural techniques have given surgeons and patients new options beyond full, open-chest heart valve surgery. Increasingly, more cardiac surgeons, cardiologists, referring physicians and their patients are embracing minimally invasive techniques for heart valve surgery.

Minimally invasive heart valve replacement or repair surgery offers many potential benefits over traditional heart valve surgery. These may include:

- Improved cosmetic results due to smaller incisions
- Reduced healing time
- Less pain
- Earlier discharge from the hospital
- Quicker return to regular activities
For more than three decades, Medtronic has led research and development efforts for advancing technologies in heart valve surgery. Medtronic’s extensive product line for minimally invasive heart valve surgery includes prosthetic valves for aortic and mitral replacement, annuloplasty systems for mitral and tricuspid repair, and remote access cannulae.

Medtronic is working ahead of the curve to provide leading solutions for minimally invasive applications. As the evolution of minimally invasive techniques unfold, Medtronic will continue to provide innovative products and tools to make a difference in the lives of patients.
Minimally invasive heart valve surgery is most commonly distinguished by incision size and location. The image above illustrates two “mini” incisions and locations that are commonly used today in accessing the heart for valve surgery. Minimally invasive heart valve surgeons take into account each patient’s specific disease indication and condition, as well as required exposure, when considering incision size and location. They balance these factors with preferred surgical technique to determine the most appropriate incision for each patient. Depending on their training and individual expertise, minimally invasive heart valve surgeons may employ direct vision, video-assisted/endoscopic, or robotic techniques.