SURGICAL HEART VALVE PORTFOLIO

Products designed to help you achieve excellent patient outcomes while enhancing your surgical offerings.
INVESTING IN YOU.
WE’RE DEDICATED TO THE HEART TEAM AND THE LONG-TERM CARE OF YOUR PATIENTS
INVESTING IN INNOVATION
We strive for continuous innovation — not just for innovation’s sake, but to truly advance patient care.

INVESTING IN YOUR EDUCATION AND TRAINING
Our medical education offerings help you stay up-to-date on the latest techniques through a combination of live case observations, didactic sessions, hands-on experience in pig heart simulation labs, and video case reviews.

INVESTING IN YOUR PATIENTS
With a focus on your patient’s long-term quality of life, we work in collaboration with you to develop solutions that achieve excellent patient outcomes.
UNDENIABLY DURABLE.

- An evolution in durability and implantability
- 80% freedom from explant due to SVD at 16 years in the mitral position\(^1\)
- 81% freedom from explant due to SVD at 17 years in the aortic position\(^2\)
- Cinch™ implant system facilitates ease of valve implant
- Physiologic Fixation promotes long-term valve durability*
- Suitable for future interventions

* No clinical data is available which evaluates the long-term impact of the Physiologic Fixation process in patients.
HEART VALVE REPLACEMENT THERAPIES

TESTED, TRUSTED.

- More than 30 years delivering consistent performance and clinical results
- 97.8% freedom from SVD at 20 years in aortic position³
- Impressive long-term performance in all age groups for both aortic and mitral valve
- 85% freedom from SVD at 15 years in mitral position⁴
- Suitable for future interventions

Hancock™ II Bioprosthesis
MAXIMUM FLOW.

- Designed to function like a native valve with physiologic hemodynamics
- Excellent mean pressure gradients and EOAs out to 10 years
- Strong clinical outcomes and excellent durability at 15 years

Freestyle™
Aortic Root Bioprosthesis
HEART VALVE REPLACEMENT THERAPIES

PERFORMANCE IN DESIGN.

- Excellent hemodynamics and reduced hemolysis\textsuperscript{7,8}
- Unique axis of suspension responds to physiological demands leading to excellent hemodynamic performance\textsuperscript{9}
- Single-plane orifice for implantability
- A remarkably quiet valve

Medtronic Open Pivot™ Heart Valve
Restores annular shape while allowing natural saddle shape to reduce mitral stress
Provides posterior support and accommodates anterior motion
CG Future™ Ring & Band

- Posterior support while preserving annular motion throughout the cardiac cycle\(^1\)

Profile 3D™ Ring

- Maintains the natural asymmetrical posterior and anterior dimensions with a saddle shape\(^1\)
TRICUSPID REPAIR THERAPIES

NO LONGER THE FORGOTTEN VALVE

Tri-Ad™ Adams Ring

- Flexible repair with targeted support

Contour 3D™ Ring

- Anatomically shaped — 3D remodeling ring
5. Freestyle Aortic Root Bioprosthesis 12-year Clinical Compendium. ©2007 Medtronic.
Hancock II Bioprosthesis Indications: For patients who require replacement of their native or prosthetic aortic and/or mitral valves.
Contraindications: None known. Warnings/Precautions/Adverse Events: Accelerated deterioration due to calcific degeneration of bioprostheses may occur in children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, hyperparathyroidism). Adverse events can include: angina, cardiac arrhythmia, cardiac dysrhythmias, death, endocarditis, heart failure, hemolysis, hemolytic anemia, hemorrhage, transvalvular or paravalvular leak, mycotic infection, nonstructural dysfunction, stroke, structural deterioration, thromboembolism, or valve thrombosis.

Freestyle Aortic Root Bioprosthesis Indications: For the replacement of malfunctioning native or prosthetic aortic valves with the option of aortic root replacement.
Contraindications: None known. Warnings/Precautions/Adverse Events: Accelerated deterioration due to calcific degeneration of bioprostheses may occur in children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, hyperparathyroidism). Adverse events can include: cardiac dysrhythmias, death, endocarditis, hemolysis, hemorrhage, transvalvular or paravalvular leak, mycotic infection, nonstructural dysfunction, structural deterioration, thromboembolism, valve thrombosis, or intracapsular hematoma.

Mosaic Bioprosthesis Indications: For the replacement of malfunctioning native or prosthetic aortic and/or mitral heart valves.
Contraindications: None known. Warnings/Precautions/Adverse Events: Accelerated deterioration due to calcific degeneration of bioprostheses may occur in children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, hyperparathyroidism). Adverse events can include: angina, cardiac arrhythmia, cardiac dysrhythmias, death, endocarditis, heart failure, hemolysis, hemolytic anemia, hemorrhage, transvalvular or paravalvular leak, mycotic infection, nonstructural dysfunction, stroke, structural deterioration, thromboembolism, or valve thrombosis.

Medtronic Open Pivot Heart Valve — Important Labeling Information for United States Indications: The Medtronic Open Pivot Heart Valve is indicated for the replacement of diseased, damaged, or malfunctioning native or prosthetic aortic or mitral valves. Warnings/Precautions/Adverse Events: The Medtronic Open Pivot Heart Valve is contraindicated in patients unable to tolerate anticoagulation therapy. Warnings: Persons allergic to cobalt-chromium or nickel may suffer an allergic reaction specifically to the AP360 style device. Adverse events can include: thromboembolic events, dehiscence, hemorrhage, stenosis, residual incompetence, heart block, endocarditis, systolic anterior motion, left ventricular outflow tract obstruction, anticoagulant-related bleeding or hemorrhage.

Mosaic Bioprosthesis Indications: For the replacement of malfunctioning native or prosthetic aortic and/or mitral heart valves.
Contraindications: None known. Warnings/Precautions/Adverse Events: Accelerated deterioration due to calcific degeneration of bioprostheses may occur in children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, hyperparathyroidism). Adverse events can include: angina, cardiac arrhythmia, cardiac dysrhythmias, death, endocarditis, heart failure, hemolysis, hemolytic anemia, hemorrhage, transvalvular or paravalvular leak, mycotic infection, nonstructural dysfunction, stroke, structural deterioration, thromboembolism, or valve thrombosis.

Medtronic Open Pivot Heart Valve — Important Labeling Information for Geographies Outside of the United States Indications: The Medtronic Open Pivot Heart Valve is intended for use as a replacement valve in patients with diseased, damaged, or malfunctioning heart valves. This device may also be used to replace a previously implanted prosthetic heart valve. Contraindications: The Medtronic Open Pivot Heart Valve is contraindicated in patients unable to tolerate anticoagulation therapy. Warnings: Persons allergic to cobalt-chromium or nickel may suffer an allergic reaction specifically to the AP360 style device. Adverse events can include: thromboembolic events, dehiscence, hemorrhage, stenosis, residual incompetence, heart block, endocarditis, systolic anterior motion, left ventricular outflow tract obstruction, anticoagulant-related bleeding or hemorrhage.

Hancock II Bioprosthesis Indications: For patients who require replacement of their native or prosthetic aortic and/or mitral valves.
Contraindications: None known. Warnings/Precautions/Adverse Events: Accelerated deterioration due to calcific degeneration of bioprostheses may occur in children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, hyperparathyroidism). Adverse events can include: angina, cardiac arrhythmia, cardiac dysrhythmias, death, endocarditis, heart failure, hemolysis, hemolytic anemia, hemorrhage, transvalvular or paravalvular leak, mycotic infection, nonstructural dysfunction, stroke, structural deterioration, thromboembolism, or valve thrombosis.

Freestyle Aortic Root Bioprosthesis Indications: For the replacement of malfunctioning native or prosthetic aortic valves with the option of aortic root replacement.
Contraindications: None known. Warnings/Precautions/Adverse Events: Accelerated deterioration due to calcific degeneration of bioprostheses may occur in children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, hyperparathyroidism). Adverse events can include: cardiac dysrhythmias, death, endocarditis, hemolysis, hemorrhage, transvalvular or paravalvular leak, mycotic infection, nonstructural dysfunction, structural deterioration, thromboembolism, valve thrombosis, or intracapsular hematoma.

Mosaic Bioprosthesis Indications: For the replacement of malfunctioning native or prosthetic aortic and/or mitral heart valves.
Contraindications: None known. Warnings/Precautions/Adverse Events: Accelerated deterioration due to calcific degeneration of bioprostheses may occur in children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, hyperparathyroidism). Adverse events can include: angina, cardiac arrhythmia, cardiac dysrhythmias, death, endocarditis, heart failure, hemolysis, hemolytic anemia, hemorrhage, transvalvular or paravalvular leak, mycotic infection, nonstructural dysfunction, stroke, structural deterioration, thromboembolism, or valve thrombosis.

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Mosaic Bioprosthesis Indications: For the replacement of malfunctioning native or prosthetic aortic and/or mitral heart valves.
Contraindications: None known. Warnings/Precautions/Adverse Events: Accelerated deterioration due to calcific degeneration of bioprostheses may occur in children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, hyperparathyroidism). Adverse events can include: angina, cardiac arrhythmia, cardiac dysrhythmias, death, endocarditis, heart failure, hemolysis, hemolytic anemia, hemorrhage, transvalvular or paravalvular leak, mycotic infection, nonstructural dysfunction, stroke, structural deterioration, thromboembolism, or valve thrombosis.

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Tri-Ad Adams Tricuspid Ring Indications: For patients who require replacement of their native or prosthetic tricuspid valves. Contraindications: Severe, generalized or localized bacterial endocarditis, heavily calcified valves, greatly dilated annulus (not reducible by standard techniques), severe valvular dysfunction (not correctable by standard techniques), valvular retraction with severely reduced mobility, congenital malformations with lack of valvular tissue. Warnings/Precautions/Adverse Events: Only physicians who have received proper training in valve repair should use this device. Adverse events can include: thromboembolic events, dehiscence, hemorrhage, stenosis, residual incompetence, heart block, endocarditis, systolic anterior motion, left ventricular outflow tract obstruction, anticoagulant-related bleeding or hemorrhage.

Profile 3D Aortic Annuloplasty Ring and Band Indications: This device is indicated for the reconstruction and/or remodeling of pathological aortic valves. Warnings/Precautions/Adverse Events: Patients allergic and/or stenosis may be corrected by appropriate repair and annular remodeling. Contraindications: heavily calcified valves, valvular retraction with severely reduced mobility, active bacterial endocarditis. Warnings/Precautions/Adverse Events: Only physicians who have received proper training in valve repair should use this device. Adverse events can include: thromboembolic events, dehiscence, hemorrhage, stenosis, residual incompetence, heart block, endocarditis, systolic anterior motion, left ventricular outflow tract obstruction, anticoagulant-related bleeding or hemorrhage.

CG Future Annuloplasty Ring and Band Indications: This device is indicated for the reconstruction and/or remodeling of pathological mitral valves. Warnings/Precautions/Adverse Events: Patients allergic and/or stenosis may be corrected by appropriate repair and annular remodeling. Contraindications: heavily calcified valves, valvular retraction with severely reduced mobility, active bacterial endocarditis. Warnings/Precautions/Adverse Events: Only physicians who have received proper training in valve repair should use this device. Adverse events can include: thromboembolic events, dehiscence, hemorrhage, stenosis, residual incompetence, heart block, annular dehiscence, heart failure, death.

For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use. For countries that use the CE mark, consult the Instructions for Use at this website: www.medtronic.com. Note: Manuals can be viewed using a current version of any major internet browser.

Caution: Federal law (USA) restricts these devices to sale by or on the order of a physician.