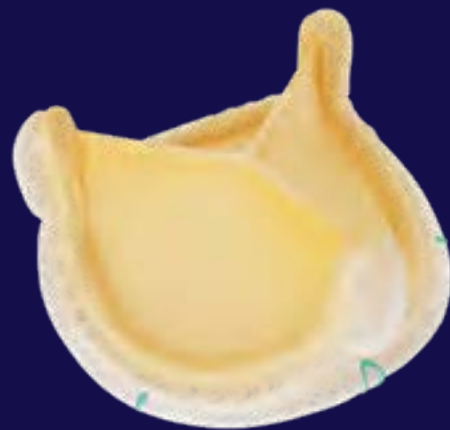


Medtronic



**Avalus Ultra™
bioprosthesis**


Fit for the
future
right from
the start.

Avalus Ultra bioprosthesis

Fit for the future, right from the start.

Innovating on the strong foundation of the Avalus™ valve with 10 years of clinical experience, this next-generation heart valve was specifically designed to offer ease of use at implant^{1,2} and empower cardiac patients to improve their quality of life.^{3,4} Additionally, it provides a durable, circular foundation for possible future TAV-in-SAV reinterventions to support patient lifetime management.





The Avalus Ultra
bioprosthesis is our
most advanced surgical
aortic valve.

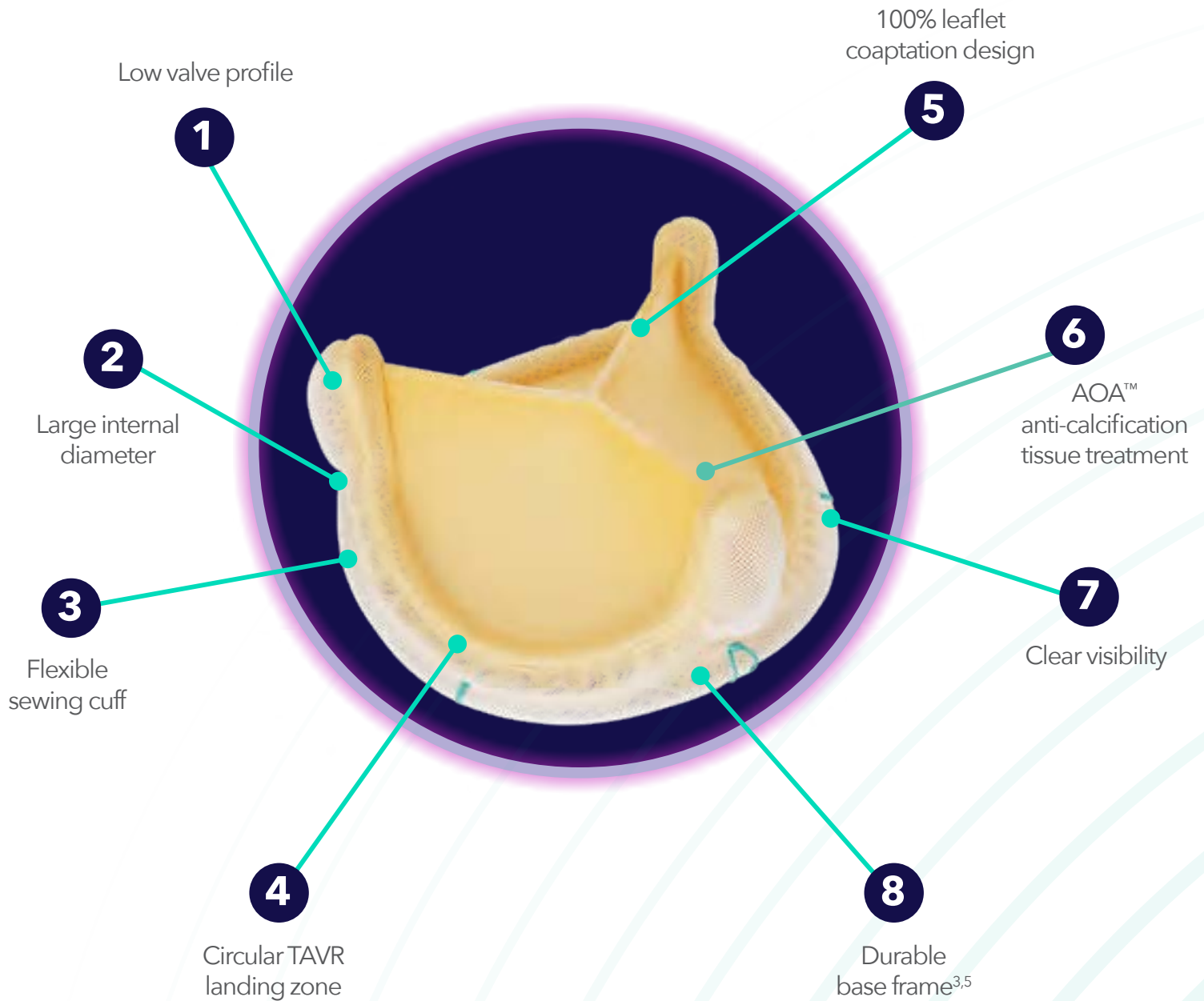
**Engineered for
ease of implant**

**Fit for future
TAV-in-SAV**

**Durable
design**

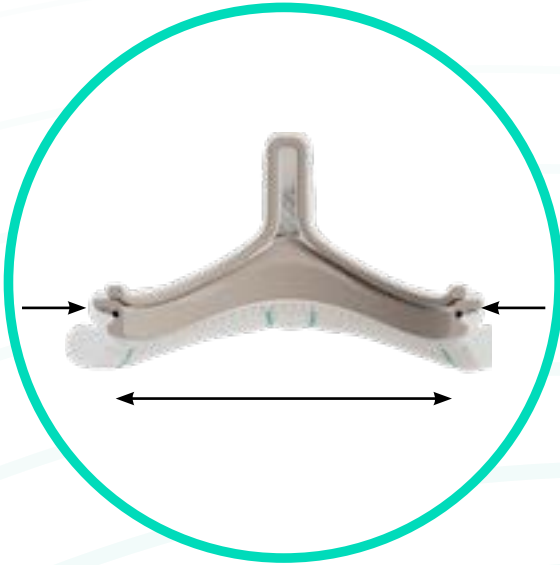
**Consistent
hemodynamics
demonstrated
by the
Avalus valve**

Avalus Ultra bioprosthesis **design**



Engineered for **ease of implant**

With varying valve anatomies, the right valve fit is critical to your patient's health and future. The Avalus Ultra valve's design and sizers help to facilitate the right valve size for the right patient.



Low valve profile

Designed to facilitate ease of implant and improved valve size for patient's anatomy.^{1,2,6}

Flexible sewing cuff

Facilitates needle penetration, securing valve seating and supporting exceptionally low PVL (paravalvular leak) rates after implantation based on clinical evidence of the Avalus valve.^{3,4}



Straightforward sizing

The atraumatic smooth shape of the replica end of the sizers, and simulated valve cuff, help to accurately mirror the valve shape in the implanted position.



Barrel end

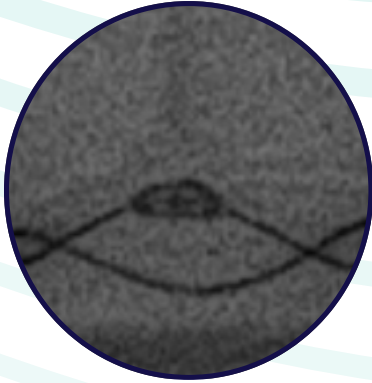
The simulated cuff represents the actual labeled valve size

Replica end

Represents the valve profile with the cuff folded upward in its implanted state when the valve sutures are placed.

Fit for future **TAV-in-SAV**

Visibility like never before, the platinum-iridium coil and tantalum badge are designed to sit at the annulus of the valve to assist possible TAV-in-SAV reinterventions.^{1,2}



Radiopaque coil

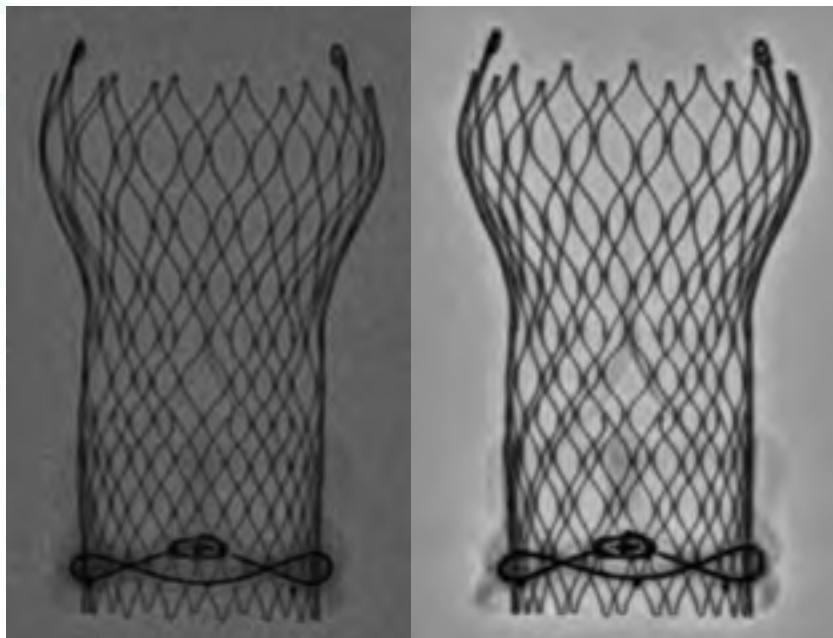
Helps enhance visibility of the Avalus Ultra valve on fluoroscopy imaging for valve-in-valve procedures.^{1,2}

Tantalum badge

The radiopaque coil has a unique tantalum badge that helps identify which valve a patient has implanted.

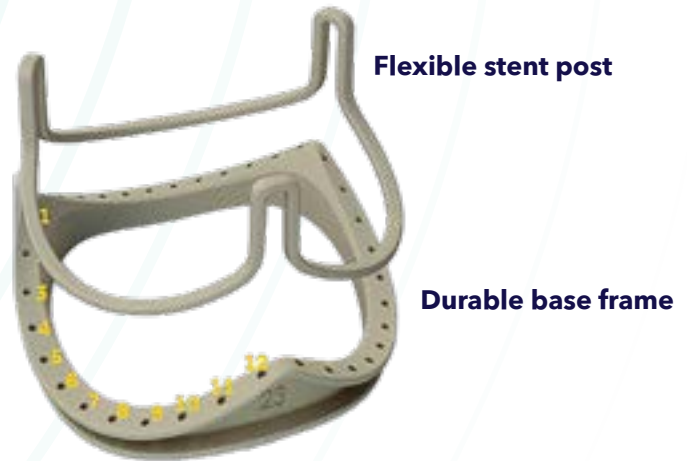


The Avalus Ultra valve with the EVOLUT™ FX+ valve in the TAV-in-SAV position



Durable design

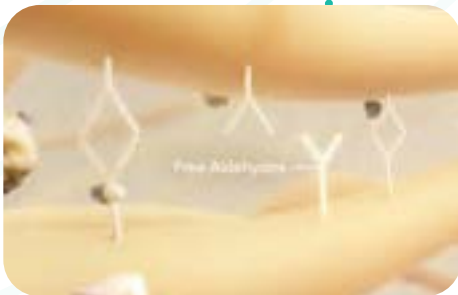
Circularity is crucial, but not all aortic valves maintain circularity. Noncircular or deformed surgical valves can have decreased durability and poor blood flow.⁷⁻¹² The nondeformable base is designed to allow the valve to maintain circularity during and after implant.^{13,14}



AOA tissue treatment

For over 30 years, the Medtronic amino oleic acid (AOA) treatment has proven to be an innovative and durable tissue treatment for over a half of a million patients across a suite of Medtronic valves.

The Avalus Ultra valve benefits from AOA treatment, which reduces calcification in the tissue leaflets.^{†,15-17}



After fixation

- Free aldehydes are present.



AOA treatment

- AOA covalently bonds with free aldehydes.
- Lipids are washed away.
- Subsequent storage in glutaraldehyde allows any remaining free aldehydes to crosslink.

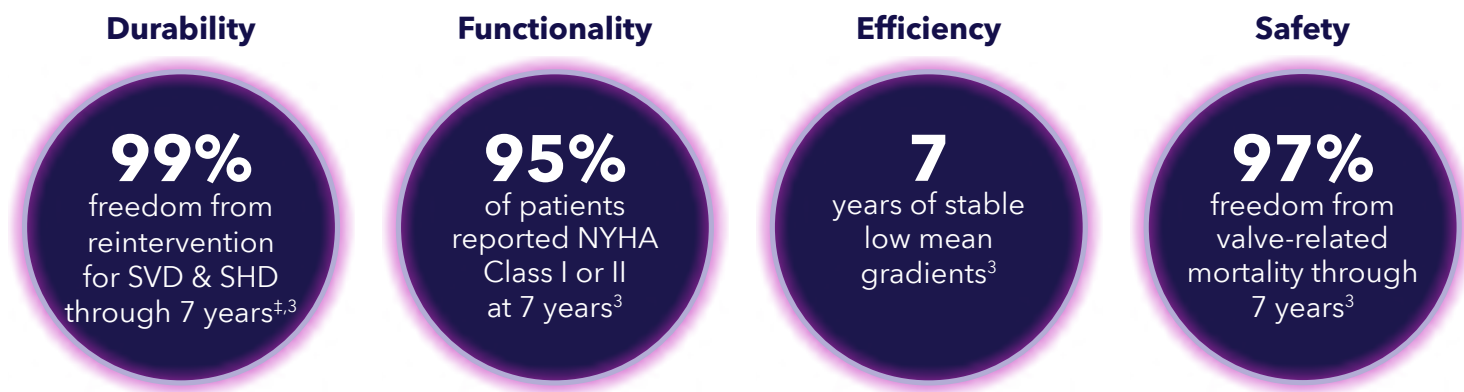


After treatment

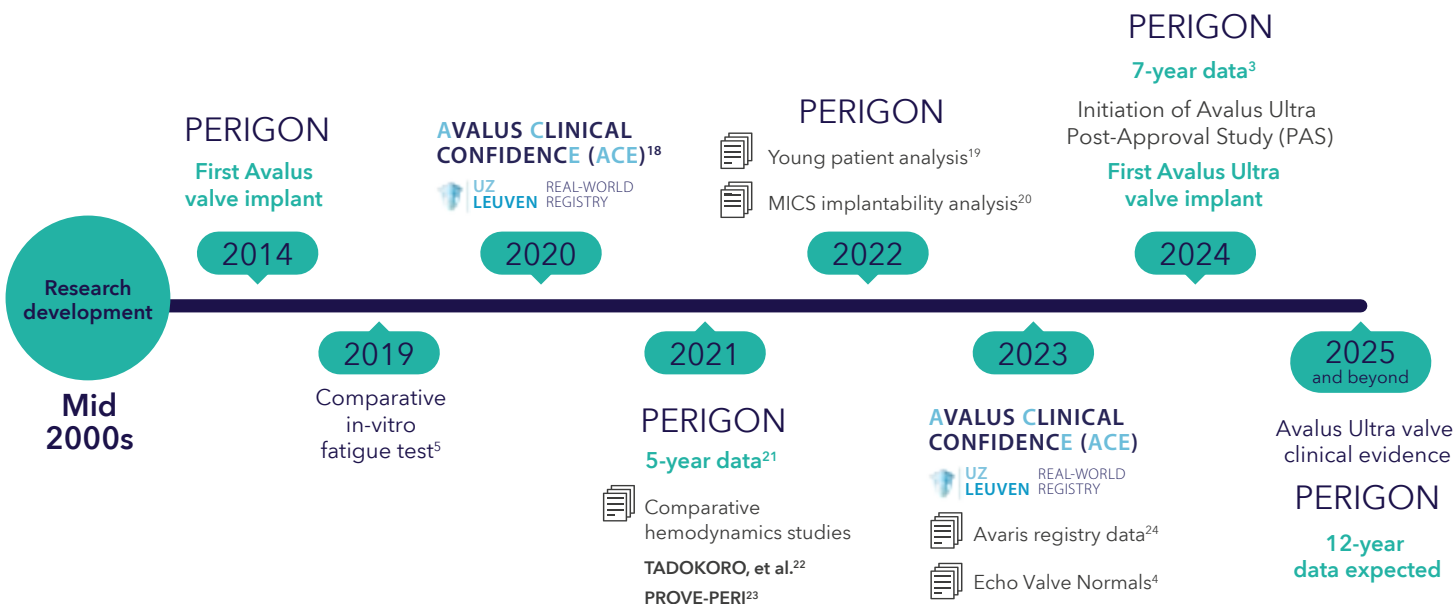
- Large AOA molecule slows diffusion of calcium into tissue matrix.

Consistent hemodynamics demonstrated by the Avalus valve

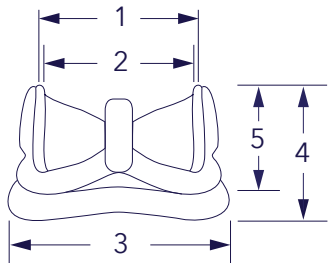
The Avalus Ultra valve is supported by over 10 years of robust clinical experience of the Avalus valve which has demonstrated industry-leading effective orifice areas (EOAs),³ stable low gradients, and a durable valve design.



The Avalus valve evidence timeline



Item number	Valve size	Stent diameter (TAD)	Internal orifice diameter§		External sewing ring diameter	Valve profile height	Aortic protrusion
		(1)	(2)	(2a)	(3)	(4)	(5)
400U19	19 mm	19 mm	17.5 mm	18 mm	26.0 mm	13.0 mm	11.0 mm
400U21	21 mm	21 mm	19.5 mm	20 mm	28.0 mm	14.0 mm	12.0 mm
400U23	23 mm	23 mm	21.5 mm	22 mm	30.0 mm	15.0 mm	13.0 mm
400U25	25 mm	25 mm	23.5 mm	24 mm	32.0 mm	16.0 mm	14.0 mm
400U27	27 mm	27 mm	25.5 mm	26 mm	35.0 mm	17.0 mm	15.0 mm
400U29	29 mm	29 mm	27.5 mm	28 mm	37.0 mm	18.0 mm	16.0 mm



Item number	Description
7420	Valve handle
7400SU	Avalus Ultra sizer
T7400U	Avalus Ultra tray
7779	Jar wrench

§ Measurement shows stent frame including tissue (2) and stent frame excluding tissue (2a).
TAD – Tissue annulus diameter

Fit for the
future
right from
the start.

Contact your local
Sales Representative
to learn more.



Avalus Ultra™ Bioprosthesis

Indications: The Avalus Ultra bioprosthesis is indicated for the replacement of diseased, damaged, or malfunctioning native or prosthetic aortic valves.

Contraindications: None known.

Warnings/Precautions/Adverse Events: Only physicians who have received proper training in valve replacement should use this device. As with any implanted medical device, there is potential for patient immunological response, including an allergic response. Care should be exercised in patients with hypersensitivities to the device materials. Calcific degeneration could cause accelerated deterioration of the valve in patients with altered calcium metabolism (for example, chronic renal failure, hyperparathyroidism). Calcification may occur earlier in children, adolescents, or young adults. Premature calcification may also occur in older adults who accept a biologic prosthesis. Patients with a bioprosthesis that require chronic anticoagulation are at additional risk of bleeding. Stenosis and regurgitation of the bioprosthesis may occur in patients with coagulation disorders such as AT3 deficiency. Paravalvular leak is more likely to occur in patients with aneurysmal aortic or degenerative conditions, cystic medial necrosis, or Marfan syndrome. Adverse events can include: angina, aortic tissue damage, cardiac dysrhythmias, embolism, endocarditis, heart failure, hemolysis, hemolytic anemia, anticoagulant/antiplatelet-related hemorrhage, immunological response (including allergic response), inflammatory reaction, infection other than endocarditis, transvalvular or paravalvular leak, myocardial infarction, nonstructural dysfunction (leaflet entrapment/impingement, obstructive pannus ingrowth, suture dehiscence, inappropriate sizing), pericardial effusion, pleural effusion, prosthesis regurgitation, prosthesis stenosis, stroke, structural deterioration (calcification, leaflet tear), tamponade, or valve thrombosis. These complications could lead to reoperation, explant of the bioprosthesis, permanent disability or organ damage, or death.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician. For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use.

Avalus™ Bioprosthesis

Indications: The Avalus bioprosthesis is indicated for the replacement of diseased, damaged, or malfunctioning native or prosthetic aortic valves.

Contraindications: None known.

Warnings/Precautions/Adverse Events: Only physicians who have received proper training in valve replacement should use this device. Accelerated structural deterioration due to calcific degeneration of bioprosthesis may occur in: children, adolescents, young adults, and patients with altered calcium metabolism (e.g., chronic renal failure, or hyperparathyroidism). Adverse events can include: angina, cardiac dysrhythmias, endocarditis, heart failure, hemolysis, hemolytic anemia, hemorrhage, infection other than endocarditis, transvalvular or paravalvular leak, myocardial infarction, nonstructural valve dysfunction (leaflet entrapment/impingement, obstructive pannus ingrowth, suture dehiscence, inappropriate sizing or positioning, or other), pericardial effusion or tamponade, prosthesis regurgitation, prosthesis stenosis, prosthesis thrombosis, stroke, structural valve deterioration (calcification, leaflet tear or perforation, or other), thromboembolism, tissue dehiscence, and transient ischemic attack. These complications could lead to reoperation, explant of the bioprosthesis, permanent disability, or death.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician. For a listing of indications, contraindications, precautions, warnings, and potential adverse events, please refer to the Instructions for Use.

Evolut™ TAVR System

Indications: The Medtronic Evolut™ PRO+, Evolut™ FX, and Evolut™ FX+ Systems are indicated for relief of aortic stenosis in patients with symptomatic heart disease due to severe native calcific aortic stenosis who are judged by a heart team, including a cardiac surgeon, to be appropriate for the transcatheter heart valve replacement therapy.

The Medtronic Evolut PRO+, Evolut FX, and Evolut FX+ Systems are indicated for use in patients with symptomatic heart disease due to failure (stenosed, insufficient, or combined) of a surgical bioprosthetic aortic valve who are judged by a heart team, including a cardiac surgeon, to be at high or greater risk for open surgical therapy (e.g., STS predicted risk of operative mortality score $\geq 8\%$ or at a $\geq 15\%$ risk of mortality at 30 days).

Contraindications: The Medtronic Evolut PRO+, Evolut FX, and Evolut FX+ Systems are contraindicated in patients who cannot tolerate Nitinol (titanium or nickel), gold (for Evolut FX and Evolut FX+ Systems alone), an anticoagulation/antiplatelet regimen, or who have active bacterial endocarditis or other active infections.

Warnings: General Implantation of the Evolut PRO+, Evolut FX, and Evolut FX+ Systems should be performed only by physicians who have received Medtronic Evolut PRO+, Evolut FX, or Evolut FX+ training. This procedure should only be performed where emergency aortic valve surgery can be performed promptly. Mechanical failure of the delivery catheter system and/or accessories may result in patient complications. Transcatheter aortic valve (bioprosthesis) Accelerated deterioration due to calcific degeneration of the bioprostheses may occur in: children, adolescents, or young adults; patients with altered calcium metabolism (e.g., chronic renal failure or hyperthyroidism).

Precautions: General Clinical long-term durability has not been established for the bioprosthesis. Evaluate bioprosthesis performance as needed during patient follow-up. The safety and effectiveness of the Evolut PRO+, Evolut FX, and Evolut FX+ Systems have not been evaluated in the pediatric population. The safety and effectiveness of the bioprostheses for aortic valve replacement have not been evaluated in the following patient populations: Patients who do not meet the criteria for symptomatic severe native aortic stenosis as defined: (1) symptomatic severe high-gradient aortic stenosis – aortic valve area ≤ 1.0 cm² or aortic valve area index ≤ 0.6 cm²/m², a mean aortic valve gradient ≥ 40 mm Hg, or a peak aortic-jet velocity ≥ 4.0 m/s; (2) symptomatic severe low-flow, low-gradient aortic stenosis – aortic valve area ≤ 1.0 cm² or aortic valve area index ≤ 0.6 cm²/m², a mean aortic valve gradient < 40 mm Hg, and a peak aortic-jet velocity < 4.0 m/s; with untreated, clinically significant coronary artery disease requiring revascularization; with a preexisting prosthetic heart valve with a rigid support structure in either the mitral or pulmonic position if either the preexisting prosthetic heart valve could affect the implantation or function of the bioprosthesis or the implantation of the bioprosthesis could affect the function of the preexisting prosthetic heart valve; patients with liver failure (Child-Pugh Class C); with cardiogenic shock manifested by low cardiac output, vasopressor dependence, or mechanical hemodynamic support; patients who are pregnant or breastfeeding. The safety and effectiveness of an Evolut PRO+, Evolut FX, or Evolut FX+ bioprosthesis implanted within a failed preexisting transcatheter bioprosthesis have not been demonstrated.

Implanting an Evolut PRO+, Evolut FX, or Evolut FX+ bioprosthesis in a degenerated surgical bioprosthetic valve (transcatheter aortic valve in surgical aortic valve [TAV-in-SAV]) should be avoided in the following conditions: The degenerated surgical bioprosthetic valve presents with: a significant concomitant paravalvular leak (between the prosthesis and the native annulus), is not securely fixed in the native annulus, or is not structurally intact (e.g., wire frame fracture); partially detached leaflet that in the aortic position may obstruct a coronary ostium; stent frame with a manufacturer-labeled inner diameter < 17 mm. The safety and effectiveness of the bioprostheses for aortic valve replacement have not been evaluated in patient populations presenting with the following: Blood dyscrasias as defined as leukopenia (WBC < 1,000 cells/mm³), thrombocytopenia (platelet count < 50,000 cells/mm³), history of bleeding diathesis or coagulopathy, or hypercoagulable states; congenital unicuspid valve; mixed aortic valve disease (aortic stenosis and aortic regurgitation with predominant aortic regurgitation [3-4+]); moderate to severe (3-4+) or severe (4+) mitral or severe (4+) tricuspid regurgitation; hypertrophic obstructive cardiomyopathy; new or untreated echocardiographic evidence of intracardiac mass, thrombus, or vegetation; native aortic annulus size < 18 mm or > 30 mm per the baseline diagnostic imaging or surgical bioprosthetic aortic annulus size < 17 mm or > 30 mm; transarterial access unable to accommodate an 18 Fr introducer sheath or the 14 Fr equivalent Evolut PRO+ inline sheath when using model D-EVPROP2329US or Evolut FX Delivery Catheter System with inline sheath when using model D-EVOLUTFX-2329 or transarterial access unable to accommodate a 22 Fr introducer sheath or the 18 Fr equivalent Evolut PRO+ inline sheath when using model D-EVPROP34US or Evolut FX Delivery Catheter System with inline sheath when using model D-EVOLUTFX-34; prohibitive left ventricular outflow tract calcification; sinus of Valsalva anatomy that would prevent adequate coronary perfusion; significant aortopathy requiring ascending aortic replacement; moderate to severe mitral stenosis; severe ventricular dysfunction with left ventricular ejection fraction (LVEF) < 20%; symptomatic carotid or vertebral artery disease; and severe basal septal hypertrophy with an outflow gradient.

Before Use Exposure to glutaraldehyde may cause irritation of the skin, eyes, nose, and throat. Avoid prolonged or repeated exposure to the vapors. Damage may result from forceful handling of the catheter. Prevent kinking of the catheter when removing it from the packaging. The bioprosthesis size must be appropriate to fit the patient's anatomy. Proper sizing of the devices is the responsibility of the physician. Refer to the Instructions for Use for available sizes. Failure to implant a device within the sizing matrix could lead to adverse effects such as those listed below. Patients must present with transarterial access vessel diameters of ≥ 5 mm when using models D-EVPROP2329US/D-EVOLUTFX-2329 or ≥ 6 mm when using models D-EVPROP34US/D-EVOLUTFX-34, or patients must present with an ascending aortic (direct aortic) access site ≥ 60 mm from the basal plane for both systems. Implantation of the bioprosthesis should be avoided in patients with aortic root angulation (angle between plane of aortic valve annulus and horizontal plane/vertebrae) of > 30° for right subclavian/axillary access or > 70° for femoral and left subclavian/axillary access. For subclavian access, patients with a patent left internal mammary artery (LIMA) graft must present with access vessel diameters that are either ≥ 5.5 mm when using models D-EVPROP2329US/D-EVOLUTFX-2329 or ≥ 6.5 mm when using models D-EVPROP34US/D-EVOLUTFX-34. Use caution when using the subclavian/axillary approach in patients with a patent LIMA graft or patent RIMA graft. For direct aortic access, ensure the access site and trajectory are free of patent RIMA or a preexisting patent RIMA graft. For transfemoral access, use caution in patients who present with multiplanar curvature of the aorta, acute angulation of the aortic arch, an ascending aortic aneurysm, or severe calcification in the aorta and/or vasculature. If ≥ 2 of these factors are present, consider an alternative access route to prevent vascular complications. Limited clinical data are available for transcatheter aortic valve replacement in patients with a congenital bicuspid aortic valve who are deemed to be at low surgical risk. Anatomical characteristics should be considered when using the valve in this population. In addition, patient age should be considered as long-term durability of the valve has not been established.

During Use If a misload is detected during fluoroscopic inspection, do not attempt to reload the bioprosthesis. Discard the entire system. Inflow crown overlap that has not ended before the 4th node within the capsule increases the risk of an infold upon deployment in constrained anatomies, particularly with moderate-severe levels of calcification and/or bicuspid condition. Do not attempt to direct load the valve. After the procedure, administer appropriate antibiotic prophylaxis as needed for patients at risk for prosthetic valve infection and endocarditis. After the procedure, administer anticoagulation and/or antiplatelet therapy per physician/clinical judgment. Excessive contrast media may cause renal failure. Prior to the procedure, measure the patient's creatinine level. During the procedure, monitor contrast media usage. Conduct the procedure under fluoroscopy. Fluoroscopic procedures are associated with the risk of radiation damage to the skin, which may be painful, disfiguring, and long-term. The safety and efficacy of an Evolut PRO+, Evolut FX, or Evolut FX+ bioprosthesis implanted within a transcatheter bioprosthesis have not been demonstrated.

Potential adverse events: Potential risks associated with the implantation of the Evolut PRO+, Evolut FX, or Evolut FX+ transcatheter aortic valve may include, but are not limited to, the following: • death • myocardial infarction, cardiac arrest, cardiogenic shock, or cardiac tamponade • coronary occlusion, obstruction, or vessel spasm (including acute coronary closure) • cardiovascular injury (including rupture, perforation, tissue erosion, or dissection of vessels, ascending aorta trauma, ventricle, myocardium, or valvular structures that may require intervention) • emergent surgical or transcatheter intervention (e.g., coronary artery bypass, heart valve replacement, valve explant, percutaneous coronary intervention [PCI], balloon valvuloplasty) • prosthetic valve dysfunction (regurgitation or stenosis) due to fracture; bending (out-of-round configuration) of the valve frame; underexpansion of the valve frame; calcification; pannus; leaflet wear, tear, prolapse, or retraction; poor valve coaptation; suture breaks or disruption; leaks; mal-sizing (prosthesis-patient mismatch); malposition (either too high or too low)/malplacement - prosthetic valve migration/embolization • prosthetic valve endocarditis • prosthetic valve thrombosis • delivery catheter system malfunction resulting in the need for additional recrossing of the aortic valve and prolonged procedural time • delivery catheter system component migration/embolization • stroke (ischemic or hemorrhagic), transient ischemic attack (TIA), or other neurological deficits • individual organ (e.g., cardiac, respiratory, renal [including acute kidney failure]) or multi-organ insufficiency or failure • major or minor bleeding that may require transfusion or intervention (including life-threatening or disabling bleeding) • vascular access-related complications (e.g., dissection, perforation, pain, bleeding, hematoma, pseudoaneurysm, irreversible nerve injury, compartment syndrome, arteriovenous fistula, or stenosis) • mitral valve regurgitation or injury • conduction system disturbances (e.g., atrioventricular node block, left bundle-branch block, asystole), which may require a permanent pacemaker • infection (including septicemia) • hypotension or hypertension • hemolysis • peripheral ischemia • General surgical risks applicable to transcatheter aortic valve implantation: • bowel ischemia • abnormal lab values (including electrolyte imbalance) • allergic reaction to antiplatelet agents, contrast medium, or anesthesia • exposure to radiation through fluoroscopy and angiography • permanent disability.

Please reference the Evolut PRO+, Evolut FX, and Evolut FX+ Instructions for Use for more information regarding indications, warnings, precautions, and potential adverse events.

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

The commercial name of the Evolut™ PRO+ device is Medtronic Evolut™ PRO+ System, the commercial name of the Evolut™ FX device is Medtronic Evolut™ FX System, and the commercial name of the Evolut™ FX+ device is Medtronic Evolut™ FX+ System.

1. Based on internal test report D00998354, AVALUS Ultra HFE Design Validation Test Report.
2. Based on internal document D00437207, AVALUS Ultra Design Concept.
3. Sabik JF III, Rao V, Moront MG, et al. 7-Year follow-up of >1100 patients who received a contemporary pericardial aortic bioprosthesis. Presented at: 38th Annual Meeting of the European Association for Cardio-Thoracic Surgery; October 9-12, 2024; Lisbon, Portugal.
4. Klautz RJM, Rao V, Reardon MJ et al., Examining the typical hemodynamic performance of nearly 3000 modern surgical aortic bioprostheses. *Eur J Cardiothorac Surg.* 2024;65(5):ezae122.
5. Vriesendorp MD, de Lind van Wijngaarden RAF, Rao V, et al. An in vitro comparison of internally versus externally mounted leaflets in surgical aortic bioprostheses. *Interact Cardiovasc Thorac Surg.* March 1, 2020;30(3):417-423.
6. Based on internal test report D00998399, Design Characterization Report: External Sewing Ring Diameter, Valve Housing External Diameter, and Inflow Orifice
7. Gunning PS, Saikrishnan N, Yoganathan AP, McNamara LM. Total ellipse of the heart valve: the impact of eccentric stent distortion on the regional dynamic deformation of pericardial tissue leaflets of a transcatheter aortic valve replacement. *J R Soc Interface.* December 6, 2015;12(113):20150737.
8. Sritharan D, Fathi P, Weaver JD, Retta SM, Wu C, Duraiswamy N. Impact of clinically relevant elliptical deformations on the damage patterns of sagging and stretched leaflets in a bioprosthetic heart valve. *Cardiovasc Eng Technol.* September 2018;9(3):351-364.
9. Ruzicka DJ, Hettich I, Hutter A, et al. The complete supraannular concept: in vivo hemodynamics of bovine and porcine aortic bioprostheses. *Circulation.* September 15, 2009;120(11 Suppl):S139-S145.
10. Faure ME, Sucha D, Schwartz FR, et al. Surgically implanted aortic valve bioprostheses deform after implantation: insights from computed tomography. *Eur Radiol.* 2020;30(5):2651-2657.
11. Nagasaka T, Patel V, Shechter A et al. Impact of Balloon-Expandable TAVR Valve Deformation and Calcium Distribution on Outcomes in Bicuspid Aortic Valve. *JACC Cardiovasc Interv.* 2024;17(17):2023-2037.
12. Maznyczka A, Heg D, Tomii D, et al. Asymmetrical Expansion of Balloon-Expandable Transcatheter Aortic Valve Prostheses Implications for Valve Hemodynamic and Clinical Outcomes. *JACC Cardiovasc Interv.* 2024;17(17):2011-2022.
13. Based on internal test report D00997823, AVALUS Ultra Full Valve Stiffness Design Verification Report.
14. Based on internal test report D00998399, Design Characterization Report: External Sewing Ring Diameter, Valve Housing External Diameter, and Inflow Orifice Diameter of AVALUS Ultra.
15. Gott JP, Pan-Chih, Dorsey JM, et al. Calcification of porcine valves: a successful new method of antimineralization. *Ann Thorac Surg.* February 1992;53(2):207-215.
16. Girardot MN, Girardot JM, Schoen FJ. Development of the AOA process as antimineralization treatment for bioprosthetic heart valves. *Trans Soc Biomat.* 1993;16:266.
17. Girardot MN, Torrianni M, Girardot JM. Effect of AOA on glutaraldehyde-fixed bioprosthetic heart valve cusps and walls: Binding and calcification studies. *Int J Artif Organs.* February 1994;17(2):76-82.
18. Verbelen T, Roussel JC, Cathenis K, et al. Real-world data on the AVALUS pericardial aortic valve: initial results from a prospective, multi-center registry. Presented at Heart Valve Society 2024, Boston, MA. February 18-21, 2024.
19. Kiaii BB, Moront MG, Patel JH, et al. Outcomes of surgical bioprosthetic aortic valve replacement in patients aged ≤65 and >65 years. *Ann Thorac Surg.* September 2023;116(3):483-490.
20. Velders BJJ, Vriesendorp MD, Reardon MJ, et al. Minimally invasive aortic valve replacement in contemporary practice: clinical and hemodynamic performance from a prospective multicenter trial. *Thorac Cardiovasc Surg.* August 2023;71(5):387-397.
21. Klautz RJM, Dagenais F, Reardon MJ, et al. Surgical aortic valve replacement with a stented pericardial bioprosthesis: 5-year outcomes. *Eur J Cardiothorac Surg.* August 3, 2022;62(3):ezac374.
22. Tadokoro N, Fukushima S, Shimahara Y, et al. Comparison of safety and haemodynamic performance between the AVALUS™ stented aortic valve bioprosthesis and Magna™* valve in Japanese patients. *Gen Thorac Cardiovasc Surg.* July 2021;69(7):1060-1069
23. Sohn SH, Kim JS, Choi JW, et al. Preliminary Report from a Randomized Controlled Trial Comparing Two Bovine Pericardial Valves. *Thorac Cardiovasc Surg.* 2023;71(8):648-655.
24. Chiariello GA, Villa E, Bruno P, et al. Two innovative aortic bioprostheses evaluated in the real-world setting. First results from a two-center study. *J Cardiovasc Surg (Torino).* June 2023;64(3):338-347.



Medtronic
Cardiac Surgery

With every beat,
expect more

710 Medtronic Parkway
Minneapolis, MN 55432-5604
USA
Tel: +1.763.514.4000
Toll-Free: 800.328.2518

LifeLine
CardioVascular Technical Support
Tel: 877.526.7890
Tel: +1.763.526.7890
rs.cstechsupport@medtronic.com

©2024 Medtronic. Medtronic, Medtronic logo, and Engineering the extraordinary are trademarks of Medtronic. ™™Third-party brands are trademarks of their respective owners. All other brands are trademarks of a Medtronic company.