



## CLINICAL INSIGHTS

### EPIC™ MITRAL AND EPIC™ SUPRA STENTED TISSUE VALVES



## Three-Year Outcomes of Valve-in-Valve Intervention within the Epic™ Supra and Epic™ Mitral Valves in a Medicare Population

### INTRODUCTION

There has been an increase in utilization of transcatheter valve-in-valve (ViV) intervention in patients with structural valve deterioration of their bioprosthetic valves. Real-world outcomes of ViV beyond one-year are not well characterized due to limited prospective follow-up studies. Gaining insights into the **real-world** outcomes of ViV would be informative to heart teams counseling patients on valve choice for both the surgical implant as well as the transcatheter ViV implant.

### STUDY METHOD

- This study was a single-arm observational study using Medicare claims data.
- Deidentified patients undergoing SAVR or SMVR in the U.S. between 1/1/2008-12/31/2019 were selected by ICD-9/10 procedure codes and then linked to a manufacturer registration database of Epic™ Supra and Epic™ Mitral valves.
- Patients undergoing subsequent ViV were identified. 3-year outcomes of survival, valve reintervention, and heart failure (HF) rehospitalization post-ViV until 6/30/2021 were assessed using the Kaplan Meier (KM) method.

### DEMOGRAPHICS

- N=253 (SAVR: 128, SMVR: 125)
- Average age at ViV reintervention was 78.3 years
- Baseline HF present in 45% of SAVR and 76% of SMVR patients.

### KEY FINDINGS

- ViV intervention was feasible in all valve sizes, including the 19mm Epic™ Supra (n=15) and the 25mm Epic™ Mitral (n=13) valves
- 3-year KM freedom from valve reintervention after ViV was >95% for both valve positions
- Freedom from HF rehospitalization was 73% and 70% for Aortic and Mitral positions, respectively at 3 years
- Survival at 3 years post ViV was 66% and 58% for Aortic and Mitral, respectively. This was comparable to contemporary findings at three years from the VIVID and Partner 2 Registries.<sup>2,3</sup>

### CONCLUSIONS

This real-world nationwide study of U.S. Medicare patients implanted with an Epic™ valve in the aortic and mitral positions demonstrates the feasibility of ViV in all valve sizes and **>95% freedom from reintervention** at 3-years.

### FREEDOM FROM VALVE REINTERVENTION AFTER VIV AT 3 YEARS



\*Note: The safety and effectiveness of valve-in-valve procedures in an Epic™ or Epic™ Supra valve have not been established.

See Important Safety Information referenced within.

## EPIC™/ EPIC™ SUPRA STENTED PORCINE TISSUE VALVES

### INDICATIONS FOR USE

The Epic valve is indicated for patients requiring replacement of a diseased, damaged, or malfunctioning native aortic and/or mitral heart valve. It may also be used as a replacement for a previously implanted aortic and/or mitral prosthetic heart valve. The Epic Supra valve is indicated for patients requiring replacement of a diseased, damaged, or malfunctioning native aortic heart valve. It may also be used as a replacement for a previously implanted aortic prosthetic heart valve.

### CONTRAINDICATIONS

None known.

### WARNINGS

- Valve size selection is based on the size of the recipient annulus, and for supra-annular aortic placement, the anatomy of the sinotubular space. Implantation of an inappropriately large bioprosthesis may result in stent deformation, valvular incompetence, and/or damage to the surrounding tissues. The use of an inappropriately small bioprosthesis may result in suboptimal hemodynamics. Use only the St. Jude Medical™ Bioprosthetic Heart Valve Sizer Set Model B1000 with the Epic and Epic Supra valves.
- Accelerated deterioration due to calcific degeneration of the Epic and Epic Supra valve may occur in:
  - children, adolescents, or young adults;
  - patients with altered calcium metabolism (e.g., patients with hyperparathyroidism or chronic renal failure); or
  - individuals requiring hemodialysis.
- For single use only. Do not reuse or resterilize. Attempts to resterilize the valve may result in valve malfunction, inadequate sterilization, or patient harm.
- Passage of a catheter or transvenous pacing lead through any bioprosthesis may damage the valve and is therefore not recommended.
- Do not use if:
  - the valve has been dropped, damaged, or mishandled in any way, or if there is any sign of deterioration;
  - the expiration date has elapsed;
  - the tamper-evident container seal is damaged, broken, or missing, or if fluid is leaking from the packaging; or
  - the storage solution does not completely cover the valve.

### PRECAUTIONS

- The safety and effectiveness of the Epic™ and Epic™ Supra valves has not been established for the following specific populations:
  - patients who are pregnant
  - nursing mothers
  - patients with chronic renal failure
  - patients with aneurysmal aortic degenerative conditions (e.g., cystic medial necrosis, Marfan's syndrome)
  - patients with chronic endocarditis
  - patients requiring pulmonic or tricuspid valve replacement
  - children, adolescents, or young adults
- Sizers are supplied non-sterile, and must be cleaned and sterilized prior to each use. Do not use cracked, deformed, or damaged sizer set components.
- Do not pass the flanged portion of the valve replica sizing tool through the annulus.
- Do not place the non-sterile exterior of the valve container in the sterile field.

- Do not expose the valve to solutions other than the formaldehyde valve storage solution in which it was shipped, the sterile isotonic saline solution used during the rinsing procedure, or the sterile isotonic saline solution used to irrigate the valve.
- Do not add antibiotics to either the formaldehyde valve storage solution or the rinse solution.
- Do not apply antibiotics to the valve.
- Do not allow the valve tissue to dry. Place the valve in sterile isotonic saline rinse solution immediately upon removal from the valve storage solution. Once removed from this solution, the valve should be periodically irrigated during implantation.
- Do not use the valve if shipping temperature indicators on the product carton have turned red, or if the valve has been improperly stored in temperature conditions outside of the 5°C to 25°C range.
- Do not implant the valve without thoroughly rinsing as directed.
- Do not lacerate the valve tissue. If a valve is damaged, the valve must be explanted and replaced.
- Do not attempt to repair a valve. Damaged valves must not be used.
- Do not use cutting edge needles, unprotected forceps, or sharp instruments as they may cause structural damage to the valve.
- Never handle the leaflet tissue.
- Position the mitral valve in a manner to avoid commissure obstruction of the left ventricular outflow tract, and minimize any potential of commissure contact with the ventricular wall.
- Position the aortic valve so that the stent posts do not obstruct the coronary ostia.
- When implanting the Epic valve, assess the suitability of the selected valve size and stent position for a potential future valve-in-valve procedure and whether the transcatheter valve-in-valve procedure may result in left ventricular outflow tract of coronary ostia obstruction. For a future valve-in-valve procedure in an Epic valve, refer to the instructions for use supplied with the transcatheter heart valve along with the reference dimensions in Table 1 (in the IFU) to determine compatibility. The safety and effectiveness of valve-in-valve procedures in an Epic™ valve or Epic™ Supra valve have not been established.
- Avoid prolonged contact with the formaldehyde storage solution. Immediately after contact, thoroughly flush any skin exposed to the solution with water. In case of contact with eyes, flush with water and seek appropriate medical care.

### ADVERSE EVENTS

The clinical investigation of the Epic valve supports the safety and effectiveness of the Epic valve and the Epic Supra valve. Between January 2003 and March 2006, seven-hundred and sixty-two (762) subjects were implanted with 791 Epic Valve(s) at 19 investigational sites in the United States (U.S.), and three sites in Canada. Five-hundred and fifty-seven (557) subjects received isolated aortic replacement, 176 received isolated mitral replacement, and 29 received replacement of both the aortic and mitral valves. The cumulative follow-up for all subjects was 773.51 patient-years with a mean follow-up of 1.02 patient-years (s.d. = 0.71 patient-years, range 0 – 3.10 patient-years).

### POTENTIAL ADVERSE EVENTS

Adverse events potentially associated with the use of bioprosthesis heart valves (in alphabetical order) include: angina; cardiac arrhythmias; endocarditis; heart failure; hemolysis; hemolytic anemia; hemorrhage, anticoagulant/antiplatelet-related; leak, transvalvular or paravalvular; myocardial infarction; nonstructural dysfunction (entrapment by pannus or suture, inappropriate sizing or positioning, or other); prosthesis regurgitation; stroke; structural deterioration (calcification, leaflet tear, or other); thromboembolism; valve thrombosis. It is possible that these complications could lead to: reoperation; explantation; permanent disability; death

## REFERENCES

- Fang, K. et. al. (2022, June). Three-Year Outcomes of Valve-in-Valve Intervention within the Epic™ Supra and Epic™ Mitral Valves in a Medicare Population. Poster presented at the TVT Annual Meeting, Chicago.
- Simonato, Matheus, et al. "Transcatheter mitral valve replacement after surgical repair or replacement: comprehensive midterm evaluation of valve-in-valve and valve-in-ring implantation from the VIVID registry." *Circulation* 143.2 (2021): 104-116.
- Webb, John G., et al. "3-year outcomes after valve-in-valve transcatheter aortic valve replacement for degenerated bioprostheses: the PARTNER 2 registry." *Journal of the American College of Cardiology* 73.21 (2019): 2647-2655.

**CAUTION:** This product is intended for use by or under the direction of a physician. Prior to use, reference the Instructions for Use, inside the product carton (when available) or at [eifu.abbottvascular.com](http://eifu.abbottvascular.com) or at [medical.abbott/manuals](http://medical.abbott/manuals) for more detailed information on Indications, Contraindications, Warnings, Precautions and Adverse Events.

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