Pericardial Membrane

DESIGNED TO MINIMIZE TISSUE ATTACHMENT

Evidence supporting improved reoperation: GORE® PRECLUDE® Pericardial Membrane for pericardial reconstruction or repair in conjunction with left ventricular assist device (LVAD) and other circulatory device patients



GORE® PRECLUDE® Pericardial Membrane

Evidence supporting improved reoperation.

EFFECTIVE

Shown to facilitate reentry during reoperation.^{1–14}

CONSERVES TIME

Reported to reduce reoperation time and ease explantation.^{2,5,6,13}

SAFE

Demonstrated to have low risk of infection. 1-4, 7-9, 11-17

15 clinical experiences

demonstrate efficacy and safety of utilizing GORE® PRECLUDE® Pericardial Membrane to support reoperations^{1–5, 6–9, 12–17}

~2,900 patients

were reported to be implanted with GORE® PRECLUDE® Pericardial Membrane, mostly to minimize tissue attachment^{1–18}

EFFECTIVE

According to results from clinical studies/reports utilizing GORE® PRECLUDE® Pericardial Membrane in total artificial heart (TAH) and LVAD surgeries:



Reoperation patients implanted with an LVAD or TAH and GORE® PRECLUDE® Pericardial Membrane

N = 65

Patients with severe adhesions

0 (0.0%)



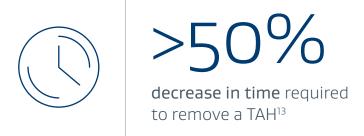
Tissue attachment is known to lead to cardiac injury and increase reoperation time.

Image courtesy of Redo Valve Surgery Nowadays: What Have we Learned?, Acta Chirurgica Belgica, 103:5, 475-480, DOI: 0.1080/00015458.2003.11679470 Dr. Pierre Wauthy, Acta Chirurgica Belgica, © The Royal Belgian Society for Surgery, reprinted by permission of Taylor & Francis Ltd, http://www.tandfonline.com on behalf of The Royal Belgian Society for Surgery and Prof. Pierre Wauthy. Used with permission.

CONSERVES TIME

Results reported from a clinical study utilizing GORE® PRECLUDE® Pericardial Membrane while implanting a TAH demonstrate:¹³

GORE® PRECLUDE® Pericardial Membrane can reduce reoperation time substantially.^{2,5,6,13}



Reoperation steps	Average time without GORE® PRECLUDE® Pericardial Membrane ¹³	Average time with GORE® PRECLUDE® Pericardial Membrane ¹³
Removal of TAH	~2 hours	~0.5–1 hour
From incision to cannulation	84 minutes	57 minutes

"In the few patients who were reoperated, mediastinal and heart dissection was accomplished in a few minutes."²



Yau TM, Rao V. Facilitating reoperations using GORE® PRECLUDE® Pericardial Membrane to wrap left ventricular assist devices. Presented at Optimizing reoperation in LVAD patients utilizing GORE® PRECLUDE® Pericardial Membrane. A Gore webinar series for healthcare professionals; March 4, 2021; Toronto Ontario, Canada.

SAFE

According to published studies, LVAD and TAH implantations increase the risk of infection regardless of utilizing GORE® PRECLUDE® Pericardial Membrane during surgery. 19,20

6.4% - 53.7%

Meta analysis: infection rate range of LVAD and TAH surgeries



7.7%

clinical studies/reports utilizing GORE® PRECLUDE® Pericardial Membrane have shown an **infection rate within** the range associated with LVAD and TAH surgeries^{5, 11–13, 18}

ORDERING INFORMATION

GORE® PRECLUDE® Pericardial Membrane.

Catalogue number	Nominal thickness (mm)	Nominal width (cm)	Nominal length (cm)
1PCM100	0.1	6	12
1PCM102	0.1	12	12
1PCM103	0.1	15	20

To schedule a meeting with a specialist or to place an order please contact your Gore Field Sales Associate or via:

U.S. toll free: 800 528 8763

Direct: 928 864 2927

PRECLUDEinformation@wlgore.com

References

- 1. Mestres C-A, Comas JV, Ninot S, et al. The use of polyetherurethane urea (Mitrathane) and polytetrafluoroethylene (Gore-Tex) membranes for pericardial closure: initial clinical results. Thai Journal of Surgery 1986;7(4):125-128.
- 2. Minale C, Nikol S, Hollweg G, Mittermayer C, Messmer BJ. Clinical experience with expanded polytetrafluoroethylene Gore-Tex surgical membrane for pericardial closure: a study of 110 cases. *Journal of Cardiac Surgery* 1988;3(3):193-201.
- 3. Amato JJ, Cotroneo JV, Galdieri RJ, Alboliras E, Antillon J, Vogel RL. Experience with the polytetrafluoroethylene surgical membrane for pericardial closure in operations for congenital cardiac defects. *Journal of Thoracic & Cardiovascular Surgery* 1989;97(6):929-934.
- 4. Loebe M, Alexi-Meskhishvili V, Weng Y, Hausdorf G, Hetzer R. Use of polytetrafluoroethylene surgical membrane as a pericardial substitute. Texas Heart Institute Journal 1993;20(3):213-217.
- 5. Holman WL, Bourge RC, Zorn GL, Brantley LH, Kirklin JK. Use of expanded polytetrafluoroethylene pericardial substitute with ventricular assist devices. *Annals of Thoracic Surgery* 1993;55(1):181-183.
- Bacaner TJ, Young JN, DeCampli WM, Hardy C. Pericardial substitute and emergency resternotomy: life-saving combination. Pediatric Cardiology 1996;17(6):396-398.
- 7. Jacobs JP, Iyer RS, Weston JS, et al. Expanded PTFE membrane to prevent cardiac injury during resternotomy for congenital heart disease. Annals of Thoracic Surgery 1996;62(6):1778-1782.
- 8. Minale C, Hollweg G, Nikol S, Mittermayer CH, Messmer BJ. Closure of the pericardium using expanded polytetrafluoroethylene GORE-TEX surgical membrane: clinical experience. *Thoracic & Cardiovascular Surgeon* 1987;35(5):312-315.
- 9. Revuelta JM, Garcia-Rinaldi R, Johnston RH Jr, Vaughan GD 3rd. Implantation of pericardial substitutes. *Annals of Thoracic Surgery* 1985; 39(2):190-191.
- 10. Lahtinen J, Satta J, Pokela R, Nissinen J, Juvonen T. Pericardial closure with polytetrafluoroethylene surgical membrane or biodegradable polyglycolic acid mesh after coronary artery bypass surgery—a baseline report. *Annales Chirurgiae et Gynaecologiae* 1998;87(1):36-39.
- 11. Leprince P, Rahmati M, Bonnet N, et al. Expanded polytetrafluoroethylene membranes to wrap surfaces of circulatory support devices in patients undergoing bridge to heart transplantation. European Journal of Cardio-thoracic Surgery 2001;19(3):302-306.
- 12. Vitali E, Russo C, Tiziano C, Lanfranconi M, Bruschi G. Modified pericardial closure technique in patients with ventricular assist device.

 Annals of Thoracic Surgery 2000;69(4):1278-1279.
- 13. Copeland JG, Arabia FA, Smith RG, Covington D. Synthetic membrane neo-pericardium facilitates total artificial heart explantation. Journal of Heart & Lung Transplantation 2001;20(6):654-656.
- 14. Bezon E, Maguid YA, Gueret G, Choplain JN, Aziz AA, Barra JA. Wrapping of the left internal thoracic artery with an expanded polytetrafluoroethylene membrane. *Annals of Thoracic Surgery* 2006;8(1):383-385.
- 15. Alexi-Meskishvili V, Weng Y, Uhlemann F, Lange PE, Hetzer R. Prolonged open sternotomy after pediatric open heart operation: experience with 113 patients. *Annals of Thoracic Surgery* 1995;59(2):379-383.
- 16. Ozeren M, Han U, Mavioglu I, et al. Consequences of PTFE membrane used for prevention of re-entry injuries in rheumatic valve disease. Cardiovascular Surgery 2002;10(5):489-493.
- 17. Kajiwara H, Ichikawa Y, Yamazaki I, Uranaka Y, Hamada T. Experience with expanded polytetrafluoroethylene surgical membrane (Gore-Tex surgical membrane) for coronary artery bypass grafting does Gore-Tex surgical membrane induce postoperative mediastinitis? ASAIO Journal 2003;49(2):155.
- 18. Kornberger A, Walter V, Khalil M, et al. Suspected involvement of EPTFE membrane in sterile intrathoracic abscess and pericardial empyema in a multi-allergic LVAD recipient: a case report. Journal of Cardiothoracic Surgery 2015;10(1):99.
- 19. Holman WL, Skinner JL, Waites KB, Benza RL, McGiffin DC, Kirklin JK. Infection during circulatory support with ventricular assist devices. Annals of Thoracic Surgery 1999;68(2):711-716.
- 20. Goldstein DJ, Oz MC, Rose EA. Implantable left ventricular assist devices. New England Journal of Medicine 1998;339(21):1522-1533.
- 21. Maniar S, Kondareddy S, Topkara VK. Left ventricular assist device-related infections: past, present and future. Expert Review of Medical Devices 2011;8(5):627-634.



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