EVARREST® Fibrin Sealant Patch

Clinically proven to achieve hemostasis more reliably than TachoSil® Fibrin Sealant Patch in cardiovascular surgery[1]

A flexible sealant patch embedded with human fibrinogen and human thrombin, it provides mechanical integrity and supports clot formation while the biologics facilitate hemostasis.[2,3]

EVARREST achieved superior hemostasis vs TachoSil®

In a multicenter, randomized study in aortic reconstruction surgery, **EVARREST achieved hemostasis in 78.8% of cases** while **TachoSil® achieved hemostasis in only 46.7% of cases (per protocol)[4]***

Make EVARREST a key part of your armamentarium, to address bleeding that is more than routine—with more reliable hemostasis than TachoSil®[1,3]

*Aortic reconstruction: Per protocol efficacy measured at n=141, 78.8% vs 46.7% for Tachosil Δ 32.1% *P*<0.0001; (ITT population=156).

References: 1. Moaine SL, Chen E, Al-Attar N, Batiller J, Aguirre N, Kocharian R. EVARREST® Fibrin Sealant Patch as a hemostatic adjunct in aortic reconstruction surgery. The Houston Aortic Symposium. March 2016. **2.** Koea JB, Batiller J, Patel B, et al. A phase III, randomized, controlled, superiority trial evaluating the fibrin pad versus standard of care in controlling parenchymal bleeding during elective hepatic surgery. *HPB (Oxford).* 2013;15(1):61-70. **3.** EVARREST® Fibrin Sealant Patch [Prescribing Information]. Somerville, NJ: Ethicon, Inc. **4.** Kocharian R. A single-blinded, randomized, controlled, comparative phase III study evaluating the safety and effectiveness of EVARREST™ fibrin sealant patch as an adjunct to hemostasis during cardiovascular surgery. Clinical Study Report Protocol BIOS-13-004. December 3, 2015. Ethicon, Inc.

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The Challenge

Bleeding can be trouble and require a shift in focus, even if you're confident it can be managed

Surgeons need a reliable solution that can achieve hemostasis on the first attempt*, helping to minimize potential consequences of challenging bleeding[1-4]

Patients suffer from a growing number of comorbidities, which can increase surgical bleeding risk and affect the natural clotting process[5-7]

32%-68% of cases in open procedures experience disruptive bleeding events[8]

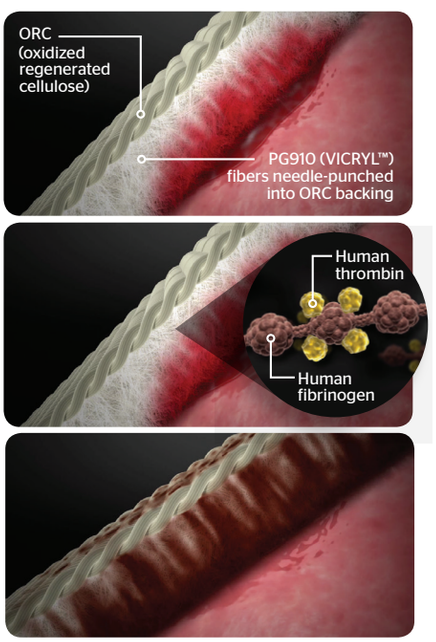
Challenging and uncontrollable bleeding during surgery is associated with increased mortality rates[8,9]

*EVARREST demonstrated hemostatic superiority across 4 clinical trials. Trial 1: Soft Tissue hemorrhage: Per protocol efficacy measured at n=87, 100% vs 53.3% for Surgicel Δ 46.7% *P*<0.0001; (ITT population=90). Trial 2: Normal and Abnormal liver resection hemorrhage: Per protocol efficacy measured at n=77, 94.3% vs 28.6% for conventional adjunctive methods Δ 65.7% *P*<0.001; (ITT population=84). Trial 3: Anatomic and nonanatomic liver resection hemorrhage: Per protocol efficacy measured at n=93, 97.9% vs 44.4% for conventional adjunctive methods Δ 53.5% *P*<.0001; (ITT population=102). Trial 4: Aortic reconstruction: Per protocol efficacy measured at n=141, 78.8% vs 46.7% for Tachosil Δ 32.1% *P*<0.0001; (ITT population=156).[4,12-14]

The Innovation

EVARREST, a fibrinogen and thrombin patch, provides mechanical integrity and supports clot formation independent of the patient coagulation profile[10]

The unique mechanism of action of EVARREST® Fibrin Sealant Patch leads to more reliable hemostasis in cardiovascular surgery vs TachoSil®[1]



After appropriate application and manual compression for **3 minutes, blood seeps into the patch** rather than pooling beneath it[11]

Blood activates fibrinogen and thrombin to form a clot. Hemostasis is achieved when the clot integrates with the patch and adheres to the tissue surface[11]

The patch's adhesive strength forms a **tight yet flexible physical seal** that maintains a barrier to bleeding, **conforming to a wide range of surgical sites**[11]

References: 1. Koea J, Baldwin P, Shen J, et al. Safety and hemostatic effectiveness of the fibrin pad for severe soft-tissue bleeding during abdominal, retroperitoneal, pelvic, and thoracic (non-cardiac) surgery: a randomized, controlled, superiority trial. *World J Surg.* 2015;39(11):2663-2669. **2.** Moaine SL, Chen E, Al-Attar N, Batiller J, Aguirre N, Kocharian R. EVARREST® Fibrin Sealant Patch as a hemostatic adjunct in aortic reconstruction surgery. The Houston Aortic Symposium. March 2016. **3.** Fischer CP, Bochicchio G, Shen J, Patel B, Batiller J, Hart JC. A prospective, randomized, controlled trial of the efficacy and safety of fibrin pad as an adjunct to control soft tissue bleeding during abdominal, retroperitoneal, pelvic, and thoracic surgery. *J Am Coll Surg.* 2013;217(3):385-393. **4.** Koea JB, Batiller J, Patel B, et al. A phase III, randomized, controlled, superiority trial evaluating the fibrin pad versus standard of care in controlling parenchymal bleeding during elective hepatic surgery. *HPB (Oxford).* 2013;15(1):61-70. **5.** Parekh AK, Barton MB. The challenge of multiple comorbidity for the US health care system. *JAMA.* 2010;303(13):1303-1304. **6.** MedMarket Diligence. Worldwide surgical sealants, glues, wound closure, and anti-adhesion markets, 2010-2017. 2012; Report #S190. **7.** Faber DR, De Groot PG, Visseren FLJ. Role of adipose tissue in haemostasis, coagulation and fibrinolysis. *Obes Rev.* 2009;10(5):554-563. **8.** Corral M, Ferko N, Hollman S, Broder MS, Chang E. Health and economic outcomes associated with uncontrolled surgical bleeding: a retrospective analysis of the Premier Perspectives Database. *Clinicoecon Outcomes Res.* 2015;7:409-421. **9.** Marietta M, Facchini L, Pedrazzi P, Busani S, Torelli G. Pathophysiology of bleeding in surgery. *Transplant Proc.* 2006;38(3):812-814. **10.** Ferko N, Danker W, Gangoli G. A systematic approach to surgical hemostat use supports standardization and cost efficiencies. *Healthcare Purchasing News.* 2017;41(11):34-35. **11**. EVARREST® Fibrin Sealant Patch [Prescribing Information]. Somerville, NJ: Ethicon, Inc. **12.** Kocharian R. A single-blinded, randomized, controlled, comparative phase III study evaluating the safety and effectiveness of EVARREST™ fibrin sealant patch as an adjunct to hemostasis during cardiovascular surgery. Clinical Study Report Protocol BIOS-13-004. December 3, 2015. Ethicon, Inc. **13.** Fischer C, Bochicchio G, Cerfolio R, et al. A prospective, randomized, controlled superiority evaluation of the fibrin patch (fibrin pad) as an adjunct to control soft tissue bleeding during abdominal, retroperitone al, pelvic, and thoracic surgery. Clinical study report protocol 400-07-002. November 20, 2009. Ethicon, Inc. **14.** Garden OJ, Kocharian R, et al. A phase III randomized, controlled, superiority study evaluating EVARREST™ Fibrin Sealant Patch versus standard of care treatment in controlling parenchymal bleeding during hepatic surgery. Clinical study report code BIOS-13-005. November 13, 2014. Ethicon, Inc.

Watch EVARREST MOA Video

The Evidence

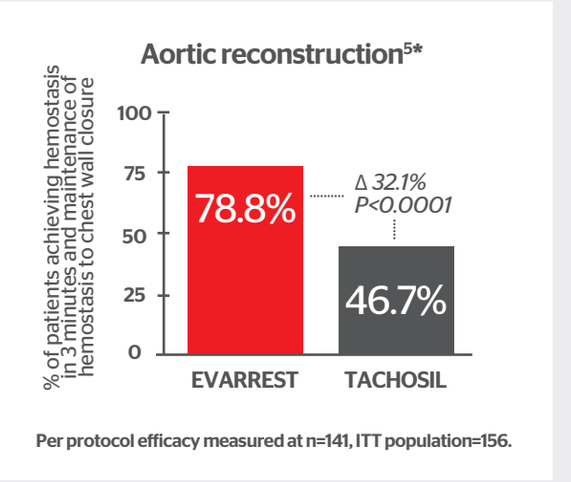
EVARREST has been clinically proven to offer hemostasis more reliably in cardiovascular surgery than TachoSil®[1]*

EVARREST demonstrated superior hemostatic efficacy in 4 randomized controlled clinical trials across a spectrum of challenging bleeding situations and surgical procedures[1-4]*

Trial 1

A phase 3 multi-center, randomized study with 156 patients assessed the safety and effectiveness of EVARREST in patients undergoing aortic reconstruction surgery. Treated target bleeding sites were aortic graft anastomotic suture lines.[5]

EVARREST achieved hemostasis in 78.8% of cases while TachoSil® achieved hemostasis in only 46.7% of cases (per protocol efficacy measured at n=141, ITT population=156).[5]*



Per protocol efficacy measured at n=141, ITT population=156.

EVARREST is more effective than TachoSil® in achieving hemostasis at anastomotic suture line bleeding in cardiovascular surgery[5]

Demonstrated efficacy even in situations like aortic reconstruction, tumor bed bleeding, and liver resection where challenging bleeding can arise.[1-4,6]

Trial 2
Normal and abnormal liver resection hemorrhage

94.3%

achieved hemostasis at 4 minutes with EVARREST vs 28.6% for conventional adjunctive methods[4]*

- Per protocol, efficacy measured at n=77, ITT population, n=84
- Δ 65.7%, *P*<0.001

Trial 3
Soft tissue hemorrhage

100%

achieved hemostasis at 4 minutes in patients with EVARREST vs 53.3% for absorbable hemostat[3,8]*

- Per protocol, efficacy measured at n=87, ITT population, n=90
- Δ 46.7%, *P*<0.0001

Trial 4
Anatomic and nonanatomic liver resection hemorrhage

97.9%

of patients achieved hemostasis with EVARREST vs 44.4% for conventional adjunctive methods[7]*

- Per protocol, efficacy measured at n=93, ITT population, n=102
- Δ 53.5%, *P*<0.0001

*EVARREST demonstrated hemostatic superiority across 4 clinical trials. Trial 1: Aortic reconstruction: Per protocol efficacy measured at n=141, 78.8% vs 46.7% for Tachosil Δ 32.1% *P*<0.0001; (ITT population=156). Trial 2: Normal and Abnormal liver resection hemorrhage: Per protocol efficacy measured at n=77, 94.3% vs 28.6% for conventional adjunctive methods Δ 65.7% *P*<0.001; (ITT population=84). Trial 3: Soft Tissue hemorrhage: Per protocol efficacy measured at n=87, 100% vs 53.3% for Surgicel Δ 46.7% *P*<0.0001; (ITT population=90). Trial 4: Anatomic and nonanatomic liver resection hemorrhage: Per protocol efficacy measured at n=93, 97.9% vs 44.4% for conventional adjunctive methods Δ 53.5% *P*<0.0001; (ITT population=102).[4,5,7,8]

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Seeing Is Believing

EVARREST® Fibrin Sealant Patch

It may look ordinary, but what it does is extraordinary—giving you hemostasis you can rely on in challenging procedures[1-5]

Make EVARREST a key part of your armamentarium, to address bleeding that is more than routine—with more reliable hemostasis in cardiovascular surgery than TachoSil®[4,5]

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References: 1. Fischer CP, Bochicchio G, Shen J, Patel B, Batiller J, Hart JC. A prospective, randomized, controlled trial of the efficacy and safety of fibrin pad as an adjunct to control soft tissue bleeding during abdominal, retroperitoneal, pelvic, and thoracic surgery. *J Am Coll Surg.* 2013; 217(3):385-393. **2.** Koea JB, Batiller J, Patel B, et al. A phase III, randomized, controlled, superiority trial evaluating the fibrin pad versus standard of care in controlling parenchymal bleeding during elective hepatic surgery. *HPB (Oxford).* 2013;15(1):61-70. **3**. Koea J, Baldwin P, Shen J, et al. Safety and hemostatic effectiveness of the fibrin pad for severe soft-tissue bleeding during abdominal, retroperitoneal, pelvic, and thoracic (non-cardiac) surgery: a randomized, controlled, superiority trial. *World J Surg.* 2015;39(11):2663-2669. **4.** Moaine SL, Chen E, Al-Attar N, Batiller J, Aguirre N, Kocharian R. EVARREST® Fibrin Sealant Patch as a hemostatic adjunct in aortic reconstruction surgery. The Houston Aortic Symposium. March 2016. **5.** EVARREST® Fibrin Sealant Patch [prescribing information]. Somerville, NJ: Ethicon, Inc.

EVARREST® Fibrin Sealant Patch
Important Safety Information

Indications and Usage

EVARREST® is a fibrin sealant patch indicated for use with manual compression as an adjunct to hemostasis in adult patients undergoing surgery, when control of bleeding by conventional surgical techniques (such as suture, ligature, and cautery) is ineffective or impractical.

Limitations for Use

- Cannot be used in place of sutures or other forms of mechanical ligation in the treatment of major arterial or venous bleeding.
- Not for use in children under one month of age
- Laparoscopic and other minimally invasive surgeries where manual compression would be difficult to achieve.

Dosage and Administration

For topical use only
- Determine the number of patches to be applied based upon the surface area and anatomic location of the bleeding tissue to be treated.
- Keep the patch dry until use.
- Place the powdery (active) side of the patch on the surface of tissue.
- Apply immediate manual compression over the entire surface of the patch and maintain contact pressure for 3 minutes to control the bleeding.

Dosage Forms and Strengths

EVARREST® Fibrin Sealant Patch consists of human fibrinogen and human thrombin embedded in a flexible composite patch component. The active side is powdery, and the non-active side has an embossed wave pattern.

Each 2 x 4 inch (5.1 x 10.2 cm) absorbable patch contains:
- 55.5 mg per square inch (8.6 mg per square cm) human fibrinogen
- 241.9 Units per square inch (37.5 Units per square cm) human thrombin

Contraindications
- Do not use to treat bleeding from large defects in arteries or veins.
- Do not apply intravascularly.
- Do not use in individuals known to have anaphylactic or severe systemic reaction to human blood products.

Warnings and Precautions

- Thrombosis can occur if absorbed systemically. Apply topically to the bleeding site only.
- Can cause hypersensitivity reactions including anaphylaxis.
- Avoid application to contaminated areas of the body or in the presence of active infection. Infection can occur.
- EVARREST® contains oxidized regenerated cellulose which adheres to bleeding surfaces. Inadvertent adhesions can occur.
- Avoid use in, around, or in proximity to, foramina in bone or areas of bony confine where swelling may cause compression.
- Use the least number of patches required to cover the entire bleeding area.
- May carry a risk of transmitting infectious agents, e.g., viruses, the variant Creutzfeldt-Jakob disease (vCJD) agent and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent.

Adverse Reactions

The adverse reactions reported during clinical trials occurred in less than 1% of all cases and included deep venous thrombosis, pulmonary embolism, blood fibrinogen increase, anastomotic hemorrhage, post procedural and intra-abdominal hemorrhage, abdominal distension, anemia, gastrointestinal hemorrhage, thoracic cavity drainage, pleural effusion, abdominal abscess, ascites, localized intra-abdominal fluid collection, cardiac failure, operative hemorrhage, and ischemic bowel.

To report SUSPECTED ADVERSE REACTIONS, contact ETHICON Customer Support Center at 1-877-384-4266 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

USE IN SPECIFIC POPULATIONS

Pediatric: Use in children under the age of one month may be unsafe or ineffective due to small size and limited ability to apply the patch as recommended.

For complete indications, contraindications, warnings, precautions, and adverse reactions, please reference full package insert.

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