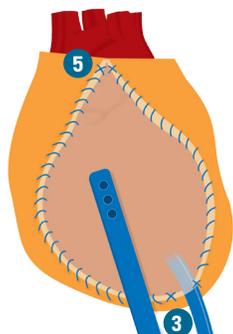
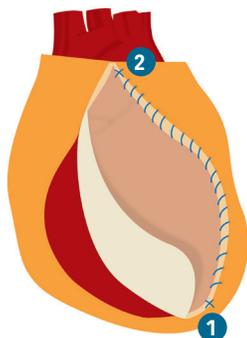


# CorMatrix® ECM® for Pericardial Closure

## Pericardial Remodeling

### SUTURING TECHNIQUES



**When implanting CorMatrix® ECM® for pericardial remodeling, a circumferential closure is needed to approximate the tissue at all points to the ECM. A running suture is suggested.**

One technique is to align the lower edge of the ECM with the lower edge of the pericardium.

- 1 Beginning at the left inferior edge of the opened pericardium place a 4-0 prolene through the pericardium and the corner of the ECM.
- 2 Run that suture up to the left superior pericardium (approximately 1 stitch per cm) to approximate the edges and leave a tag.
- 3 Place an angled chest tube into the pericardial space next to the starting suture in the left inferior corner.
- 4 Prior to continuing closure, trim the ECM to approximate native closure, reducing the redundancy of the ECM material. (There should be minimal tension on the suture lines and no pressure on any underlying grafts.)
- 5 Start a new running stitch just medial to the chest tube and suture the inferior pericardium to the ECM. Continue this suture around the bottom right corner, up the right side, and across the top and tie to the superior left suture tag.

### General Information:

- » Place the edge of CorMatrix ECM in contact with viable tissue.
- » Non-absorbable suture such as 4-0 or 5-0 Prolene is recommended.
- » Drains may be placed under and/or over the ECM.
- » ECM should be hydrated for approximately 1-2 minutes prior to suturing.



### TIPS:

- » Confirm ECM is in contact with healthy tissue
- » Rinse and wash out shed blood surrounding the heart prior to completing closure
- » Utilize at least two drains, one inside and one outside the reconstructed pericardium.
- » Place mammary artery grafts through native pericardium and under ECM.



## CorMatrix® ECM® for Pericardial Closure

### What is CorMatrix?

CorMatrix develops and delivers innovative biomaterial devices that harness the body's innate ability to repair damaged cardiac and vascular tissues.

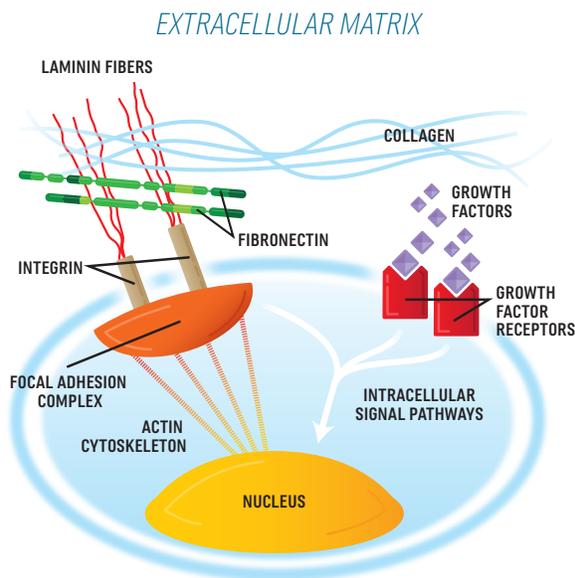
Extracellular matrix (ECM®) is the naturally occurring bioscaffold that surrounds cells in almost all tissues. ECM functions to regulate cell adhesion, differentiation, division, and migration.

CorMatrix acts as a scaffold into which the patient's own cells migrate and integrate — stimulating natural wound healing mechanisms which mature to form a strong, permanent tissue repair.

CorMatrix products are de-cellularized biologic scaffolds primarily composed of:

- » Structural proteins
- » Adhesion glycoproteins
- » Glycosaminoglycans (GAGs)
- » Proteoglycans
- » Matricellular proteins

CorMatrix is produced in a manner that retains these natural ECM molecules including growth factors, proteins, and cytokines which are known to play important roles in host tissue repair and remodeling. CorMatrix devices enable surgeons to restore the native anatomy of cardiac and vascular tissues in need of repair, serving as a superior alternative to synthetic or cross-linked materials.



#### *Proliferation, Differentiation, Attachment, Migration*

*The cell is in constant communication with ECM through transmembrane receptors contained within the cell membrane. Through the specific cell attachments, ECM guides the gene expression and enables cell migration, proliferation, and differentiation.*