Founded in July 2002, CARDIVA Medical, Inc. is a privately held medical device company that is focused on developing and commercializing innovative vascular closure technologies designed to help the body heal itself.

- Minimizing Complications
- Maximizing Hospital Efficiencies
- Improving Patient Care

The VASCADE® Vascular Closure System (VCS) is indicated for femoral arterial access site closure while reducing times to hemostasis and ambulation in patients undergoing diagnostic and interventional endovascular procedures using a 5F, 6F, or 7F procedural sheath.

Before use, physicians should review all risk information, which can be found in the "Instructions for Use."


**VASCADE® Vascular Closure System**

Minimizing Complications, Improving Patient Care, and Maximizing Hospital Efficiency for Vascular Closure

VASCADE is a fully integrated, extravascular, bioabsorbable femoral access closure system that is easy to use, leaves no permanent component behind and has demonstrated safety and efficacy in a wide range of patients.

Faster, Even in Heparinized Blood

VASCADE Collagen Plug Achieves Hemostasis

- The only extravascular device to offer collagen and a dual method of action:
  - Physiological: accelerates coagulation by leveraging natural thrombogenic property of collagen to enhance coagulation
  - Mechanical: provides tamponade as a result of rapid expansion of implant in presence of fluid

EXTRAVASCULAR AND BIOABSORBABLE

- Fully-integrated design
- Allows for future vessel reaccess
- Collagen plug naturally resorbs over time
- Leaves no permanent component behind
- Enables rapid and secure closure without intravascular anchor

**Efficiency for Vascular Closure**

Patient Care, and Maximizing Hospital

Minimizing Complications, Improving

For Patients Needing Manual Compression, CATALYST is designed to improve TTH and TTA.

Catalysis is designed to improve temporary hemostasis and reduce complications within the femoral closure time (TTH) and ambulatory time (TTA) for patients undergoing vascular procedures.

**VASCADER™ – MINIMIZING COMPLICATIONS, RAPID HEMOSTASIS®**

**BOOM II: Prospective, Investigator-Initiated Trial**

- Note: FDA has not yet reviewed reduced TTH or TTA data.
- Study with manuscript submitted for publication.

**VASCADER**

Integrated Design

Cardiva CATALYST® Manual Compression Assist Device

For Patients Needing Manual Compression, CATALYST is designed to improve TTH and TTA.

CATALYST is designed to provide temporary hemostasis and enhance coagulation within the femoral closure time (TTH) and ambulatory time (TTA) for patients undergoing vascular procedures.

**Safe and Easy to Use**

- No need for sheath exchange: deploys through existing procedural sheath
- Provides temporary hemostasis with minimal flow disruption

**METHOD**

- CATALYST II is coated with Kaolin and Chitosan used to promote coagulation
- CATALYST III is coated with an additional drug, Protamine Sulfate, acting to neutralize heparin and further aid the body’s natural healing process

- Available in two versions, CATALYST II & III
- Has complication rate similar to Manual Compression
- Leaves nothing behind allowing for immediate re-access
- CATALYST II is coated with Kaolin and Chitosan and/or promotion coagulation by inhibiting the clotting cascade and causing platelet aggregation
- CATALYST III is coated with an additional drug, protamine sulfate, acting locally in vascular heparin and further aid the body’s natural hemostasis process

**RESULTS**

- Multi-center, prospective randomized trial of 420 patients across 21 centers (137 in the US and 78 in Australia). Subjects were randomly assigned in a 2:1 ratio VASCADE to MC. 81% of VASCADE cases reported pre-procedure anticoagulant and/or antiplatelet administration (of note 8% of VASCADE cases had pre-procedural GP IIb/IIIa inhibitors and 7% of VASCADE cases had per-procedural GP IIb/IIIa inhibitors). (Note: FDA approved FDA)

- Mean time to ambulation:
  - Diagnostic: 11.2 ± 23.2
  - Interventional: 3.3 ± 4.5
  - Total: 3.8 ± 6.4

- Mean time to hold in ambulation:
  - Diagnostic: 13.9 ± 38.4
  - Interventional: 4.5 ± 6.8
  - Total: 5.4 ± 9.1

- Mean complications:
  - Diagnostic: 1.0 ± 2.0
  - Interventional: 1.0 ± 2.1
  - Total: 1.0 ± 2.1

- Zero major complications

- Statistically significant reductions in minor complications:
  - TTH (mins): 2.6x
  - TTA (hrs): 3.1x
  - Minor Complications: 0.002

- N=266

- N=188

- N=450

- N=327

- N=123

VASCADER Collage Plug Achieves Hemostasis Faster, Even in Heparinized Blood

- Promotes rapid thrombus formation locally to neutralize heparin and further aid the body’s natural healing process

- Helps maintain vessel integrity

- Enhances tissue apposition, natural elastic recoil and coagulation

- Supports the body’s natural healing process

- Is designed to provide temporary hemostasis and enhance coagulation within the femoral closure time (TTH) and ambulatory time (TTA) for patients undergoing vascular procedures.

- Minimizes complications, improves patient care, and maximizes hospital efficiency for vascular closure.

- Fully-integrated design

- Allows for future vessel reaccess

- Collagen plug naturally resorbs over time

- Leaves no permanent component behind

- Enables rapid and secure closure without intravascular anchor

- Extraordinary reduction in mean hold time:
  - Diagnostic: 11.2 ± 23.2
  - Interventional: 3.3 ± 4.5
  - Total: 3.8 ± 6.4

- Extraordinary reduction in ambulatory time:
  - Diagnostic: 13.9 ± 38.4
  - Interventional: 4.5 ± 6.8
  - Total: 5.4 ± 9.1

- Zero major complications

- Statistically significant reductions in minor complications:
  - TTH (mins): 2.6x
  - TTA (hrs): 3.1x
  - Minor Complications: 0.002