REDUCE COMPLICATIONS WITH RADIAL AND FEMORAL SOLUTIONS

Radial Approach
- Patent Hemostasis
- Minimize vascular disruptions
- Reduced Access Site Complications
- Ultrasound Good Access techniques are important factors

Femoral Approach
- Patent Hemostasis
- Minimize or eliminate vascular access trauma
- Ultrasound Good Access

Reduce radial artery spasm
- Compared to conventional sheaths, seamless sheath transitions
- Compared to tactile access, using a micropuncture needle for femoral access during cardiac catheterization reduces bleeding events within 72 hours.

Reduce radial artery occlusion (RAO)
- Compared to traditional compression techniques, ultrasound reduces the number of attempts, time to access, and improved first-pass success—leading to reduced vascular complications.

Reduce the risk of radial artery occlusions
- Ultrasound vs. Fluoroscopy compared to conventional sheaths, seamless sheath transitions

Choose the most appropriate approach
- Cost savings up to $3,500

Improve patient satisfaction
- Opportunity for same-day discharge

Reduce time to ambulation
- Micropuncture vs. Tactile

Global leader in arterial access and closure

TERUMO INTERVENTIONAL SYSTEMS
### Recognize the Rate of Vascular Access Complications

- **1 out of every 17 patients will have a vascular bleeding complication.**

Leading to significant consequences:

1. **Increased length of stay:** Average increase in patient length of stay (LOS) associated with complications is 4 to 6 days. (Marso S, JAMA 2010)
2. **Reduced profitability:** Average increase in facility costs per patient associated with complications and longer LOS. (Marso S, JAMA 2010)

### Reduce Complications with Radial and Femoral Solutions

#### Patient Selection
Choose the most appropriate approach.

#### Radial Approach

- **Good Access**
  - Ultrasound: Increase first-pass success rate.
- **Sheath-to-Artery Ratio**
  - Reduce the risk of radial artery occlusions.

#### Femoral Approach

- **Good Access**
  - Ultrasound: Reduce vascular access complications.
  - Micropuncture: Reduce bleeding complications.
- **Seamless Sheath Transitions**
  - Minimize or eliminate vascular access trauma.

#### Good Access Techniques

- Active closure can provide immediate hemostasis,
- Optimal sheath-to-artery ratio,
- Ultrasound vs. palpation
- Ultrasound vs. fluoroscopy

#### Good Closure

- Patent hemostasis vs. patent hemostasis technique
- Ultrasound vs. active closure

#### Reduced Access Site Complications

- Opportunity for same-day discharge
- Cost savings up to $3,500
- Improved patient satisfaction

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The amount reported in this brochure refers to the U.S. market only.
Proven to reduce bleeding rates, in-hospital mortality and related hospital costs\textsuperscript{13,14}\*
FEMORAL SOLUTIONS

Proven to reduce complications that may enable same-day discharge

Reduce vascular complications with ultrasound technology
(n=1,004) Seto AH. FAUST. JACC. 2010

Ultrasound vs. Fluoroscopy
7 people with vascular complications
17 people with vascular complications

Compared to fluoroscopy, real-time ultrasound guidance reduces number of attempts, time to access, and improved first-pass success—leading to reduced vascular complications.3

Reduce complications with seamless sheath transitions
(n=189) Allie D. Cath Lab Digest. 2009

Seamless sheath transition vs. Conventional sheath
% Major complications
0.0
1.1
% Minor hematoma
0.05
3.8

Compared to conventional sheaths, seamless sheath-to-dilator transitions may minimize or even eliminate vascular access trauma.7

Reduce bleeding complications with micropuncture needle technology
(n=1,475) Dagdughati RB. FAMOUS. JACC. 2011

Micropuncture vs. Tactile
1.5% 2.7% 2.1% 3.6%
All Procedures PCI
Bleeding events within 72 hours

Compared to tactile access, using a micropuncture needle for femoral access during cardiac catheterization reduces complications, such as bleeding or the need for transfusion.5

Reduce complications with seamless sheath transitions
(n=2,074) Manolis S. Indian Heart J. 2016

Seamless Sheath Transitions Active Closure

Achieve rapid & reliable hemostasis and reduce time to ambulation
(n=2,074) Manolis S. Indian Heart J. 2016

Active closure vs. Other hemostasis methods

Active closure to Hemostasis
<1 MINUTE
>20 MINUTES

to Hemostasis

Compared to manual or mechanical compression, active closure can provide immediate hemostasis, reduce the time to ambulation, and increase the potential for same-day discharge.15

Reduced Access Site Complications

- Opportunity for same-day discharge
- Improved patient satisfaction9
Glidesheath Slender®
Hydrophilic Coated Introducer Sheath

Unique thin-wall sheath design combined with hydrophilic coating proven to enable transradial access without compromise

Optimal sheath-to-artery ratio with the smallest option for procedures requiring 5, 6, and 7 Fr sheaths

Hydrophilic coating may reduce the risk of radial arterial spasm and occlusion1-3

The outer diameter of the introducer sheath is reduced by one Fr size with thin-wall technology to maintain larger inner-diameter equivalent.

The #1 preferred radial access sheath on the global market*

PROVEN AT THE POINT OF ACCESS
Global leader in arterial access and closure

*Data on file.

References:
Precise compression with innovative design proven to achieve hemostasis

Hemostasis achieved at low pressures, minimizing the chances of applying occlusive force

Air titration provides a more precise way of applying pressure to the radial artery

Dual balloon technology provides precise compression of the radial artery without compromising local nerve structure

The #1 preferred radial access sheath on the global market*

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*Data on file.
Smooth atraumatic access proven to help reduce complications and enable same-day discharge\(^1\)

**Seamless sheath transition** with Total Integrated Fit Technology (TIF) minimizes trauma and supports uncomplicated closing\(^2\)

**Micropuncture needle** features tapered transitions from 21G tip to 19G shaft for better blood return\(^2\)

**Ultrasound guidance** is facilitated by the enhanced visibility of the spiral echogenic tip. The needle tip also features back bevel cuts which help to ensure a straighter entry\(^2\)

The #1 vascular access sheaths on the global market*

**PROVEN AT THE POINT OF ACCESS**
Global leader in arterial access and closure

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*Data on file.

References:
Active closure for rapid and reliable hemostasis proven to accelerate patient mobility and enable same-day discharge

Resorbable components provide immediate closure with uncompromised blood flow

Lower bleeding complication rates compared to other hemostasis strategies

Manual compression not required for reinforcement of the closure

Active closure using bioabsorbable anchor and collagen with 99.7% deployment success

Bioabsorbable ANGIO-SEAL is no longer visible 30 days following implantation

The #1 vascular closure device on the global market†


†Data on file.

Indications:
The Angio-Seal Vascular Closure Device product family, including the STS Plus, VIP and Evolution platforms, is indicated for use in closing and reducing time to hemostasis of the femoral arterial puncture site in patients who have undergone diagnostic angiography procedures or interventional procedures using an 8 French or smaller procedural sheath for the 8 F Angio-Seal device and a 6 French or smaller procedural sheath for the 6 F Angio-Seal device. The Angio-Seal STS Plus, VIP and Evolution platform devices are also indicated for use to allow patients who have undergone diagnostic angiography to safely ambulate as soon as possible after sheath removal and device placement, as well as to allow patients who have undergone an interventional procedure to safely ambulate after sheath removal and device placement.

Important Safety Information:
Possible adverse events for vascular closure devices include, but are not limited to: bleeding or hematoma, AV fistula or pseudoaneurysm, infection, allergic reaction, foreign body reaction, inflammation or edema. This device should only be used by a licensed physician (or other health care professional authorized by or under the direction of such physician) possessing adequate instruction in the use of the device, e.g., participation in an Angio-Seal physician instruction program or equivalent.

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References:
3. Angio-Seal™ STS Plus, Angio-Seal™ VIP and Angio-Seal™ Evolution Instructions for Use.

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We are relentlessly seeking new ways to help you apply effective solutions and achieve better outcomes for more patients.

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