



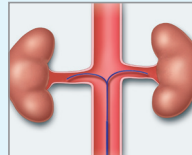
# BENEPHIT<sup>®</sup>

*Renal Infusion Systems*

## POSSIBILITIES. REALIZED.



Targeted Renal Therapy during a procedure...

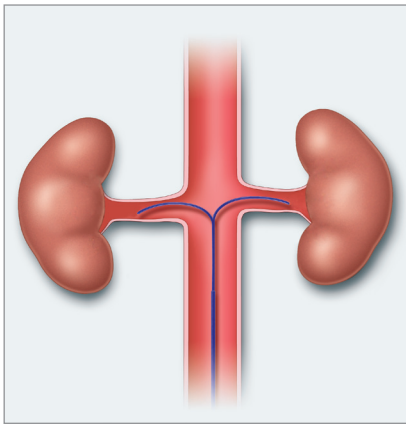


is a new option to reduce the risk of acute kidney injury...



for more successful outcomes for you and your patient.

**ANGIODYNAMICS<sup>®</sup>**



## Targeted Renal Therapy (TRT)

*is the delivery of physician-specified therapeutic agents directly to the kidneys via the renal arteries for patients at risk or with demonstrated symptoms of acute kidney injury.*

## THE BENEPHIT® INFUSION SYSTEM

is a proprietary, low-profile, selective infusion catheter system that delivers therapeutic agents directly to the renal arteries through a dedicated infusion catheter and sheath.

The low-profile of the Benephit infusion system is ideal for use during peripheral and coronary diagnostic and interventional procedures as well as cardiovascular surgery. It has been shown to be easy to use, safe and broadly applicable to a wide range of patients, and addresses a wide range of insults in a variety of procedural settings which can lead to acute kidney injury.

The bifurcated infusion catheter features two 3F (1 mm) identical branches designed to allow the infusion of therapeutic agents into both renal arteries simultaneously. These branches can be placed into the arteries easily, rapidly and safely with minimal contrast media and without the need for guidewires. The 4.8F braided polymer shaft of the XT and the 2.4F nitinol shaft of the CV provides balance of torque and push for optimal catheter positioning.

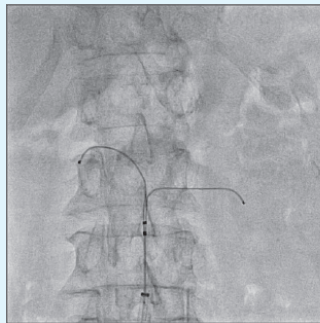
### Sample Renal Cannulations

Pre-cannulation Angiogram

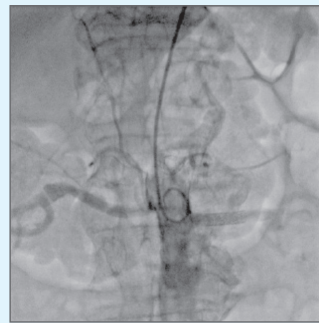


Accommodates different levels of ostial origin from femoral approach

Renal Cannulation

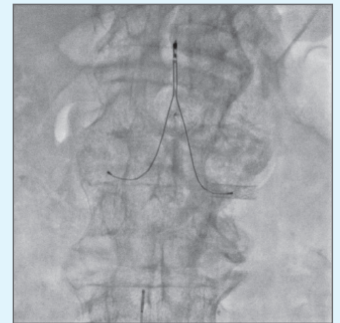


Pre-cannulation Angiogram



Cannulates through renal artery stent from brachial approach

Renal Cannulation



**STABILITY AND SECURITY** >

*Sheath depth markers, hub suture capability and compact system design*  
**facilitate continuous infusion during patient transport in multiple hospitals settings**

**DEPLOYS EASILY AND RAPIDLY** >



## BENEPHIT FAMILY OF CATHETERS

The Benephit XT infusion system was designed as a universal system to facilitate local drug delivery in multiple settings, as a stand-alone intervention or in conjunction with another medical, interventional or surgical procedure. The system consists of a bifurcated infusion catheter and dedicated 5F introducer sheath that allows for placement from femoral or brachial access sites. The system was designed to provide stability in the vasculature to allow usage in multiple clinical settings as well as in cases where patients may require transport between locations with the Benephit system placed.

In addition to the XT system, AngioDynamics manufactures the CV, Solo and Mini versions for use in specific clinical situations. The Benephit CV system is used primarily in coronary cases if simultaneous infusion is desired during the procedure. The Benephit Solo catheter has one open lumen for those patients with only one open renal artery or one kidney. The Benephit Mini catheter is for use in patients with small aortas, such as those patients with small stature.

- > *In a subset of 285 patients in the BE-RITe registry, the incidence of CIN was 71% lower than predicted (8.1% actual CIN versus 28% predicted) using Mehran risk scoring method<sup>1</sup>*
- > *In the BE-RITe registry, catheter-related complications were rare with only 1 case (0.2%) of renal artery dissection that was immediately stented without compromising renal function or causing long-term sequelae<sup>1</sup>*

- > *At the Scripps Clinic in La-Jolla, CA, Dr. Paul Teirstein's study of 33 patients showed a significant increase in renal function with Targeted Renal Therapy (TRT) compared to IV which was sustained for 2 hours post procedure<sup>2</sup>*

*Published data demonstrate*  
**94% bilateral cannulation success**  
**in an average of 2 minutes<sup>1</sup>**

**SAFELY ACCESSES**  
**RENAL VASCULATURE** >

*Atraumatic infusion branch tip is*  
**similar in diameter and profile**  
**to an 0.035" guidewire**

## BENEPHIT XT SYSTEM

Description	Catalog #
35 cm Benephit XT Infusion System	70035
105 cm Benephit XT Infusion System	70105

Each system contains a XT bifurcated infusion catheter and a 5F introducer sheath

## BENEPHIT CV SYSTEM

Description	Catalog #
30 cm Benephit CV Infusion System	60030
35 cm Benephit CV Infusion System	60035
40 cm Benephit CV Infusion System	60040
45 cm Benephit CV Infusion System	60045

Each system contains a CV bifurcated infusion catheter and an 8F introducer sheath

## BENEPHIT SOLO SYSTEM

Description	Catalog #
35 cm Benephit XT Solo Infusion System	70035-S

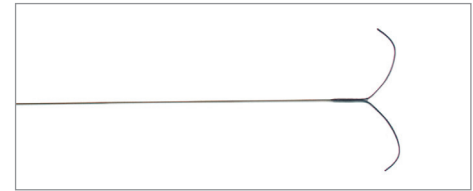
Each system contains a XT bifurcated infusion catheter and a 5F introducer sheath

## BENEPHIT MINI SYSTEM

Description	Catalog #
35 cm Benephit XT Mini Infusion System	70035-M

Each system contains a XT bifurcated infusion catheter and a 5F introducer sheath

## THE BENEPHIT® INFUSION SYSTEM CONSISTS OF TWO COMPONENTS:



Bifurcated Infusion Catheter



5F or 8F Introducer Sheath

1. Weisz, G. et al. "Safety and Performance of Targeted Renal Therapy: The Be-RITe! Registry." *Journal of Endovascular Therapy*. (Feb. 2009) 16,1. 1-12.
2. Teirstein, P.S. et al. "Differential Effect Between Intravenous and Targeted Renal Delivery of Fenoldopam on Renal Function and Blood Pressure in Patients Undergoing Cardiac Catheterization." *American Journal of Cardiology*. (April 2006) 97,7. 1076-1081.

### IMPORTANT RISK INFORMATION

**INDICATION FOR USE:** The Benephit Infusion Systems are intended to facilitate targeted renal therapy (TRT), the delivery of physician-specified agents to the kidneys via the renal arteries. The Benephit Infusion Systems are indicated for use in patients: (1) undergoing medical, interventional, or surgical procedures where the medical procedure carries an elevated risk of iatrogenic kidney injury for the patient; and (2) who have demonstrated

symptoms of acute kidney injury, and in whom arterial catheterization for TRT is feasible. **CAUTION:** Federal (USA) law restricts these devices to sale by or on the order of a physician.

**CONTRAINDICATIONS:** None known.

**WARNINGS AND PRECAUTIONS:** Please see package insert for complete list of warnings and precautions.

**POTENTIAL COMPLICATIONS:** Possible complications and risks include, but are not limited to air embolism, hematoma or hemorrhage, perforation of the vessel wall, vessel spasm, vessel dissection, vascular thrombosis, infection, agent/drug reactions, or thromboembolic episodes.

Indications, contraindications, warnings and instructions for use can be found in the instructions for use supplied with each device. Observe all instructions prior to use. Failure to do so may result in patient complications.

## ANGIODYNAMICS®

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[www.angiodynamics.com](http://www.angiodynamics.com)

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