Custom-designed catheters? The sky's the limit. Do you have a product-enhancement idea you'd like to fly by our experts? We offer a comprehensive custom-design program, and we welcome the opportunity to fulfill your special requirements.

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AngioDynamics, Inc. is a leading provider of innovative medical devices used by interventional radiologists, surgeons, and other physicians for the minimally invasive treatment of cancer and peripheral vascular disease. The Company's diverse product line includes market-leading radiofrequency ablation and irreversible electroporation systems, vascular access products, angiographic products and accessories, dialysis products, angioplasty products, drainage products, thrombolytic products, embolization products and venous products.

More information is available at www.angiodynamics.com.
Milestones in technology

Innovation extends to our catheter manufacturing design and quality control processes as well. For example, our unique, proprietary tip welding process results in a secure, smooth transition from shaft to tip. Quality production testing of the welding parameters and 100% inline shape inspection against a template ensure the quality and reliability you and your patients depend on. These same high standards of quality control are applied to the manufacture of all AngioDynamics® products, which is why we've had no product-related recalls in the 10-year history of our Soft-Vu® Mariner™ or Accu-Vu® Super-Radiopaque™ tip catheters.

Once you've tried one of our innovative new shapes, you'll want to try them all.

During the past two decades we've pioneered significant advancements in minimally invasive interventional products and procedures, and there are more innovations on the horizon.

1992
- Sos Omni Selective Catheter: The first of its kind, featuring a soft, atraumatic Super-Radiopaque tip designed to reform in the thoracic aorta
- Soft-Vu 4F and 5F Catheters: The first soft, Super-Radiopaque tip catheters in the industry

1995
- Omni™ Flush Catheters: An industry first, designed to eliminate reflux, improve contrast bolus delivery and simplify crossing the aortic bifurcation

1996
- U.S. Patent #5,584,821 is issued to AngioDynamics for its soft tip catheter
- AngiOptic™ 4F and 5F Catheters: The first one-piece, completely Super-Radiopaque catheter

1997
- AngiOptic 3F Catheters: The first Super-Radiopaque 3F angiographic catheter on the market

2001
- Accu-Vu Sizing Catheter: The first sizing catheter with a soft Super-Radiopaque tip and smooth shaft transition

2003
- Accu-Vu 4F sizing catheter with Super-Radiopaque tip
- Soft-Vu 4F high-flow angiographic catheters

2004
- Mariner hydrophilic coated angiographic catheter featuring Duration™ coating technology

2007
- Soft-Vu and Mariner angiographic catheters up to 150 cm in length

AngioDynamics®: The Formation of Innovation

The thrust of AngioDynamics catheter technology.

At AngioDynamics, innovative ideas take flight daily. We're proud to be at the forefront of angiographic catheter technology. Our mission is, and always has been, the development of high-performance angiographic catheters designed to advance the art and science of vascular procedures and patient care. Angiographic catheter technology is one of the core competencies of our business, not a sideline. In fact, we were the first to get off the ground with many new products and features that have since been imitated by others in the industry (see Milestones in Technology).

The catheter you need, when you need it.

Innovation comes in many shapes, designs and sizes, including our standard lines of Soft-Vu®, Mariner™, Accu-Vu®, Omni™ Flush, Soft-Vu® and 3F AngioOptic™, to name a few. No one offers a broader range of stock angiographic catheters. And they're all available for immediate shipment. There's no need to “special order” or wait 12 weeks for delivery. With AngioDynamics' express shipping, the catheters you need can be in your hands practically overnight.

Longer length angiographic catheters

AngioDynamics is pleased to offer a comprehensive line of longer length angiographic catheters as part of our Mariner and Soft-Vu brands. Available in lengths up to 150 cm, you now have an extensive variety of shapes, lengths and diameters to choose from when gaining access via a brachial approach or when going below the knee via a contralateral approach.

Shaping the world of patient care.

Our Omni Flush angiographic catheter is the picture of innovation. It is designed as a single catheter to perform flush arteriography, bilateral "run off" studies of the lower extremities, and to cross the aortic bifurcation with ease for contralateral diagnostics in interventional procedures.

Soft-Vu Omni Flush, available in Mariner, Accu-vu and AngioOptic.

Custom product programs available.
Forward thinking grounded in practical applications.

**Flush Aortography** (see illus. A): The unique shape of the catheter minimizes the undesirable cephalad reflux of contrast medium common with pigtail and racket type catheters. The absence of cephalad reflux allows for a more concentrated contrast bolus to be delivered to the areas of interest and therefore the total amount of contrast used may be decreased. Aortography for renal artery disease is improved since there is no reflux into branches of the celiac axis and the superior mesenteric artery that can obscure the renal arteries.

"Run OFF" Injections for Studies of the Lower Extremities: Because the catheter eliminates reflux, it allows optimal opacification of the distal aorta, iliac arteries and the distal lower extremity vessels when positioned just above the aortic bifurcation.

**Crossing of the Aortic Bifurcation for Contralateral Injections or Interventions** (see illus. B and C): If adequate opacification of the distal circulation in the contralateral extremity is not achieved by injections at the aortic bifurcation, or if contralateral intervention is planned, the catheter can be easily advanced contralaterally over the aortic bifurcation as far distally and selectively as necessary (usually to the common iliac artery).

To advance the catheter contralaterally, first position it in the distal abdominal aorta. Carefully advance the guidewire (a floppy-tipped Bentson-type is preferable) until the primary curve of the catheter is "opened" and a few centimeters of floppy guidewire extend distally. Carefully pull the catheter-guidewire combination distally (see illus. B), with a rotating motion, if necessary, to direct the floppy wire to enter the contralateral iliac artery. It should then be pulled further distally until the apex of the primary curve is "seated" on the aortic bifurcation. (The "seated" position will be readily apparent because, if pulled further until the apex of the primary curve is "seated" on the aortic bifurcation, the wire can then be gently advanced to the external iliac or common femoral artery, while slight traction is maintained on the catheter. A modification of this technique can be used for entering the descending thoracic aorta from the left subclavian artery.)

Flush catheter distally to the desired position (usually the distal external iliac of the common femoral). An angled hydrophilic guidewire should be used. Once the guidewire is distal, advance the Omni™ Flush Catheter into the iliac bifurcation.

"Opened" and a few centimeters of floppy guidewire extend distally. Please note: During these maneuvers it is important to have the primary curve remain seated across the aortic bifurcation and/or great tortuosity, thereby ensuring advancement of the catheter-guidewire combination to the external iliac artery. If the catheter is pulled far enough across the aortic bifurcation, or if contralateral intervention is planned, the catheter can be easily advanced contralaterally over the aortic bifurcation as far distally and selectively as necessary (usually to the common iliac artery). 

**Inferior Vena Cavography**—With the catheter "nested" across the inferior vena cava bifurcation, 50% of the contrast medium is delivered into the inferior vena cava (via the side holes of the catheter shaft) and 50% into the corresponding common iliac veins through the end holes of the sidearm. This allows detection of significant inferior vena cava anomalies such as a left-sided duplicated inferior vena cava.
Milestones in Technology

The quality you rely on.

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2004 Mariner™ hydrophilic coated angiographic catheter
2007 Soft-Vu® and Mariner™ angiographic catheters up to 150 cm in length
Just the right catheter for just the right results.

**Sos Omni® Selective Catheter** (see illus. D1–D4): This versatile visceral catheter with a soft, Super-Radiopaque™ tip reformats in the descending thoracic aorta, below the great vessels, rather than the transverse arch, for increased safety. The catheter should be pulled from the descending aorta into the abdominal aorta with a floppy Bentson-type guidewire “leading,” sometimes with a rotating motion. Its unique shape allows it to select vessels more quickly than other selective catheters. The soft, flexible atraumatic tip can be placed deeper into the artery (1 cm or more), reducing the chance of “catheter kickout.”

The shaped tip allows the guidewire to flow into the origin of the renal artery, thereby setting the way for proper seating of the catheter and for crossing renal artery stenoses.

**AngiOptic™ Catheter**: This new-uses catheter features high radiopacity of both the tip and the entire shaft for better visualization and accurate catheter placement. It is slightly softer than the Soft-Vu® catheter and is designed for high flow rates and high-pressure capabilities. This is also the catheter to use for crossing contralateral iliac artery occlusions and other applications where shape stiffness is desired.

AngiOptic™ Catheter is well suited for use in diseased aortas.

**Accu-Vu® Sizing Catheter** (see illus. E): The leader in radiopaque marker spacing accuracy, the Accu-Vu sizing catheter is the first sizing catheter to feature an enhanced, soft Super-Radiopaque tip, for safer and faster catheter guidance to the target area.

Placement of the Accu-Vu Omni™ Flush catheter tip directly above the renal artery level (top of the L1 vertebral body) and the first radiopaque marker at the renal artery limits the filling of the SMA with contrast when mapping the aorta and bifurcation branches.

**Mariner hydrophilic-coated angiographic catheter** features Duration hydrophilic coating technology combined with our market leading angiographic catheter design.
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