



*innovative implantable* **DEVICES** | *especially for* **VETERINARY PATIENTS**

state-of-the-art devices for specialty veterinary care

# Veterinary Medicine Product Catalog

offering the ultimate in stress free  
innovative medical devices  
for chronic procedures  
in veterinary patients

state-of-the-art products for exceptional care

*"because our best friends deserve the best care"*

CELEBRATING

37

YEARS OF  
EXCELLENCE  
1981-2018

**Norfolk Vet Products Inc.**

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v1803

Established in 1981, Norfolk Medical Products and its divisions Access Technologies and Norfolk Vet Products are today a world-wide provider of medical devices for human medicine, preclinical research and veterinary medicine. The company has grown to prominence by providing innovative and creative solutions to meet the challenges of medicine and research, from creating the first widely accepted Vascular Access Port for humans in 1981 to designing and manufacturing specialized and sophisticated devices for veterinary patients.



All our products are manufactured in our ISO certified and FDA registered facility in Skokie, Illinois and we maintain a global distribution directly and through a network of experienced distributors world-wide.

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#### **General Information**

All materials used in the Norfolk Vet product range are implant grade. Finished products are shipped sterile (EtO exposed) unless otherwise noted. Many products can be autoclaved, with the exception of polyurethane catheters, PosiGrip needles and extension sets. Huber point, non-coring needles must be used to access the septum of all vascular access ports. For your convenience, all vascular access ports are supplied with a Huber point needle for use during surgery. Additional Huber point needles in a variety of gauges and lengths are readily available. Products are supported by our sales and technical team who will do their utmost to provide complete and accurate information. Norfolk Vet specializes in customizing products to suit the needs of clinical veterinarians.

Call 1-847-674-7143 or email [info@norfolkvetproducts.com](mailto:info@norfolkvetproducts.com) for additional information.

#### **Ordering Information**

Products may be ordered by:

**Tel:** 1-847-674-7143

**Email:** [info@norfolkvetproducts.com](mailto:info@norfolkvetproducts.com)

**Fax:** 1-847-674-7066

**Mail:** 7350 N. Ridgeway, Skokie, IL 60076 USA

#### **Sales Policies**

**Use of Products:** All Norfolk Vet products are sold for veterinary medicine only and have not been approved by any governmental agency for use in humans. Any instructions for use are only suggestions and should not replace your veterinary knowledge or your facilities protocols.

**Payment Terms:** Net 30 days form date of invoice. Unpaid balances are subject to a late payment fee of 1.5% per month. See quotation or invoice for currency, payment information and other related charges.

**Shipping and Importation Costs:** Shipping charges will be added to the order. FOB origin (Skokie, Illinois). Purchaser is responsible for payment of all import duties, tariffs, taxes, insurance, and other related charges.

**Returns:** Standard items that have not been used or damaged may be returned within 60 days for a credit or refund. A 20% restocking charge will be deducted from the refund or credit. Special, made to order, or custom items are non-refundable.

**Distributors:** products may be ordered directly or through one of our approved distributors.

**Price Changes:** Prices are subject to change without notice.

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# BENEFITS *of subcutaneous access ports*

## TIPS *and* SUGGESTIONS *for use*

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### *What is a vascular access* **PORT?**

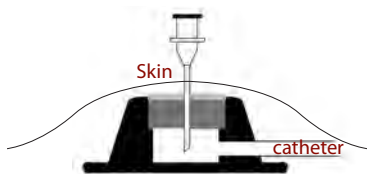
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It is a subcutaneously implanted drug delivery depot that can be used for infusion, aspiration, bypass or simply as an injection hub. It consists of a titanium port chamber that is connected to a catheter. The chamber is covered by a self-sealing silicone 'window' or septum that serves as the injection site. The device is 100% biocompatible and does not need to be removed after treatment is completed.

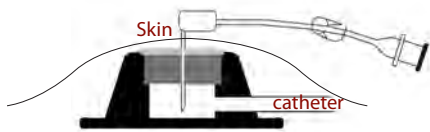
### *What is the route through the* **PORT?**

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In this system, neither the port nor catheter exit the skin, providing long-term access with a decreased risk of catheter-related infection or accidental dislodgement. Access to the port and system is gained by penetration of the skin and port septum using a specially designed needle - the Huber point needle which has a deflected point.



**PosiGrip Huber** needle for bolus injection and aspirations



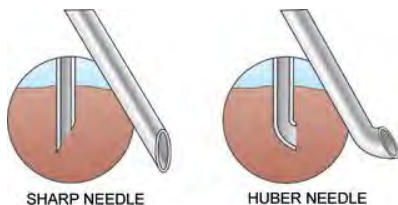
**Right Angle Huber** for longer-term infusion and aspiration, lies flat against the skin

### *The HUBER needle preserves the port septum*

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When you access the silicone septum of a port with a Huber point needle (also known as a deflected or offset point needle) a plug of silicone is not cut as happens if you access the port with a standard hypodermic needle.

The Huber needle parts (rather than cuts) the septum as it enters allowing the septum to close up once the needle is removed. This preserves the integrity of the port and protects the catheter from being occluded by a potential silicone septum core. If you looked at the septum, all you would see is an impression of where the needle entered - no hole was made.



### *Why the need for a* **PORT?**

---

Initially developed in human medicine in the early 1980's to overcome the problems associated with external catheters and to preserve peripheral vessels during chemotherapy treatments, they are today used in a variety of veterinary medicine therapies including; chemotherapy, sedation for radiation, aspiration of pleural effusions, blood donation and as a component of both the AUS (Artificial Urethral Sphincter) & SUB (Subcutaneous Ureteral Bypass) systems.

### *How to maintain a* **PORT?**

---

While port maintenance is minimal, it is important to use an aseptic technique each time the port is accessed. The port must be flushed with sterile saline and locked with a suitable locking solution, using a positive pressure technique, after each access to maximize patency. When not in use, a 3-4 weekly maintenance flushing and locking regime is suggested. An accessing & maintenance guide is available.

### *The benefits of* **PORT?**

---

Ports offer clinically proven, compassionate and stress-free long-term access to a variety of organ systems and for a variety of therapies. They eliminate the need to find a vein when I.V. access is needed, they provide the opportunity for convenient "at home" aspiration of pleural effusions, they provide relief from urinary incontinence, and they allow urinary diversion for ureteral obstructions.

As pets are becoming more and more a part of the family, veterinary medical advances are enabling the level of care to be parallel and in some cases surpass that of human medicine. Medical advancements are no longer restricted to the human end of the leash.

## ACCESS PORTS

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*making life easier for Vets & Pets*

***Clinically Proven,  
Compassionate  
& Stress-Free  
Access***



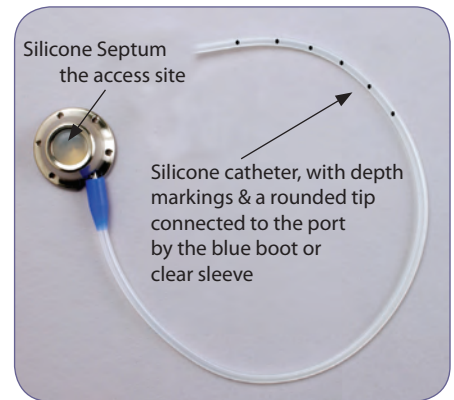
# COMPANIONPORT™ SYSTEM

for long-term reliable  
and stress free vascular access

The CompanionPort, available in three sizes, is an indwelling vascular access port system that provides stress-free access to the vasculature without the need for repeated venipuncture.

**Clinical indications for use of the CompanionPort include;** delivery of chemotherapy, delivery of sedation for long-term radiation therapy, chronic disease requiring medication or fluid administration and serial blood sampling or blood donation.

Notable features of the system include its unobtrusive nature, creating only a bump under the skin, the elimination of an exit site reducing the risk of infection, as well as providing an opportunity to 'rest' the peripheral vessels, thereby allowing them to remain intact for future use.



## A SOLUTION FOR LONG-TERM VENOUS ACCESS

| Cat. No.                                      | Product Name  | Kit Contents  |
|---|---------------|---|
| CP100K<br><i>for small cats &amp; ferrets</i> | Le Petite Kit | 1 x small titanium Vascular Access Port<br>1 x 4 Fr. rounded tip non radiopaque Silicone catheter with sleeve<br>1 x 4 Fr. Peel-Away needle introducer - DPX-4<br>2 x PosiGrip Huber point needles - PG22-75<br>1 x Huber point infusion set - RA22-75-6<br><a href="#">Surgical Suggestions &amp; Instructions for Use/Accessing Guide</a> |
| CP202K<br><i>for cats &amp; small dogs</i>    | Le Port Kit   | 1 x medium titanium Vascular Access Port<br>1 x 5 Fr. rounded tip white Silicone catheter with blue boot<br>1 x 5 Fr. Peel-Away needle introducer - DPX-5<br>2 x PosiGrip Huber point needles - PG22-75<br>1 x Huber point infusion set - RA22-75-6<br><a href="#">Surgical Suggestions &amp; Instructions for Use/Accessing Guide</a>      |
| CP305K<br><i>for larger dogs</i>              | Le Grande Kit | 1 x large titanium Vascular Access Port<br>1 x 7 Fr. rounded tip white Silicone catheter with blue boot<br>1 x 7 Fr. Peel-Away needle introducer - DPX-7<br>2 x PosiGrip Huber point needles - PG22-75<br>1 x Huber point infusion set - RA22-75-6<br><a href="#">Surgical Suggestions &amp; Instructions for Use/Accessing Guide</a>       |

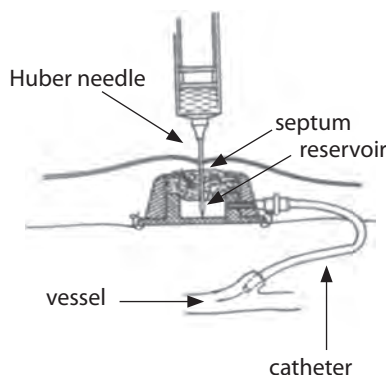
## COMPANIONPORT .....how it works, the pathway

The CompanionPort is aseptically accessed using a non-coring Huber point needle.

The fluid pathway is through the Huber needle and skin to enter the port reservoir. The infusate then exits the reservoir and flows out into the catheter and vasculature. During blood withdrawal, the flow is reversed.

The Huber point needle is designed to eliminate the potential to "core" the port septum or injection site. This protects the catheter from being occluded by a potential silicone septum core. Once the Huber needle is removed, the septum re-seals itself.

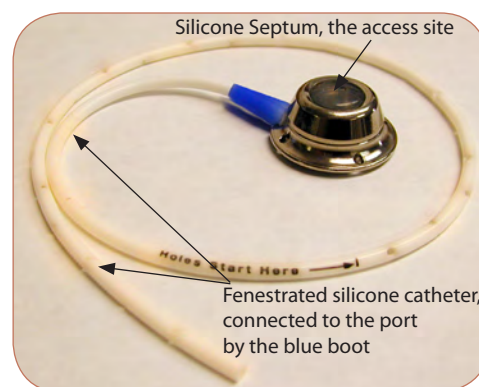
Huber point needles and Huber point infusion sets are available in a variety of needle gauge and lengths. A complete listing can be found on page 11.



The PleuralPort, available in 2 sizes, is an indwelling access port system that provides stress free access to the pleural cavity for those needing permanent pleural drainage or intracavitary chemotherapy.

**Clinical indications of the use of the PleuralPort include;** percutaneous, on-demand, long-term relief of pleural effusions, intracavitary chemotherapy delivery and for the treatment of recurrent pneumothorax.

Notable features of the system include the elimination of an exit site, the avoidance of the discomfort, stress and iatrogenic trauma associated with thoracentesis and thoracostomy tubes. An accessing guide is included in each kit so that clients may be taught how to drain the pleural space at home. The accessing guide is not intended to replace any veterinary instructions.



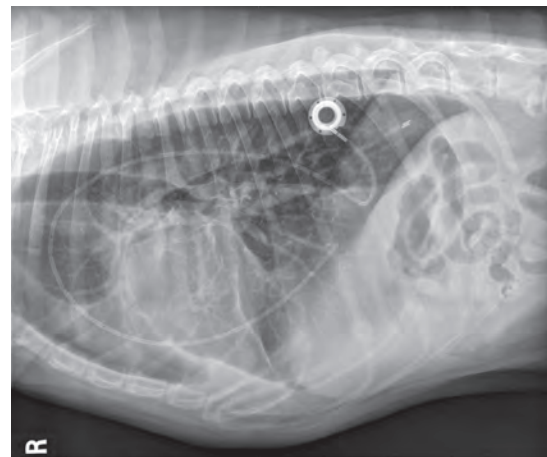
## A SOLUTION FOR THE MANAGEMENT OF PLEURAL EFFUSIONS

| Cat. No.   | Product Name           | Kit Contents   |
|--|------------------------|--|
| PP102K   | Canine PleuralPort Kit | 1 x large titanium access port<br>1 x 9 Fr. round tip, fenestrated silicone catheter<br>22Ga. x 1" PosiGrip Huber point needle (PG22-100)<br>20Ga. x 1" PosiGrip Huber point needle (PG20-100)<br>1 x 19Ga. x 1" ClearView Huber point infusion set (CVRA19-100-6)<br>surgical and accessing suggestions |
| <b>Approximate fill volume</b><br>PP102K - canine kit with a 9 French catheter - 0.84ml (port) + 0.57ml (12" catheter) = ±1.5ml  |                        |  |
| DPX-10<br>(optional extra)   | PP102K Introducer Tray | 1 x 10 French dilator<br>1 x 18 gauge needle<br>1 x 0.035" J tipped guide wire   |
| PP202K   | Feline PleuralPort Kit | 1 x large titanium access port<br>1 x 7 Fr. round tip, fenestrated silicone catheter<br>22Ga. x 1" PosiGrip Huber point needle (PG22-100)<br>20Ga. x 1" PosiGrip Huber point needle (PG20-100)<br>1 x 19Ga. x 1" ClearView Huber point infusion set (CVRA19-100-6)<br>surgical and accessing suggestions |
| <b>Approximate fill volume</b><br>PP202K - feline kit with a 7 French catheter - 0.84ml (port) + 0.39ml (12" catheter) = ±1.25ml |                        |  |
| DPX-8<br>(optional extra)  | PP202K Introducer Tray | 1 x 8 French dilator<br>1 x 18 gauge needle<br>1 x 0.035" x J tipped guide wire  |



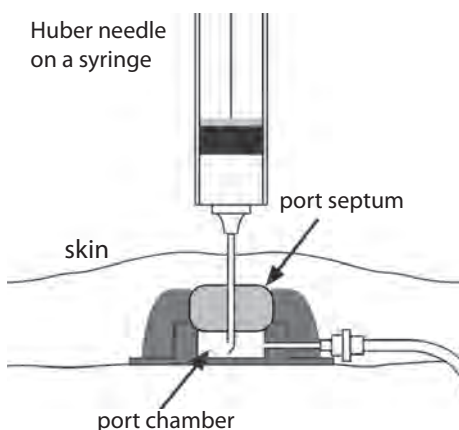
# PLEURALPORT™ SYSTEM

- the PleuralPort is a version of a vascular access port used as an alternative to a thoracostomy tube, eliminating the need for repeated entry into the pleural space.
- a fenestrated silicone drain is inserted through the thoracic wall into the pleural space and connected to a PleuralPort that is secured in place in the subcutaneous tissue.
- it is easily palpable through the skin and fluid is aspirated by inserting a non-coring Huber point needle into the port reservoir after aseptic skin prep. When accessing the PleuralPort, a non-coring Huber point needle or Huber point infusion set must be used to avoid damaging the integrity of the port septum.
- aspiration can be performed by owners, after instruction, as there is no need for sedation. This substantially reduces the stress on an animal which may already have compromised respiration.
- surgical and accessing guides are provided in each kit as an educational resource only and should replace veterinary knowledge or the facilities protocols.



Right lateral thoracic radiograph showing the position of the PleuralPort hub and of the fenestrated drainage tubing within the pleural space

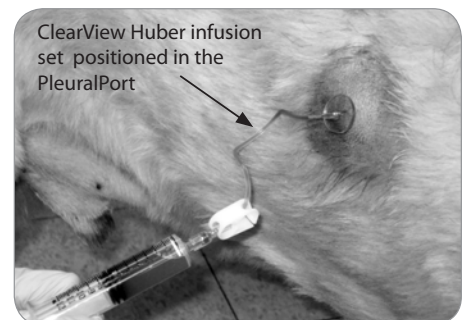
## PLEURALPORT .....*how it works, the drainage pathway*



After an aseptic skin preparation, fluid is aspirated from the pleural cavity by percutaneous insertion of a 19 or 20 gauge Huber, non-coring, needle or infusion set through the skin and into the port septum until the needle make contact with the metal base of the port. The effusions are withdrawn into a sterile syringe until negative pressure is achieved, or the patient's clinical signs improve.

During drug infusion, the flow is reversed.

Huber point needles and Huber point infusion sets are available in a variety of needle gauge and lengths. A complete listing can be found on page 11.



# AUS-PORT™ SYSTEM

The Artificial Urethral Sphincter Port, an indwelling system, offers on-demand, long-term relief of urethral sphincter mechanism incontinence in veterinary patients. The device employs a silicone cuff that is placed around the proximal urethra and filled with variable amounts of saline to provide mechanical obstruction to urine flow through the urethra. The degree of resistance to flow is adjusted using a subcutaneous access port. The exit site is implanted, reducing the opportunity for infection.

**Clinical indications of the use of the AUS-Port system include;** congenital and acquired incontinence that is unresponsive to traditional surgical and medical management.

Notable features of the system includes the ability to percutaneously adjust the degree of resistance/mechanical obstruction to the flow of urine at any time after implantation. This is achieved by inserting a Huber point needle through the skin and into the port septum and infusing fluid until continence is restored.

Packed as a kit, the AUS-Port System is available in three port sizes and multiple occluder widths and lumen diameter to suit all sizes of patients. Kits ship sterile and include the access port, artificial urethral sphincter occluder, 2 x Huber needles, a Huber right angle infusion set, a luer attachment, and surgical and accessing suggestions.

## AUS-PORT ordering information.....customize your kit

1. Select the appropriate access port size - 3 sizes are available:

- Le Petite / CP6 - for very small cats/kittens
- Le Port / CP4 - for cats and smaller dogs
- Le Grande / CP2 - for larger dogs

2. Select the appropriate AUS occluder cuff width and lumen diameter:

### FELINE PATIENTS

- cuff width 11mm
- lumen diameters of 4, 6, 8, 10, 12, 14, & 16mm - determined by diameter of the patients urethra

### CANINE PATIENTS

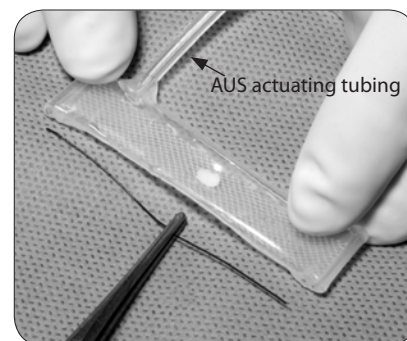
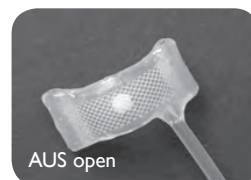
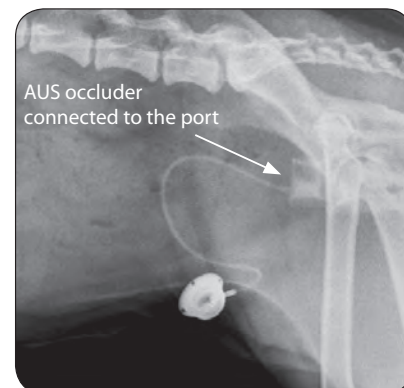
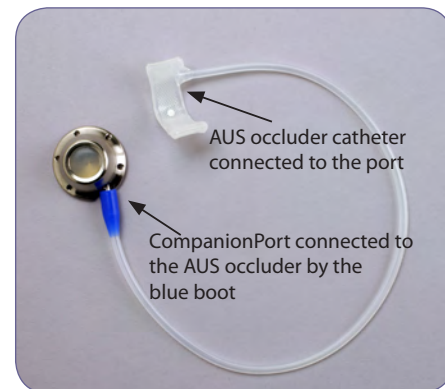
- cuff width 14mm
- lumen diameters of 4, 6, 8, 10, 12, 14, & 16mm - determined by diameter of the patients urethra

To correctly choose the most appropriate AUS occluder size, the diameter of the urethra should be measured by ultrasound or by measuring the circumference of the urethra with a piece of suture if ultrasound is not available. The AUS occluder should fit slightly loose at first; for example if the urethra has an outer diameter of 7mm you would select an occluder with an 8mm lumen diameter.

The chart below should only be used as a guide and is based on the body weights of female dogs.

| Device Size        | 6x11mm | 8x14mm  | 10x14mm | 12x14mm |
|--------------------|--------|---------|---------|---------|
| Median Body Weight | 3-6kg  | 10-20kg | 20-30kg | 25-40kg |

the hydraulic style occluder cuff  
for urethral occlusion



Artificial urethral sphincter occluder with side entry tubing is sized by comparing it to a piece of suture that was cut to approximate the urethral circumference



# AUS-PORT™ SYSTEM

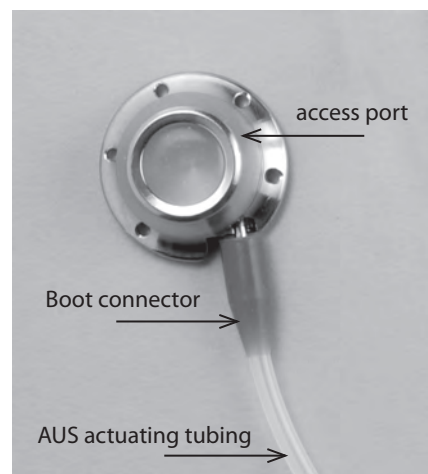
The adjustable artificial urethral sphincter port system is created by combining an inflatable silicone occluder with a titanium subcutaneous access port. This combination of technologies has proven to be a successful system when urethral sphincter mechanism incontinence that is unresponsive to medical management occurs.

The actuating tubing of the AUS occluder is attached to the CompanionPort using the "boot" provided with each access port. All sizes of occluders are compatible with any size of access port.

The single-procedure technique offers a highly successful, medication-free option of sustained control of incontinence.

Prior to placement of the AUS, all air is flushed from the lumen of the occluder and actuating tubing by retrograde filling of the system with isotonic sterile saline. A stainless steel, reusable flushing/backfill catheter to assist in flushing the system can be requested when ordering the AUS-Port system. A Flush and Fill Procedure is included in the surgical suggestions booklet provided in each kit.

The AUS diaphragm must be empty and completely deflated when it is placed around the urethra. It will slowly be adjusted to the proper occlusion later. Often, the cuff placement alone is enough to provide positive results initially.



## A SOLUTION FOR THE MANAGEMENT OF URINARY INCONTINENCE

| Cat. No.  | Product Name   | Kit Contents   |
|-----------|--|--|
| CP100-AUS | Le Petite-AUS  | 1 x small titanium vascular access port - A-CP-100<br>1 x AUS occluder catheter (see above for size details)<br>2 x 22 gauge PosiGrip Huber point needles - PG22-75<br>1 x 22 gauge Huber point infusion set - RA22-75-6<br>1 x Luer attachment for AUS catheter flushing<br><b>Surgical Suggestions &amp; Instructions for Use</b>  |
| CP202-AUS | Le Port-AUS  | 1 x medium titanium vascular access port - A-CP-202<br>1 x AUS occluder catheter (see above for size details)<br>2 x 22 gauge PosiGrip Huber point needles - PG22-75<br>1 x 22 gauge Huber point infusion set - RA22-75-6<br>1 x Luer attachment for AUS catheter flushing<br><b>Surgical Suggestions &amp; Instructions for Use</b> |
|           | <i>unless otherwise specified, the AUS system will ship with the Le Port CompanionPort</i> |  |
| CP305-AUS | Le Grande-AUS  | 1 x large titanium vascular access port - A-CP-305<br>1 x AUS occluder catheter (see above for size details)<br>2 x 22 gauge PosiGrip Huber point needles - PG22-75<br>1 x 22 gauge Huber point infusion set - RA22-75-6<br>1 x Luer attachment for AUS catheter flushing<br><b>Surgical Suggestions &amp; Instructions for Use</b>  |
| BFC       | Back Fill Catheter   | this optional extra can be used to flush all sizes of AUS occluders  |

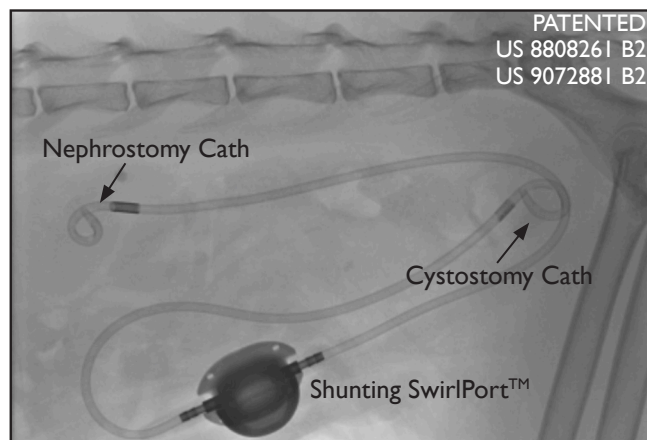
## New and Improved!

The indwelling Subcutaneous Ureteral Bypass System or SUB-System, allows urinary diversion for feline and canine ureteral obstructions. The system is accessed percutaneously by inserting a Huber point needle through the skin & into the port septum.

**Clinical indications;** its use is indicated when traditional surgery or interventional techniques are contraindicated. It can be used for ureteral strictures, ureterolithiasis and neoplastic induced ureteral obstructions.

Notable features include two (2) locking loop catheters (one for kidney, one for bladder) and a SwirlPort™ Shunting access port. It is the only subcutaneous system available that can be flushed and sampled to ensure patency, sample urine and perform a contrast ureteropyelogram when needed.

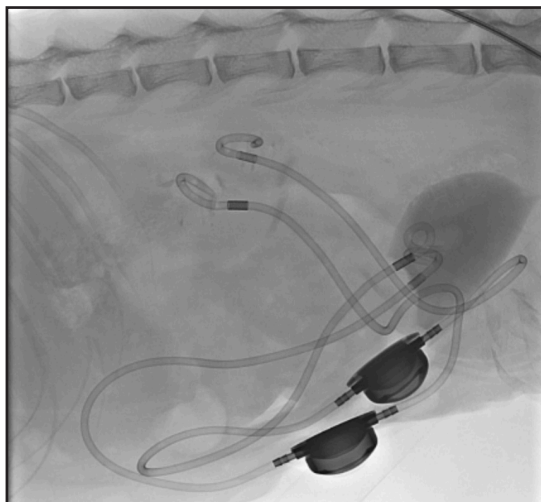
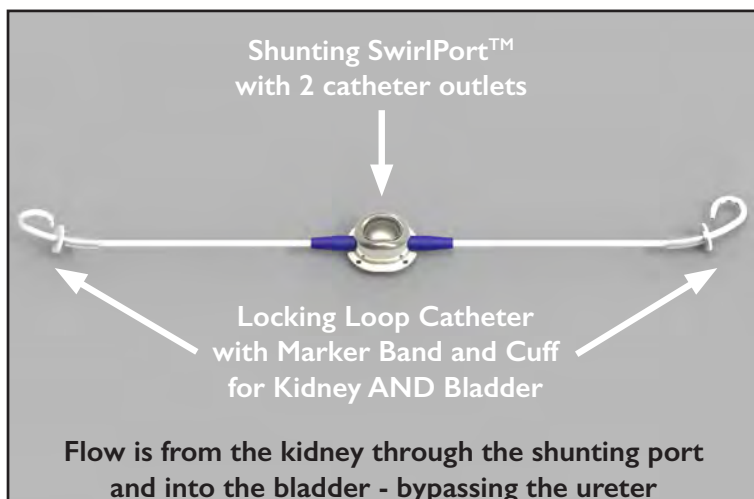
the subcutaneous by pass device that eliminates the external nephrostomy tube



## A SOLUTION FOR THE MANAGEMENT OF PELVIC RENAL DRAINAGE

| Cat. No.   | Product Name   | Kit Contents   |
|--|--|--|
| SUB2-2001K   | SwirlPort-SUB<br>*for use in cats and small dogs           | 1 x SwirlPort titanium shunting access port w/2 catheter boots<br>2 x 6.5 French x 20cm locking loop catheter with hollow cannula<br>1 x 0.035" J tipped Guidewire<br>2 x 22 gauge x 3/4" PosiGrip Huber point needles - PG22-75<br>1 x 22 gauge x 3/4" Huber point infusion set - RA22-75-6<br>1 x 18 gauge x 1-1/4" over-the-needle catheter<br>Accessories (boots (2), sleeve (1), cuff (1))<br><b>Surgical Instructions by Drs. Allyson Berent and Chick Weisse</b>      |
| <b>optional extras - not included in the kit</b><br>Glutire Tissue Adhesive - 1.5ml with 10 applicators<br>DC-7 - Male to Male Barbed Connector<br>SUB Flush Kit<br>T-FloLoc Flush and Lock Solution |  |  |
| SUB2-2002K   | SwirlPort-SUB-Long<br>*for use in large dogs               | 1 x SwirlPort titanium shunting access port w/2 catheter boots<br>2 x 6.5 French x 35cm locking loop catheter with hollow cannula<br>1 x 0.035" J tipped Guidewire<br>2 x 22 gauge x 3/4" PosiGrip Huber point needles - PG22-75<br>1 x 22 gauge 3/4" length Huber point infusion set - RA22-75-6<br>1 x 18 gauge x 1-1/4" over-the-needle catheter<br>Accessories (boots (2), sleeve (1), cuff (1))<br><b>Surgical Instructions by Drs. Allyson Berent and Chick Weisse</b> |
| <b>optional extras - not included in the kit</b><br>Glutire Tissue Adhesive - 1.5ml with 10 applicators<br>DC-7 - Male to Male Barbed Connector<br>SUB Flush Kit<br>T-FloLoc Flush and Lock Solution |  |  |
| SUB2-3001K   | PantsPort-SUB<br>*for use when both ureters require bypass | 1 x 3-way titanium shunting access port w/3 catheter boots<br>3 x 6.5 French x 20cm locking loop catheter with hollow cannula<br>1 x 0.035" J tipped Guidewire<br>2 x 22 gauge x 3/4" PosiGrip Huber point needles - PG22-75<br>1 x 22 gauge 3/4" length Huber point infusion set - RA22-75-6<br>2 x 18 gauge x 1-1/4" over-the-needle catheter<br>Accessories (boots (2), sleeve (1), cuff (1))<br><b>Surgical Instructions by Drs. Allyson Berent and Chick Weisse</b>     |
| <b>optional extras - not included in the kit</b><br>Glutire Tissue Adhesive - 1.5ml with 10 applicators<br>DC-7 - Male to Male Barbed Connector<br>SUB Flush Kit<br>T-FloLoc Flush and Lock Solution |  |  |

*individual SUB kit components can be ordered*



## SUB-SYSTEM...Features and Benefits

Swirl ShuntingPort with 2 catheter outlets & blue boot connectors

- low-profile, light-weight
- spherical chamber provides superior flow dynamics
- connects the locking loop catheters
- the catheters slide over the barbed pins and are locked in position by the blue boots

Locking Loop Catheters (for kidney and bladder)

- custom design with small, 8mm diameter locking pigtail
- gradually tapered tip reduces trauma and eases insertion
- stiffening cannula eases insertion in kidney and bladder
- radiopaque, medical grade plastic with embedded marker band ensures visibility under fluoroscopy
- dacron/silicone cuff secures catheters and prevents dislodgement



Now Packaged in One Convenient, Easy-to-Use Tray

## SUB-SYSTEM...optional extras that can be ordered

GLUture sterile tissue adhesive

- creates a strong and flexible bond
- 1.5ml tube with ten disposable pipette applicators



J-Tipped Guidewire, 0.035" x 45cm w/ Guide-in Dispenser

- to aid the insertion of the Nephrostomy catheter



Male to Male barbed adaptor - DC7

- connects the cystoscopy & nephrostomy catheters without using a shunting port
- the catheters slide over the barbed pins and are locked in position by the blue boots



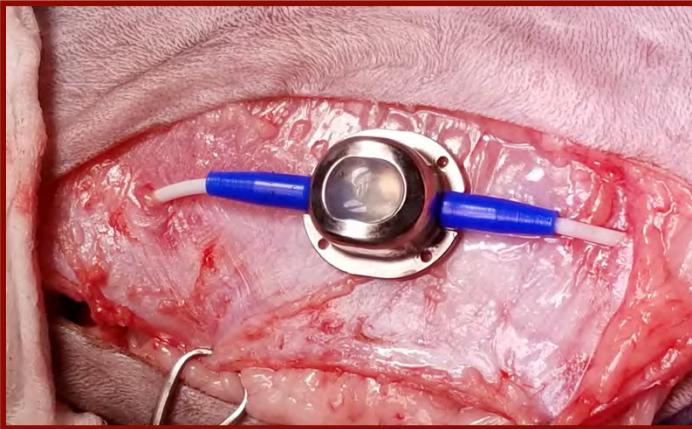
SHU-PP, the PantsPort - 3 catheter outlets & 3 blue boot connectors

- connects the one cystostomy & two nephrostomy catheters
- the catheters slide over the barbed pins and are locked in position by the blue boots





**THE FELINE OBSTRUCTED 3-D KIDNEY MODEL  
A TRAINING KIT FOR MASTERING  
NEPHROSTOMY PLACEMENT WHEN USING THE SUB SYSTEM**

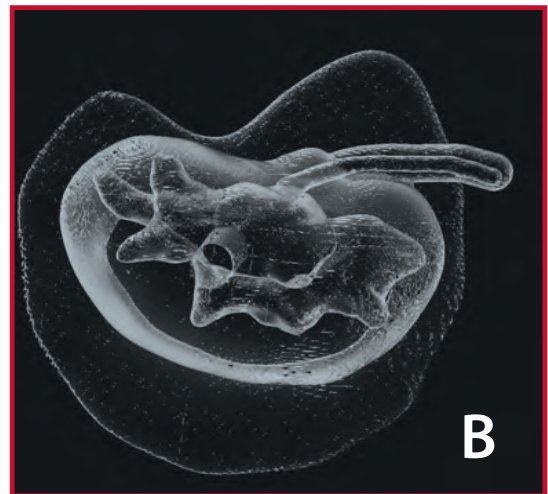


SUB Swirl Shunting Port attached to bladder and kidney catheters and sutured in position



**THE 3-D MODEL KIT IS PERFECT FOR PRACTICE AND FOR TRAINING THOSE NEW TO THE SUB SURGERY.**

Training kit contents; 1 x 3-D kidney model, 1 x nephrostomy tube, 1 x guide wire, 1 x 18g needle & instruction manual  
Call or email for pricing and availability



The 3-D printed obstructed feline kidney models developed by Drs Weisse and Berent allows for the practice of nephrostomy tube placement by;

- (a) visually looking through the acrylic window placed over the pelvis - limiting radiation exposure
- (b) under fluoro guidance - more like the 'real' procedure

# SUB™ FLUSH KIT

## *A Special Flush Kit with T-FloLoc™ for use with the SUB System*

Current recommendations include flushing the SUB device prior to discharge, at 1 week post-operatively, then at 1 month, and every 3 months thereafter. During the flushing procedures, a urine sample is obtained for analysis and culture, followed by infusion of a novel solution called tetrasodium ethylenediaminetetraacetic acid, also called tetra-ED-TA or T-FloLoc. This substance helps prevent occlusion with stone material and treats/prevents biofilm formation. This procedure typically does not require any sedation or anesthesia, is performed using ultrasound guidance with minimal restraint, and can be performed more routinely if necessary in patients at high risk for encrustation or infection.

The **SUB Flush Kit** has been designed to include everything you will need to perform this procedure. The pack is sterile and the contents should be put together using sterile gloves. The patient is positioned in dorsal recumbency in a V-trough to facilitate port access and ultrasonography.

### A New Option for Preventing Occlusion and Biofilm Formation in the SUB System

This convenient kit contains the items you need to quickly and effectively flush the SUB™ System. Conveniently packaged into one easy-to-use, compact kit, this set saves you precious time and packs the power of **T-FloLoc™**, the PREMIUM catheter flushing and locking solution offering both patency and infection control.

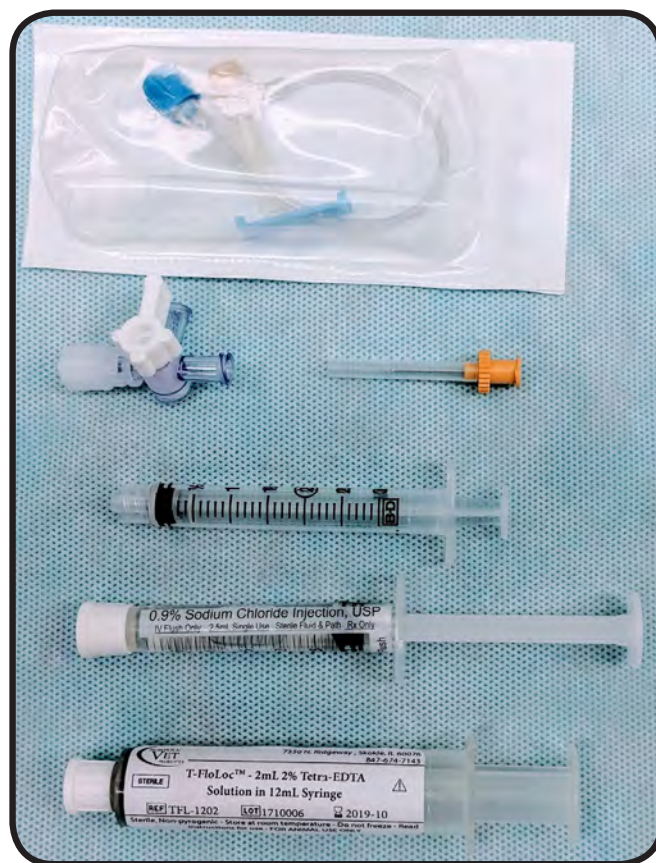
#### SUB™ FLUSH KIT CONTENTS (5 PER CASE)

##### **SFK-22** - for use with All Shunting Ports

- 1 x T-Port Connector
- 1 x 3-way Stop-Cock
- 1 x 22-Gauge Huber Point Needle
- 1 x 3mL Syringe
- 1 x 2.5mL Sterile Saline in 3mL Syringe
- 1 x 2mL **T-FloLoc™** in 12mL Syringe
- Instructions For Use (1 per Case of 5 Kits)

##### **SFK-20** - option for Swirl and Large Shunting Ports

- 1 x T-Port Connector
- 1 x 3-way Stop-Cock
- 1 x 20-Gauge Huber Point Needle
- 1 x 3mL Syringe
- 1 x 2.5mL Sterile Saline in 3mL Syringe
- 1 x 2mL **T-FloLoc™** in 12mL Syringe
- Instructions For Use (1 per Case of 5 Kits)



| Cat. Number | Hub Color | Needle Gauge | Needle Length | Packaged                      |
|-------------|-----------|--------------|---------------|-------------------------------|
| SFK-22-01   | Black     | 22 Gauge     | 3/4"          | 1 Case of 5 x SUB Flush Kits  |
| SFK-22-05   | Black     | 22 Gauge     | 3/4"          | 5 Case of 5 x SUB Flush Kits  |
| SFK-22-10   | Black     | 22 Gauge     | 3/4"          | 10 Case of 5 x SUB Flush Kits |
| SFK-20-01   | Yellow    | 20 Gauge     | 3/4"          | 1 Case of 5 x SUB Flush Kits  |
| SFK-20-05   | Yellow    | 20 Gauge     | 3/4"          | 5 Case of 5 x SUB Flush Kits  |
| SFK-20-10   | Yellow    | 20 Gauge     | 3/4"          | 10 Case of 5 x SUB Flush Kits |



## 2% Tetra-EDTA Flush and Lock Solution

*the PREMIUM catheter flushing and locking solution offering both patency and infection control*

T-FloLoc™ 2% Catheter Lock/Flush Solution is a sterile, single-use, clear, colorless solution. It is free of preservatives, antibiotic, alcohol, and latex, and it is non-pyrogenic. T-FloLoc™ 2% is a chelating agent that functions as an anticoagulant, an antimicrobial, and anti-biofilm agent effective against bacteria and fungi.

### Clinical indications

#### Vascular Access Devices (VAD)

T-FloLoc™ 2% is indicated for locking vascular access devices with intermittent intravenous infusions or hemodialysis regimens. T-FloLoc™ 2% is intended to prevent bacterial colonization, the establishment of intraluminal biofilm, and to maintain catheter patency.

#### Subcutaneous Ureteral Bypass Devices

T-FloLoc™ is indicated for flushing a catheter or implanted device [SUB™, Subcutaneous Ureteral Bypass system] for drainage of the urinary tract. T-FloLoc™ 2% is periodically instilled into the device to maintain patency and prevent biofilm formation and encrustation within urinary tract devices.

### *Provides Broad-Spectrum Activity*

effective against gram positive & gram-negative bacteria and fungi associated with catheter-related infections

### *Prevents and Eradicates Biofilm*

eliminates protected microbial colonization of catheters effectively reducing the risk of catheter-related infection

### *Effective Anticoagulant*

promotes catheter patency; avoids systemic anticoagulation associated with heparin

### *Favorable Safety Profile*

non-toxic; no topical or systemic effects are known

### *No Development of Resistance*

does not induce development of drug-resistant bacterial strains



#### Catalog Number

#### Description / Packaged

TFL-1202-01

1 Box of 10 x 2mL 2% Tetra-EDTA Solution in 12mL Syringe

TFL-1202-05

5 Box of 10 x 2mL 2% Tetra-EDTA Solution in 12mL Syringe

TFL-1202-10

10 Box of 10 x 2mL 2% Tetra-EDTA Solution in 12mL Syringe

The Hepatic Shunt Occluder Port System is designed to produce gradual and complete occlusion of Congenital Portosystemic Shunts (IHPS) that is percutaneously controlled through an access port. The occlusion is easily reversed if postoperative portal hypertension occurs.

The HSO-Port System consists of an inflatable silicone cuff that is placed around the vessel and the ring closed by placing sutures through the holes molded at each end of the cuff. Inflation of the occluder is controlled percutaneously through injections of fluid into the subcutaneous injection port that is attached to the occluder by the actuating tubing.

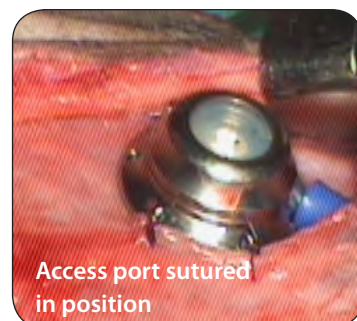
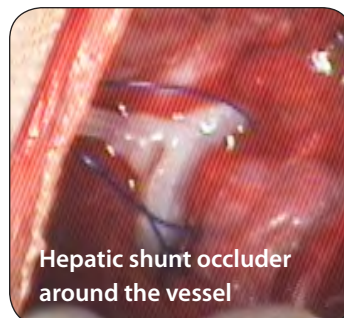
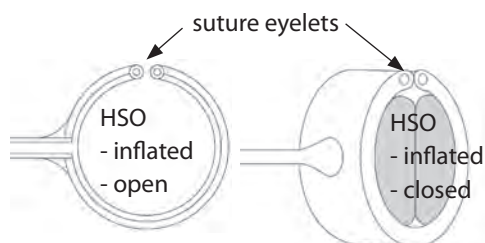
Occlusion is not mediated by inflammation, but by physical compression of the vessel. The degree of occlusion may be incrementally controlled percutaneously over time by a biocompatible solution of sufficient density.

A solution for controlled, gradual and complete venous occlusion of portosystemic shunts



## HSO-PORT Components....customize your choice

1. Select the appropriate access port size - 3 sizes are available:  
Le Port / CP202 - for cats and smaller dogs  
Le Grande / CP305 - for larger dogs
2. Select the appropriate HSO lumen diameter: 6, 8, 10, 12  
HSO occluders have a cuff width of 7mm  
HSO occluders have suture eyelets



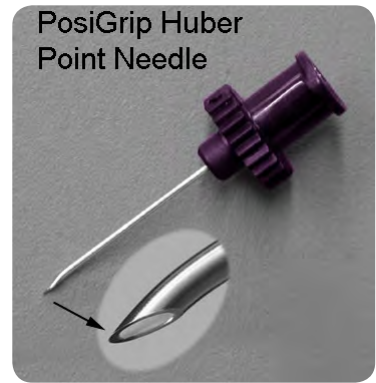
## A SOLUTION FOR THE MANAGEMENT OF PORTOSYSTEMIC SHUNTS

| Cat. No.                                    | Product Name  | Kit Contents  |
|---|---------------|---|
| CP202-HSO                                   | Le Port-HSO   | 1 x Le Port titanium vascular access port<br>1 x Hepatic Shunt occluder catheter (see above for size details)<br>2 x 22 gauge PosiGrip Huber point needles - PG22-75<br>1 x 22 gauge Huber point infusion set - RA22-75-6<br><b>Surgical Suggestions &amp; Instructions for Use</b>   |
| BFC - Back Fill Catheter, an optional extra |               |   |
| CP305-AUS                                   | Le Grande-HSO | 1 x Le Grande titanium vascular access port<br>1 x Hepatic Shunt occluder catheter (see above for size details)<br>2 x 22 gauge PosiGrip Huber point needles - PG22-75<br>1 x 22 gauge Huber point infusion set - RA22-75-6<br><b>Surgical Suggestions &amp; Instructions for Use</b> |
| BFC - Back Fill Catheter                    |               |   |

# HUBER POINT *needles & infusion sets*

## ESSENTIAL for all port ACCESSING to PREVENT septum CORING

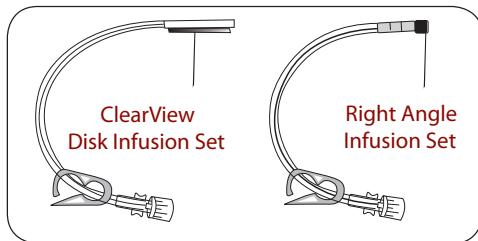
**POSIGRIP NEEDLE** is a straight, "Huber" point needle that attaches directly to a syringe, ideal for bolus injection, flushing, blood draws, and aspiration. The needle hub is color-coded for easy needle gauge identification. They are single use only and available 12 per box in various needle gauges and lengths.



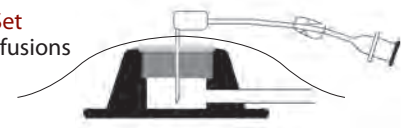
| Cat. Number | Hub Color | Needle Gauge | Needle Length | Packaged  |
|-------------|-----------|--------------|---------------|-----------|
| PG19-75     | Brown     | 19 Gauge     | 3/4"          | box of 12 |
| PG20-75     | Yellow    | 20 Gauge     | 3/4"          | box of 12 |
| PG20-100    | Yellow    | 20 Gauge     | 1"            | box of 12 |
| PG22-75     | Black     | 22 Gauge     | 3/4"          | box of 12 |
| PG22-100    | Black     | 22 Gauge     | 1"            | box of 12 |



**RIGHT-ANGLE INFUSION SET** - is a Huber point needle that is attached to a color coded Grip Block (the RA series) or a Clear Disk (the CVRA series) with an extension tubing that is fitted with an occlusion clamp and female luer. The Infusion Set is ideal for protracted infusion therapies and can be connected to an additional extension set if a longer length tubing is required. They are single use only, available in various needle gauges and lengths.



Huber Infusion Set  
for protracted infusions  
or aspirations



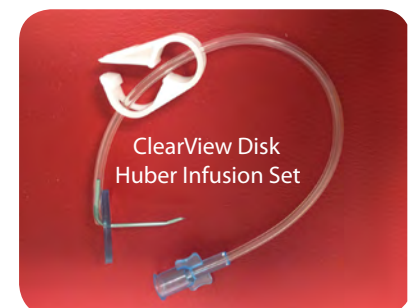
### Right Angle Block Huber Infusion Sets - RA Series

| Cat. Number | Needle Gauge | Needle Length | Tubing Length | Packaged  |
|-------------|--------------|---------------|---------------|-----------|
| RA19-75-6   | 19 Gauge     | 3/4"          | 6"/15cm       | box of 12 |
| RA19-100-6  | 19 Gauge     | 1"            | 6"/15cm       | box of 12 |
| RA20-75-6   | 20 Gauge     | 3/4"          | 6"/15cm       | box of 12 |
| RA20-100-6  | 20 Gauge     | 1"            | 6"/15cm       | box of 12 |
| RA22-75-6   | 22 Gauge     | 3/4"          | 6"/15cm       | box of 12 |
| RA22-100-6  | 22 Gauge     | 1"            | 6"/15cm       | box of 12 |



### ClearView Disk Huber Infusion Sets - CVRA Series

| Cat. Number  | Needle Gauge | Needle Length | Tubing Length | Packaged  |
|--------------|--------------|---------------|---------------|-----------|
| CVRA19-75-6  | 19 Gauge     | 3/4"          | 6"/15cm       | box of 12 |
| CVRA19-100-6 | 19 Gauge     | 1"            | 6"/15cm       | box of 12 |
| CVRA20-75-6  | 20 Gauge     | 3/4"          | 6"/15cm       | box of 12 |
| CVRA20-100-6 | 20 Gauge     | 1"            | 6"/15cm       | box of 12 |
| CVRA22-75-6  | 22 Gauge     | 3/4"          | 6"/15cm       | box of 12 |
| CVRA22-100-6 | 22 Gauge     | 1"            | 6"/15cm       | box of 12 |



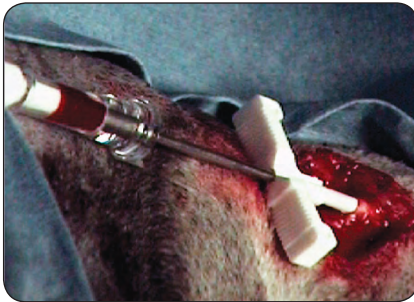
# CATHETER INTRODUCERS

A **PEEL-AWAY INTRODUCER** is used for precise catheter placement. These high quality introducers are 3.75cm/1.5" long and available to introduce catheter sizes 2-7 French. Notable features include; a flash back cannula that indicates immediate verification of vessel placement, a beveled needle tip for precise vessel entry, ribbed wings to prevent finger slippage while advancing and splitting the cannula. Sold individually.



| Cat. Number | Introducer Gauge | Introducer Length | Use to Introduce  | Packaged |
|-------------|------------------|-------------------|-------------------|----------|
| DPX-2       | 23               | 1.5"/3.75cm       | 2 French catheter | Single   |
| DPX-3       | 20               | 1.5"/3.75cm       | 3 French catheter | Single   |
| DPX-4       | 18               | 1.5"/3.75cm       | 4 French catheter | Single   |
| DPX-5       | 16               | 1.5"/3.75cm       | 5 French catheter | Single   |
| DPX-7       | 13               | 1.5"/3.75cm       | 7 French catheter | Single   |

Catheter insertion using the **PEEL-AWAY INTRODUCER**.



Puncture the vessel with the introducer and verify placement by observing a blood return in flash chamber. Remove the needle while leaving the introducer sheath in place. Slide the rounded tip end of the catheter through the introducer sheath and advance it into the vessel until the catheter tip is in the required position. Grasp the white tabs/"T" handle of the introducer sheath and pull outward and upwards. The sheath will peel apart leaving the catheter in position. Once the sheath is removed, reconfirm the catheter tip placement. *An instruction sheet is available.*

**J-WIRE INTRODUCER KIT** is used when introducing a catheter by the Seldinger Technique. The guide wire catheter introducer kit includes an introducer needle, 10cc syringe, peel-away vessel introducer/dilator and a soft, flexible J-Tip guide wire in a dispenser. Available for the PleuralPorts - Feline 7 French and Canine 9 French catheters.

| Cat. Number | Guidewire Diameter & Length | Needle Gauge | Use to Introduce  |
|-------------|-----------------------------|--------------|-------------------|
| NPX-10      | .035" x 45cm                | 18 ga        | 9 French catheter |
| NPX-8       | .035" x 45cm                | 18 ga        | 7 French catheter |



Catheter insertion using the **J-WIRE INTRODUCER**.

Insert the needle found in the kit into the vessel or pleural cavity and verify the position. Advance the J-straightner over the "J" portion of the guide wire and advance it through the needle into the vessel or pleural cavity. Remove the needle leaving the guide wire in place. **ALWAYS HOLD ONTO THE GUIDE WIRE.**

Advance the dilator and sheath together over the guide wire and into the vessel or cavity. To remove the dilator, hold the "T" handle of the sheath and rotate the dilator and locking clip counter clockwise and remove it leaving the sheath in position. Introduce the catheter into the sheath and advance it into position. Withdraw the sheath and use the dual tabs to peel away and remove the sheath. *An instruction sheet is available.*



# ACCESSORIES *you may need*

## *Extension Sets*

For use when extra length tubing is needed. These 16 gauge Tygon Extension Sets, with an occlusion clamp (not shown), and male and female luer ends are offered in a variety of lengths.

| Cat. Number | Tubing Gauge | Tubing Length | Luer Ends   | Packaged  |
|-------------|--------------|---------------|-------------|-----------|
| ES-6-M/F    | 16 Gauge     | 6"            | male-female | box of 12 |
| ES-12-M/F   | 16 Gauge     | 12"           | male-female | box of 12 |
| ES-24-M/F   | 16 Gauge     | 24"           | male-female | box of 12 |



## *T Connector Extension Set*



A 6" small bore (0.03" x 0.09") extension line with a T Connector, male luer swivel connector, female luer, clamp and vented cap. Priming volume approximately 0.30ml.

Catalog Number - TCES-6 Available in boxes of 12

## *GLUture™ - sterile tissue adhesive*

A topical tissue adhesive that applies purple for excellent visibility and dries clear for a neat cosmetic appearance. Disposable pipette applicators aid in the precise delivery to form a "Bond that Heals". Provided sterile in a 1.5ml multi-use package with 10 disposable pipette applicators.



## *Guidewire in a Dispenser*

| Cat. Number | Tip Configuration       | Diameter | Length | Packaged |
|-------------|-------------------------|----------|--------|----------|
| GW-18-45    | Soft flexible /J - Tip  | 0.18"    | 45cm   | 1 each   |
| GW-18-80    | Soft flexible /J - Tip  | 0.18"    | 80cm   | 1 each   |
| GW-35-45    | Soft flexible /J - Tip  | 0.35"    | 45cm   | 1 each   |
| HGW         | Hydrophilic Weasel Wire | 0.35"    | 80cm   | 1 each   |



## *Stopcocks*

3 - Way with 2 female luers and 1 male luer for attachment to a syringe or extension set. Individually sterile.





# TCS - *Taurolidine Citrate Lock Solution*

a lock solution offering  
patency and infection control

The TCS contains anticoagulant and antimicrobial substances. It is to be used with a vascular-access-port. It is to be instilled inside the device between treatments in order to maintain device patency by making the internal flow passages resistant to clot formation and hostile to bacteria and fungal growth. The solution must be withdrawn prior to fluid infusion or blood withdrawal. In the event that patency is compromised, follow your facilities protocol for restoring flow. TCS has no fibrinolytic activity; therefore it will not lyse existing clots.

Active ingredients in TCS are taurolidine and citrate. Other components include water for injection. The pH is adjusted with citric acid and/or sodium hydroxide. The product is sterile filter processed and supplied as a clear, sterile, non-pyrogenic solution. Each single vial contains 7ml. DO NOT use if the seal has been broken.

TCS is available in boxes of 10 vials (7ml per vial) or individual 7ml vials can be ordered.

## TAUROLIDINE CITRATE

***Non-Toxic Formulation***

***Does Not Induce Development of Drug-Resistant Bacterial Strains***

### ***Taurolidine -***

#### ***Provides Broad-Spectrum Activity***

- effective against gram positive & gram-negative bacteria
- effective against fungi associated with catheter-related infections

### ***Taurolidine -***

#### ***Prevents and Eradicates Biofilm***

- eliminates protected microbial colonization of catheters
- effectively reducing the risk of catheter-related infection

### ***Citrate -***

#### ***Effective Anticoagulant***

- promotes catheter patency
- avoids systemic anticoagulation associated with heparin



## ***TCS - Instructions for use***

*(Flush according to your facilities protocol with sterile saline and use the TCS as you would the Heparin-Saline to lock the system.)*

1. Flush the device with 10ml sterile saline
2. Extract the TCS from the vial using a 3ml syringe- it does not need to be diluted.
3. Instill the TCS into the access device in a quantity sufficient to fill the device, where it will remain until the next infusion. Fill volumes for Access Technologies vascular access port are available by calling 847-674-7143.
4. Prior to the next infusion or blood withdrawal, the TCS that was instilled in the catheters after the previous session should be withdrawn and discarded.

## NOTES:

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## NOTES:

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## FRENCH SIZE EQUIVALENTS

| French Size | O. D. inches | O. D. mm |
|-------------|--------------|----------|
| 1           | 0.013        | 0.33     |
| 2           | 0.026        | 0.67     |
| 3           | 0.039        | 1.00     |
| 4           | 0.053        | 1.35     |
| 5           | 0.066        | 1.67     |
| 6           | 0.079        | 2.00     |
| 7           | 0.092        | 2.30     |
| 8           | 0.105        | 2.70     |
| 9           | 0.118        | 3.00     |
| 10          | 0.131        | 3.30     |
| 11          | 0.144        | 3.70     |
| 12          | 0.158        | 4.00     |

*measurements refer to outer diameters*

## NEEDLE GAUGE CHART

| Needle Gauge | O. D. |       | I. D. |       |
|--------------|-------|-------|-------|-------|
|              | inch  | mm    | inch  | mm    |
| 14           | 0.083 | 2.108 | 0.054 | 1.372 |
| 16           | 0.065 | 1.651 | 0.047 | 1.194 |
| 18           | 0.05  | 1.270 | 0.033 | 0.838 |
| 19           | 0.042 | 1.067 | 0.027 | 0.686 |
| 20           | 0.035 | 0.902 | 0.023 | 0.584 |
| 21           | 0.032 | 0.813 | 0.019 | 0.495 |
| 22           | 0.028 | 0.711 | 0.015 | 0.394 |
| 23           | 0.025 | 0.635 | 0.013 | 0.318 |
| 24           | 0.022 | 0.559 | 0.011 | 0.292 |
| 25           | 0.018 | 0.457 | 0.009 | 0.241 |
| 27           | 0.016 | 0.406 | 0.007 | 0.191 |
| 28           | 0.014 | 0.356 | 0.006 | 0.165 |
| 30           | 0.012 | 0.305 | 0.005 | 0.140 |
| 32           | 0.009 | 0.229 | 0.003 | 0.089 |

## EQUIVALENTS

### LENGTH

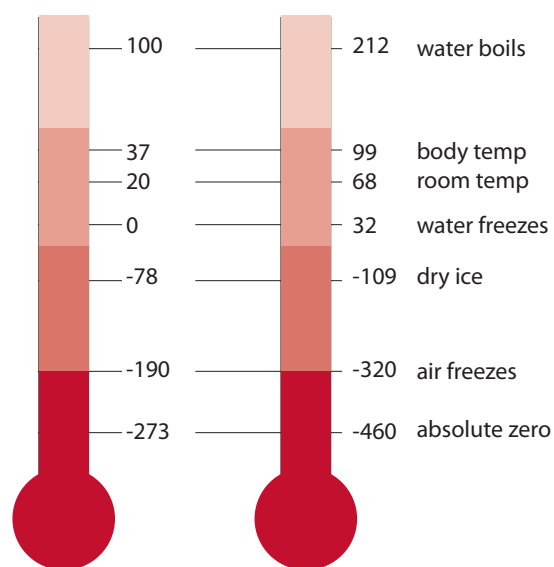
|                  |                     |
|------------------|---------------------|
| 1 centimeter     | = 10 millimeters    |
| 1 centimeter     | = 0.39 inches       |
| 1 millimeter     | = 0.039 inches      |
| 1 inch           | = 2.54 centimeters  |
| 1 inch           | = 25.4 millimeters  |
| 6 inches         | = 15.24 centimeters |
| 12 inches/1 foot | = 30.48 centimeters |
| 1 meter          | = 100 centimeters   |
| 25 feet          | = 7.62 meters       |

### WEIGHT

|             |                   |
|-------------|-------------------|
| 1 milligram | = 0.001 grams     |
| 1 gram      | = 0.001 kilograms |
| 1 gram      | = 0.035 ounces    |
| 1 kilogram  | = 1000 grams      |
| 1 kilogram  | = 35.27 ounces    |

## TEMPERATURE

| To °Celsius   | To °Fahrenheit  |
|---|---|
| $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5/9$ | $^{\circ}\text{F} = (^{\circ}\text{C} \times 9/5) + 32$ |



# RESOURCES

## Norfolk Vet SUB System Training Video

View on YouTube - <https://youtu.be/qyFO1muW9Rg>

## Norfolk Vet SUB Nephrostomy Placement Training Video

View on YouTube - <https://youtu.be/b3KcJhz02ss>

## Pleural port use in a dog following pericardectomy for treatment of idiopathic pericardial effusion

View on Vimeo - <https://vimeo.com/dogcatsurgeon/videos>

## References

### SUB System

Steinhaus J, Berent A. et al. **"Clinical presentation and outcome of cats with circumcaval ureters associated with a ureteral obstruction."** J Vet Intern Med. 29(1):63-70. 2015.

Horowitz C, Berent A. et al. **"Predictors of outcome for cats with ureteral obstructions after interventional management using ureteral stents or a subcutaneous ureteral bypass device."** Journal of Feline Medicine and Surgery 15(12):1052–1062. 2013.

Kulendra E. et al. **"Management of bilateral ureteral trauma using ureteral stents and subsequent subcutaneous ureteral bypass devices in a cat."** Journal of Feline Medicine and Surgery 0(0):1– 5. 2013.

Berent A. **"Ureteral obstructions in dogs and cats: a review of traditional and new interventional diagnostic and therapeutic options."** Journal of Veterinary Emergency and Critical Care 21(2) 86–103. 2011.

### AUS-Port System

Currao R, Berent A. **"Use of a Percutaneously Controlled Urethral Hydraulic Occluder for Treatment of Refractory Urinary Incontinence in 18 Female Dogs."** Veterinary Surgery 0(0): 1–8. 2013.

Reeves L, Adin C. et al. **" Outcome after Placement of an Artificial Urethral Sphincter in 27 Dogs."** Veterinary Surgery 42:12–18. 2013.

Delisser P. et al. **"Static hydraulic urethral sphincter for treatment of urethral sphincter mechanism incompetence in 11 dogs."** Journal of Small Animal Practice 53:338–343. 2012.

Rose S, Adin C. et al. **" Long-Term Efficacy of a Percutaneously Adjustable Hydraulic Urethral Sphincter for Treatment of Urinary Incontinence in Four Dogs."** Veterinary Surgery 38:747–753, 2009.

### Companion-Port System

Valentini F. et al. **"Use of totally implantable vascular access port with mini-invasive Seldinger technique in 12 dogs undergoing chemotherapy."** Res Vet Sci. 94(1):152-7. 2013.

Farrow H. et al. **"Jugular vascular access port implantation for frequent, long-term blood sampling in cats: Methodology, assessment, and comparison with jugular catheters."** Research in Veterinary Science 95(2):681–686. 2013.

Teichgräber U. et al. **"Central Venous Port Systems as an Integral Part of Chemotherapy."** Dtsch Arztebl Int; 108(9):147–54. 2011.

Massar F, Romanelli G. **"Clinical Experience with Subcutaneous Implant Systems for intravenous Therapies."** Veterinaria, Anno 22, n. 5, Ottobre 2008.

Morrison J, Lauer S. et al. **" Evaluation of the use of subcutaneous implantable vascular access ports in feline blood donors."** JAVMA, Vol 230(6):855-61. 2007.

### Pleural-Port System

Cahalane A., Flanders J. et al. **"Use of pleural access ports for treatment of recurrent pneumothorax in two dogs."** JAVMA, Vol 241(4): 467-71. 2012.

Brooks A, Hardie R. et al. **"Use of the PleuralPort Device for Management of Pleural Effusion in Six Dogs and Four Cats."** Veterinary Surgery 40:935–941. 2011.

Cahalane A., Flanders J. et al. **" Use of vascular access ports with intrathoracic drains for treatment of pleural effusion in three dogs."** JAVMA, Vol 230(4): 527-31. 2007.





*innovative implantable DEVICES | especially for VETERINARY PATIENTS*

Domestic orders may be placed directly with Norfolk Vet Products by email [info@norfolkvetproducts.com](mailto:info@norfolkvetproducts.com) or telephoning +1-847-674-7143 (USA).

International orders may be placed by contacting the distributors listed below.

## **TAIWAN AND CHINA**

### **SCUTUM TECH. CO., LTD.**

Jason Wu

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