We’re having a busy time at Access Technologies as the summer heats up. Our 2012 catalog is available (call for your copy) and our website, while not 100% complete, is up and running. I invite you to take a moment to visit our new site and share your thoughts.

In this newsletter, I’ve included some information about our rodent catheter “One size doesn’t fit all” validation program. Please give me a call if you would like to enroll in this program or just need some additional information on the program.

I also want to let you know that Martin, our production engineer, attended and completed with ‘flying colors’ The Jackson Laboratories Workshop on ‘Surgical Techniques in the Mouse’ that was held in April. He is ready to help you with your mouse catheterization projects.

At Access Technologies we continue to strive to provide the product you need and as always, we appreciate any feedback and your support of our products.

I hope you all have a wonderful summer and look forward to seeing, at least some of you, at the ITO, AALAS or ASR Meetings later this year.

Cheers & best wishes. Pam

RODENT CATHETER VALIDATION PROGRAM

“Off the shelf” validated rat & mouse catheters for specific access targets

We appreciate that the smaller vessels of rats and mice deserve a unique catheter design, not simply a scaled down catheter used in a larger species. We understand your need for a species and vessel specific catheter because..... one size doesn’t fit all. With this in mind it only makes sense to offer you rat and mouse catheters that have been validated for specific access targets.

These catheters have been tweaked to perfection by skilled rodent surgeons at a number of facilities. They are constructed of medical grade materials, offer a rounded tip configuration proven to improve patency, and are available with vessel and skin suture beads. The option of including a luer stub adaptor and stainless steel plug in each pouch with the catheter is available.

Our Rodent Catheter Validation Program allows you to validate our catheters, at no charge, in your facility so that you can see for yourself the benefits they offer. Once you are ready to place a catheter order you will, I am certain, be pleased with our pricing structure.

To enroll and begin your validation, simply complete the attached form and email (pwolf@norfolkmedical.com) or fax (1-847-674-7066) it to me. If you would to discuss the program, please give me a call (1-847-674-7131) at your convenience.

I am looking forward to working with you on our catheter validation program offer. Pam
catheter dysfunction

THE ROLE OF THE CATHETER DESIGN

important considerations

Which catheter will stay patent the longest?
As with most questions, there is no simple answer. Catheter patency is influenced by catheter design, catheter material, surgical experience as well as the expertise of those performing the accessing and maintenance.

Catheters become occluded for a number of reasons;
- mechanical obstruction
- drug precipitation
- thrombotic occlusion

Two criteria define catheter patency:
the ability to infuse through the catheter
& the ability to aspirate from the catheter.

Catheter related occlusions can be categorized as
1. Complete occlusion: total inability to infuse or withdraw via the catheter
2. Partial occlusion: difficulty in withdrawing and infusing via the catheter
3. Withdrawal occlusion: inability to withdraw but with a capacity to infuse without difficulty
4. Intraluminal obstruction: obstruction within the catheter lumen that causes partial or complete occlusion
5. Extraluminal obstruction: obstruction outside the catheter lumen, causing withdrawal occlusion
6. Intravenous obstruction: a thrombus in the vein that completely or partially stops blood flow; it may or may not affect the catheter’s functionality
7. Mechanical obstruction: an obstruction not related to precipitate or blood that partially or completely occludes the catheter

improving catheter patency

minimizing problems

1. Catheter Material: ideal material should be soft and pliable, biocompatible, chemically resistant, with high tensile strength
2. Catheter Diameter: use smallest French size catheter possible that will achieve the required flow so that the flow of blood is not disrupted by the catheter
3. Tip Geometry: a rounded tip catheter has been shown to minimize damage to the vessel endothelium both during catheter insertion and advancement
4. Catheter Coating: a lubricious Hydromer catheter coating, reduces the catheter surface coefficient of friction minimizing platelet aggregation and protein adhesion
5. Retention Beads: vessel and tissue retention beads secure the catheter in the position, mark a location for tip placement, preventing movement and irritation
6. Other Modifications: include perfusion holes, suture flanges, felt cuffs, attachment sleeves, depth markings, suture disks, a locking loop or PigTail catheter

To create a new catheter design, modify an existing design or learn more about the options, give us a call.

Martin, congratulation from all of us.

While it is not usual for us to mention our Access Technologies employees in the TipS Newsletter, I wanted to let you know that our production engineer, Martin Christian, recently completed the week long “Workshop on Surgical Techniques in the Laboratory Mouse” given by The Jackson Laboratory.

This is a technichly difficult course for those of us not familiar with mouse surgery I was told by Andree Lapierrre that he passed with ‘flying colors’.

P.S. If you have questions on mouse catheters, Martin will be happy to help you choose the right catheter and modification for your access target.
Vascular Access Catheter Tips

Preserving catheter patency can be a challenge to researchers that, may be made less daunting, by the use of Taurolidine Citrate Solution; a catheter lock solution with both anti-clotting and anti-microbial properties that can be used in all catheters.

The question as to the value of the antimicrobial property of a lock solution is one we often bear.

Passerini in Critical Care Medicine 1992, reported that vascular catheters were colonized by bacteria growing in slime-enclosed biofilms. He speculated that their presence had the potential to serve as a nidus for infection and bacteremia.

Biofilms became a ‘hot topic’ after a 1994 case that involved the infection of hundreds of asthmatics who had used a contaminated inhalant. The bacteria were able to survive the routine disinfectant during manufacture by forming a biofilm comprised of many colonies. On inhalation bits of the biofilm were transported to the lung tissue of the asthmatics resulting in death from a biofilm infection. A dramatic example of the danger that biofilms can pose.

There is a perception that single-celled organisms are asocial, but that is misguided. When bacteria are under stress—which is the story of their lives—they team up and form this collective biofilm with very complicated architectures, like “cities with channels for nutrients to go in and waste to go out”.

Researchers have estimated that 60-80 percent of microbial infections in the body are caused by bacteria growing as a biofilm, as opposed to planktonic (free-floating) bacteria.

Biofilm eradication remains a ‘hot topic’ with scientists studying how the bacterial colonies form these slimy layers, which are resistant to antibiotics, hoping to prevent their formation. You may be wondering what this story has to do with TCS?

THE ROLE OF THE TCS in preventing biofilm formation

One of the benefits of TCS, is the prevention of biofilm formation due to the Taurolidine component. This derivative of the amino acid taurine, inhibits and kills a wide range of organisms; bacteria, yeasts and fungi, limiting biofilm formation.

As a result, catheters locked with TCS, are less likely to suffer from infections and their related occlusions: TCS is a safe and superior catheter lock solution.

why you should use TAUROLIDNE-CITRATE SOLUTION to lock your catheters

TCS - provides the 3 keys needed for effectively locking catheters in all laboratory species

Anti-Coagulant Key - the Citrate

Anti-Microbial Key - the Taurolidine

Anti-Biofilm Key - TCS Catheter Lock Solution

Researchers are challenging a well known thought that bacteria migrate down from the skin to the catheter surface and colonize the catheter.

The thought is that biofilm begins to form immediately after insertion when plasma proteins attach to the catheter. Platelets and white blood cells also adhere to the catheter surface. The coagulation cascade is initiated with vessel wall injury and within a short time the catheter is coated with a fibrin sheath.

Microbes, the so called bacterial pioneers, from the skin surface and dermal layers are introduced and flushed into the catheter where they interact with the platelet-protein layer and easily attach themselves to this protein layer.

Microbes in the biofilm are generally resistant to the host immune system and show a heightened resistance to many antibiotics in part due to their inaccessibility within the slimy, glue-like matrix.
The enlarged radiused septum provides easier port location for accessing, while the contoured top surface reduces the potential for skin necrosis, improving comfort and promoting animal welfare.

The spherical chamber of the SwirlPort offers superior flow and with no corners for sludge to accumulate, it offers more complete flushing and so reduces the incidence of infection and occlusion.


Taketoh J., et.al. 2009. “Application of an indwelling vascular access port for intravenous administration in a repeated and intermittent dose toxicity study in rats.”

Brooks A. et. al. 2010. “Use of the PleuralPort device for management of pleural effusions in six dogs and four cats.”


Our 30th Anniversary Catalog full of ‘old’ favorites and many new and innovative products, including.....

- ‘Off the Shelf’ rat & mouse catheters
- Plastic MRI conditional ClearPort series
- SwirlPort, the port with a contoured septum
- GridLock Port, with a ‘SweetSpot’ is now in 2 sizes
- Infusion catheter for the InLine-Port
- Locking Loop PigTail catheter
- An expanded selection of infusion accessories

Call: +1-847-674-7131, Fax: +1-847-674-7066
or email: pwolf@norfolkmedical.com for your copy