SURSHIELD® Safety I.V. Catheter Delivers Clinical Proof Of First-Stick Success

TERUMO®

TERUMO MEDICAL PRODUCTS

Today's healthcare professionals (HCPs) are increasingly being challenged to do more with tighter budgets, while maintaining the excellent standard of care that patients and caregivers expect and deserve.

Compounding this problem, the U.S. Health Resources and Services Administration projects[1] that by 2020, the nation will face a shortage of more than one million nurses and about 55,000 physicians, which means our healthcare system will be strained even further.

Medical device manufacturers can help ease the burden by developing affordable, reliable technologies that enable HCPs to perform routine procedures more efficiently and economically. For instance, each day, more than 400 million[2] intravenous (I.V.) catheters are used to deliver medicine in the U.S. Over the past decade, advances in peripheral venous access devices (PVADs) have reduced incidences of accidental needlesticks, while significantly increasing the first-stick success rate.

Challenges To Successful Intravenous Therapy

While PVAD safety features have evolved significantly, the Centers for Disease Control and Prevention estimates[3] more than 385,000 needlestick and other sharps-related injuries are sustained annually by hospital-based healthcare personnel, with countless more occurring in nursing homes, outpatient clinics, physician offices and emergency care services.

Demanding clinical environments require an I.V. safety catheter that not only reduces the likelihood of accidental needlesticks, but also addresses many of the challenges HCPs face on a daily basis. These may include:

- Mitigating patient fear and entry site trauma (e.g., hematoma) resulting from failed first sticks and catheter insertions that require repeat procedures. This is particularly important in older patients with thinner skin, small or weak veins, or overweight patients whose veins are harder to locate.

- Ability to confirm the initial needlestick, as well as positive catheter placement (indwelling).

The Surshield® Safety I.V. Catheter With SurFlash®, The Only Catheter With Dual-Stage Visual Confirmation Of Catheter Placement Plus Passive Safety

The Surshield® Safety I.V. Catheter with SurFlash® is the only catheter designed with two stages of visual confirmation for peripheral venous catheterizations to safely maximize the HCP's "first-stick" efficiency and patient comfort, while reducing the potential for product waste and repeat procedures.

The innovative SurFlash design allows the user unprecedented control by knowing the catheter is correctly positioned in the vein during the entire insertion process. Upon successful needle entry into the vein, standard flash is visible as blood flows into the needle hub. As the needle is further advanced the secondary flash, which is visible the full length of the catheter, confirms catheter entry. Terumo's unique grooved needle technology allows for the secondary flash only after the catheter has entered the vessel. The HCP has confirmation that the catheter can now be threaded.

In addition, the Surshield Safety I.V. Catheter features a double-bevel, ultra-sharp needle coated with medical-grade lubricant that facilitates venipuncture with minimal patient discomfort and reduces risk of vein injury. The passive-safety device automatically deploys upon removal of the needle to reduce accidental sticks without adding extra steps to the process.

The Surshield Safety I.V. Catheter is also designed to be competitively priced with minimal packaging and reduced waste.

Clinical Evidence Supports The Surshield Safety I.V. Catheter

In a study by Sugita[4] et al, involving 340 healthy adult volunteers, the unique Surflash feature was shown to deliver a 14 to 25 percent increase in first-stick success compared to that of a competitive device without SurFlash technology, even in users who were unfamiliar with the technology prior to testing.

This report was a comparison study conducted using 20-gauge and 24-gauge conventional and SurFlash indwelling needles to study the effect of the different intravenous indwelling needle designs on the success rate of securing a vein. The subjects were randomly divided into four groups:

- 70 subjects using the 20-gauge conventional type (20 GS group)
- 70 subjects using the 20-gauge SurFlash catheter (20 GF group)
- 100 subjects using the 24-gauge conventional type (24 GS group)
- 100 subjects using the 24-gauge SurFlash catheter (24 GF group)

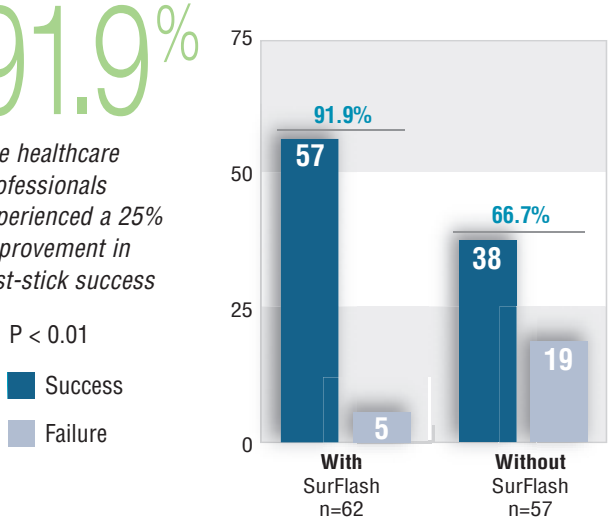
Insertion was considered to be successful when there was a continuous reverse flow of blood within the inner sheath of the intravenous indwelling needle. Positive catheter placement, or indwelling, was considered to be successful when there was a continuous reverse flow of blood after the transfusion material was injected into the injection site. The success rates were then compared. Further, the venipuncture and indwelling procedure was conducted only once per subject and the procedure was terminated if there was an error. Findings show:

Successful Catheter Placement (20-Gauge)

91.9%

The healthcare professionals experienced a 25% improvement in first-stick success

P < 0.01

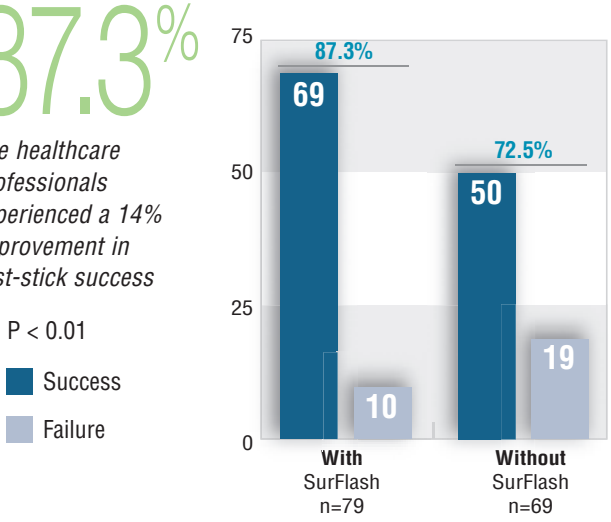


Successful Catheter Placement (24-Gauge)

87.3%

The healthcare professionals experienced a 14% improvement in first-stick success

P < 0.01



Insertion and indwelling (20-gauge indwelling needle):

- The number of successful indwelling was 38 out of 57 people (66.7%) in the 20 GS group, and the insertion and indwelling success rate was 54.3%.
- The number of successful indwelling was 57 out of 62 people (91.9%) in the 20 GF group and the insertion and indwelling success rate was 81.4%, so significance was observed among the groups.

Insertion and indwelling (24-gauge indwelling needle):

- The number of successful indwellings was 50 out of 69 people (72.5%) in the 24 GS group and the insertion and indwelling success rate was 50.0%.
- The number of successful indwelling was 69 out of 79 people (87.3%) in the 24 GF group and the insertion and indwelling success rate was 69.0%, so significance was observed among the groups.

Based on these data, Sugita and his colleagues concluded that venous assurance using SurFlash technology significantly improves the catheter placement success rate of intravenous indwelling needles, even with unfamiliar operators, compared to catheters without SurFlash technology.

1 Kuehn BM, Global Shortage of Health Workers, Brain Drain Stress Developing Countries, JAMA. 2007;298:1853-1855.
2 GHX Data 2009.
3 www.cdc.gov/sharpssafety/pdf/sharpsworkbook_2008.pdf.
4 Sugita T et al, Comparison of Surflo® and Surflo-Flash™ in Venipuncture and Indwelling of Needle, Ohu University Dental Hospital Journal. 2001. Vol. 28 (1); 27-31.

Customer Testimonials

Deborah Creedon
Nurse Manager - Central Mass Ambulatory Endoscopy Center, Leominster, Massachusetts

"We've found that Surshield provides better access to more difficult areas, like the back of the hand. First-stick success is very important for both the patient and the worker. Surshield definitely makes us more efficient by providing increased first-stick success. I always recommend other centers try Surshield, because it's just easier to use and requires less steps than other products."

Matt Ashby
Nurse Supervisor/Office Manager - YUMA Ambulatory Infusion Center, Yuma, Arizona

"Our center treats so many patients throughout the day that it's absolutely critical we can rely on our I.V. catheters to maximize first-stick success and simplify catheter advancement. Multiple needlesticks not only slow us down and increase resource waste, but they also increase the patient's discomfort, which is our primary concern. Many of our patients are elderly and suffer from chronic illnesses that require long-term use of steroid medicines resulting in thin skin that is easily damaged during I.V. catheter insertion. Successful first sticks require practice and a sharp needle. But, positive catheter placement is a challenge, because with most products a lack of visual confirmation means the operator has to guess how far to advance the catheter. If you miss the vein and the catheter comes up dry, you have to start over, which is a waste of time and resources."

To better understand how Surflash works, to speak to a representative or to see the authorized list of distributors please visit **www.surshieldiv.com.**