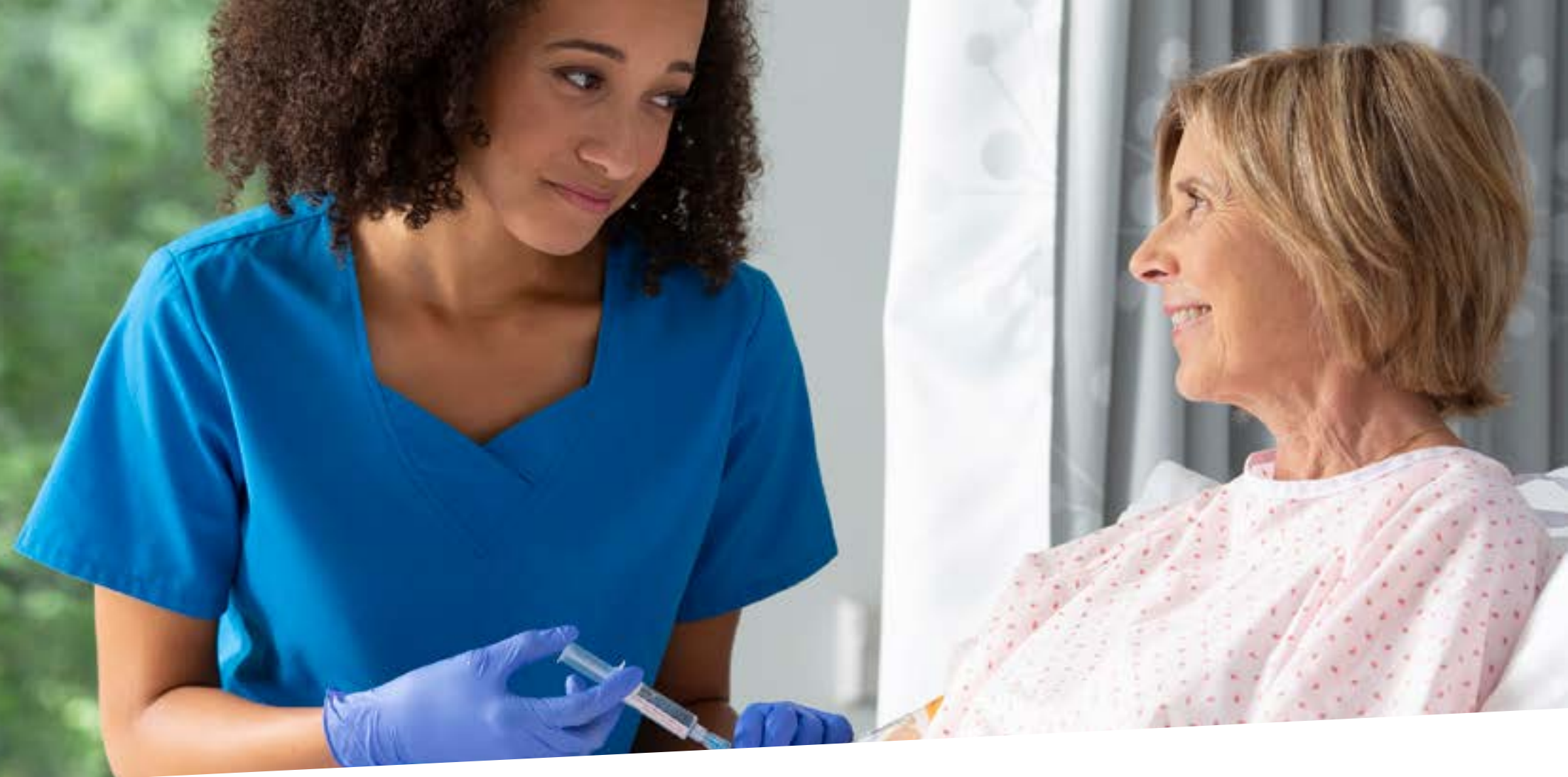


Safety flows
through
me



Make catheter care safe for your patients
and fast for your clinicians

With BD PosiFlush™ Pre-Filled Syringes



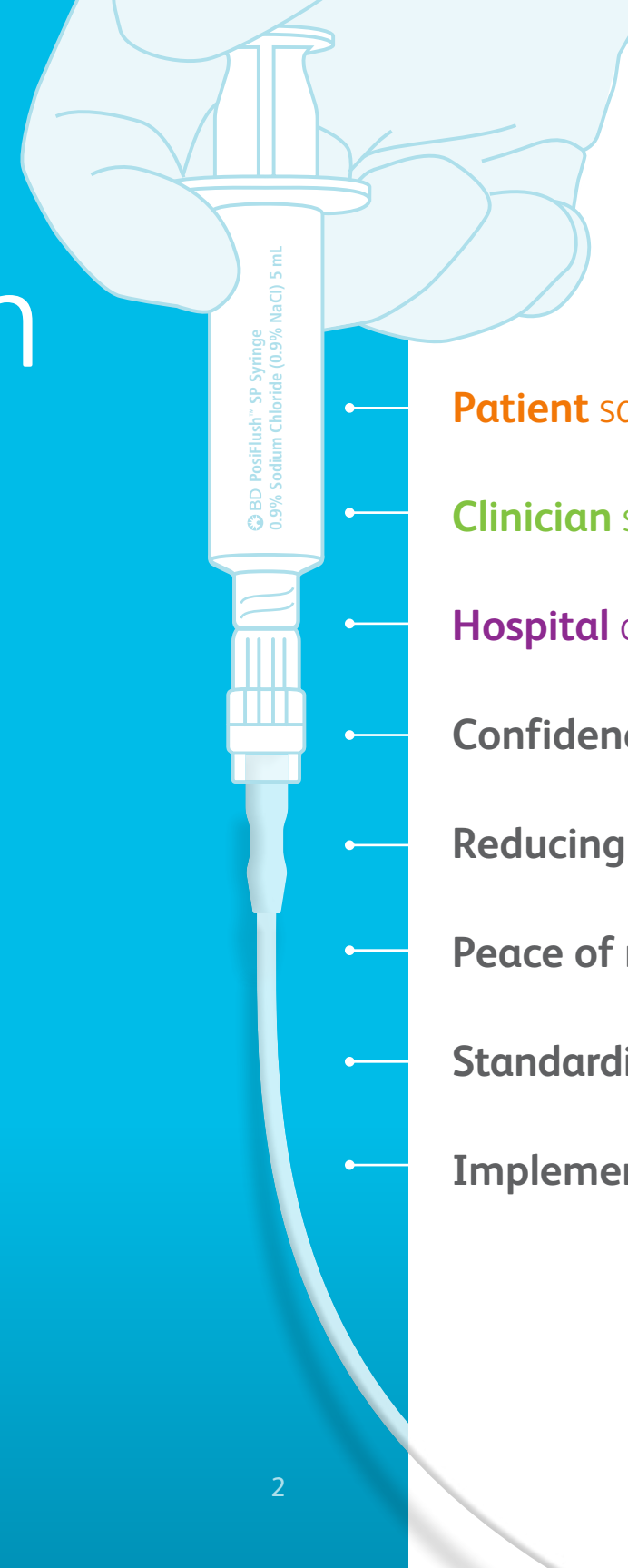
Because so much is on the line...

Still using manually prepared saline syringes?



Pre-filled saline syringes are shown to save clinicians up to 10 minutes per patient per day^{*1}

[Learn more >](#)



Patient safety >

Clinician safety and time >

Hospital costs and reputation >

Confidence in using pre-filled saline syringes >

Reducing the risk of IV catheter-related complications >

Peace of mind with quality devices to deliver patient care >

Standardised flushing best practices to care for every catheter >

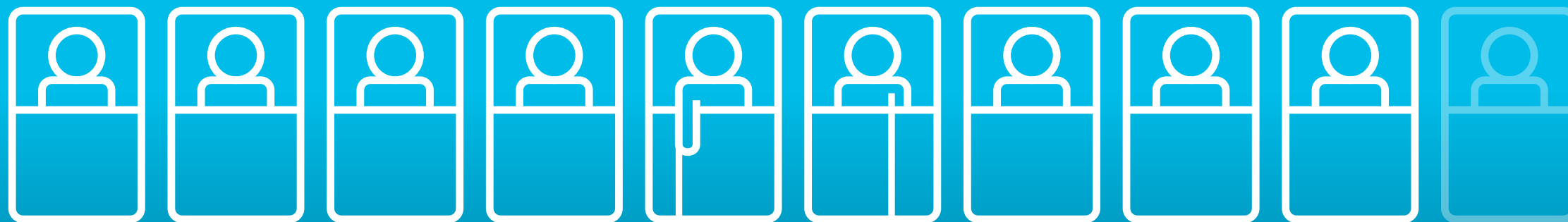
Implementing a seamless transition, from audit to training >

^{*1}For 5 flushes a day depending on frequency (e.g., daily flush plus before and after each medication dose).

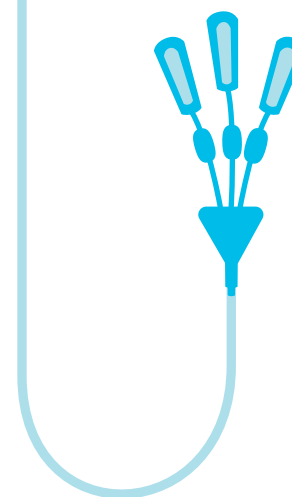
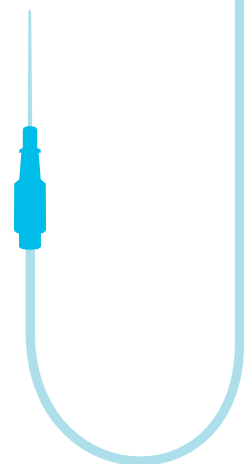


Up to **90%**

of all hospital inpatients require an IV Catheter²



Up to **50%**
of **peripheral intravenous (IV) catheters** don't meet their intended dwell time and need to be removed prematurely²

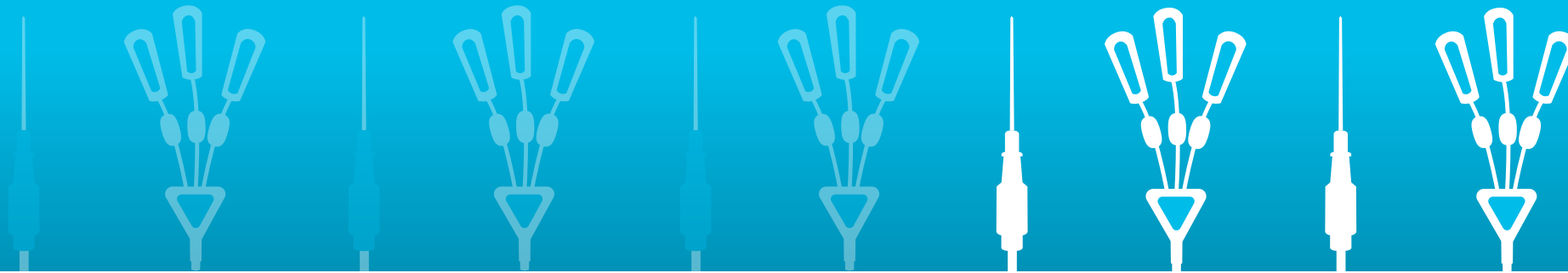


Up to **29%**
of **paediatric central lines** need to be removed prior to completion of therapy³



Variations in practice and lack of standardisation
can lead to IV catheter failures, with

 complication rates as high as 62%⁴



**IV catheters fail
largely due to preventable complications**
such as, but not limited to²:



CABSIs*



Occlusions



Phlebitis



Dislodgement

*The Infusion Nurses Society (INS) Standards of Practice 2021 Committee is using the terminology **catheter associated bloodstream infections or CA-BSIs** to refer to bloodstream infections originating from either peripheral intravenous catheters (PIVC) and/or central vascular access devices, given the variability in international definitions, outcome reporting and application of the terms catheter-related bloodstream infection (CR-BSI) and central line-associated bloodstream infection (CLA-BSI).

IV catheter-related complications can hurt your **patients, clinicians** and **hospital**



IV catheter-related complications can hurt your patients

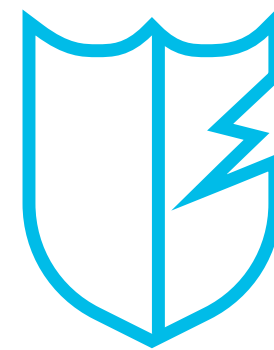
Each complication may cause increased pain and discomfort to the patient. Restarting a catheter can also delay or disrupt their timely treatment. When severe, IV catheter-related complications such as catheter-related bloodstream infection (CR-BSI) can extend length of stay and may even be lethal.⁵



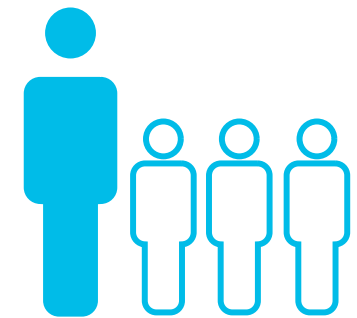
Increased pain⁷
and risk²
caused by multiple
insertion attempts



Up to
14 days
added hospital length
of stay (LOS)⁸



Compromised
patient care
due to cancellation or
delay of treatments⁹



Up to
25%
mortality rate related
to central-line associated
bloodstream infection (CLA-BSI)⁵

IV catheter-related complications can impact your **clinicians**

The impact of IV catheter-related complications can also rapidly spread to clinicians. The added time and steps required to restart failed IVs or to manage complications might make healthcare providers feel like they're being pulled in many directions.⁹



Risk of touch
contamination⁹



Risk to healthcare worker
safety⁹



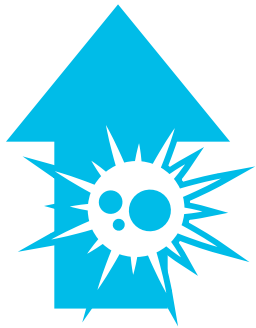
Disrupted
workflows⁹



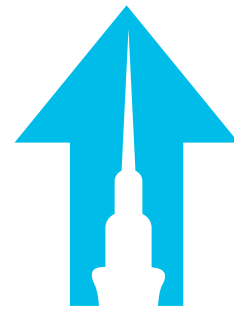
Reduced
efficiency⁹

IV catheter-related complications can also cost your hospital

IV catheter-related complications such as CR-BSIs, or the resulting IV failures, are **additional costs** for the hospital—from replacing failed catheters, to extended hospital stays and added staff hours.² More importantly, it can damage your facility's **reputation and performance.**²



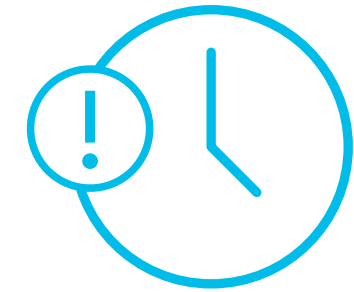
Each CR-BSI episode can result in an additional associated cost of up to **‘€11,390* / £9,510**⁸**



Unnecessary peripheral intravenous catheter (PIVC) restarts can cost a 200-bed hospital more than **‘€1.02M* / £735,000**** annually^{#,2}



Up to 14 days increased length of stay⁸



Indirect costs and **lowered efficiency**⁹

*Based off conversion rate of \$1 to €0.916 at the time of Helm J et al 2015 publication (June 2015).¹⁰

**Based off conversion rate of \$1 to £0.659 at the time of Helm J et al 2015 publication (June 2015).¹⁰

#Annual estimate for a 200-bed hospital using 100,000 catheters, with a 35% failure rate and a conservative €29 average cost per PIV insertion.²

CR-BSI: Catheter-related bloodstream infection; PIVC: Peripheral intravenous catheter.

Pre-filled syringes are demonstrated to help

reduce the risk of IV catheter-related complications
and improve clinical efficiency significantly

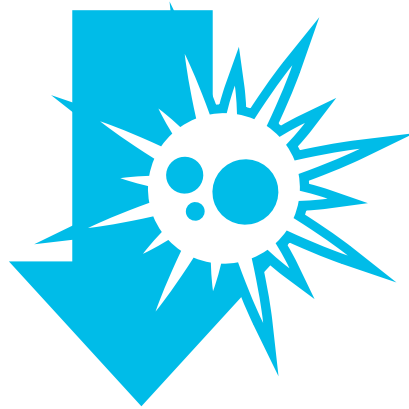


Significantly fewer catheter-related complications

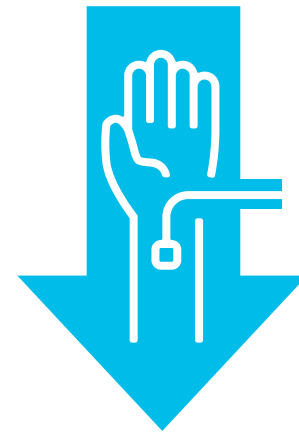


[Watch webinar on how to help prevent PIVC failures >](#)

← Back



77% reduced risk
of catheter occlusions^{*,11}



Significantly reduced
PIVC failures¹²



80% fewer
IV medication errors¹³

* 77% reduced risk obtained as an average of 83% reduction in PIVCs and 73% reduction in PICCs and CVCs.
CVCs: Central venous catheters; PICCs: Peripherally inserted central catheters; PIVCs: Peripheral IV catheters.

And improved clinical efficiency



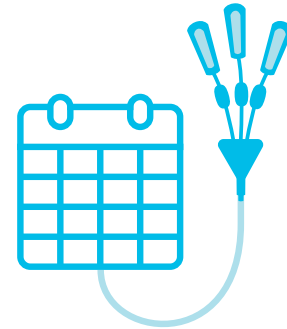
← Back



Reducing hospital expenses with

67% lower cost

vs. manually prepared saline syringes^{*,14}



Increased CVC* dwell time
by an average of

4.31 days¹¹



Saving clinicians up to

10 minutes per patient per day^{**1}

^{*} The cost per flushing is €5.31/£4.69 for pre-filled saline syringes, and €15.91/£14.06 for manually prepared saline syringes, representing an absolute reduction of €10.60/£9.37 or 67%.¹⁴ Conversion from Brazilian Real Dollars \$. R\$ 32.88/6.192 = €5.31. R\$ 98.48/6.192 = €15.91. €15.91 - €5.31 = €10.60. Costs are calculated at the conversion rate of \$1 to €0.884 at the time of Gomes M et al 2018 publication.¹⁵

^{**} For 5 flushes a day depending on frequency (e.g., daily flush plus before and after each medication dose).

CVC: Central venous catheter.

— Reducing the risk 

BD PosiFlush™ Pre-filled Syringes are designed with innovations

To help you reduce the risk of IV catheter-associated complications such as infections, occlusions and inadvertent errors, enabling you to raise the standard of vascular access care with every flush

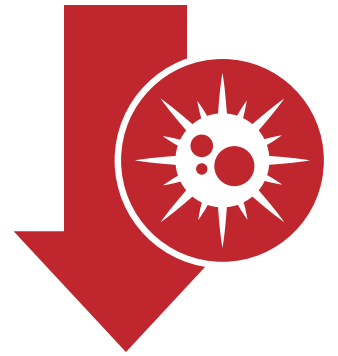




Designed to reduce IV catheter-associated infections



← Back



BD Luer-Lok™ Tip Cap provides a tight seal for closure integrity, to help prevent touch contamination



Externally sterile, with sterile pathway in BD PosiFlush™ XS Pre-filled Syringe, supports contamination reduction in sterile field



Terminally sterilized 0.9% sodium chloride solution with sterility assurance level of 10^{-6} , which may help to reduce the risk of contamination¹⁶

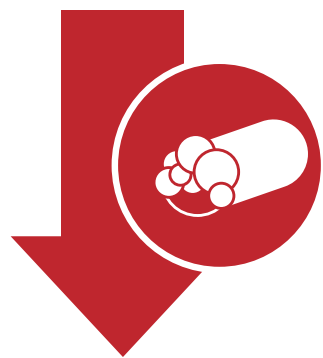
*Data on file from REF-33981 Posiflush TDS.



Designed to reduce occlusions and catheter damage



← Back



BD PosiFlush™ Pre-filled Syringe stopper is designed to **reduce the likelihood of syringe-induced catheter reflux**¹⁷



Patented stubby design with consistent 10 mL syringe barrel diameter reduces PSI force* and generates lower pressure than smaller-diameter syringes—the **lower PSI has shown to reduce the risk of catheter damage**^{16,18}

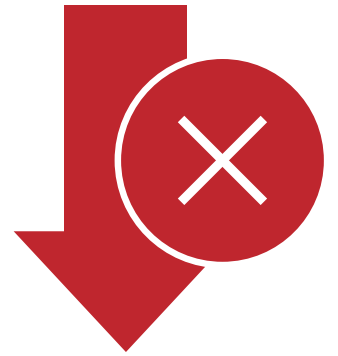
* A 3 mL BD PosiFlush™ Pre-filled Syringe requires 19.75 PSI compared to a standard 3-mL syringe that requires 55 PSI.¹⁸
PSI: pounds per square inch.



Designed to reduce inadvertent errors



← Back



Pre-filled syringes eliminate the requirement for 'drawing up', **reducing the risk of needlestick injuries**¹⁸



Ready to use without requiring additional manipulation, **minimising the risk of microbial contamination**^{16,18}



Clear labelling with bold print complies with medication administration requirements, helping to **reduce the risk of medication errors**¹³

— Peace of mind 

Not all pre-filled saline syringes are created equal

BD PosiFlush™ is a Class-III CE-approved Pre-filled Saline Syringe created with start-to-finish manufacturing.

Designed with every detail owned by BD and trusted by facilities around the world.





Every BD PosiFlush™ Pre-filled Syringe hold the highest medical device classification (Class-III), giving you manufacturing excellence you can trust

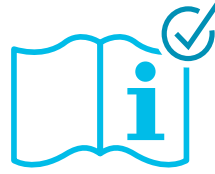


← Back

Unlike other pre-filled saline syringes that are classified as Class-IIa CE devices, BD PosiFlush™ Pre-filled Syringes are classified as Class-III Medical Devices meeting more stringent, mandatory requirements¹⁹



Product Design Certification
by a notified body per individual product
vs.
Class-IIa CE devices that are applicable for certification per product family



Mandatory IFUs
provided to end users
vs.
IFU optional for Class-IIa CE devices



Mandatory online access for SSCP information
vs.
SSCP not applicable for Class-IIa CE devices



PSUR reviewed annually
by a third-party regulatory agency
vs.
Reviewed once every two years for Class-IIa CE devices

Class III vs. Class IIa requirements
Extensive third-party reviews and easy access to usage details^{19,20}

IFU: Instructions for Use; PSUR: Periodic Safety Update Report; SSCP: Summary of Safety and Clinical Performance.

 Created with start-to-finish sterile manufacturing
In an end-to-end fully automated plant

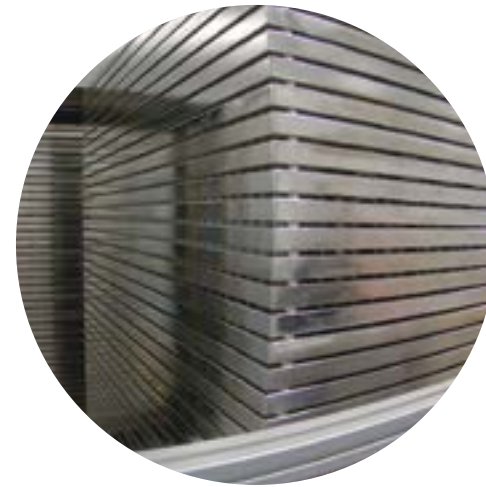


[Visit the BD PosiFlush™ factory virtually >](#)

[← Back](#)



Proprietary
process to ensure
quality consistency



Closed-loop
manufacturing minimises
potential contamination



21 step inspection
to ensure complete quality control



Designed with attention to every detail

Every component and process to create BD PosiFlush™ Pre-filled Syringes is owned entirely by BD, with no third party vendors, enabling us to maintain quality end to end.



← Back



Easy to identify



Simple to use



Lasts for 3 years

UDI: Unique device identifier.



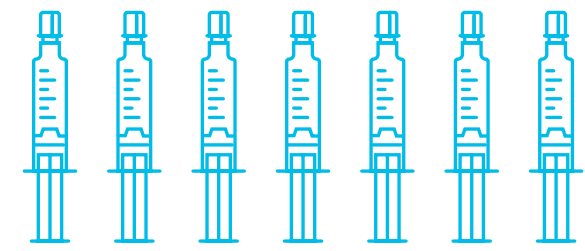
Used and trusted by facilities around the world



← Back

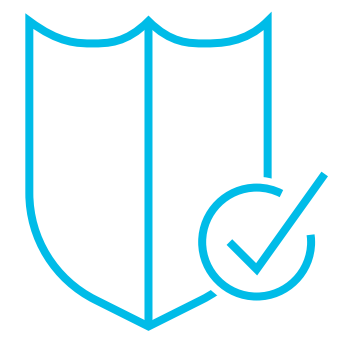


Supported by
clinical studies



Over 14 billion
pre-filled syringes

produced and used



Compliant

with ISO standards^{*,22}

So when you choose BD PosiFlush™ Pre-filled Syringes for your facility, you can be confident that you are empowering your clinicians with a tried-and-tested solution.

* Data on file from REF-33981 Posiflush TDS.
ISO: International Organization for Standardization.

— Standardised flushing



INS 2021 Infusion Therapy Standards of Practice recommend the use of pre-filled saline syringes for flushing²³

Using BD PosiFlush™ Pre-filled Syringes throughout your facility will enable you to comply with the latest international infusion therapy standards of practice²³



“**Use commercially available pre-filled syringes** to reduce the risk of Catheter-associated bloodstream infection (CA-BSI), save time for syringe preparation, and aid optimal flushing technique and objectives.”²³



“In 2 prospective cohort studies, intermittent flushing [...] with 0.9% sodium chloride was associated with a **lower rate of complication and similar duration of patency** when compared to continuous infusion in PIVCs placed in newborns.”²³



“**Consider flushing all lumens** of a multilumen catheter after obtaining blood samples to reduce the possibility of changing intraluminal pressure causing blood reflux into the other lumens.”²³



In Europe, several other evidence-based best practice guidelines also strongly support the use of pre-filled saline syringes for flushing vascular accessories²⁴⁻³⁰

Best practice guidelines recommend the use of pre-filled saline syringes over manually prepared saline syringes

For catheter care and maintenance

STERILE



Royal College of Nursing standards²⁴ and NICE-accredited epic3 guidelines²⁵ recommend using sterile saline (sodium chloride 0.9%) injections to flush catheter lumens that are accessed frequently, to help improve catheter patency and reduce IV catheter-related complications

The authors of the **CLEAN 3 open-label randomised trial**²⁶ conducted at Poitiers University Hospital, France recommend the use of innovative solutions, including pre-filled flush syringes before and after each drug administration, to help prevent catheter failure

For flushing to minimise drug interactions



Global safety alerts by INICC²⁷, NHS²⁸ and ISMP²⁹ all recommend ready-to-use injectables, such as pre-filled syringes or single-dose vials, to help prevent medication errors



ISMP²⁹ and The Joint Commission³⁰ have also issued medication administration guidelines to reduce the risk of medication errors



← Implementing

We can help your facility upgrade to BD PosiFlush™ Pre-filled Syringes

With expert partners, at each step, to drive a seamless transition



Assess the current vascular care practices in your facility >



Select the right vascular care solutions for each patient >



Train your clinicians in standardised vascular care best practices >



Establish a baseline of your current practices with BD to drive facility-wide standardisation and compliance

← Back



Assess



Analyse



Act



Select and standardise pre-filled saline syringes for every patient need in your facility

← Back

BD PosiFlush™ Pre-filled Syringes are a part of our comprehensive portfolio of devices and technologies for every point on the vascular care continuum.



BD PosiFlush™ XS Pre-filled Syringes

BD PosiFlush™ SP Pre-filled Syringes





Leverage our continuing training and education programs to help your clinicians improve their proficiency

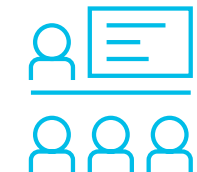
← Back



Clinical Excellence Webinars to provide clinical education and updates



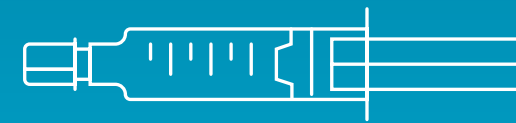
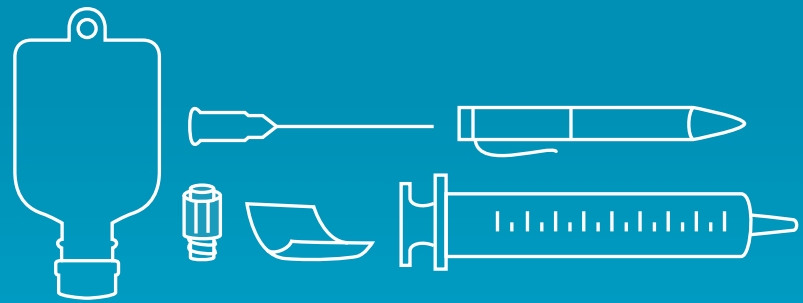
Learn how pre-filled saline syringes can help clinicians to reduce PIVC* failures



In-service product training to seamlessly manage conversions to clinically-proven BD devices

Still using manually prepared saline syringes?

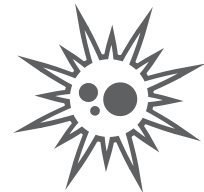
Let's see how they compare against pre-filled saline syringes



VS



Every manually prepared saline syringe increases the risk



Of negative clinical outcomes

Variations in flushing technique
+ other catheter care processes



Increased risk of
**occlusions, phlebitis
and other complications²**



Of negative impact on patients

Re-use of single-dose vials/ampules
+ multi-dose containers

**may compromise
patient safety**



Risk taken in preparing syringes manually can also cost the hospital



Potentially affecting its efficiency and reputation

Labeling errors
+ Adverse drug events



It takes clinicians longer to prepare syringes manually¹



Time to prepare and complete flushing



Manually prepared flushes

169 seconds¹

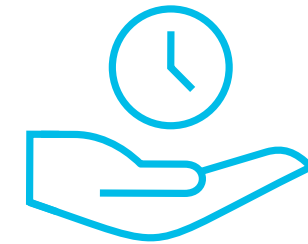


VS.



Pre-filled flushes

120 seconds¹



Using pre-filled flush syringes
can save clinicians

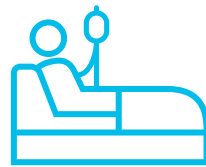
**up to 49 seconds for
each flushing procedure¹**

Improve clinical efficiency with pre-filled saline syringes >

Pre-filled saline syringes offer a safer standard



Click on any of the benefits below to learn how using BD PosiFlush™ Pre-filled Syringes can help you and your patients



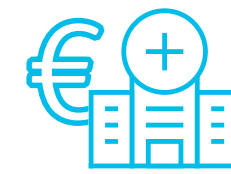
For patients
to improve their care
and well-being

By reducing the risk of IV
catheter-associated complications >



For clinicians
to stay safer with fewer steps

By reducing the risk of
inadvertent errors >



For the hospital
to save costs in time,
length of stay and treatments

Demonstrated in
clinical papers >



For peace of mind
by complying with the latest
evidence-based guidelines

With guidance aligned to
best practices >



For consistency
in caring for catheters

With standardised procedures
for flushing each line >



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