

CENTURION®



# CVC Zone Bundle

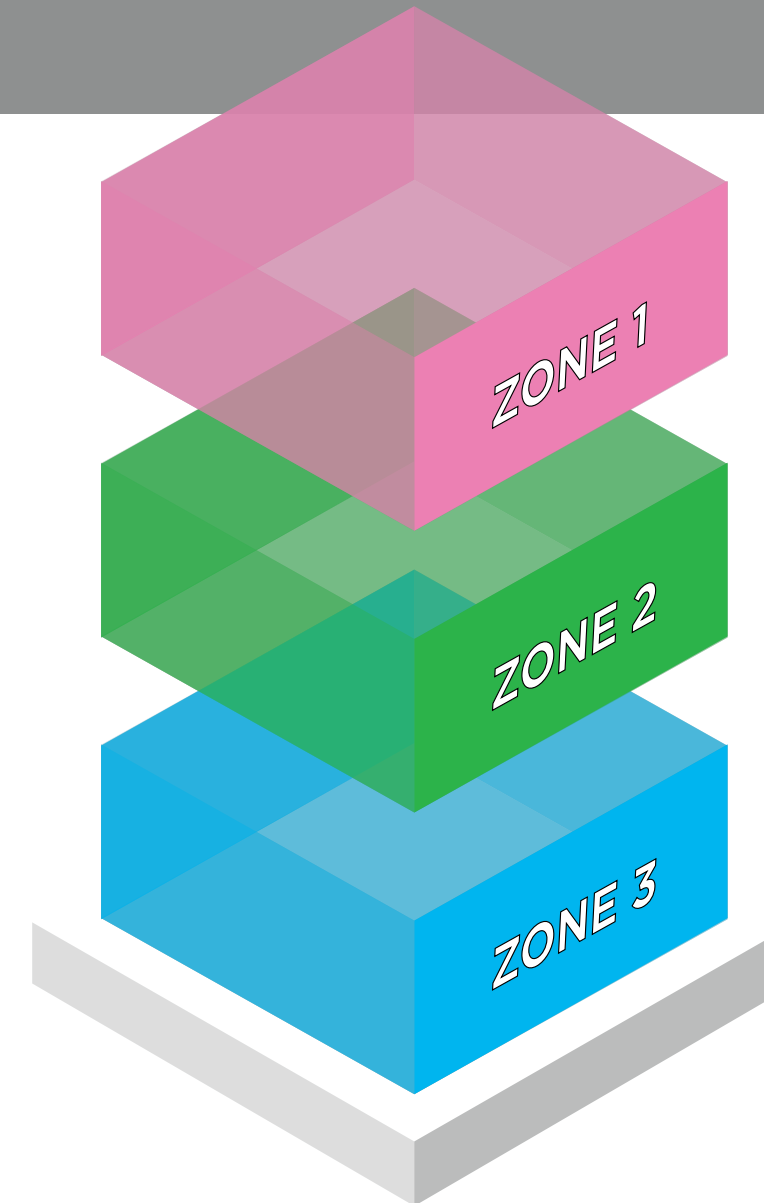
# Introducing a systematic approach to prevention that helps to maximize protection. And savings.

Centurion Medical Products' CVC Zone Bundle™ is a custom-built central line bundle with everything your team needs – in the desired sequence – to prevent infection, improve outcomes and offer the best patient care possible during and after central line insertion. At a time when it's more vital than ever for hospitals to focus on reducing infection risk, Centurion's Zone Defense™ approach can be a powerful ally in achieving compliance – and cost savings, too.

**MAXIMUM BARRIER ZONE  
(CLINICIAN & PATIENT PREP)**

**CATHETER INSERTION ZONE**

**SITE PROTECTION &  
ACCESSORIES ZONE**



# The cost of CLABSIs? Higher than meets the eye.

Hospitalization: harmful to your health? Hospital-acquired infections are the fourth largest killer in the United States,<sup>1</sup> and Central Line Associated Blood Stream Infections (CLABSIs) are responsible for a significant portion of the death toll.

## The cost of CLABSIs is high:

- Treatment costs for CLABSIs are estimated at \$30,919-\$65,245 per patient.<sup>2</sup>
- The average length of additional hospital stay associated with CLABSIs is 26 days.<sup>3</sup>
- Mortality rates for patients with CLABSIs were 25.6% vs 2.4% for patients without a hospital-acquired infection.<sup>3</sup>
- Additional indirect costs include lost income for the patient and family members, diminished productivity, increased mortality, anxiety, grief, pain and suffering.<sup>4</sup>

- Per the “Deficit Reduction Act” of 2005, the Centers for Medicare & Medicaid Services (CMS) no longer reimburse hospitals for vascular catheter-associated infections acquired by patients while being treated in a health care facility.<sup>5</sup>

From every perspective – cost, public image, government policy and above all patient welfare – hospitals and medical facilities must actively pursue a prevention strategy that mitigates CLABSI risk factors and actively seeks to prevent infection.

<sup>1</sup> McCaughey B, PhD (2008). *Unnecessary Deaths: The Human and Financial Costs of Hospital Infections*. [www.hospitalinfection.org](http://www.hospitalinfection.org)

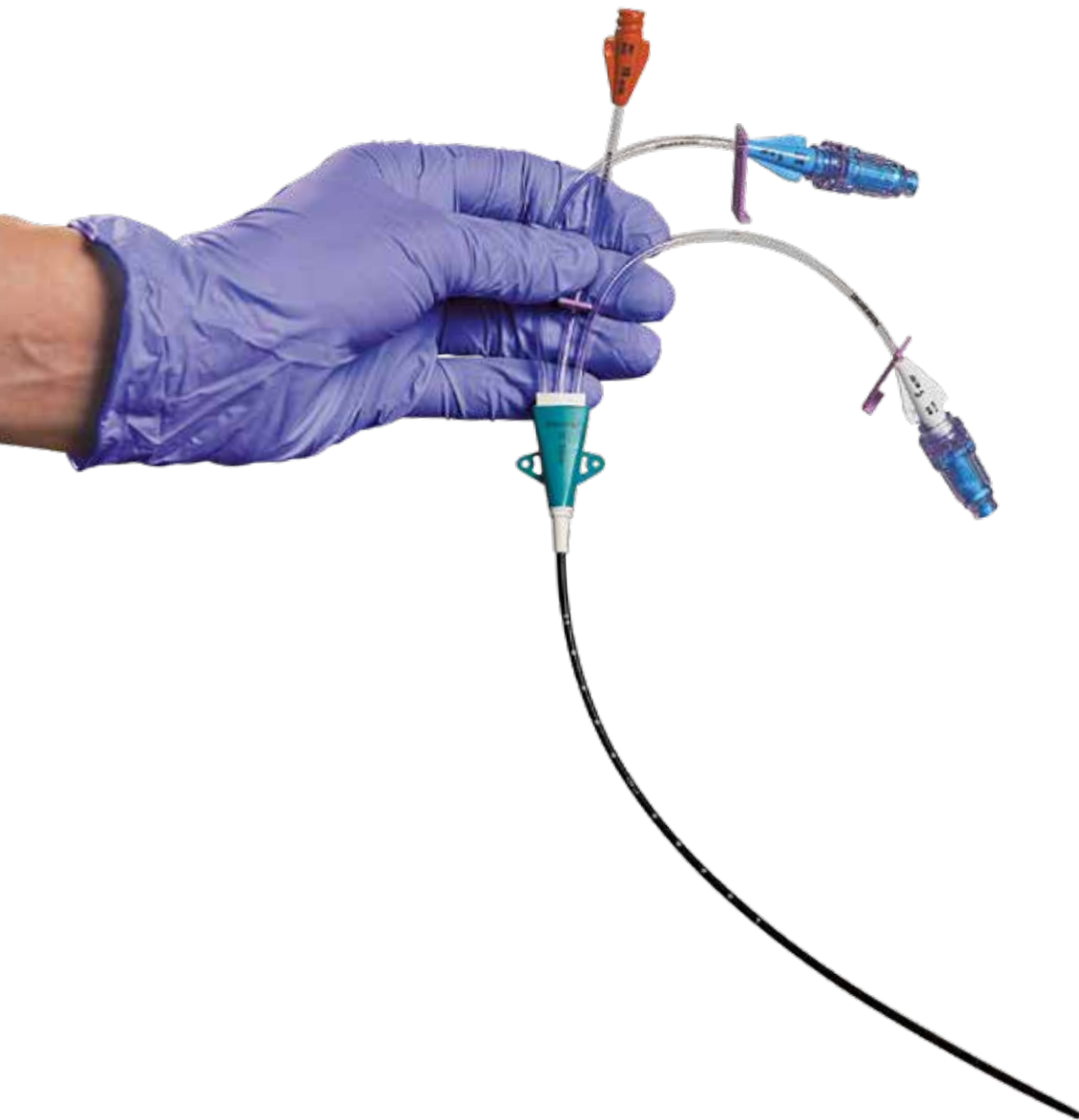
<sup>2</sup> Zimlichman E MD MSc, et al (2013). *Health Care-Associated Infections: A Meta-analysis of Costs and Financial Impact on the US Health Care System*. <http://archinte.jamanetwork.com/article.aspx?articleid=1733452#Abstract>

<sup>3</sup> Pennsylvania Health Care Cost Containment Council (PHC4) (2005). *Hospital-acquired infections in Pennsylvania*. Research Briefs, Issue 5, July 2005. [www.phc4.org](http://www.phc4.org).

<sup>4</sup> Scott, Douglas II (2008). *The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention*. Division of Healthcare Quality Promotion; National Center for Preparedness, Detection, and Control of Infectious Diseases; Coordinating Center for Infectious Diseases; Centers for Disease Control and Prevention. March 2009.

<sup>5</sup> Centers for Medicare & Medicaid Services (CMS) (2008). *CMS Office of Public Affairs: Medicare Takes New Steps To Help Make Your Hospital Stay Safer*. [www.cms.hhs.gov](http://www.cms.hhs.gov)

# Bundling: Decreasing costs, improving outcomes.



Bundling: A central component of your prevention plan. Central Line Associated Blood Stream Infections (CLABSIs) are almost entirely preventable. Every major health agency including the CDC, OSHA and The Joint Commission asserts that a robust prevention strategy including proper techniques, protocols and bundling, significantly reduces CLABSIs. Research provides further compelling evidence that using a bundle strategy as a central component of an overall plan to reduce infections is an effective way for hospitals to combat central line-related infections.<sup>6</sup>

<sup>6</sup> *How-to Guide: Prevent Central Line-Associated Bloodstream Infections*. Cambridge, MA: Institute for Healthcare Improvement; 2012. [www.ihc.org](http://www.ihc.org)

## Key bundle components that aid CLABSI prevention:

- Hand hygiene
- Maximal barrier precautions upon insertion
- Chlorhexidine site asepsis
- Optimal catheter site selection
- Daily review of line necessity, with prompt removal of unnecessary lines
- A checklist to support standardized protocol

Based on guidelines and recommendations by The Society for Healthcare Epidemiology of America (SHEA), The Infectious Diseases Society of America (IDSA), The Association for Professionals in Infection Control and Epidemiology (APIC), and others.

The Joint Commission's Hospital Accreditation Program has published National Patient Safety Goals effective 1/1/2011.





# Centurion's CVC Zone Bundle: Helping implement best practices.



Centurion's CVC Zone Bundle helps hospitals seamlessly integrate CLABSI prevention into the central line insertion procedure, reducing un-reimbursed treatment costs, curtailing potentially costly litigation and ultimately, saving lives.

## The Joint Commission National Patient Safety Goals

Implement policies and practices aimed at reducing the risk of central line-associated bloodstream infections. These policies and practices meet regulatory requirements and are aligned with evidence-based standards (for example, the Centers for Disease Control and Prevention (CDC) and/or professional organization guidelines).

- Use a catheter checklist and a standardized protocol for central venous catheter insertion.
- Use a standardized supply cart or kit that contains all necessary components for the insertion of central venous catheters.
- Use a standardized protocol for sterile barrier precautions during central venous catheter insertion.
- Use an antiseptic for skin preparation during central venous catheter insertion that is cited in scientific literature or endorsed by professional organizations.

# Centurion's Zone Defense: The best guard against infection.



The defining difference in the CVC Zone Bundle, developed by quality-leader Centurion Medical Products, is our Zone Defense approach, which helps facilitate proper sterile technique in the placement of a central line. Each layer of the tray is designed to ensure compliance and reduce errors and inconsistencies in delivery of care.

Each Zone addresses a step in the central line insertion process and specific objectives that must be met to safeguard against infection.

**Zone 1:** The Maximum Barrier Zone protects the patient and clinician from cross-contamination.

**Zone 2:** The Catheter Insertion Zone streamlines the insertion process and anticipates the needs of the clinician during the procedure.

**Zone 3:** The Site Protection and Accessory Zone supports line securement and post-insertion compliance.

The Zone Defense approach creates a high level of consistency in central line insertion procedures, while allowing hospitals the opportunity to customize where appropriate. Centurion is able to custom-build CVC Zone Bundles with our superior components for hospitals' specific protocols and preferences.



# Patient centered, performance driven.

## Centurion's Exclusive Guardian Angel Program

assists hospitals and clinicians with establishing best practices for reducing the incidence of CLABSIs. This exclusive education program is designed to uncover any gaps and reinforce essential skills and behaviors needed for central line insertion and maintenance.

### BENCHMARK

The program begins with a survey of the leadership. Benchmarking will assist an organization with determining where improvement gains can be made.

### EDUCATE

The organization will then be granted time-limited access to an Online Education Portal.

### AUDIT

Each staff member who completes the online program will be audited to ensure compliance with the organizational objectives.

Centurion Medical Products is the leader in high-quality medical products and services that deliver better patient, caregiver, environmental and financial outcomes. We believe that using quality equipment customized to its intended medical use has a direct impact on patient well-being, clinician satisfaction and operational efficiency.

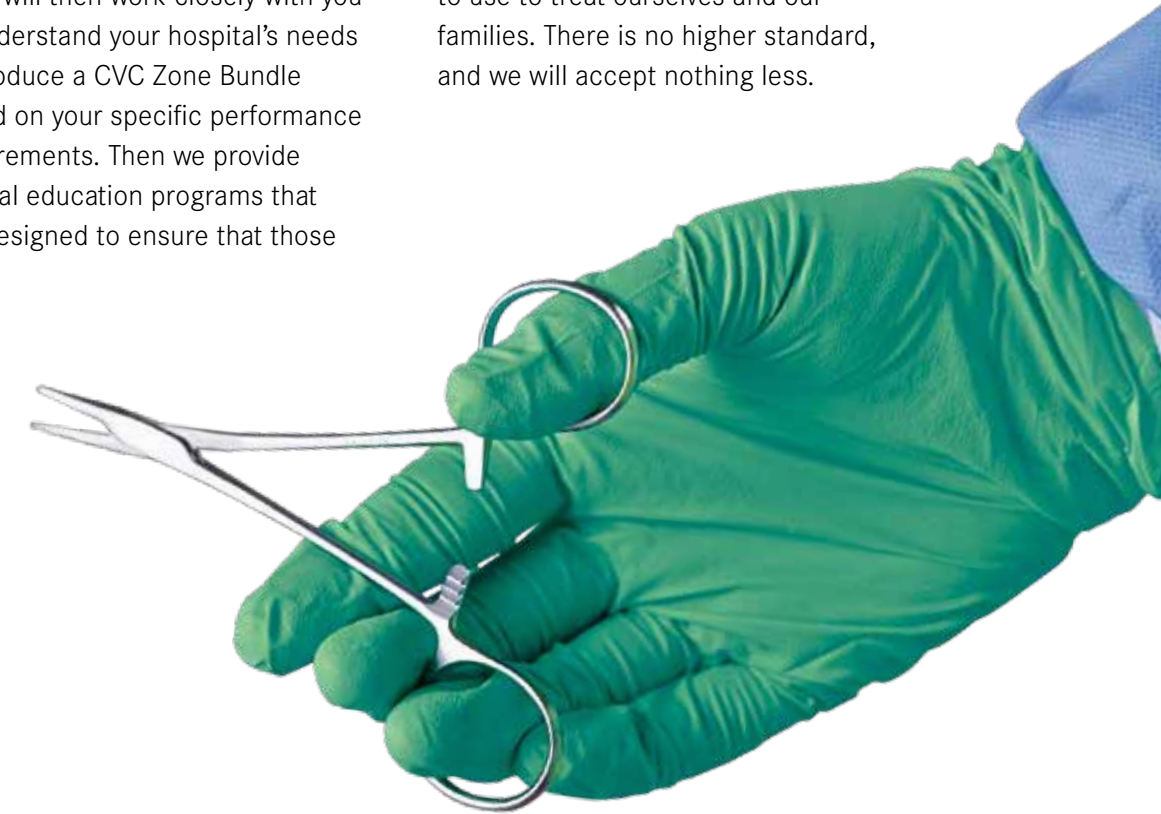
That is why we are dedicated to providing services beyond the initial sales interaction. Before the first conversation with a customer, we make sure our supply chain can quickly respond to our customers'

fluctuating demand for product. We have higher levels of inventory and shorter production times than our competition to ensure that we can respond quickly to kit changes.

Our sales representative and access team will then work closely with you to understand your hospital's needs to produce a CVC Zone Bundle based on your specific performance requirements. Then we provide clinical education programs that are designed to ensure that those

performance requirements are being met.

From start to finish, we are highly driven by results. Our end goal is to design, manufacture and market products we would want doctors to use to treat ourselves and our families. There is no higher standard, and we will accept nothing less.



UNFOLD TO HEAD





## ZONE 1: MAXIMUM BARRIER

### Clinician & Patient Prep



#### PROTECTIVE GEAR

- Full-body drapes
- Surgical gowns – non-reinforced, fabric reinforced and impervious – with multiple protection level options
- Gloves
- Caps and bouffants
- Face masks, with or without splash shields

**Additional sets of personal protection equipment may be included for support clinicians and other personnel present during procedure**



#### CHLORAPREP APPLICATORS

- Available in 3ml and 10ml
- Available in tinted and non-tinted versions



#### HOSPITAL CHECKLISTS & EDUCATIONAL MATERIALS

- Customized procedural checklists
- Labels, signs and forms optionally built into trays to ensure proper protocol
- Patient and family education sheets



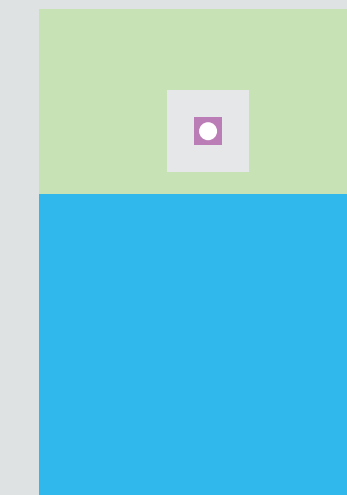
#### ULTRASOUND GEL & PROBE COVERS

- Sterile ultrasound probes and gel to improve success rates and reduce complications during line placement<sup>7</sup>

<sup>7</sup> *Ultrasound-Guided Central Vein Cannulation: Current Recommendations and Guidelines.* Gayle JA MD, Kaye AD MD PhD. Anesthesiology News, June 2012.

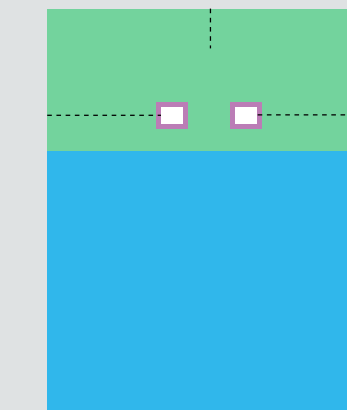
## Customized Drapes For Central Line Insertions

For the patient, applying maximal barrier precautions means covering the patient from head to toe with a sterile drape, with a small opening for the site of insertion.<sup>6</sup> Some popular drapes for central line insertions are:



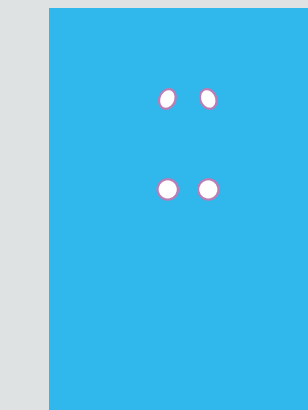
DC75109

- 75" x 109"
- SMS & Light Absorbent Material
- 4" Round Fenestration with Adhesive Border
- 18" Square Plastic Window



DC72902FP

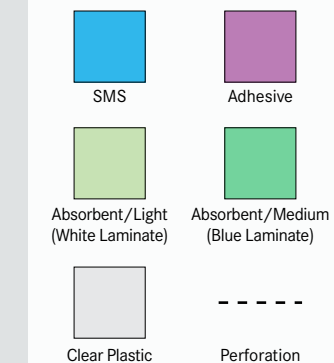
- 72" x 90"
- SMS & Medium Absorbent Material
- 2 each 4"x 5" Fenestrations with Adhesive Borders
- 1 Perforation at Top for Patient Comfort/Visibility
- 2 Side Perforations for Access to CVC Insertion Sites



DC60904FA

- 60" x 90"
- SMS
- 2 each 3" x 4" Oval Fenestrations with Adhesive for Subclavian/Jugular Insertions
- 2 each 4" Round Fenestrations with Adhesive for Femoral Insertions

#### MATERIAL KEY:



Other materials are also available.

*In addition to offering a large variety of stock drapes, Centurion can customize a drape for any procedure.*

- Multiple materials and material combinations
- Sized to fit procedure
- Windows/incise areas

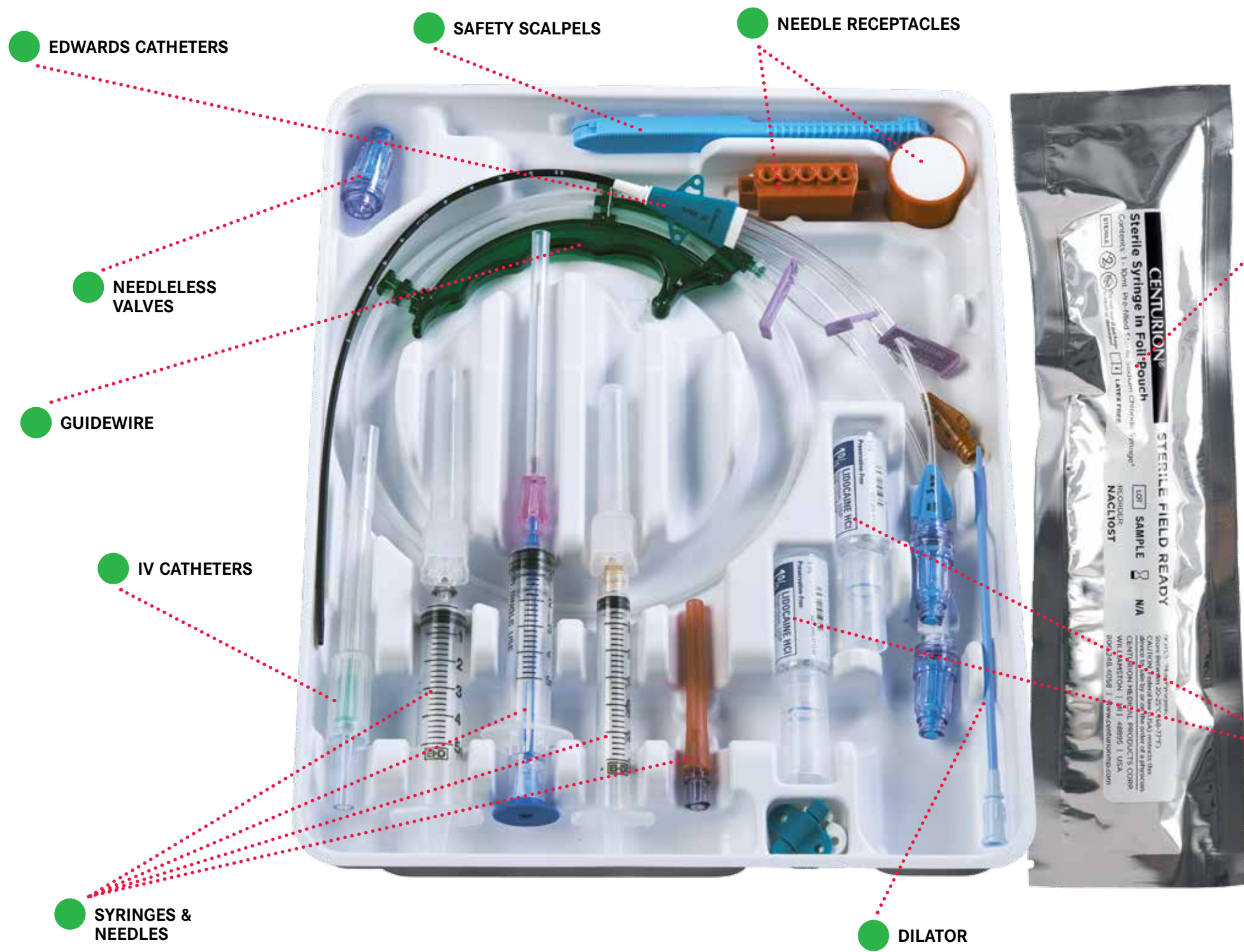
- Fenestrations, with or without adhesive borders or tear-away zones for versatility
- Perforations

- Absorbent zones
- Printed directions/information

## Protecting the Patient and the Clinical Team

Zone 1 equips the clinical team for the essential first steps in a central line insertion that provide **maximal barrier protection for both the patient and clinicians**. This Zone contains all relevant paperwork, a hospital checklist, protective gear (for inserter and assistant), Chloraprep, drapes, and ultrasound gel and probes, helping to prevent cross contamination from outside the room and from clinician(s) to patient. Procedural checklists are customized to each facility's exact protocol, ensuring consistency and accuracy.





## ZONE 2: CATHETER INSERTION



### NEEDLELESS VALVES

- A large selection of safety valves and closed valve systems



### SAFETY COMPONENTS

- A large selection of safety scalpels and needles, available from major manufacturers



### SALINE, HEPARIN AND LIDOCAINE SOLUTIONS

- A large selection is available



### PRE-FILLED STERILE FIELD READY SYRINGES

- A Centurion exclusive, packaged within kits in the proper location
- Available in single, double and triple packs

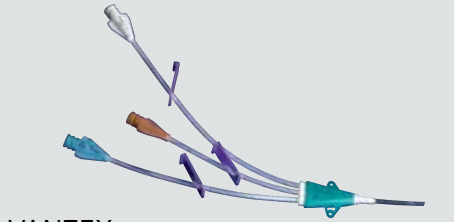


### SINGLE-HANDED GUIDEWIRE INSERTION DEVICE

- Allows easy, ergonomic operation
- Centimeter markings assist in determining insertion depth
- Flexibility of a J-tip or straight tip depending on your needs
- Available in different gauges, lengths, and materials

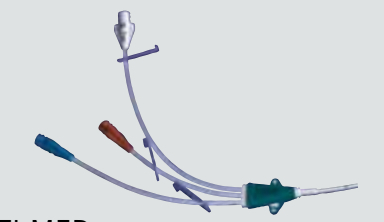
## Edwards Catheters & Introducers

The inclusion of Edwards catheters in Centurion's CVC Zone Bundle represents Centurion's dedication to superior quality. The **Vantex and Multi-Med catheters are pressure injectable** which enables power injection of contrast media directly through the central line catheter, eliminating the need to insert an additional line.



### VANTEX

- Features Oligon Technology, providing broad spectrum antimicrobial protection using a unique combination of silver, carbon and platinum
- The Oligon technology is extruded into the body of the polyurethane Vantex catheter
- Offered in double, triple or quad lumen along with 16cm and 20cm
- Made with kink-resistant polyurethane
- Pressure Injectable



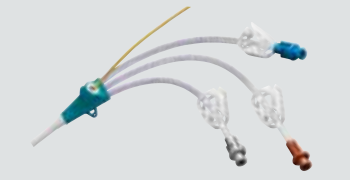
### MULTI-MED

- Designed for optimal flow from "hub to tip" - provides fast infusion of fluids
- Made with kink-resistant polyurethane
- Offered in single, double, triple or quad lumen, along with 16cm and 20cm
- Soft tips to enhance patient comfort and reduce risk of vessel perforation
- Pressure Injectable



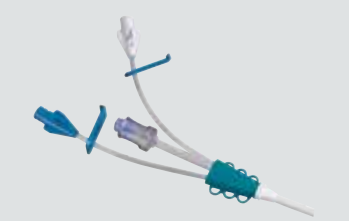
### INTROFLEX PERCUTANEOUS SHEATH INTRODUCER

- Features a locking contamination shield to prevent catheter migration
- Two valve options for greater flexibility - automatic or adjustable (Tuohy Borst)
- Features a V-shaped sidearm for use as an additional central line, with three way stopcock included



### ADVANCED VENOUS ACCESS (AVA) HIGH-FLOW DEVICE

- Integrates an introducer with three independent lumens to allow it to function similar to a triple lumen CVC
- Employs only one insertion site which may reduce device complications and infections
- Flexible lumen walls significantly improve flow while maintaining a small outer diameter



### AVA 3XI

- Transitions from multi-lumen introducer to a triple lumen device, with a detachable introducer valve
- Provides multiple central venous access in a single insertion site, with convertibility to insert a Swan-Ganz Catheter if required
- Flexible lumen walls significantly improve flow while maintaining a small outer diameter

**Streamlining the Insertion Process**

Zone 2 in the Centurion CVC Zone Bundle provides the clinical team with every component needed for catheter insertion. This Zone features Edwards Lifesciences pressure injectable, antimicrobial catheters and **pre-filled, sterile field-ready saline syringes placed inside the kit in the proper location.** The equipment and sequencing in this tray anticipates the needs of the inserter, which reduces the need to break the sterile field to find supplies, thereby optimizing the entire insertion process.





### ZONE 3: SITE PROTECTION & ACCESSORIES



- An adhesive-based securement device to decrease the risk of Vantex or Multi-Med catheter movement or dislodgement

- Patented design that prevents sutures from snagging on the instrument
- Precision-made; reusable quality
- High quality scissors and forceps are also available

- Labels may be customized to fit each facility's procedural protocols to enable compliance with The Joint Commission medication labeling requirements

- A large selection is available to build your bundle to fit your needs, including our exclusive nesting trays

- Available in lidded containers or breather bags
- Packages are color coded by catheter type

### Centurion SorbaView® SHIELD Securement Dressings

SorbaView SHIELD offers the safety of a SorbaView dressing with the added benefit of the most secure integrated catheter stabilization device on the market: Centurion SHIELD Technology™. The dressing offers a breathable barrier against bacteria, viruses and other contaminants while the built-in securement withstands multi-directional tugging forces to hold the catheter securely in place.

SV430UDT

- One-step dressing and catheter securement system eliminates the need for a secondary securement device
- Prevents catheter movement and dislodgement
- Keeps catheters securely in place
- Easy to apply - won't stick to itself during application
- Provides a proven barrier against bacteria and contaminants, lowering the risk of Central Line Bloodstream Infections (CLABSIs)
- Meets 7-day wear times for central lines, which means fewer dressing changes and less nursing time
- Dramatically reduces the risk of complications
- Latex free, non-sensitizing adhesive makes SHIELD comfortable for patients to wear
- Many sizes available with an adhesive-free zone in the window for use with Biopatch

The longer a catheter stays in place the lower the risk of dressing disruptions, CLABSIs, and catheter-related complications.

SV430AFXT SV353AFXT

SV44UDXT SV41AFXT

Many other dressings available; ask your sales representative for details.

### Supporting Post Insertion Compliance

Zone 3 in Centurion's CVC Zone Bundle guards the catheter and insertion site from infection after the procedure is complete. This Zone features all the necessary components for post-insertion protection, including patented SorbaView SHIELD dressings and Tubing Anchor securement devices to **provide stabilization and bacterial protection to prevent premature dressing disruptions**. This zone also includes Centurion's line of SnagFree needle holders, custom printed sterile labels, sutures, and additional Chloraprep.



## IHI Recommendations

“Application of the central line bundle has demonstrated striking reductions in the rate of central line infections in many hospitals...”

A key change to decrease the likelihood of central line infections is to apply maximal barrier precautions in preparation for line insertion.

For the operator placing the central line and for those assisting in the procedure, maximal barrier precautions means strict compliance with hand hygiene and wearing a cap, mask, sterile gown, and sterile gloves. The cap should cover all hair and the mask should cover the nose and mouth tightly. These precautions are the same as for any other surgical procedure that carries a risk of infection.

For the patient, applying maximal barrier precautions means covering the patient from head to toe with a sterile drape, with a small opening for the site of insertion.”

- *Institute for Healthcare Improvement, 5 Million Lives Campaign,  
“Prevent Central Line Infections: How-to Guide”*

## CDC Guidelines

“Use maximal sterile barrier precautions, including the use of a cap, mask, sterile gown, sterile gloves, and a sterile full body drape, for the insertion of CVCs, PICCs, or guidewire exchange...”

Use hospital-specific or collaborative-based performance improvement initiatives in which multifaceted strategies are “bundled” together to improve compliance with evidence-based recommended practices.”

- *Centers for Disease Control and Prevention, “Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011”*

## The Joint Commission National Patient Safety Goals

“Label all medications, medication containers, and other solutions on and off the sterile field in perioperative and other procedural settings.”

- *The Joint Commission, “Accreditation Program:  
Hospital National Patient Safety Goals,” Effective January 1, 2011*

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100 CENTURION WAY | WILLIAMSTON | MICHIGAN | 48895  
800.248.4058 | [www.centurionmp.com](http://www.centurionmp.com)

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