CATEGORY RESOURCE GUIDE

IV port protectors

Included in this document

(Click to view each section)

Vizient award overview

Awarded suppliers

MS6711 – 3M Healthcare
MS6712 – ICU Medical Sales

Distribution

Both direct or distributed through the following distribution channels:

Medical-surgical

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Making supply uncertainty a thing of the past, not the future

To help members maintain supply assurance for essential products, Vizient shares insights via **category resource guides** on vizientinc.com. These category-specific documents contain comprehensive manufacturing, logistics and utilization insights to help members source supplies with confidence. Category resource profiles are one way we're building supply assurance together.

Market landscape

Disinfecting port protectors are an additional measure in preventing central line-associated bloodstream infections (CLABSIs), recommended by the Centers for Disease Control and Prevention (CDC). They're plastic caps containing disinfectants like 70% isopropyl alcohol or chlorhexidine gluconate. These caps screw onto needleless connectors, continuously disinfecting the access point and preventing pathogens. They can stay in place between infusions, maintaining disinfection for up to seven days as long as they're not removed. Replacing them with each line access or weekly is common practice, reducing errors due to single use. Health professionals appreciate their time-saving nature, leading to high compliance. Overall, using these caps could significantly help prevent CLABSIs in clinical settings.

Manufacturing insights

Product overview

Disinfecting port protectors are a supplement to the CLABSI prevention bundle as an optional recommendation from the CDC. The protectors, which are caps that screw direclty onto the needleless connector, decrease CLABSIs by reducing the effect of variations in scrubbing duration and techniques. These plastic caps disinfect with mostly 70% isopropyl alcohol (IPA) or chlorhexidine gluconate, which continuously bathes the access point with the antimicrobial agent. The caps can be left in place between infusions for improved disinfection and stopping touch or airborne pathogens from invading the hub for up to seven days as long as the cap is not removed from the access point and the needleless connector remains inaccessible. Replacing the port protectors each time the line is accessed, or at least weekly, is recommended by most protocols, for what appears to be a less error-prone approach to stopping CLABSIs. There is high compliance with cap use, too, because of the timesaving feature. (Source: *American Journal of Infection Control*)

Selection factors

When selecting a medical disinfection port, several factors come into consideration:

- Effectiveness: The primary consideration is the disinfection efficacy of the port. It should be capable of effectively killing or inhibiting a broad spectrum of microorganisms commonly found in healthcare settings.
- Compatibility: The port chosen should be compatible with the specific type of medical device or equipment it will be used with, ensuring proper fit and functionality.
- Duration of protection: Consideration of how long the disinfection capability lasts before needing replacement or reapplication is crucial. Some ports offer continuous disinfection for a certain duration without requiring frequent replacement.
- Safety: Safety considerations are paramount. The disinfection method used in the port should not be harmful to patients, healthcare workers or the equipment. Some disinfectants may cause skin irritation or damage certain materials.
- Ease of use: The port should be user-friendly and easy to apply or replace, encouraging compliance among healthcare professionals. Complicated or time-consuming procedures might affect adoption rates.
- Cost-effectiveness: Assessing the cost of the port, including initial purchase, replacement frequency and any additional equipment needed, is important to ensure it aligns with the budget constraints of the healthcare facility.
- Regulatory compliance: Ensuring that the selected port complies with relevant regulatory standards and guidelines is crucial for patient safety and legal adherence.
- Clinical evidence and recommendations: References to clinical studies, evidence-based guidelines, or recommendations from healthcare organizations can influence the selection process, providing insights into the effectiveness and practicality of specific ports.
- Compatibility with protocols: The chosen port should align with established infection prevention protocols and practices within the healthcare facility to ensure seamless integration into existing workflows.
- Manufacturing quality and reliability: The reputation of the manufacturer, quality control measures and reliability of the product are significant factors to consider, ensuring consistent performance and efficacy.

Considering these factors can aid healthcare facilities in selecting the most suitable medical disinfection port for their specific needs while prioritizing patient safety and infection control.

OEM and manufacturing location

Several companies manufacture medical disinfection ports. Some of the original manufacturers and prominent names in this field include the following:

- 3M Healthcare: Known for a wide range of healthcare products, including disinfection ports and connectors for medical devices
- Becton Dickinson (BD): Offers a variety of medical products, including disinfection solutions and ports for different medical devices
- B. Braun Medical: Produces medical devices, including disinfection ports and connectors for IV access
- ICU Medical Sales: Specializes in infusion therapy products, including needleless connectors with integrated disinfection features
- Codan Medical: Produces various medical devices, including ports and connectors for IV therapy with disinfection features

These manufacturers produce different types of medical disinfection ports, connectors, and related equipment designed to prevent infections and ensure the safety of patients and healthcare professionals during medical procedures involving catheters, IV lines and other devices.

Raw materials

Medical disinfection ports are typically made from materials that are compatible with healthcare standards, ensuring they're safe for patients and effective for their intended use. Some common materials used in the manufacturing of these ports include plastics, metals, rubber or silicone; coatings and antimicrobial agents.

The specific choice of materials depends on various factors such as the intended use compatibility with disinfectants, regulatory standards, patient safety considerations and the manufacturer's design preferences. Manufacturers often conduct extensive testing to ensure the materials used meet safety and performance standards required for medical devices used in healthcare settings.

Regulatory and approvals

Medical disinfection ports are subject to regulatory approvals to ensure their safety, efficacy, and compliance with standards. The specific approvals may vary depending on the country or region where they are marketed, but some common regulatory approvals and standards include the following:

- Food and Drug Administration (FDA) clearance (U.S.) https://www.fda.gov/medical-devices/device-approvals-denials-and-clearances/510k-clearances
- International Organization for Standardization (ISO) standards https://www.iso.org/home.html
- Other national regulatory agencies: Various other countries have their own regulatory bodies responsible for approving medical devices, and disinfection ports must adhere to their specific requirements.

Compliance with these regulatory approvals and standards is essential for manufacturers to market their medical disinfection ports. It ensures that these devices meet stringent criteria for safety, efficacy, quality and performance before they are made available for use in healthcare settings.

Non-awarded suppliers

Merit Medical, BD, Braun and Codan

Logistics insights

Transportation/shipping

Products typically available via direct shipping or Authorized Distributors

Product storage

Medical disinfection ports should be stored in a controlled environment to maintain their effectiveness and integrity. Here are some guidelines for storing these ports:

- Clean and dry environment
- Temperature control: Maintain recommended storage temperatures as indicated by the manufacturer. Generally, extreme temperatures, whether too hot or too cold, can compromise the effectiveness of the disinfection agents or the materials used in the ports.
- Protection from light: Some disinfection agents can degrade when exposed to light. If specified by the manufacturer, store ports away from direct sunlight or sources of intense light.
- Proper packaging: Keep ports in their original packaging or in a way that protects them from damage and maintains their sterility. If the packaging is compromised, consider transferring the ports to suitable containers or storage units that maintain cleanliness.
- Avoid contamination: Ensure that the storage area is free from potential contaminants, such as chemicals, strong odors or other substances that could affect the disinfection properties or materials of the ports.
- Follow expiry dates: Adhere to expiration dates. Using ports past their expiration date might compromise their effectiveness and increase the risk of infection.

By following these storage guidelines, healthcare facilities can help preserve the efficacy and integrity of medical disinfection ports, ensuring they remain effective when used during medical procedures. Always refer to specific manufacturer recommendations for optimal storage conditions.

Building supply assurance

Potential supply vulnerabilities

Several potential supply assurance vulnerabilities for medical disinfection ports exist within the healthcare supply chain:

- Manufacturing constraints: Disinfection ports might be produced in limited quantities due to manufacturing constraints, such as raw material shortages, production line issues or manufacturing facility limitations.
- Dependency on suppliers: Manufacturers of disinfection ports rely on various suppliers for components and raw materials. Any disruption in the supply chain of these materials can affect the production and availability of the ports.
- Global supply chain disruptions: Disinfection ports might have components sourced from different regions globally. Disruptions in transportation, trade regulations or geopolitical issues can impact the timely delivery of these components, affecting production schedules.
- Regulatory compliance challenges: Changes in regulatory requirements or compliance standards can require adjustments in manufacturing processes or product specifications, causing delays in production.
- Logistical challenges: Delays in transportation or customs clearance, as well as disruptions in logistics can impact the timely delivery of finished products to healthcare facilities.
- Pandemics and global health crises: Health crises, like pandemics, can significantly strain the supply chain due to increased demand, panic buying and disruptions in global trade and logistics.

Addressing these vulnerabilities often involves diversifying suppliers, implementing robust contingency plans, establishing strategic stockpiles, improving inventory management practices and fostering collaborations among stakeholders in the healthcare supply chain to ensure a more resilient and responsive system.

Conservation strategies

Conservation strategies for medical disinfection ports can help optimize their usage without compromising patient safety. Here are some potential conservation strategies:

- Standardization of use: Establish protocols and guidelines for the appropriate and standardized use of disinfection ports across the healthcare facility. Clear guidelines can prevent unnecessary or excessive use.

- Educational initiatives: Offer training and educational programs to healthcare staff regarding the proper use, handling and replacement frequency of disinfection ports. This can reduce misuse or overuse due to lack of awareness.
- Appropriate replacement schedules: Determine evidence-based replacement schedules for ports based on their recommended duration of use or according to infection prevention protocols. Avoid unnecessarily frequent replacements.
- Optimized inventory management: Monitor and manage inventory levels effectively to prevent both shortages and excess stock. Regular assessments of usage patterns can help predict demand more accurately.
- Selective application: Assess the necessity of using disinfection ports based on the risk level associated with specific medical procedures or devices. Not all procedures may require the use of these ports.
- Quality assurance and maintenance: Ensure proper maintenance and quality control of the disinfection ports and related equipment to prolong their effectiveness and lifespan, reducing the need for premature replacement.
- Evaluation of alternatives: Consider alternative methods or technologies for disinfection that might be more cost-effective or have longer-lasting effects while maintaining efficacy.

Implementing these strategies can help healthcare facilities conserve the use of medical disinfection ports while ensuring that infection control standards and patient safety remain a priority.

Additionally, with other products and services:

- Assess and identify all hospital services.
- Identify and list critical products, supplies, and resources required to sustain operation of those areas identified and ranked in the first step.
- Maintain the internal planning team document with accurate information. Review and update the document on a routine basis with current employee contact information. If a team member no longer works in the organization, identify the replacement and communicate the information to all stakeholders.
- Communicate practice changes and procedures frequently to staff and stakeholders.
- Hold regularly scheduled planning meetings in the absence of a supply chain shortage or event. This will help to ensure that identified processes and protocols remain relevant and any issues requiring revisions and/or updates are addressed in advance of a shortage or disaster.

If your organization has implemented conservation strategies for IV port protectors or any other category, share your information here. The information you share will be anonymous unless you grant Vizient permission to share.

Supply chain programs

Novaplus

ICU Medical is a Vizient Novaplus® supplier. Through Novaplus, access to products goes deep with more than 15,000 individual line items – including numerous high-demand items. The brand encompasses a broad range of categories needed across the care continuum, such as anesthesia, business products and services, diagnostic imaging, food, laboratory, medical, orthopedic, pediatric, pharmacy, respiratory and surgical. Today as the capabilities, expertise and purchasing power of Vizient grow, we offer expanded value so you unlock even more from your private-label purchasing. For more information, click here.

Planning for disruptions

Distributor recommendations

Supply disruptions in the medical field can significantly impact the availability of essential items like medical disinfection ports. To manage or mitigate supply disruptions, several strategies can be implemented:

- Diversification of suppliers
- Inventory management
- Alternative products or substitutes: Identify and approve alternative products or substitutes that can be used temporarily during supply disruptions.
- Prioritization and allocation

- Conservation and rational use: Develop protocols to conserve and use medical disinfection ports rationally
- Regulatory flexibility: Work with regulatory bodies to facilitate temporary approvals or adjustments to regulations that allow the use of alternative products or manufacturing sources during supply disruptions without compromising safety standards.
- Supplier relationships and contracts: Strengthen relationships with suppliers through long-term contracts or agreements that prioritize consistent supply even during disruptions.

By combining these strategies and actively managing the supply chain, healthcare facilities can better navigate and mitigate the impact of supply disruptions on the availability of medical disinfection ports and other critical supplies.

Best practice strategies

Vizient offers the following best practices to help members manage disruptions. These suggestions are available to help you gain insight on how the industry is managing supply challenges.

If your inventory is low

Vizient is committed to bringing hospitals, manufacturers, distributors and the industry together to talk about this issue and any long-term implications. We feel continued dialogue around the issue by experts – hospitals, manufacturers, distributors and industry – will be crucial to ultimately arriving at a solution to vexing issue. During critical supply periods, members should continue to order their normal levels of products in order to ensure continued availability for all institutions.

If you begin to experience a shortage:

- Evaluate your current supply.
- Contact your local supplier representative and report exactly how many days' supply you have left.
- If you are not getting a response from suppliers, contact Vizient so we can facilitate communication between member and supplier; provide whether you are ordering direct or through distribution (medical/surgical or pharmacy), and indicate supplier and distributor (if applicable) when you contact Vizient.
- We encourage you to continue the conversation within your organization, with your peers and with the manufacturers and distributors to identify ways to manage your ongoing needs.
- Submit inquiries to disasterresponse@vizientinc.com.

Expedite supply resolution

To expedite resolution for supply issues, contact your local supplier and provide the following information:

- The description and item number of the product that is experiencing a shortage
- Whether you are purchasing directly or through an Authorized Distributor
- Days' supply remaining in your inventory

If expanding your facility

We suggest members notify suppliers when expanding their facilities to assist in planning and anticipate increases in allocations. You should consider notifying your suppliers at least three months before the completion of your facility to ensure sufficient capacity.

Building supply assurance together

Collaboration among suppliers, distributors, members and Vizient strengthens the assurance of supply for all stakeholders. Our wealth of experience, actionable data and predictive planning helps to strengthen supply assurance. Further, our work with stakeholders focuses on improving supply chain risk mitigation as we collaborate to enhance data, increase supply visibility and expand inventory access.

Four themes keep us centered and are the pillars of our supply chain assurance efforts: insights, access, enablement and advocacy. Learn more about our supply assurance strategy.

In the event of a supply disruption, Vizient will publish a product disruption brief to the Supply Assurance webpage. Curated by Vizient experts, these documents provide a summary of current conditions and strategies to manage product-level disruptions.

In addition to our disruption briefs, Vizient also compiles all known disruptions into the monthly Supply Update Executive Summary which tracks all supply chain disruptors, including current market challenges, category-specific product updates and recovering markets.

Whether a supply disruption is the result of a natural or human-made disaster, it is imperative that members are informed. The Vizient Disaster Preparedness webpage was developed to help providers meet supply chain needs before, during and after an event. The Supply Update section of the guide is updated on a frequent and routine basis with communication from all awarded suppliers that have manufacturing facilities in areas impacted by a disaster. Additionally, a status update list of those manufacturers whose operations have been affected, as well as a list of impacted product(s), will be maintained and updated as that information is received from the supplier.

The importance of an internal planning team

Identifying an internal planning team is imperative to managing supply, mitigating risks and sustaining operations during a supply shortage. According to the Supply Chain Disaster Preparedness Manual developed by the CDC, internal teams should consist of representatives from supply chain, purchasing, emergency management, each clinical/care delivery area, inventory staff, receiving and distribution staff. Relative to medication and solutions, Vizient member feedback indicated the pharmacy department as an integral member to the internal team, as clinical/pharmacy practice changes may occur. Additional members may include the facilities safety manager, security, risk management, legal, marketing and communications, and public relations.

A simple internal team planning document will help to identify, contact and quickly convene relevant team members. See the sample below:

Name	Title	Department/role	Phone	Email

Once an internal team is identified, additional considerations before beginning the development and implementation of a recovery plan include the following:

- The team's goals
- The responsibilities of each planning team member
- Other department/team members who may need to be involved
- Frequency of team meetings
- How the goal/mission be accomplished
- How information will be documented and communicated to the broader audience
- A current framework for success either within your facility or from a leading organization

Stakeholder communication

During supply chain product disruptions, it is vital that accurate and timely information is disseminated to internal and external stakeholders. The following actions should be considered to facilitate and ensure informed decisions:

- Designate the point person or persons who will be responsible for developing, disseminating and monitoring all communications coming from the internal planning team.

- The internal planning team should collaborate key messages/information to stakeholders, such as changes in policies and/or practice changes.
- Clearly communicate the roles and responsibilities of all staff based on the agreed upon recovery plan. If there are changes to the plan at any time, timely communication of those changes will help to increase risk mitigation and minimize interruption of patient care.
- Establish communication mechanisms for information exchange. Examples include but are not limited to regularly scheduled briefings and meetings, in-services, staff training, live/recorded webinars, memos and emails.
- Determine the frequency of reminders and updates regarding supply disruption status and anticipated resolution.
- Frequent updates and reminders after a supply disruption has been mitigated or eliminated help to ensure ongoing success and sustainability of best practices.

Supply management and logistics

A leading practice identified in managing recent shortages is a centralized management approach of impacted product codes. A key responsibility of the internal planning group is to identify all affected product codes and to determine the amount of supply on hand, expected and any allocation protocols implemented by the supply source. Once the current product status is determined, the following actions are recommended:

- Update and maintain an accurate inventory list. Each care area that utilizes any product code on the inventory list should identify a point person to collect on hand and usage levels on an agreed upon frequency. That information should be reported back to the internal planning team. Inventory can either be managed by care delivery areas or in a centralized manner.
- Identify space in the facility to store, manage and distribute product. Designate authorized personnel responsible for maintaining the inventory (expiration dates temperature, ventilation, utilization, equipment maintenance and repair, etc.).
- Develop and seek approval for the inventory management protocol and communicate this information to all stakeholders.
- Update and maintain accurate purchase order and allocation protocols from the contracted supplier and your group purchasing organization (GPO).
- Update and maintain accurate emergency contact information for all suppliers as well as internal stakeholders. This process should be done at least every six months.
- Review the inventory management status on an agreed upon frequency with the internal planning group. Assess barriers to its effectiveness, implement any changes necessary and communicate those changes to all stakeholders.

Planning for all levels of care and ancillary products

Feedback from lessons learned indicated the need to include all levels of care and ancillary products, if applicable, in the conservation plan. If your provider system has children's hospitals, ambulatory surgery centers, outpatient clinics and/or long-term care facilities, utilization and logistics of products and supplies must be incorporated into the plan. Additionally, it is vital that ancillary products are considered when contemplating allocations and purchase orders. For example, during the recent drugs and solutions shortages, as large volume solution bags went on back order, smaller volume bags, compounding products, and syringes also went on back order because of practice changes. Therefore, conservation planning should include actual and the additional ancillary products that may be required to sustain a clinical and/or operational practice change.

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