CATEGORY RESOURCE GUIDE

Chest drainage

Included in this document

(Click to view each section)

Vizient award overview

Awarded suppliers

MS6101 – Getinge USA
MS6102 – Teleflex
MS7123 – Bearpac Medical

Distribution

Both direct and distributed through the following distribution channels:

Medical-surgical

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Questions? Contact supplyassurance@vizientinc.com, pharmacyquestions@vizientinc.com, novaplus@vizientinc.com.

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

Although the chest drain market has been constrained due primarily to raw material supply challenges, availability of chest drains has improved.

Manufacturing insights

Product overview

A chest drain is a medical device used to remove air, blood, pus or other fluids from the space around the lungs (pleural space) in the chest. This procedure is performed to relieve pressure, aid lung re-expansion, and treat conditions like pneumothorax (collapsed lung), pleural effusion (accumulation of fluid) or hemothorax (accumulation of blood).

Chest drains consist of several components:

- Chest tube/thoracic catheter: The flexible plastic tube is inserted into the pleural space to drain fluids or air. Products include straight, curved, right angle, soft, silicone and PVC with or without trocar
- Drainage system: This includes a collection chamber, a water seal and a one-way valve mechanism. The drainage system allows fluids to drain out while preventing air from flowing back into the pleural space.
- Suction source (optional): Some systems can be attached to a suction source, creating a controlled negative pressure environment to enhance drainage.

Types of drainage systems:

- Wet seal systems have a drainage tube connected to a collection chamber partially filled with sterile water. As fluids drain from the patient's chest, they bubble through the water, creating visual and audible cues. This system also contains a water seal chamber that prevents air from re-entering the pleural space. If the lung needs to expand, the system allows air to exit the pleural space but not enter it. The water acts as a barrier.
- Dry seal systems have a mechanical valve instead of a water seal. This valve allows air to escape from the pleural space without letting it re-enter. The absence of water eliminates the risk of fluid leakage and accidental water evaporation. Dry seal systems are more portable and may be suitable for patients who need to be ambulatory.

Both wet and dry suction drainage systems are used to reestablish negative pressure within the pleural space.

Selection factors

Purpose of drainage:

- Air drainage: If the primary goal is to evacuate air from the pleural space (as in pneumothorax), wet seal systems provide effective air leak management and lung re-expansion.
- Fluid drainage: For fluid drainage (pleural effusion, hemothorax), either system can be used, but dry seal systems may offer advantages due to reduced risk of fluid leakage.

Patient mobility:

- Dry seal systems are more portable and might be preferred for ambulatory patients.

Digital systems are also available, providing real-time/remote monitoring with alarms and data collection.

OEM and manufacturing location

Getinge (Atrium) – made in New Hampshire

Raw materials

Acrylonitrile butadiene styrene (ABS) plastic

- Silicone
- Polypropylene
- Non-latex thermoplastic elastomers (TPE)

- Polycarbonate
- Polyvinyl chloride (PVC)
- Sterile water

The lastest manufacturing insights are available here.

Regulatory and approvals

510K Summary: Teleflex Pleur-Evac Sahara

510K: Atrium EDrain

Non-awarded suppliers

Medela and Centese offer digital chest drainage units.

Thoracentesis trays are offered in the diagnostic procedure trays category at Vizient.

Logistics insights

Transportation/shipping

Getinge only distributes directly.

The product is ethylene oxide (EtO) sterilized.

Teleflex national warehouse is in Olive Branch, Miss.

“In 2021 the top exporters of ABS copolymers were South Korea ($3.03B), Chinese Taipei ($2.78B), Malaysia ($540M), Netherlands ($525M) and Belgium ($390M),” according to OEC.

See additional freight update here.

Product storage

Atrium is recommended for storage in a cool, dry place away from direct sunlight:

Event	Temperature	Relative humidity	Altitude (pressure)
Operating	-5°C to 50°C	15% - 95%	70 to 106 kPa
Storage/shipping	-20° to 60°C	0% - 95%	70 to 1776 Pa

Note: Rotate Chest Drainage Unit (CDU) inventory so oldest inventory is used before the sterilization expiration date.

Utilization insights

Clinical contract support resources

Pneumothorax Vizient Clinical Resource Guide

Building supply assurance

Potential supply vulnerabilities

ABS resin availability

Proposed EtO sterilization rules

Conservation strategies

Because predicting the next supply shortage is impossible, it is important that healthcare providers not only adopt and implement care practices strategies to conserve critical products and supplies, but it is equally as important to sustain leading practices that will help ensure the availability of essential products post recovery and in the future. For example, some hospitals

have reported decreasing their IV solution use by as much as 50% in some care areas by continuing to adhere to the conservation strategies implemented during the recent shortages.

Healthcare providers and other leading organizations have identified and recommend the following actions:

- 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 chest drainage, 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

None

Planning for disruptions

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 ahead of 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 Centers for Disease Control and Prevention (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 will 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 in an effort 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 trainings, 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 for 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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