Trends in Hemostasis

A Data-Driven, Evidence-Based Methodology for Achieving Best Practices in Blood Management and Hemostatic Resource Utilization in Surgery

A program that provides insightful quantitative data and targeted qualitative insights into your current use of blood products and hemostatic agents could optimize your blood management operations and procedures.

Key Points

- Inadequate hemostasis may lead to excessive blood loss, transfusions, resource utilization, reoperations, and increased length of stay.
- Live utilization reviews by Baxter's medical and scientific experts provide participants with areas of opportunity for key improvements in blood management and resource utilization.
- Successful implementation may result in transfusion reduction and improved resource allocation, as well as sustainable change.

Importance of Blood Management and Resource Utilization Review

Inadequate hemostasis during surgery may lead to immediate and long-term complications, including excessive blood loss and allogeneic blood transfusions during or after surgery, which are associated with increased morbidity and mortality.[1-4] In a retrospective analysis of 1.6 million surgeries performed in the United States, the average rate of bleeding-related complications was 29.9% across multiple surgical interventions.[5] In addition to transfusions, patients experiencing bleeding-related complications may also require reoperation, resulting in an increased hospital length of stay.[5]

Another important area of improvement is a thorough review of products and resources related to hemostasis. Product/resource waste may lead to significant costs that could potentially be reduced through utilization reviews.

All of these factors increase the economic burden on patients and providers.[5] Optimizing hemostasis and resource management may, therefore, provide a significant opportunity to improve outcomes and reduce costs.

For these reasons, blood management programs and resource utilization reviews are a growing area of nationwide focus in hospitals implementing quality initiatives. For many hospitals and health systems, discovering how to successfully navigate the challenges of intraoperative blood management and resource utilization related to hemostasis can be a daunting task. Despite a growing body of evidence confirming the utility of viable, safe, cost-saving programs, many institutions are still unclear about the optimal path to achieve best-in-class practices.

Hemostatic Resources Optimization

To successfully minimize the need for blood transfusions and optimize the intraoperative use of hemostatic agents and sealants, a systematic, validated approach is suggested. The data-driven, evidence-based Vital Edge program provides actionable insights and practical solutions related to intraoperative hemostasis to help health care providers realize marked improvements in clinical efficacy, operational efficiency, and financial performance. The specific aims of the program include reducing intraoperative blood loss, blood transfusions, and product waste as well as optimizing outcomes after surgery (Table).

Drawing on more than 85 years of industry leadership and more than 30 years of expertise in advanced surgical solutions, Baxter's Vital Edge program is a noncommercial, informational support service. For those who express an interest in the program, Baxter's medical and scientific experts provide educational presentations that raise awareness of transfusion costs and risks, as well as how optimal use of hemostats and sealants can effectively minimize the need for transfusions.

Baxter's medical experts then conduct a live utilization review (LUR), or a series of LURs, to measure blood loss, as well as the use of blood products, hemostatic agents and

Table. Vital Edge Process: Key Components

Component	Description
Study	Collect and analyze data related to defined goals.
Solve	Develop plan to achieve goals using the data analysis and Vital Edge tools.
Integrate	Build and incorporate learnings across hospitals or health systems for sustainable change.

sealants, and specialized medical equipment, such as cell salvage and energy devices. The experts at Baxter then provide a detailed report of findings that are used to uncover current strengths as well as opportunities for improvement in blood management and resource utilization. Baxter's medical and market access experts will then partner with a hospital or health system to illuminate clinical, financial, and operational improvements, and then valuate these actionable changes. An institution can then use these data to develop, implement, and continuously assess quality initiatives focused on transfusion reduction, improved resource allocation, and sustainable change.

Collaboration Toward Improvement

Implementation and integration steps are based on the findings from the LURs as well as the goals of the hospital or health system. Initially, some of the operating room personnel were a bit apprehensive about the LUR process. As one of the operating nurses who was involved explained, "The review was seamless. We didn't change any of our regular daily processes. She [the assessor] didn't interfere or interact with anyone during the case unless it was a question on what we were using and how much we had opened. She never interfered with the surgeon or asked questions that were distracting to anyone in the room."

In a health care environment punctuated by change, it is increasingly important to continuously improve outcomes while reducing costs. Partnership with industry has not traditionally been an approach that hospitals and health systems have embraced. However, a culture of collaboration may help improve quality of care and patient outcomes, and provide services of value. While it can be helpful to review evidence from published literature from other institutions, it is even more powerful to review evidence collected at your own institution and drive change based on that information. It resonates at a different level. Going forward, as hospitals and health systems look at ways of achieving quality end points while reducing total costs, programs like Vital Edge are invaluable.

References

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6. Baxter International Inc. Floseal Hemostatic Matrix 5 mL/10 mL Instructions for Use. www.floseal.com/int/pdf/FLOSEAL_IFU_EU.pdf. Accessed November 14, 2019.

FLOSEAL Hemostatic Matrix Indication[6]

FLOSEAL Matrix is indicated in surgical procedures (other than ophthalmic) as an adjunct to hemostasis when control of bleeding by ligature or conventional procedures is ineffective or impractical.

IMPORTANT RISK INFORMATION FOR FLOSEAL HEMOSTATIC MATRIX

Do not inject or compress FLOSEAL Matrix into blood vessels. Do not apply FLOSEAL Matrix in the absence of active blood flow, e.g., while the vessel is clamped or bypassed, as extensive intravascular clotting and even death may result.

Do not use FLOSEAL Matrix in patients with known allergies to materials of bovine origin. Do not use FLOSEAL Matrix in the closure of skin incisions because it may interfere with the healing of the skin edges.

FLOSEAL Matrix contains Thrombin made from human plasma. It may carry a risk of transmitting infectious agents, e.g., viruses, and theoretically, the Creutzfeldt-Jakob disease (CJD) agent.

FLOSEAL Matrix is not intended as a substitute for meticulous surgical technique and the proper application of ligatures or other conventional procedures for hemostasis.

Excess FLOSEAL Matrix (material not incorporated in the hemostatic clot) should always be removed by gentle irrigation from the site of application.

FLOSEAL Matrix swells by approximately 10% to 20% after product is applied. Maximum swell volume is achieved within about 10 minutes.

The safety and effectiveness of FLOSEAL Matrix has not been established in children under 2 years of age and pregnant women.

Do not use air to remove residual FLOSEAL Matrix from Applicator tip. The Applicator tips should not be cut. Do not use FLOSEAL Matrix on bone surfaces where adhesives, such as methylmethacrylate or other acrylic adhesives, will be required to attach a prosthetic device.

Rx Only. For safe and proper use of this device, refer to the full Instructions for Use.

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