

The Case for Quality: Major Hemorrhage Protocol

Every minute counts when initiating and running a Major Hemorrhage Protocol (MHP). Recent cases in obstetrics, trauma and oncology have highlighted the importance of a coordinated and efficient MHP process. Each MHP case has offered valuable opportunities for learning and as a result, Island Health has developed several resources, which can help prepare you and your teams for future MHP scenarios.

A Major Hemorrhage Protocol is designed to efficiently mobilize a coordinated care team response aimed at rapid identification and control of bleeding through best practices. Physicians are encouraged to err on the side of calling an MHP earlier and subsequently discontinuing it (if no longer necessary), rather than waiting to call an MHP and potentially running into unanticipated barriers when blood components are urgently needed.

MHP Scenarios for Reflection

Major Hemorrhage Protocol to ensure priority blood sample collection and testing

The MHP is activated upon hospital arrival for a patient experiencing extensive blunt trauma following a motor vehicle accident. 12 units of group O negative red cells, 6 units of AB plasma and 1 unit of platelets is transfused, before a sample for transfusion testing (ABO and Rh) is collected. The patient's ABO and Rh status cannot be definitively determined and further transfusion with group O red cells and AB plasma continues for the next 24 hours, requiring numerous stat blood orders and straining the local supply of AB plasma.

Major Hemorrhage Protocol to support timely blood product availability and reduce waste

The MHP is activated for suspected massive hemorrhage due to splenic laceration. Eight units of red cells and 2 units of plasma are requested and supplied to the clinical area for transfusion. The patient is stabilized with transfusion of one unit of red cells and the remaining blood components are kept in the patient's room "just in case." After returning the remaining 7 units of red cells and plasma to the blood bank, all blood components are disposed of due to the extended time at room temperature.

Major Hemorrhage Protocol to ensure appropriate documentation of blood product administration

Three trauma patients arrive at the hospital at the same time following a motor vehicle accident. Multiple units of O negative red cells are requested, delivered to the care area and transfused. Patient level documentation was incomplete, resulting in an inability to match blood units to the recipient when blood recipient notification was required by Canadian Blood Services two months later.

New MHP Resources

- The Major Hemorrhage Protocol is available at designated sites and clinical areas as found on the [MHP intranet page](#). CDH is now also live with MHP. Resources for MHP sites include:
 - [Major Hemorrhage Protocol: Quick Notes for Physicians](#)
 - [Major Hemorrhage Protocol: Planning an Interdepartmental Mock](#)
- A new, 20-minute module has been developed for clinicians, available on the Learning Hub: [Major Hemorrhage Protocol: Foundational Concepts](#)
- A new MHP [Pre-Arrival process](#) was developed for South Island (SI) and is maintained by the SI trauma coordinator. Any other emergency departments with MHP that are interested in a pre-arrival activation process should contact their trauma coordinator and [transfusion coordinator](#) to assist in development of their own pre-registration workflow with the local laboratory
- Island Health has also welcomed a new Hematopathologist (Dr. Jennifer Duncan) as Transfusion Medicine Medical lead for the Island. Dr Duncan is based in the Comox Valley