Current Status: *Scheduled*	**PolicyStat ID:** *10246858*

Beaumont

Origination:	*10/2/2021*
Effective:	*10/2/2021*
Last Approved:	*9/2/2021*
Last Revised:	*9/2/2021*
Next Review:	*9/2/2023*
Document Contact:	*Billie Ketelsen: Mgr Laboratory*
Area:	*Laboratory-Blood Bank*
Key Words:	
Applicability:	*Royal Oak*

Blood Bank Emergency Management Plan- Royal Oak

Document Type: Plan

I. PURPOSE AND OBJECTIVE:

The purpose of this document is to provide the Blood Bank staff with guidance during instances of internal/ external disaster, emergencies, or disruptions within the facility. At these times, normal operations may not be available and/or the patient population may see a sudden rise.

II. DEFINITIONS/ACRONYMS:

A. **Designee:** A Medical Technologist Lead or other management staff.

B. **EOC-Emergency Operations Center:** The physical location where the Incident Commander and Command staff coordinates all activities related to the incident.

C. **HICS:** Hospital Incident Command System

D. **MCI:** Mass Casualty Incident

E. **RBC:** Red Blood Cells

F. **FFP:** Fresh Frozen Plasma

G. **HLA:** Human Leukocyte Antigen

III. SCOPE:

A. The scope of this document relates to the management of emergency situations throughout Beaumont Royal Oak, as well as system/utility disruptions that are specific to the Blood Bank.

B. For specific information relating to the Royal Oak Blood Bank's response to a mass casualty incident (MCI), refer to Transfusion Medicine policy, *Blood Bank Mass Casualty Incident (MCI) Plan*- Royal Oak

IV. POLICIES:

A. Beaumont Emergency Response Procedures Quick Reference Guide

1. This guide is used to provide information relating to each of the Beaumont Hospital emergency codes. Information provided includes the definition of the emergency, how employees will be notified of the emergency, and the correct actions to take for each situation.
2. The Quick Reference Guide can be found in the Blood Bank in two locations, near the main department entrance and near the blood processing room. It is the responsibility of each Beaumont Health employee to be familiar with the information contained in this guide.

B. Use of the *Disaster Call List* and Employee Information Binder

1. If it is determined by the Blood Bank Manager and/or designee that additional staffing is required during an emergency situation, the *Disaster Call List* should be utilized. In addition, the employee information binder may also be used to call in more staff. The *Disaster Call List* is located inside the employee information binder.

C. Hospital Incident Command System (HICS) and Emergency Operations Center (EOC)

1. In some emergency situations, Beaumont Royal Oak will establish a Hospital Incident Command System (HICS). This management model is designed to provide a coordinated response for all types and situations of varying magnitudes. When this is done, the Blood Bank needs to be prepared to report blood and component inventory. The Blood Bank Manager, designee, or medical technologist will report to the Emergency Operations Center (EOC), which is located near the West entrance, just past the Employee Services Center. Contact information is available in the Beaumont Emergency Response Procedures Quick Reference Guide if necessary.

D. Computer Downtime Scenarios and Manual Operations

1. During some emergency situations, the Hospital or Blood Bank computer systems may be unavailable. If this occurs, the Blood Bank will need to perform manual operations as described in Transfusion Medicine policies, *Computer Downtime Scenarios* and *Manual Operations*.

V. PROCEDURE:

This document will consist of procedural information for both hospital emergency situations as well as department-specific situations.

A. Hospital Emergency Situations

1. The hospital employees will be notified of the emergency situation. In most cases, the notification will be

made by an overhead announcement and/or text page.

2. Any Blood Bank employees that are outside of the department at the time of notification should return to their workstations.
3. Retrieve one of the Beaumont Emergency Response Procedures Quick Reference Guides located in the Blood Bank.
4. Locate the specific emergency code in the Quick Reference Guide and determine what actions should be taken.
5. Employees should be ready to follow any additional directions given by management, security, and/or law enforcement.
6. Once the emergency situation has been resolved, employees will be notified by an "All Clear" announcement.

B. Blood Bank System/Utility Disruptions

1. For system or utility disruptions within the department, it is unlikely that there will be any announcement or notification ahead of time, unless other departments are affected as well.

   For any problems regarding equipment used to store blood products, tissues, or reagents (i.e. anything monitored by Rees), refer to Transfusion Medicine policy, *Response to an Alarm Condition* before relocating any products/reagents. **Medical Director or Manager approval must be obtained prior to moving the contents of any storage device.**

C. Power Disruption

1. Within the Blood Bank, if normal power is unavailable:
   1. Red plugs will experience a short interruption of power as the system switches over to the emergency power generator.
   2. If not already done, plug all necessary equipment into the red electrical plugs.
   3. If necessary, refer to Transfusion Medicine policy, *Manual Operations* if the computer system(s) is down due to power outage.
   4. Notify the Blood Bank Manager and/or designee.
   5. Document the event on a variance when time permits.

D. Phone Disruption

1. If the phone system is down within the department:
   1. The blue phone located at triage can be used for emergency communication.
   2. Overhead pages and personal pagers can be used to communicate with other departments or specific individuals.
   3. Staff cellular phones are also permitted for communication if the normal hospital phone system is not functioning.
   4. Notify the Blood Bank Manager and/or designee.
   5. Document the event on a variance when time permits.

E. Pneumatic Tube System Disruption

1. If the pneumatic tube system is down:
    1. All issuing of blood components must be picked up by a runner or medical staff.
    2. Specimens must be physically brought to the Blood Bank.

F. Water Disruption

1. If the water supply is not available in the Blood Bank, staff should:
    1. Consider an alternative source of ice for Blood Bank and the Operating Rooms.
    2. Ice can be obtained from other departments within the hospital (clinical pathology, anatomic pathology, dietary, etc.), as well as shipped from other Beaumont Health facilities and blood suppliers.
    3. Using alcohol-based hand sanitizer is a suitable replacement for washing your hands with soap and water if necessary.
    4. Notify the Blood Bank Manager and/or designee.
    5. Document the event on a variance when time permits.

G. Irradiator Disruption

1. If the Raycell® Mk2 X-Ray Blood Irradiator is unavailable for use due to an insufficient water or electrical supply:
    a. Blood Bank staff should take inventory of our current irradiated stock and order enough irradiated products to at least double our minimum inventory.
    b. Irradiated blood products can be obtained by:
        i. Ordering irradiated blood products directly from the blood supplier. Refer to Transfusion Medicine policy *Inventory and Ordering Blood Products- Royal Oak* for more information.
        ii. Sending blood products to Beaumont Dearborn Henry Ford Hospital and/or University of Michigan Health System along with Type 25 Gy Gamma Rad-Sure® Indicators if applicable.
    c. Notify the blood suppliers that all platelet deliveries must be irradiated until further notice.
    d. Notify the Blood Bank Manager and/or designee.
    e. Document the event on a variance when time permits.

H. Refrigerator Disruptions

1. If the crossmatch refrigerator is not functioning properly and is inadequate for storage of blood products or RhoGAM:
    a. Medical Director or Manager approval must be obtained prior to moving the contents of this refrigerator.
    b. Blood Bank staff should move the contents of the crossmatch refrigerator into the walk-in refrigerator.
    c. Use shelves or carts to keep the crossmatched RBCs separated based on the recipient blood type.
    d. Continue to set up RBCs on patients that require serologic crossmatches, but limit the amount of

electronic crossmatch-eligible patients that are set up to save on space on the carts.

e. Document the event on a variance when time permits.

2. If the walk-in refrigerator is not functioning properly and is inadequate for storage of blood products, reagents, RhoGAM, expired reagents, etc.:
   a. Medical Director or Manager approval must be obtained prior to moving the contents of this refrigerator.
   b. Blood Bank staff should move the contents of the refrigerator to the walk-in refrigerator located in STAT lab, which has the same storage temperatures as our refrigerator. Manual temperatures of the STAT lab walk-in will be taken at least every four (4) hours. Moving the blood product inventory (RBCs, thawed FFP) should be top priority, followed by the reagents.
   c. The refrigerator in the student room (fridge 26), the HLA reagent refrigerator (fridge 22), and the crossmatch refrigerator (fridge 10) are suitable for storage of blood products and reagents as well. All are monitored by Rees.
   d. If there are no refrigerators on-site that are suitable for storage of blood products, then blood should be packaged up in blood supplier shipping boxes with wet ice both above and below the packaged products (blood products should be contained in a sealed bag with absorbent material in it). Blood products can be sent to other Beaumont Health facilities or back to the blood supplier for storage at their facilities.
   e. Document the event on a variance when time permits.

I. Freezer Disruption

1. If there is a problem with any of the freezers that store blood products or tissues, Blood Bank staff should use carts to carefully transfer the contents of the malfunctioning freezer to a different freezer for temporary storage.
   a. Medical Director or Manager approval must be obtained prior to moving the contents of any freezer.
   b. There are multiple freezers that are set up with different temperature ranges that can be used as back-ups. Freezer temperatures must be verified and maintained prior to using alternate freezers.
   c. If there are no additional freezers to use as back-ups, then frozen blood products and tissues should be temporarily stored in Styrofoam coolers or FFP transport boxes containing dry ice.
   d. Frozen FFP can be sent to other Beaumont Health facilities or back to the blood supplier for temporary storage.
   e. Document the event on a variance when time permits.

J. Rees Disruption

1. If the Rees Scientific temperature monitoring system is down or not functioning properly:
   a. Refer to Transfusion Medicine policy, *Response to an Alarm Condition* to determine the proper course of action.
   b. Taking manual temperatures may be required as described in Transfusion Medicine policy, *Manual Temperature Monitor*.
   c. Document the event on a variance when time permits.

K. Platelet Storage Disruption

1. If the platelet rotator stops functioning, staff should move as many platelets as possible onto the spare rotator in the processing room.
2. Any platelets that do not fit on the backup platelet rotator should be sent to nearby Beaumont facilities for temporary storage.
3. Although it is not preferred, platelets are able to go without rocking for up to 30 hours. Monitor the duration of each platelet that is not on a platelet rotator as well as the presence of platelet swirling.
4. Document the event on a variance when time permits.

L. Blood Product Inventory Disruption

1. If external events lead to limited blood product collections by the blood suppliers, the Blood Bank's inventory will likely be affected.
    a. The Blood Bank will attempt to maintain satisfactory blood product inventories and order necessary blood products as described in Transfusion Medicine policy, *Inventory and Ordering Blood Products-Royal Oak.* This policy also provides inventory target levels for each blood product.
    b. If the Blood Bank is unable to receive blood products from an established blood supplier while the inventory levels are below the target range, other Beaumont Health hospitals should be contacted to obtain necessary blood products, if available.
    c. If the Blood Bank is unable to receive blood products from an established blood supplier or other Beaumont Health hospitals while at critical inventory levels, it may be necessary to obtain blood products from blood suppliers that are not established. The Blood Bank Medical Director should be consulted prior to ordering blood products from suppliers not listed in Transfusion Medicine policy, *Inventory and Ordering Blood Products-Royal Oak.*

NOTE: If multiple system/facility disruptions occur at the same time, or other disruptions occur that are not addressed in this policy, notify the Medical Director, Blood Bank Manager, and/or designee. Additional instructions will be determined based on the emergency or disruptions taking place.

VI. REFERENCES:

1. Standard 1.4 and 1.4.1, AABB, *Standards for Blood Banks and Transfusion*, current edition.
2. Beaumont Emergency Response Procedures Quick Reference Guide.

Attachments

No Attachments

Approval Signatures

Step Description	Approver	Date
	Ann Marie Blenc: System Med Dir, Hematopath	9/2/2021

Step Description	Approver	Date
	Craig Fletcher: System Med Dir, Blood Bank	8/27/2021
Policy and Forms Steering Committe (if needed)	Billie Ketelsen: Mgr Laboratory	8/23/2021
Policy and Forms Steering Committe (if needed)	Gail Juleff: Project Mgr Policy	8/13/2021
	Billie Ketelsen: Mgr Laboratory	8/13/2021
	Billie Ketelsen: Mgr Laboratory	8/12/2021

Applicability

Royal Oak