Emergency Management and

Business Continuity Plan

Biomedical Engineering

# <insert logo here>

Emergency Management and

Business Continuity Requirements

**Biomedical Engineering is a mission critical department requiring the continuity or immediate recovery of services and processes.**

If mission critical services are interrupted, once it is confirmed that essential infrastructure and resources are available at the primary or alternate location, actions to resume services (and relocate if necessary). Preparations to initiate these actions should be taken at the earliest time possible.

# Mission Critical Processes and Applications

**RECOVERY TIME [0-2 hours]**

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| **PROCESS** | **APPLICATION** | **DOWNTIME POLICY** |
| Maintain surgical equipment | * Service & Asset Management Application
 |  |
| Maintain clinical support services equipment (laboratory, respiratory, diagnostic imaging) |  |
| Maintain patient monitoring equipment |  |
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**RECOVERY TIME [2-12 hours]**

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| **PROCESS** | **APPLICATION** | **DOWNTIME POLICY** |
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# Continuity Procedures

## Following an event that impacts your department and/or your operations, consider the following:

* Identify critical operation points, functions or skills necessary for continuity of operations (e.g., management staff; specific levels of expertise, training or experience; recording or documentation requirements; health and safety concerns)
* Determine which departments have been affected.
* Have each team member reach out to their respective areas, inquire regarding status (Mission Critical First - Imaging (MRI/CT) ICU, Lab, Surgery, Telemetry)
* Assign biomed staff test functionality of all medical equipment, based on their area of expertise (IV pumps v.s. Imaging) throughout the hospital based on criticality, and make needed repairs.
* Test functionality of autoclaves and sterilization equipment. (Prior to testing autoclaves, ensure that they have been properly cleared of any biomedical contamination that may have been left behind during the move/evacuation.)
* Prioritize who goes where, and testing of equipment. For example, how do you prioritize which CT if you have multiple CT’s?
* Assess need to close department and/or relocate services
* Update Hospital Command Center (HCC) regarding department status, including resource needs, closure requirements and staffing shortages
* Plan for service reduction based on need, critical nature of service and recovery times in plan
* Communicate with incident command, all interdependent departments and other affected services regarding status and strategies for continuity/recovery
* Provide written notification to employees regarding status and strategies for continuity/recovery for the duration of the event and compensation provisions, if feasible
* Document the duration of the event
* Track, record and report all expenses during and related to the event:
	+ Loss of revenue (i.e.: income the hospital will not receive due to interruption of care)
	+ Physical losses (i.e.: damage done to space and equipment)
	+ Fixed costs (i.e.: non-variable costs paid whether department is operating or not)
	+ Operating costs (i.e.: variable costs that may increase due to the event)
* Track, record and report all on-duty time for personnel who are working during the event.
	+ Establish and maintain documentation of all payroll activities
	+ Ensure records are accurate and complete.
	+ Keep time sheets on all staff (exempt or not)
	+ Provide instructions to all employees to ensure time sheets and travel expense claims are completed properly
	+ Ensure that time records, travel expense claims, and other related information are prepared and submitted to payroll
* Retain all invoices to ensure all costs are captured and attributable to the event
* Establish and maintain documentation of all purchasing activities
* Track costs for use of equipment purchased and leased during the event

**If BioMed Shop is Inaccessible or Destroyed**

* Check computerized database to determine which equipment is lost (Who can access the database?)
* Do not dispose of unsalvageable equipment. Everything must be inventoried and evaluated for insurance purposes.
* Consider the need for 24/7 operations (ratio of staff to available testing devices will inform schedule)
* Identify critical pieces of equipment and reorder or obtain from an alternate source (e.g. Defib Tester, Monitoring Equipment Tester (e.g. EKG), electrical safety tester, vital signs tester, anesthesia equipment tester, Lab tachometer tester and Imaging testing, suction unit or blower
* Order additional testing equipment and arrange for urgent delivery

# Personnel Procedures

Employee Checklist

* Report to your department
* Bring/Wear ID Badge at all times
* Receive assignment from Department/Unit Manager
* Report to Labor Pool at the direction of Department/Unit Manager
* Prepare to stay/sleep at the Medical Center and bring the following: Bottled Water
* Toiletries
* Flashlight
* Personal Medications
* Change of Clothing

## Following an event that impacts your department and/or your personnel, consider the following:

* Evaluate immediate and ongoing staff needs based on existing and predicted levels of human resources available
* Activate your call list
* Notify Employees: communicate event impact, estimated duration and location/time/frequency of updates
* Determine staff availability
* Notify human resources, managers, union representatives and other key personnel as to status and plan implementation
* Coordinate alternative staff resource options with human resources. If needed:
	+ Identify similar core competencies that exist
	+ Request staffing needs update from the labor pool to sustain essential functions
	+ Secure contract staff or borrow from another facility
	+ Cross train staff with similar competencies by educators
* Develop and implement contingency staffing schedules and Implement alternative staff resource options that may supplement staffing needs (i.e., runners)
* Use sign in and time reporting sheet to account for all staff and hours during incident

ALTERNATE WORK OPTIONS

* Identify alternate work options available through “telecommuting” or other off-site possibilities as determined in departmental BCPs
* Assess flexible leave options that would allow employees to address family needs while continuing to support the employing organization through a flexible work plan
* Collaborate with EIS for remote access for staff performing mission critical processes

HEALTH AND SAFETY

* Evaluate potential health and safety issues with Environmental Health and Safety that might arise through diversion of staff to new job roles

FAMILY CARE PLAN

It should be assumed during a disaster that all employees might be needed. If staff must perform role at the medical center and requires care for dependents during the response, confirm with the Hospital Command Center that the Family Care Plan has been activated.

* Work with Environmental Services to set up space for over night arrangements
* Communicate with food services needs to accommodate staff staying overnight and working extra shifts

# Interdependencies

To perform mission critical processes, the department depends on the following internal and external services.

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| **INTERDEPENDENCY** | **SERVICE/PROCESS** | **ACTIONS IF SERVICE IS UNAVAILABLE** |
| Materials Management | Ordering of supplies and equipment | * Contact vendors directly
 |
| Nursing Units | Receiving service orders | * Call unit/departments directly
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| Clinical Support Service Departments | Receiving service orders | * Call departments directly
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# Mission Critical Equipment and Supplies

During activations, the department manager/designee will assess the availability of Equipment and Supplies and report the status to the Hospital Command Center (HCC) as requested. During this process the following steps will be taken:

* Inventory and document status of equipment and supplies
* Check condition of storage or onsite stockpiles to determine the level of damage, if applicable
* Create a resupply list
* Assess how long department can operate with available equipment and supplies
* Request assistance from HCC for Mutual Aid Agreement, if needed

Additional notes:

| **MISSION CRITICAL EQUIPMENT AND SUPPLIES**  |
| --- |
| **EQUIPMENT/SUPPLY ITEM** | **QUANTITY/PAR LEVEL** | **POST INCIDENT INVENTORY** | **GAP/AMTNEEDED** | **ACTIONS IF ITEM IS UNAVAILABLE** |
| IBG Machine |  |  |  | * [Insert actions when item is unavailable]
 |
| Computer |  |  |  |  |
| Water and Steam |  |  |  |  |
| ABG Syringes |  |  |  |  |
| Carts |  |  |  |  |
| Laptop |  |  |  |  |

| **MISSION CRITICAL EQUIPMENT AND SUPPLIES** |
| --- |
| **EQUIPMENT/SUPPLY ITEM** | **QUANTITY/PAR LEVEL** | **POST INCIDENT INVENTORY** | **GAP/AMTNEEDED** | **ACTIONS IF ITEM IS UNAVAILABLE** |
| Radios |  |  |  |  |
| Ice Machine |  |  |  |  |
| Paper |  |  |  |  |
| Refrigerator |  |  |  |  |
| Cables |  |  |  |  |
| Workbench |  |  |  |  |
| Electrical safety tester |  |  |  |  |
| Vital signs tester |  |  |  |  |
| Anesthesia equipment tester |  |  |  |  |
| Lab tachometer tester |  |  |  |  |
| Suction unit or blower |  |  |  |  |
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# Vendors/Resources Call List

| COMPANY/DEPARTMENT | POINT OF CONTACT | PHONE NUMBER | EMERGENCY CONTRACT IN PLACE Y/N? |
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# Mission Critical Vital Records

| **RECORD NAME** | **LOCATION** | **ALTERNATE BACK UP SOURCE** | **RECORD TYPE** **PAPER/ELECTRONIC** |
| --- | --- | --- | --- |
| Service Manuals | [Insert Record Location] |  | Paper |
| Parts listing | [Insert Record Location] |  | Paper |
| List of temporary supplies | [Insert Record Location] |  | Paper |
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# Staff Call List

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| **FIRST****NAME** | **LAST****NAME** | **JOB** **TITLE** | **SHIFT** | **EXTENSION** | **PAGER** | **HOME** | **CELL** | **ETA [mins]** |
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Evacuation, Relocation and Recovery Procedures

# Evacuation Procedures

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| **Horizontal Evacuation Location** |  |
| **Vertical Evacuation Location** |  |
| **Assembly for full building evacuation**  |  |
| **Nearest Elevator** |  |
| **Nearest Stairwell** |  |

* Follow procedures for the unit/floor where service is being provided.

# Relocation Procedures

In an event where the primary location is deemed to be inoperable or unsafe, the Department Director or designee, will initiate department closure procedures and activate the alternate location, which may provide full or limited operational capability. Biomedical Engineering is responsible for the following:

* Collect all supplies and equipment as directed
* Inventory cables and equipment; coordinate with materials the ordering of additional or replacement equipment as needed
* Arrange transportation of equipment with Logistics
* Lock and secure all areas of closed department
* Gain access to power and plug in/prepare necessary equipment
* Move test equipment, spare equipment, and office equipment.
* Arrange supplies for maximum usage
* Configure and test medical equipment

# Recovery Procedures

**Prior to recovery and resumption of services at the primary site, it is essential to determine the status of the facility and equipment. Once it is confirmed that essential infrastructure and supplies are available, efforts to recover at the primary patient care area can be initiated.**

* Identify missing or damaged medical equipment such as point of care testing machines, ventilators, portable monitors, smart pumps, blood gas machine, ventilators, bronchoscopes, echocardiogram machines, ultrasound machines, cardiac tear testing machines, etc.
* Work with EIS and Telecommunications to identify missing or damaged computers or communications equipment.
* Work with Facilities team to ensure that all gas and suction lines are working correctly.
* Have vendors check the structural integrity of booms holding all mounted medical equipment. What are the locations of mounted equipment?
* Assess the integrity of the equipment & report back.
* Determine what equipment is damaged beyond repair and will need to be replaced.
* Determine what specialized equipment needs to be inspected and recertified by vendors prior to use. (e.g., anesthesia machines)
* Determine estimated time to get medical equipment inspected and repaired.
* If patients are moved or evacuated, alert Supply Chain team about equipment that was sent with patients.