[Insert Hospital Logo]	[Insert Manual Name]	No. CO-2.001
	Title: **Patient Clinical Alarms**	Page: 1 of 10
		Origination Date: 11-30-18; 09-19-16; 11-21-13; 02-27-09; 02-19-04; 01-03-03
		Effective Date: xx-xx-xx
		Retires Policy Dated: xx-xx-xx
		Previous Versions Dated: xx-xx-xx
		Hospital Governing Board Approval Date: xx-xx-xx
		Medical Staff Approval Date: xx-xx-xx

I. SCOPE:

This policy applies to **[insert name of Facility]** ("Facility") and to all Facility staff (whether employees or independent contractors) and Medical Staff members.

II. PURPOSE:

The purpose of this policy is to promote the monitoring of patients through the use of and response to clinical alarms. Clinical alarms includes all patient physiologic monitoring and patient care equipment alarms (*i.e.*, cardiac monitor alarms, fetal monitors, apnea alarms, cell-salvaging devices, elopement alarms, infusion pump alarms, ventilator alarms, pulse oximeters and emergency assistance alarms).

III. POLICY (See attached algorithm):

A. General Provisions

1. The **[insert title]** is responsible for performing regular preventative maintenance and testing on all alarms on patient physiological monitoring and patient care equipment based on manufacturer guidelines and failure modeling, at least annually.

2. The **[insert title]** must ensure that all alarms are set to activate at appropriate settings for each patient and are sufficiently audible with respect to distances and competing noise within the unit.

3. The above general provisions apply regardless of whether the Facility owns, borrows, rents or leases the equipment for long term or short term use (*i.e.*, demonstration).

4. At no times are clinical alarms disabled unless written approval by Chief Nursing Officer. Clinical alarms may be silenced:

   a. In a procedure (Operating Room, Cath Lab, Endoscopy, Interventional Radiology, etc.) where the team includes a credentialed provider. Audible alarms are allowed to be turned off. Visual alarms are not to be suspended or turned off.

   b. When patients will no longer be receiving care in response to alarm such

as withdrawal of life support.

B. Medical Equipment/Device Alarms

1. All Facility staff and Medical Staff who use medical equipment must check alarm settings to ensure they are appropriate and that audible alarms will be clearly discernable relative to ambient and competing noise.

2. All Facility staff and Medical Staff who use medical equipment shall check alarm parameters, as established by the department.

3. At no time shall Facility staff or Medical Staff bypass, shut off or adjust medical equipment alarm volumes to a level that cannot be readily heard when the alarm activates.

4. The Facility staff member and/or physician assigned to or treating the patient must immediately respond to medical equipment alarms.

5. Nurses must ensure that equipment and device alarms locally at the bedside (*i.e.*, infusion pump alarms) are carefully monitored with special attention given to patient care areas that are remote from a nurse's station and isolation rooms.

C. Telemetry Alarms (see Complete Telemetry Toolkit guidelines on Tenet Patient Safety site)

1. Monitor alarms are never to be turned off or have alarm functions bypassed by monitor technician or other patient care staff at the central station or in room (unless IIIA.4 applies at bedside).

2. Alarm volume levels must be maintained at an easily audible level at all times by monitor technician and/or clinical patient care staff (refer to manufacturer recommendations for minimal settings).

3. Telemetry monitor staff must respond to alarms immediately by assessing the patient and following the chain of command notification process when patient monitoring issues arise.

D. Fetal Monitor Alarms

1. Monitor alarms are never to be turned off or have alarm functions bypassed by patient care or medical staff at central monitoring station.

2. Registered nurses responsible for fetal monitoring must respond to alarms immediately by assessing the patient and following the chain of command notification process when patient monitoring issues arise. (See also IIIA.4 if at bedside.)

3. Refer to Facility fetal monitoring policy/procedures **[Insert specific references here]**.

E. Cath Lab Alarms

1. In Cath Lab setting the following minimal parameters are monitored and visual alarms turned on (heart rate, SPO_2, blood pressure, respirations and ECG.

F. High Risk Areas:

1. Defined as an area which meets the following criteria:

   a. Leadership, with input from end users and medical staff, have determined significant risk to the patient if the alarm is not attended to or malfunctions,

   b. Internal data related to incident history has been considered,

   c. Where risk exists related to alarms and staff fatigue and

   d. Manufacturer and other published best practice guidelines for settings have been considered.

2. Annual Inventory of all alarms. (See attached inventory tool which includes upper and lower limits – Attachment A.)

3. Clinical Guidelines for settings of all alarms and predetermined levels of audibility. (See attached sample setting grid – Attachment B)

4. Monitoring program that inspects for proper settings and if alarms can be

disabled.

Potential mitigation strategies if alarm can be disabled:

a. Label equipment with visual cues to not disable.

b. Add as part of procedure time out and that alarms are on.

c. Add to handoff report when patient is on clinical alarm for monitoring.

5. Evaluation of competing alarm types and sounds (establish needs/settings for critical events alarms).

6. Plans to minimize alarms that sound through evaluation of alarm settings.

7. Customization of alarms to individual patient care needs can be done by physician order.

8. Patient care staff will review new and annual alarm program training.

9. Evaluation and trial of new equipment in areas of service prior to purchase to determine appropriate audibility levels.

10. Patient Safety Committee review of all alarm related events.

11. Patient Safety Committee will study near miss events and share knowledge across high risk defined areas.

G. Alarm Maintenance and Testing

1. Biomedical Engineering (or the contracted service responsible for this function) must, as a part of the patient care equipment inventory, identify those devices and systems that include physiologic and patient care alarms at the time new equipment is put into place.

2. Alarms and alarm settings must be inspected and functionally tested during regularly scheduled preventative maintenance.

H. Alarm Failure and Alarm-related Incidents

1. Department managers must implement department-specific procedures for response and notification of patient monitoring or clinical equipment alarm failure and procedures to identify alarms that are in disrepair or in need of assessment. Department managers must take such equipment out of service to prevent inadvertent reuse. Alarm failure includes failure to alarm in the presence of abnormal measured parameters and established set points.

2. Any patient monitoring or clinical equipment alarm failure that caused or may have caused a death, serious injury, serious illness, or a material change in the plan of care shall be reported in accordance with the Facility Event Reporting Policy, Patient Safety Plan, Sentinel Event Policy and the Safe Medical Devices Act, as applicable. The Patient Safety Officer or Department Manager must immediately take such equipment out of service and secure it.

3. Unexplained or nuisance alarms are indicative of equipment failure, and the Facility staff member and/or Medical Staff member identifying the nuisance alarm must report them to the Biomedical Engineering department (or contracted services responsible for biomedical equipment) and complete a Facility Occurrence Report. Biomedical Engineering will assess the situation and work with point of care clinical staff and clinical leadership on plans of action.

I. Responsible Person

The Patient Care Unit Director/Manager is responsible for assuring that all individuals adhere to the requirements of this policy, that these procedures are implemented and followed at the Facility, and that instances of noncompliance with this policy are reported to the Facility's Chief Nursing Officer.

J. Enforcement

All Facility staff and Medical Staff members whose responsibilities are affected by this policy are expected to be familiar with the basic procedures and responsibilities created by this policy. Failure to comply with this policy will be subject to appropriate performance management pursuant to all applicable policies and procedures, including the Medical Staff Bylaws, Rules and Regulations.

IV. REFERENCES:

- JCAHO Sentinel Event Alert, Issue 50, April 8, 2013

- Standards of the American Society of Anesthesiologists: Standard for Basic Anesthesia Monitoring

- Agency for Healthcare Research and Quality, *A Critical Analysis of Patient Safety Practices*

- California Code of Regulation, Title 22, 70837, 70853

- Joint Commission National Patient Safety Goals. www.thejointcommission.org

V. ATTACHMENTS:

- ATTACHMENT A: High Risk Area Sample Annual Inventory

- ATTACHMENT B: Sample Department Guidelines for Clinical Alarms

- ATTACHMENT B: Clinical Alarms Process Flow

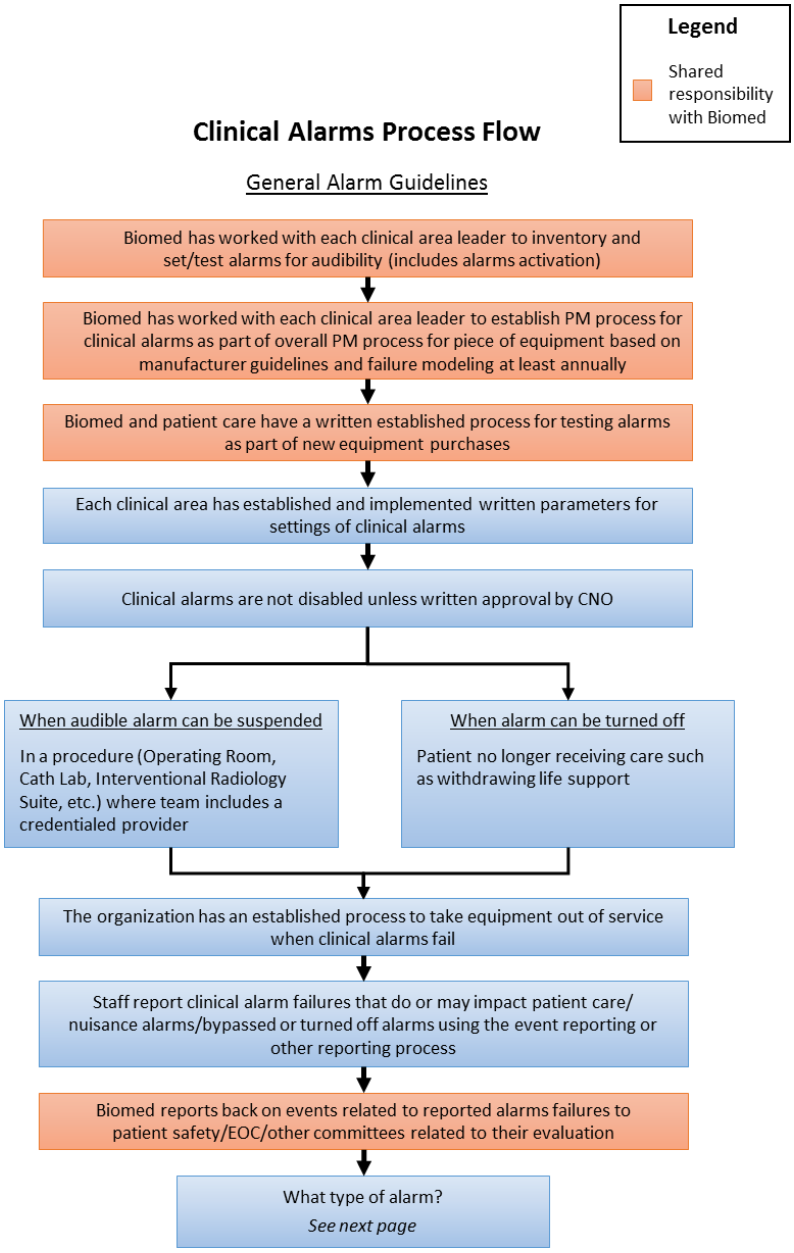
ATTACHMENT A: High Risk Area Sample Annual Inventory

Department	Equipment Type/ Description	Brand	Model	Can Visual Alarms Be Disabled?	Can Audible Alarms Be Disabled?	If audible alarms can be disabled - Mitigation Strategy	Comments (explain all Unmet)	If Unmet - Does dept. have defined parameters?	Date
Telemetry War Room									
Telemetry Unit									
ICU									
PCU									
CVU									
ED									
PRE-OP									
OR / Anesthesia									
PACU									
GI Lab									
Cath Lab									
ICL									
Interventional Radiology									
NICU									
L&D									

ATTACHMENT B: Sample Department Guidelines for Clinical Alarms

Equipment	Setting Requirements	Audibility Settings	Mitigation Strategy If Alarms Can Be Disabled
Ventilator			
Adult	Apnea Delay – Set at 20 seconds for all patient groups. Low Minute Volume – 2-3 LPM below resting minute volume. High Minute Volume – 5-7 LPM above resting minute volume. Low PEEP – Use manufacture's default.		
Neonate/Infant	Apnea Delay – Set at 20 seconds for all patient groups. VN500 Babylog – For all modes, use manufacturer's default. Bird VIP Gold: High Peak Pressure – 5 cwp above set pressure. Low Peak Pressure – 5 cwp below set pressure.		

ATTACHMENT B: Clinical Alarms Process Flow



ATTACHMENT B: Clinical Alarms Process Flow

Clinical Alarms Process Flow