Origination: *10/2015*
Approved: *09/2018*
Last Revised: *09/2018*
Expiration: *09/2021*
Owner: *Perique Wimes: Director, Rehab*
Policy Area: *Rehab*
References:

Clinical Alarms, PC 700

PURPOSE

The purpose of the Clinical Alarm Policy is:

- To provide guidance to clinicians to assure that all clinically significant alarms are activated with appropriate settings and are sufficiently audible with respect to distances and competing noise within the unit.
- To reduce false and clinically insignificant alarms, and alarm fatigue by utilizing Unit-Based parameters
- To outline guidelines for changing and monitoring alarm settings.

POLICY

The clinical alarm system includes a full spectrum of alarms that are designed to notify the staff of a change in a patient's physiologic presentation or variation in the measured parameters of medical equipment directly applied to the patient. Examples include but not limited to: cardiac monitoring systems and mechanical ventilators.

Patient care staff will successfully complete the annual competency on clinical alarms, as well as other clinical competencies as appropriate for their individual practice environment.

Alarm parameters are set and/or changed by direct caregivers – Physicians, Physician Assistants (PA), Respiratory Therapists, Nurse Practitioners, Registered Nurses.

DEFINITIONS:

Clinical Equipment: Equipment attached to or utilized by patient.

Alarm: Any audible or visual feature of a device intended to act as an alert to staff regarding an urgent patient need.

Alarm Fatigue: A clinical scenario that may occur when alarms sound so frequently (including false and in-actionable alarms) that responders become desensitized and may not respond quickly enough or not at all.

Patient Care Unit: Any area or department in the facility that utilizes equipment to monitor, treat or diagnose a patient.

SCOPE:

Provisions of this procedure apply to all patient care departments of this facility. This policy is not intended to cover environmental alarms, such as fire, gas leak, etc.

PROCEDURE:

General information

A. All patient care staff are responsible for responding to clinical alarms.

B. Alarm Parameters are set based upon specific unit parameters (FWMC Pilot study July 2016). Alarms are set for actionable levels AND patients clinical needs.

C. Ventilator Alarms are checked for audibility and parameters every three (3) hours and PRN by Respiratory Therapy.

D. Clinical alarms should not be silenced at the desk. The clinical staff member is expected to perform the following: physically enter the patient's room; observe the patient, and evaluate the reason for the alarm.

E. Occurrence reports must be generated for all clinical alarm incidents, including the discovery of an alarm that has been disabled or turned off.

UNIT BASED ALARM PARAMETERS

In-Patients (CCU) (Telemetry)

1. Alarm Parameters are reviewed: **a**. at the start of every shift; **b**. with any change in patient's condition; **c**. with change of caregiver; **d.** with every new admission.

CCU	Heart Rate		SpO2	Resp. Rate		Systolic BP		Diastolic BP		End tidal	
	Hi 160	Lo 60	Low 89	Hi 30	Lo 10	Hi 160	Lo 89	Hi 100	Lo 45	Hi 46	Lo 34

Tele	Heart Rate	
	150	50

Out Patients (ED, Peri-Op)

1. Alarm Parameters are maintained unless the patient's clinical needs require changes.

Peri-OP	Heart Rate		SpO2	Resp. Rate		Systolic BP		Diastolic BP	
	Hi 120	Low 55	Low 90	Hi 30	Low 10	Hi 180	Low 90	Hi 100	Low 50

ED		Heart Rate		SpO2		Resp. Rate		Systolic BP		Diastolic BP		End tidal	
		Hi 110	Lo 50	Low 90		Hi 24	Low 10	Hi 160	Low 90	Hi 90	Low 40	Hi 46	Low 34

Levels of Alarm Response

Alarm priority level-Provides guidance about how to respond to a clinical alarm. There are three levels of alarm signals that are managed: Level 1, Level 2, and Level 3

1. Level 1 alarms-require immediate intervention
2. Level 2 alarms- require rapid intervention
3. Level 3 alarms- require intervention

Level 1 Alarm- Immediately life threatening

1. Must be responded to immediately by a direct care provider.
2. Inattention to this alarm may result in a devastating clinical event
3. An example may include mechanical ventilators

Level 2 Alarm- Potentially life threatening

1. Needs attention from patient care staff as quickly as possible.
2. Patient care staff should prioritize responding to that alarm over other interventions, as inattention to this
   alarm may have a clinical consequence.
3. An example may include infusion pumps, call light, bed exit alarms, pulse
   oximeter. **Level 3 Alarm- Serious**

1. Needs timely attention by patient care staff
2. Examples may include sequential compression boots, feeding pumps

A. Table of Recommended Equipment Clinical Alarm Levels

Clinical Equipment/Environment	**Level**
Mechanical Ventilator	Level 1
BIPAP/CPAP	Level 1
Vapor Therm	Level 1
Telemetry/Cardiac Monitor	Level 1
Defibrillator/Pacer	Level 1
Pulse oximeter	Level 2
IV and PCA pumps	Level 2
Bed/Chair Alarms	Level 2
Call Light	Level 2
Cooling Machine/Bair Hugger	Level 2
Tube Feeding Pumps	Level 3
Sequential Compression Device (SCD)	Level 3

III. Orientation and Training

A. Each new staff member involved in patient care is required to receive a department-specific orientation. Clinical managers provide their new staff members with a department-specific orientation to the medical equipment they will use and alarm response procedures. Re-training of existing staff will be incident-based and occur annually as a part of Hospital Competencies.

B. Alarm response training shall include:

1. Proper use and settings of user selectable alarm settings
2. Identification and review of different alarm sounds and required actions
3. Prioritization of alarm response
4. Risk to the patient associated with the alarm activation
5. Policy related to clinical alarms
6. Review of certain alarm limits should take place with change of caregiver, in particular cardiac dysrhythmia settings
7. Emphasis on trouble-shooting to avoid alarm fatigue.

Inspection, Testing and Maintenance

A. Preventive maintenance records will be logged for all equipment used with patients in the clinical area as per Biomedical Policy.

B. Whenever equipment is serviced by the Biomedical Department, clinical alarms will be checked and confirmed to be working according to the manufacturer's specifications.

C. The Biomedical Department should be notified immediately when a clinical alarm is found to be defective. The medical device should be immediately taken out of service, red tagged and a work order placed in the computer for Biomedical Department or Maintenance to have device serviced. (See the Environment of Care manual for further instructions) Departments such as Respiratory Therapy and Operating Room will continue their process of contacting vendors to service their rental equipment.

REFERENCES:

A. American Association of Critical Care Nurses. Practice Alert – Alarm Management. Managing Alarms in Acute Care Across the Life Span: Electrocardiography and Pulse Oximeter. Critical Care Nurse: Vol 38, No. 2. April 2018

B. Critical Care Nurse Vol 35, No. 4. Understanding Clinical Alarm Safety. Lukasewicz.Carol L., Mattox. Elizabeth Anderson., August 2015

C. The Joint Commission. National Patient Safety Goals. Joint Commission Resources E-dition, Chapter: National Patient Safety Goals. Effective Date: January 1, 2018

D. Clinical Alarm Management – Compendium. AAMI Foundation c 2015 Alarm Management Compendium

E. FWMC Pilot Study Unit Based Parameters July 2016

All revision dates: 09/2018, 11/2015, 10/2015, 10/2015

Attachments:

Approval Signatures

Approver	Date
Wanda Watlington: VP Patient Care Services	09/2018
Perique Wimes: Director, Rehab	05/2018

ACKNOWLEDGEMENT OF RECEIPT

I acknowledge that I have received and read the following policy and agree to be bound by the terms thereof:

- Clinical Alarms – PC 700

Signature: _____ Date: _____

Printed Name: _____Specialty: _____