HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Quality Management And Patient Safety		
Document:	Multidisciplinary Policy and Procedure		
Title:	Clinical Alarm System		
Applies To:	All Healthcare Providers and Biomedical staff		
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1. PURPOSE:

1.1 To establish departmental guidelines for clinical alarm system management that ensure safe and accurate patient monitoring while reducing false alarms
1.2 To define settings, appropriate for clinical alarms.
1.3 To define procedures for when clinical alarm parameters may be changed.
1.4 To determine when alarm signals can be disabled.
1.5 To identify individuals authorized to set alarm parameters.
1.6 To monitor individuals authorized to change alarm parameters.
1.7 To identify individuals authorized to set alarm parameters to off.
1.8 To monitor and respond to alarm signals.
1.9 To check individual alarm signals for accurate settings, proper functioning and detectability.
1.10 To education and training of staff and licensed independent practitioners about the purpose and proper operation of alarm systems for which they are responsible.

2. DEFINITIONS:

2.1 **Clinical Alarm**- provides essential warnings to alert caregivers of changes in a patient's condition. When alarms work well, the environment of care is enhanced.
2.2 **Physiologic monitoring alarms-** used to measure and alert staff when numerical values, such as, heart rate, blood pressure, SpO_2, respiratory rate, and oxygen saturation fall outside the pre-set upper and lower limits.
2.3 **Arrhythmia monitoring**- used to identify and alert staff of irregular heart rhythms. An arrhythmia detector and alarm is a system that monitors the electrocardiogram (ECG) and is designed to produce a visible and/or audible signal or alarm when a dysrhythmia exists.
2.4 **False Alarms**- occur when there is no valid patient –related triggering
2.5 **Non-actionable alarms**- alarms correctly sound but for an event that has no clinical relevance (e.g. baseline chronic A-Fib).
2.6 **Actionable alarms**- alarms correctly sound for an event that has clinical relevance (e.g. lead off, Asystole, Ventricular-Fibrillation)

3. POLICY:

3.1 Maternity and Children Hospital Bioengineering will maintain an inventory of devices used in high-risk areas and for high-risk clinical conditions, and identify the default alarm settings and the limits appropriate for each care area (refer to Biomedical Department).
3.2 All clinical devices will be evaluated and tested by bioengineering prior to trial and installation in a clinical area.
3.3 All equipment with clinical alarm systems will receive regular preventive maintenance.
3.4 Equipment with malfunctioning alarms will be immediately pulled from the clinical area and repaired prior to use.

3.5 All staff are trained on the use of alarm systems for patient care equipment and the use of appropriate settings for sound.

3.6 To the extent possible, when a critical alarm is triggered the technology will be configured and utilized in a manner that requires caregivers to evaluate the patient at the point of care. Alarms are to be audible with respect to the distances and competing noises within the clinical area/unit.

3.7 Alarms used for monitoring critical vital signs and values cannot be silenced or turned off indefinitely without a licensed practitioner order

3.8 Any alarm on a medical device needs to be checked at the beginning of each staff's patient care assignment to assure that they are on and set appropriately

4. PROCEDURE:

4.1 Upon initial assessment of the patient the nurse will assure that alarms are activated and set appropriately based on patient's clinical condition.

4.2 With ongoing assessment and with changes in the patient's condition/treatment goals, alarm limit parameters can be adjusted according to the patient's clinical condition.

4.2.1 The clinical alarms will be activated and set appropriately based on patient's clinical condition and appropriate profile for age. The nurse may use critical thinking to adjust alarms based on patient presentation, need, acuity, false alarms, and non-actionable alarms. The nurse will discuss with the responsible biomedical engineer whenever the standard default settings are adjusted outside of a + 10% buffer.

4.2.2 Every alarm must be addressed immediately by the bedside healthcare providers.

4.2.3 The mechanism to Reset alarm default settings between patients differs per monitor/device brand and model.

4.3 Maintenance and Testing of Alarm Systems:

4.3.1 User verification of proper alarm settings and functions are part of the equipment set-up recommended by all equipment manufacturers. Biomedical engineering will test alarm systems on clinical equipment during periodic maintenance inspections and during technician rounds. Equipment with non- functional alarm settings, whether visual or audible, will be sent to Biomedical Engineering for repair.

4.4 Appropriate Settings:

4.4.1 Alarm settings are activated and appropriate monitored according to area/unit specific criteria or according to the patient's medical condition/activity level.

4.5 Alarm Audibility:

4.5.1 Alarms are sufficiently audible with respect to distances and competing noise within the unit.

4.6 Audibility Testing:

4.6.1 An initial environmental audibility assessment will be completed for all critical alarms systems by unit/area including:

4.6.1.1 Assessment of the competing noise levels in the unit/area to determine if all critical alarms are audible. Unit specific documentation indicating which critical alarms have been identified and tested.

4.6.2 An annual reassessment will be triggered and performed in each clinical area/unit if changes on the unit have occurred including:

4.6.2.1 Implementation of new equipment with critical clinical alarms that need testing.

4.6.2.2 The physical characteristics of the area/unit which may impact audibility of critical alarms from the previous year.

4.7 Alarms are noted on the following equipment but are not limited to:

4.7.1 Pulse oximeters

4.7.2 Ventilators

4.7.3 Infusion Pumps

4.7.4 Transport Monitors

4.7.5 Anesthesia Machines

4.7.6 Call Bell

5. MATERIAL AND EQUIPMENT:

5.1 All equipments having alarm system

6. RESPONSIBILITIES:

6.1 Head of Departments
6.2 Nurses
6.3 Biomedical Engineer

7. APPENDICES:

N/A

8. REFERENCES:

8.1 AAMI (2013). How to Manage Alarms at the Bedside. Alarm Systems Management Webinar Series. AAMI Foundation. Healthcare Technology Safety Institute (HTSI)- December 3, 2013
8.2 Central Board for Accreditation of Healthcare Institutions (CBAHI) Manual 2016

9. APPROVALS:

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