

Monitoring Clinical Alarms

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MONITORING CLINICAL ALARMS

By Linda Bell, RN, MSN • Birck Cox, Illustrator

Every patient in the intensive care unit is connected to some type of monitoring equipment. These days, with increasing acuity seen across the spectrum of critical care, the number of monitors and thus the number of potential alarms has increased as well. The purpose of alarms is to alert the nurse or other care providers to a situation that falls outside certain parameters. Many monitors or pieces of equipment allow the provider to determine the parameters for individual patients. Others are either predetermined by the manufacturer or by the ability of the monitor to "learn" patients' normal variations. The ultimate goal is to monitor the patient safely while preventing nuisance or annoyance alarms.

Here's what you can do:

- Evaluate your unit's and hospital's policies and procedures for consistency with current best evidence.
- Determine the capabilities of the monitoring equipment frequently used on your unit. Are there preset alarm limits or are they adjustable to the patient?
 - Educate staff on expectations for setting, responding to, and documenting the status of monitoring alarms.

For cardiac monitoring:

- Make sure leads are placed appropriately and electrodes have adequate contact gel.

- Set the gain to achieve a QRS amplitude large enough to be detected by the monitor.
 - Set the heart rate alarm limits on the basis of the patient's clinical situation and current heart rate.
- For pulse oximetry monitoring:
- Assess the sensor for appropriate positioning based on circulatory status and patients' activity levels.
 - Set alarm limits based on predetermined goals.
- For noninvasive blood pressure monitoring:
- Ensure that cuff size is appropriate to the patient.
 - Assess appropriateness for patients with irregular or rapid heart rhythms, excessive movement such as shivering, and extreme hyper- or hypotension.

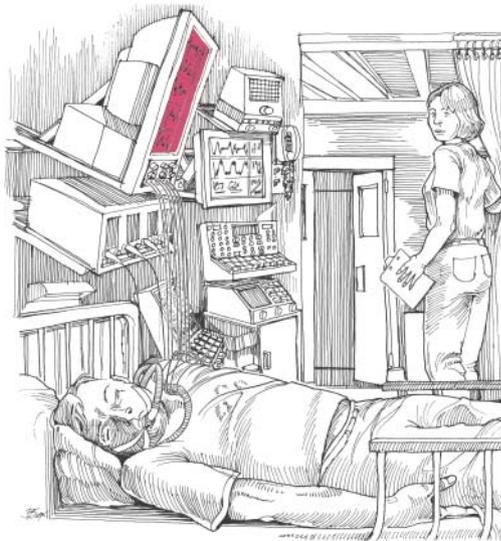
Other helpful resources:

- AACN *Protocols for Practice: Noninvasive Monitoring*, 2nd ed (Burns SM, ed; Sudbury, MA: Jones and Bartlett; 2006) (see chapter 1, "Bedside Cardiac Monitoring"; chapter 4, "Noninvasive Blood Pressure Monitoring"; and chapter 5, "Pulse Oximetry Monitoring").

- AACN Practice Alert: Noninvasive Blood Pressure Monitoring (issued May 2006; revised June 2006). Available at: [http://www.aacn.org/AACN/practiceAlert.nsf/Files/NBP/\\$file/Noninvasive%20BP%20Monitoring%206-2006.pdf](http://www.aacn.org/AACN/practiceAlert.nsf/Files/NBP/$file/Noninvasive%20BP%20Monitoring%206-2006.pdf).

- Check the manufacturers' recommendations for the equipment in your unit.

- E-mail the AACN Practice Resource Network at practice@aacn.org.



Based on material from AACN *Protocols for Practice: Noninvasive Monitoring*, 2nd ed, chapters 1, 4, and 5 (Burns SM, ed; Sudbury, MA: Jones and Bartlett; 2006). Published as a supplement to the article by Korniewicz and colleagues, "A National Online Survey on the Effectiveness of Clinical Alarms" (*American Journal of Critical Care*. 2007;17:36-43).

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