Background:
According to The Joint Commission, there are approximately hundreds of alarm signals per patient equating to thousands of alarms per unit and tens of thousands of alarms in a hospital in a day. 85-99% of those alarms do not require clinical intervention. Excessive number of alarms leads to alarm fatigue, which is the desensitization of alarms causing staff to turn down the volume of the alarm, turn it off, or adjust the alarm settings and parameters outside the set safety parameters to decrease the noises.

Summary of Findings:
- Drew & Funk (2006) addresses the American Heart Association’s guidelines regarding the use of ECG monitoring. These guidelines address who should be monitored and for how long, recommendations for ECG electrode placement, and proper skin preparation.
- Cvach, M.M., Biggs, M., Rothwell, K.J., & Charles-Hudson, C. (2012) found that with proper skin preparation and daily electrode change, there was a 46% reduction in electrode-related alarms.
- Graham and Cvach (2010) found that the total number of alarms went from 16,953 to 9,647, which was a 43% reduction in critical monitor alarms after the staff were educated and trained properly regarding monitoring systems and after parameter limits and levels were individualized.
- Harris, R. M., Manavizadeh, J., McPherson, D. J., & Smith, L. (2011) found a 30% improvement in alarm management in the ICU and 12% improvement in the Progressive Unit after implementing a training program regarding their cardiac monitoring system and developing and placing their mini-pocket sized quick reference guide at each central monitoring station.

Interventions:
- Evaluation of appropriate use of ECG monitoring based on the American Heart Association’s guidelines
- Proper skin preparation prior to ECG electrode placement and daily electrode change
- Analysis of alarm parameters and levels
- Customization of alarm parameters and levels
- Education and training regarding monitors and their capabilities

Nursing Implications:
- Use of American Heart Association’s guidelines when determining use of ECG monitoring for patients
- Follow agency’s policy and procedure regarding skin preparation for ECG electrode placement and use of electrodes
- Nurses and staff should analyze unit’s alarm parameters and levels to see if they are appropriately set and avoid duplicate alarms
- Nurses must be trained to individualize alarm parameters and levels based on each patient’s needs
- Proper training of nurses and staff regarding monitor systems and capabilities

References: