- **SUCCESSFUL COMPLETION:**

  To receive contact hours, participants must complete the evaluation form and post-test. Submission instructions and links to the post-test and evaluation are on the last page of this self study.
  - This CE is free for MNA members and $20 for non-members.
  - Participants who achieve a minimum passing score of 80% will receive a certificate awarding 1.0 contact hours.
  - Participants who do not achieve a passing score will have the option to retake the test at no additional cost.

- **CONFLICTS OF INTEREST:**

  All activity planners for this educational activity have reported no relevant financial relationships with commercial interests.

  Presenter(s) for this educational activity have reported no relevant conflict of interest.

- **COMMERCIAL SUPPORT:**

  No Commercial Support was received for this presentation.

- **NON-ENDORSEMENT OF PRODUCTS:**

  The presence of commercial exhibits during the presentation does not imply endorsement by MNA, the Michigan State Board of Nursing, or the American Nurses Credentialing Center's Commission on Accreditation.

The Michigan Nurses Association is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

OUTCOMES

- Define alarm fatigue

- Describe problems associated with alarm fatigue

- Describe sources contributing to alarm fatigue

- Describe ways to decrease alarms in clinical practice

What is alarm fatigue?

- Nurses, health care professionals, patients, and family members are bombarded by a barrage of ringing, beeping and buzzing in the hospital setting.

- An Alarm Flood is 10 or more alarms in any ten-minute period per operator and is classified as extremely hazardous and undesirable by high-risk industries.[1]

- The intense, discordant mixture of noise provokes nurses to tune out the warnings by disabling the alarm, finding a way to silence the alarm, or just ignoring the noise altogether.

[1]Casey, Avalos, Dowling

The Data

- AACN issued a Practice Alert for managing alarms in April 2018.[2]

- 88-99% of ECG alarms were found to be false or clinically insignificant.[3]

- The Joint Commission reported that between January 2009 and June 2012, 98 events were reported during which alarms were ignored due to the sheer volume of warning signals.[4]

- Of those 98 events, 80 resulted in death, 13 in permanent loss of function, and five in unexpected additional care or extended stay.[5]

[2,4]aacn.org
[3,5]Casey, Avalos, Dowling

Alarm Fatigue Today

- With technological advancements, the number of alarming devices nurses must respond to is ever-increasing.

- These devices frequently sound nuisance or false alarms creating a "boy who cried wolf" phenomenon causing subsequent reduced attention and response to alarms.[6]

- There is a dose-response relationship between alarm exposure and fatigue; "as the number of non-actionable alarms increases, there is an incremental increase in clinician response delay."[7]

- Alarm response rates also lengthen as time on duty increases; each hour is associated with 15% longer response time.[8]

- The Joint Commission made reducing harm associated with clinical alarm systems a National Patient Safety Goal for 2019.[9]

[6]Casey, Avalos, Dowling
[7,8]Havnak, Pellathy, Chen, Dubrawski, Wertz, Clermont, Pinsky
[9]Joint Commission, January 2019

Addressing alarms in the hospital

- Hospitals should adequately train nurses on equipment to ensure proper usage and programming to limit false alarms.[10]

- Hospitals should have policies and procedures in place for managing alarms including:[11]
  - Clinically appropriate settings for alarm signals
  - When alarms can be disabled
  - When alarm parameters can be changed
  - Who in the organization has the authority to set alarm parameters/set parameters to "OFF"
  - Monitoring and responding to alarm signals
  - Checking individual alarm signals for accurate settings, proper operation, and detectability

[10]Bliss, Dunn
[11]Joint Commission Perspectives, July 2013

Addressing alarm fatigue in your practice

- The AACN Practice Alert on alarm management recommends bedside nurses:[12]
  - Provide proper skin preparation for and placement of ECG electrodes
  - Use proper oxygen saturation probes and placement
  - Check alarm settings at the start of every shift, with any change in patient condition, and with any change in caregiver
  - Customize alarm parameter settings for individual patients in accordance with unit or hospital policy
- Nurses should also silence alarms prior to any alarm-inducing activity (i.e. bathing) to reduce false alarms on the unit

[12]www.aacn.org

Addressing alarm fatigue via labor contracts

- Nursing labor contracts should advocate for nurse representation on councils dictating alarm control policies

- Contracts should advocate for safe staffing ratios for nurses so that they have manageable workloads and are able to respond timely to and personalize patient alarms

Long Term Goals in the Alarm Fatigue Battle

- Major goals for fighting alarm fatigue include:
  - Decreasing the number of alarms nurses are exposed to during their shifts
  - Decreasing alarm response time and false/nuisance alarms
  - Nurses advocate for individualized patient alarm parameters
  - Nurses are represented on hospital councils implementing alarm control policies

Conclusion

- Alarm fatigue is a major patient safety issue leading to sentinel events

- An increasing number of devices in use in the hospital setting leads to more alarms for nurses to respond to

- False alarms are a major contributor to alarm fatigue

- Bedside nurses can implement practices to decrease the number of alarms

- Hospital policies should clearly describe actions regarding alarms

References

1. Critical care nurses' knowledge of alarm fatigue and practices towards alarms: Casey, Avalos, Dowling (https://doi.org/10.1016/j.iccn.2018.05.004)

2. https://www.aacn.org/newsroom/practice-alert-outlines-alarm-management-strategies

3. https://www.aacn.org/newsroom/practice-alert-outlines-alarm-management-strategies

4. The Joint Commission Sentinel Alert, Issue 50, April 8, 2013.

5. The Joint Commission Sentinel Alert, Issue 50, April 8, 2013.

6. Critical care nurses' knowledge of alarm fatigue and practices towards alarms: Casey, Avalos, Dowling (https://doi.org/10.1016/j.iccn.2018.05.004)

7. A call to Alarms: Current state and future directions in the battle against alarm fatigue. Havnak, Pellathy, Chen, Dubrawski, Wertz, Clermont, Pinsky. Electrocardiol 2018 Jul 29. pii: S0022-0736

8. A call to Alarms: Current state and future directions in the battle against alarm fatigue. Havnak, Pellathy, Chen, Dubrawski, Wertz, Clermont, Pinsky. Electrocardiol 2018 Jul 29. pii: S0022-0736

9. https://www.jointcommission.org/assets/1/6/NPSG_Chapter_HAP_Jan2019.pdf

10. Bliss JP, Dunn MN, Behavioral implications of alarm mistrust as a function of task workload. Egronomics. 2000; 43:1283-1300. Abstract

11. Joint Commission Perspectives, July 2013, Volume 33, Issue 7

12. https://www.aacn.org/newsroom/practice-alert-outlines-alarm-management-strategies

How to take the test

This CE is free for members and $20 for non-members.

- **POST-TEST DIRECTIONS**

  - Complete the evaluation and post-test response form and make your payment online by clicking **HERE**
  OR

  - Download and complete the evaluation and post-test response **PDF FORM** and send to:

    - By mail: Michigan Nurses Association

      2310 Jolly Oak Road, Okemos, MI 48864

    - By fax: 517-349-5818

- **AWARDING OF CE**

  - Participants who achieve a minimum passing score of 80% will receive a certificate awarding 1.0 contact hours.

  - Participants who do not achieve a passing score will have the option to retake the test at no additional cost.