Addressing Alarm Fatigue in Infant Security

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Background

In 2019 the Joint Commission identified ***Use Alarms Safely*** a national patient safety goal. Goal to make improvements to ensure that alarms on medical equipment are heard and responded to on time. Identifying cause of high frequency alarms and addressing alarm fatigue is crucial, as desensitization to alarms can have serious or even fatal consequences.

Hugs® Infant Security System is the number one infant security system globally, protecting approximately 2 million infants annually (Wicklund, 2012). Hugs® is in over 1600 hospitals worldwide protecting infants against abduction (Dablock and Hitchens, 2020).

Magee-Womens, UPMC Hamot Hospital (MWH) was experiencing a rise in Hugs® tag tightness alerts, tag loose alarms, and transport time expire alarms. The rise in these three alarms led to 777 alarms over a five-month period. With this increase in Hugs® system infant security alarm trends, a call to action was needed.

UPMC Hamot Hugs® Infant Security System Policy

- The Hugs® Infant Security System is a comprehensive security system that includes tamper alarms, exit alarms, and out of unit alerts that allow staff to act promptly in the event of an attempted abduction.
- A Hugs® security tag will be applied to infant immediately after birth on the Labor & Delivery Unit.
- A Hugs® security tag will be applied to the infant/child at time of admission on the Pediatric Unit.
- The Hugs® security tag will be removed at time of discharge from hospital or upon transfer (University of Pittsburgh 2020).

Methodology

Staff re-education was the needed recipe for success. Liz Barr, RN, BSN NICU nurse, passionately took on this project as her RN Residency project. Her goal was to re-educated RN's throughout every unit at MWH.

The initial step was to collect data utilizing the IMS Hugs® Monthly alarm reports. Data was gleamed from the reports over a five-month period, checking the high frequency Hugs® alerts/alarms.

Once the high frequency alarms were identified an educational plan was developed to improve end user's knowledge, skills and confidence using the Hugs® Infant Security System.

Teaching strategies included: reviewing the data collected and to bring awareness to the increasing numbers of high frequency alarms, and infant security and safety risks associated with not responding to alarms promptly.

A PowerPoint presentation to address alerts and alarms that are on the rise, in addition hands on demonstration using a low fidelity simulated newborn and a training Hugs® tag.

Education focused on addressing the most urgent alerts and alarms, enforcing correct placement and or adjustment of tags, and updating status of infant tag during transports.

Emphasis was placed on parental education on Hugs® Infant Security System purpose, function, and what can cause the Hugs® System to alarm (Innovative-Medical Systems 2019).

Results

Pre-intervention data was collected over five months, February to June 2019. Three high frequency alarms were identified; tag tightness alerts, tag loose alarms, and transport time expire alarms, totaling 777 alarms during this time frame. The intervention to re-educate all RN's at MWH was completed in September 2019. Post-intervention data was collected over three months October to December 2019. Post-intervention results were compared to pre-intervention data three months prior to the intervention, April to June 2019.

Results showed a decrease in all three high frequency alerts and alarms following the education and training intervention in September 2019. Tag tightness alerts pre-intervention equaled 383. Post-intervention alerts decreased to 320 alerts, 63 fewer alerts. Tag loose alarms pre-intervention equaled 34. Post-intervention alarms decreased to 31, 3 fewer tag loose alarms. Transport time expire alarms pre-intervention equaled 65. Post-intervention alarms decreased to 51, 14 fewer transport time expire alarms.

There was a total of 88 fewer high-frequency alerts and alarms following the intervention. Fewer alerts and alarms reflect improved end user knowledge, skills and competence in using the Hugs® infant security system, however it is evident that further ongoing education is needed to improve patient safety and safe alarm use.

An action plan was created for MWH. The plan includes offering a Hugs® refresher training course for all staff in January 2020. Adding Hugs® Infant Security Competency to the 2020 Mandatory Education for all staff throughout Magee-Womens, UPMC Hamot.

Magee-Womens, UPMC Hamot Hugs® Tag Data

Reporting Period	February 19	% of Admissions	March 19	% of Admissions	April 19	% of Admissions	May 19	% of Admissions	June 19	% of Admissions
Total – Check Tag Tightness Alert	106	43.6%	150	61.7%	133	53.6%	125	53.9%	125	56.1%
Total – Tag Loose Alarms	14	5.8%	19	7.8%	13	5.2%	9	3.9%	12	5.4%
Total – Transport Time Expire Alarms	10		8		21		17		27	

- Incorrect Placement
- Tag Loose Alarms (high)
- Tag Tightness Alert (low)
- Transport Alarms

777 Hugs® Alarms in 5 Months

Recipe for Success

Staff Education

- Identifying and responding to Hugs® alarms
- Enforcing correct placement and adjustment of Hugs® tags
- Updating infant location during transports
- Raising alarm fatigue awareness and staff accountability by providing ongoing education

Parent Education

- Inform that Hugs® is the number one Global Infant Security System to prevent infant abduction
- Educate parents on important of Hugs® Infant Security system
- Explain what activates the alarm system
- Describe what to expect for staff response

References

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