Infant Fall Prevention

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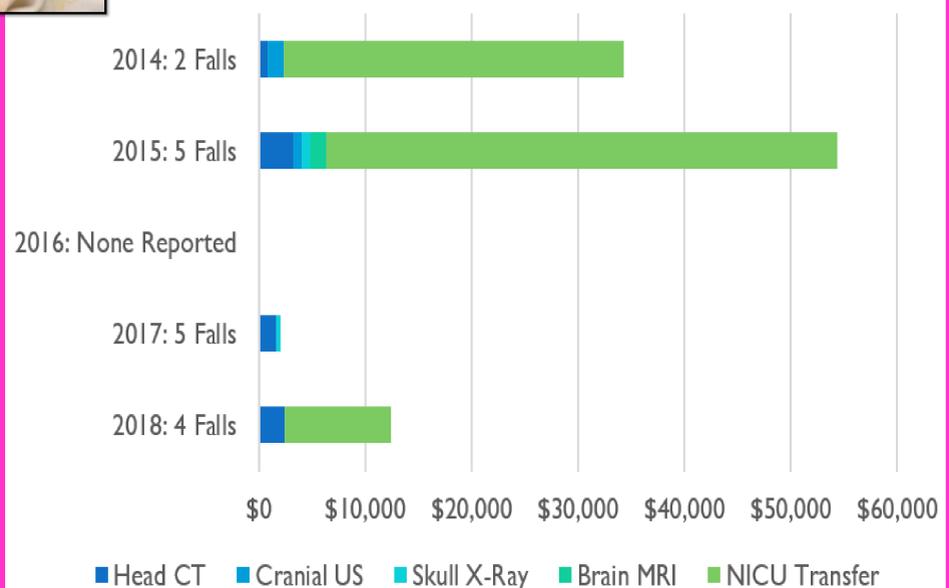
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Project Aim:
- Prevention of infant falls

Background:
- In 2016, the National Database of Nursing Quality Indicators has defined a newborn fall is "a sudden, unintentional descent, with or without injury to the patient that results in the patient coming to rest on the floor, on or against another surface, on another person or object." A newborn drop is defined as "a fall in which a baby being held or carried by a health care professional, parent, family member, or visitor falls or slips from that person's hands, arms, lap, etc. This can occur when a child is being transferred from one person to another. The fall is counted regardless of the surface on which the child lands and regardless of whether or not the fall resulted in injury." *(National Database of Nursing Quality Indicators, 2016)*
- Defined either as a newborn fall or a newborn drop, they are considered synonymous; organizations and should follow the same patient safety analysis process for both a fall and a drop. *(National Database of Nursing Quality Indicators, 2018)*
- The most common scenario is to be a parent falling asleep while holding the newborn in a hospital bed and dropping the neonate to the floor. *(Sloger et al, 2013)*
- Infant falls are severely underreported because hospitals are not required by any regulatory agency to report infant fall rates, and in hospitals that do track them, the rate may still be underreported due to caregiver guilt, fear or judgment. *(Matteson, 2013)*
- Literature reports that between 1.6-4.14 inpatient infant falls/10,000 births occur nationally each year resulting in an estimated 600-1,600/ falls per year in the United States. *(Helsley, 2010)*
- Fall data has shown a steady rate of infant falls in the Swedish Medical Center (SMC) system. Interventions related to patient falls can be costly, and can increase the patient's length of stay.
- The inpatient infant fall rate at SMC in 2017 was 4.2 infants per 10,000 births.
- Radiology imagining costs; Head CT scan $801, Cranial US $801, Skull x-ray $429, Brain MRI $1491.
- The cost per day to stay in the NICU at SMC is estimated at $8,000/day for level 3 and $12,000/day for level 4.
- In December, 2017, a continuous remote video monitoring system was implemented in the adult patient population at SMC to help reduce patient falls.
- In February, 2018, the SMC Pediatric Unit reported an infant fall when the mother fell asleep while holding her baby.

Cost Related to Inpatient Infant Falls

Legend: Head CT, Cranial US, Skull X-Ray, Brain MRI, NICU Transfer
- 2014: 2 Falls
- 2015: 5 Falls
- 2016: None Reported
- 2017: 5 Falls
- 2018: 4 Falls

Actions Taken:
- A literature review utilizing key words patient safety, accidental falls, neonatal, infant, video monitoring, safe sleep, neonatal abstinence syndrome, opioid-related disorders.
- Compiled SMC infant fall data on infants less than 2 months of age. The data source utilized from the SMC electronic safety event reporting system.
- Review of electronic medical charting on infant determining the SMC campuses location, the department the fall occurred, the year, the age of the patient, the caregiver involved, potential comorbidities such as maternal medications, infant risk factors, time and type of delivery, maternal age, gravida and para, as well as the post infant fall medical interventions.
- Initiated a pilot study in February, 2018, on the SMC Pediatric Unit. All infants diagnosed with Neonatal Abstinence Syndrome (NAS) were piloted with the continuous remote video monitoring system. Monitoring was initiated on arrival to the Pediatric Unit. The eICU NA-C watched continuously with the only objective to watch the parents while holding the infant to ensure the baby was not dropped.
- Interventions included both live verbal cues and pre-recorded cues e.g. "Remember you're holding your baby" and "wake-up".

On the left is of continuous remote video monitoring system; Image above is a NA-C monitor technician. in the off site eICU.

Mother / Baby	Hours Monitored	Live Verbal Cues	Pre-Recorded Cues	Stat Alarm	Total Interventions
1	26	16	1	0	17
2	58	8	1	0	9
3	50	2	0	0	2
4	547	91	6	0	97
5	2	0	0	0	0
6	212	58	0	0	58
7	120	14	0	0	14
8	8	0	0	0	0
9	36	0	0	0	0
11	44	0	9	0	9
12	20	63	2	0	65
13	432	84	1	0	85
14	36	16	0	0	16

Summary of Results:
- A total of 1,591 hours of continuous remote video monitoring completed with 372 interventions.
- From February, 2018 thru mid August, 2018, there have been 14 mother/baby couplets with continuous remote video monitoring resulting in ZERO falls
- Increase visibility and awareness of infant falls in the Swedish system.
- Cross-departmental collaboration and teamwork between TeleICU and Pediatric Unit from leadership and frontline caregivers
- Development of an educational pamphlet for family of the infant on continuous remote video monitoring.

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