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Newborn Falls/Drops in the Hospital Setting

Minnesota Hospital Association

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Linda Helsley, RN, MSN, CNS
Director of Regional Newborn Services

Oregon Women & Children's Program
Providence Health & Services

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There are no financial relationships to disclose.

Learning Objectives:

- Recognize there is an undefined & under reported incidence of newborn falls/drops in the hospital.

- Identify 3 inherent factors during hospitalization that increase the risk of a newborn fall/drop.

- Describe 4 potential interventions to prevent newborn falls.

Newborn Falls/Drops

- 2005- identified regular unusual occurrence reports of newborn falls/drops-began tracking incidence & narratives

- Common scenarios identified-many were mothers falling asleep & the newborn falling from the mother's bed to the floor

Newborn Falls/Drops

- Partner/other adult fell asleep & dropped the newborn
- Adult carrying the newborn fell, tripped or had a seizure, dropping the newborn
- Mother/partner awake & newborn fell from mother's bed

Common themes:

- Regular documentation that families were reluctant to report the fall.

- Nursing staff rarely discussed-providers not aware of the risks of newborn falls.

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Case Studies

Joint Commission

- 2010 National Patient Safety Goal # 9: Reduce the risk of patient harm resulting from falls.

- Preventable injury & death- “never” events

Literature Search

- Virtually nothing published in the U.S. until August 2008-Intermountain Healthcare published newborn fall/drop data
- UK reported term newborn death in January of 2004
- UNICEF UK Baby Friendly Initiative (2004) Babies sharing their mother's bed while in the hospital. A sample policy.

Maternal Risk Assessment:

- Individualized risk assessment of maternal clinical status

- A designated level of supervision implemented based on the maternal risk assessment results prior to placing the newborn in the maternal bed

Levels of Supervision:

- Constant supervision for mothers whose clinical condition means that they cannot take any responsibility for their baby.
- Frequent supervision, every 5-10 minutes, check on mothers.
- Intermittent checks to ensure that the mother has not fallen asleep & that no dangers are present for the baby.

Newborn Fall/Drop Queries

- ~2006-Council of Women's and Infants' Specialty Hospitals (CWISH)- hospitals that responded were not formally tracking- no formal risk reduction interventions

- Providence Health & Services System- 5 states, 24 Perinatal units- reported cases- no formal work on issues

Chartered Newborn Falls Committee

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- Multidisciplinary-neonatologist, nursing, materials management, quality management, data analyst, & educators
- Representatives from each hospital
- Public Relations, Risk Management

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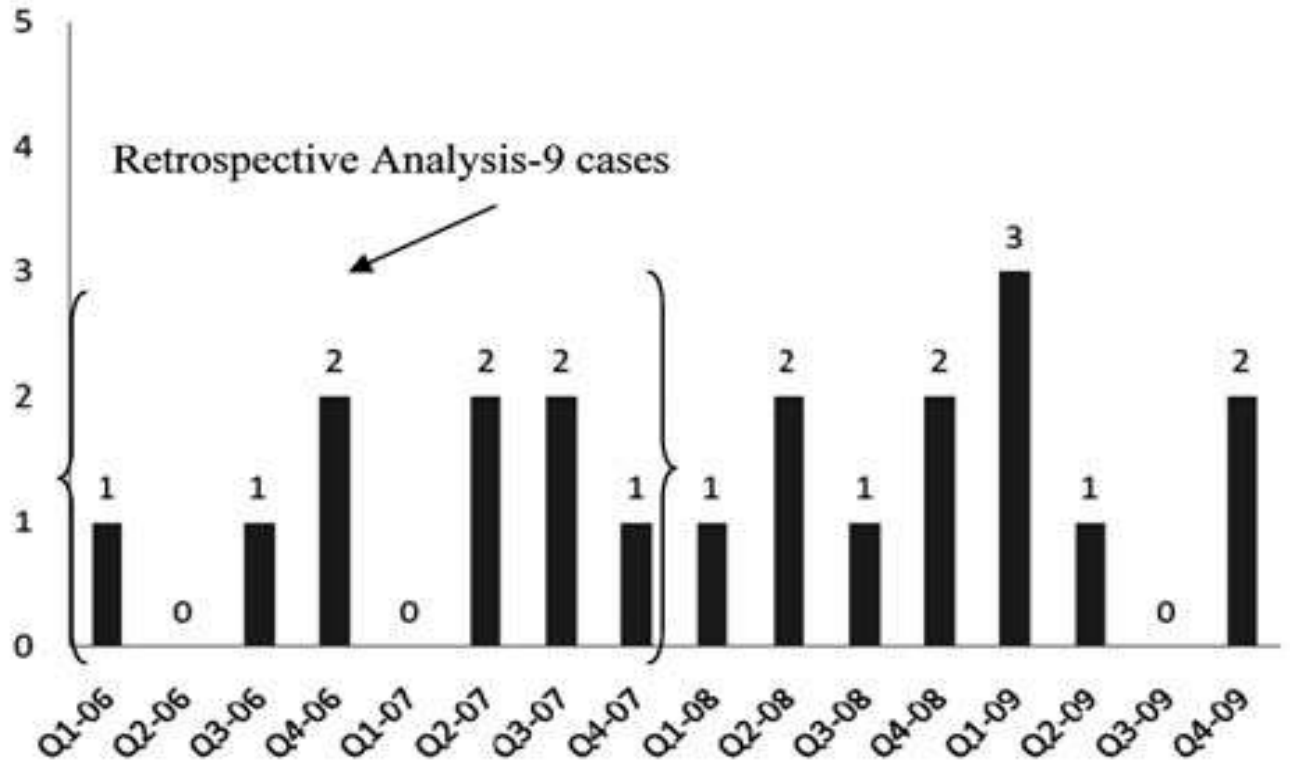
Newborn Fall/Drop Incidence?

Number of Newborn Falls Across Seven Oregon Hospitals, 2006–2009, by Quarters



Source: Providence Health & Services UOR Database 2006-2009

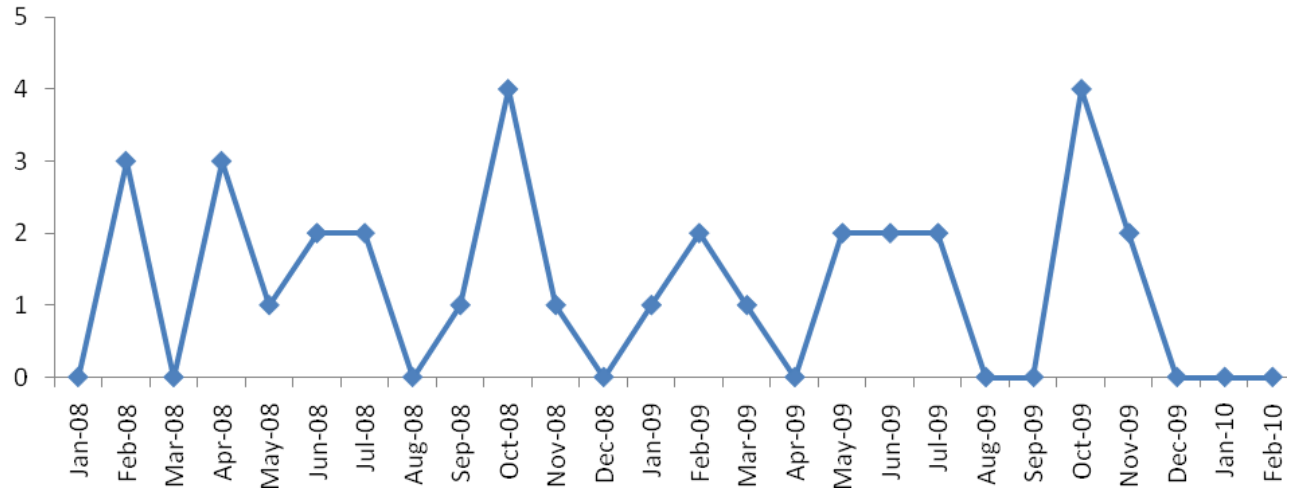
Alerts:

- System-wide “Sentinel Event Alert” through PH&S Corporate Office ~ potential preventable injury & death

- Oregon Women & Children’s Program filed a report with Oregon Patient Safety Commission

- Oregon Patient Safety Commission issued state-wide alert to all acute care facilities in Oregon

All Providence Health & Services Regions
22 Hospitals- 79,681 Live Births
33 Fall Events

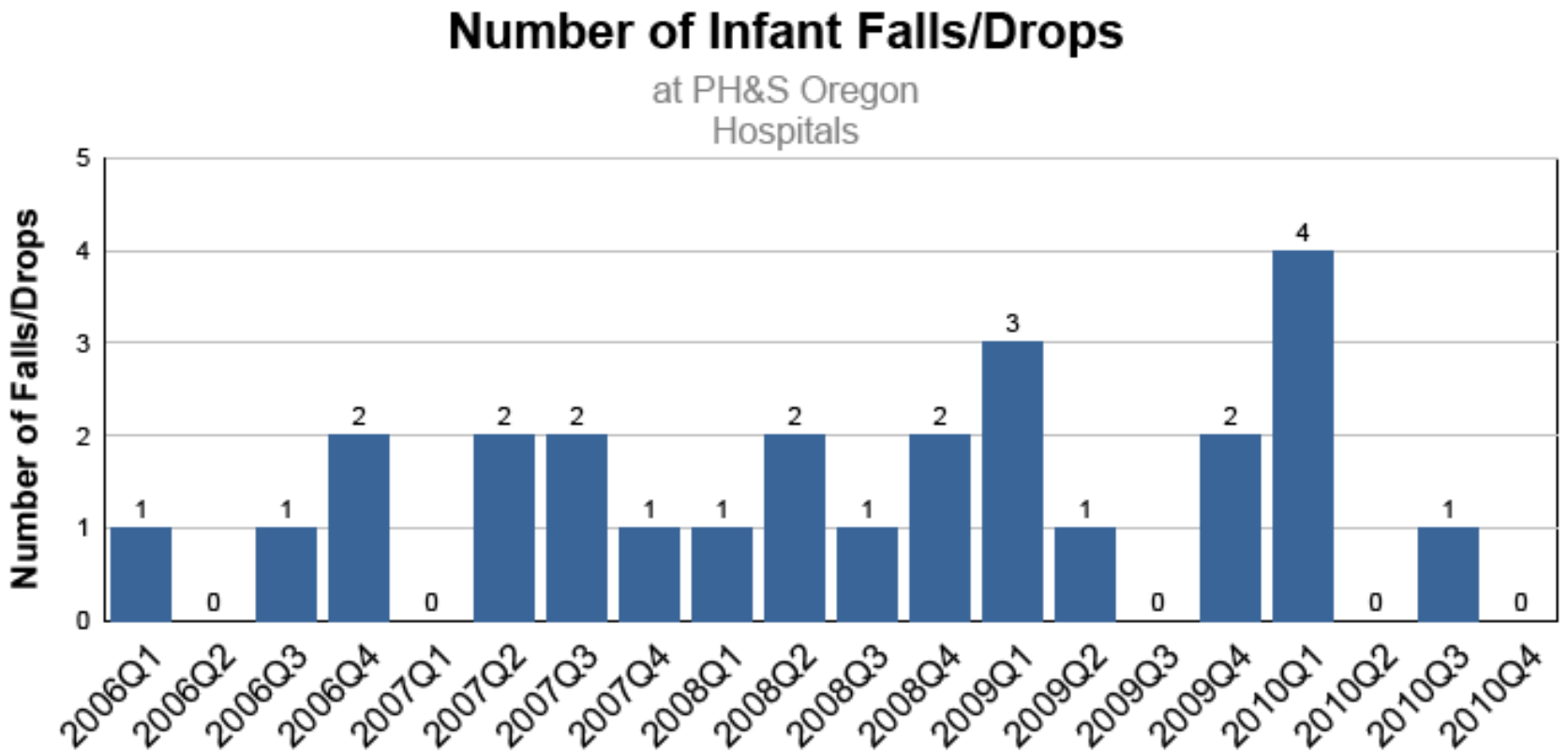


Source: Providence Health & Services UOR Database January 2008-February 2010

Infant Falls - Quarterly Results

This document reports Infant Falls occuring on Maternity/OB/Perinatal Units at PH&S Oregon Facilities (except PHRMH) for the time period listed below.

The infant falls reported here occured at *PH&S Oregon Hospitals* between *2006Q1* and *2010Q4*.



*Notes: This report includes infant falls that occurred on Maternity/OB/Perinatal nursing units at PH&SOR inpatient facilities (except PHRMH). Report EXCLUDES outpatient, visitor, and employee falls, and falls occurring on other units/departments. Source: Falls in live UOR database as of *1/28/201110:59:45AM*.

Newborn Fall/Drop Incidence

- 1.6-4.14/10,000 Live Births
- 600-1600 Newborn Falls/Year in the U.S.
- PH&S Data-1:2500 births

Initial Interventions:

- Parent Education:
  - ❖Safety Letter for parents on admission
  - ❖Verbal reminders
  - ❖No co-sleeping policy
- Fall risk reduction interventions in newborn safety policy for nursing staff
- Quarterly newborn fall reports posted on our OB/Newborn Dashboard of quality measures

Additional Interventions:

- Modify maternal preprinted order sets
  - ❖ Remove PRN hypnotics-order with consideration for newborn safety
- Hourly nursing staff rounding
- Newborn Fall Debrief Form
- Report published in Joint Commission Journal on Quality and Patient Safety-July 2010

Current initiative work:

- Maternal hospital bed/bassinet
- Retrospective newborn fall/drop analysis:
  - ❖ Joint Commission- Failure mode, effects, & criticality analysis (FMECA)
  - ❖ Cause Mapping-ThinkReliability-Mark Galley
- Post newborn fall diagnostic work-up
- Combined electronic UOR/Debrief

Maternal Hospital Bed/Bassinet

- Historically, maternal 10-day LOS
- Significance of newborn being with parents to facilitate attachment
- Promote rooming-in
- Facilitate successful breastfeeding by unrestricted mother-newborn time together (skin-to-skin)
- Bassinet independent unit in maternal room

U.S. Maternal Hospital Bed Design

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- LDRP-patients remain in delivery bed during postpartum phase
- Postpartum bed-lower & wider

Hospital Bed Manufacturers

- Collaborate with hospital bed manufacturers for re-design of maternal bed for increased newborn safety
- SMDA Voluntary Report to FDA
- Hospital Bed Safety Work Group

Voluntary FDA Report

- FDA report posted on a website viewed by U.S. bed manufacturers

- Hospital Bed Safety Work Group-FDA subgroup-established U.S. hospital bed manufacturing standards

Risk Reduction Brainstorming:

- Sling securing newborn to mother
- Padding on floor around the bed
- Netting along sides of bed
- Newborn on mother's chest under tucked in bath blanket

Retrospective Newborn Fall/Drop Analysis

- Joint Commission- Failure mode, effects, & criticality analysis (FMECA)

- Cause Mapping-ThinkReliability- Mark Galley

Failure Mode, Effects, & Criticality Analysis

. . . a systematic approach for identifying the ways that a process can fail, why it might fail, and how it can be made safer.

Joint Commission on Accreditation of Healthcare Organizations

Cause Mapping

- ThinkReliability-Mark Galley
- Root cause analysis
- Analyze, document, communicate and solve problems

AND

OR

Why?

Effect ← Cause

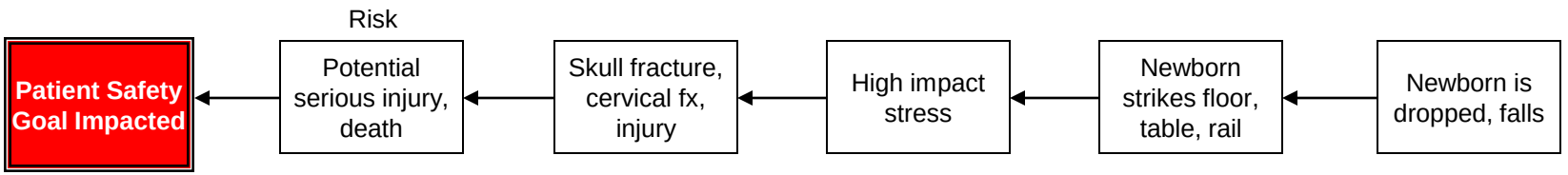
Start with the Goals (in red) that have been impacted.
Read the map to the right by asking Why questions.

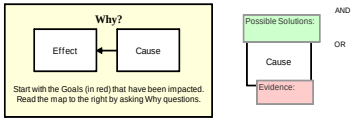
Possible Solutions:

Cause

Evidence:

Newborn Falls





Step 2. Analysis

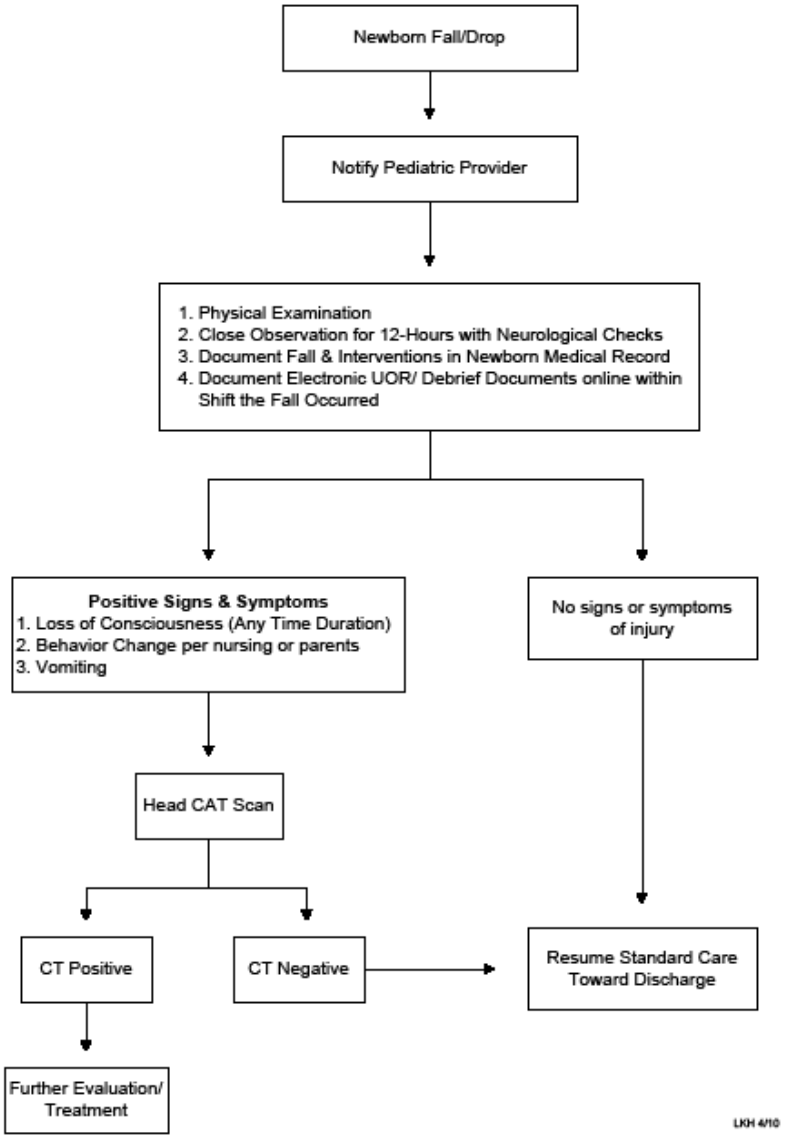
Newborn Falls

Cause Map

Diagnostic Work-Up Post Newborn Fall

- Marked variation-clinical diagnostic work-up
- Subcommittee developed to review literature & develop algorithm:
  - ❖Pediatric ED physician
  - ❖Pediatrics Medical Director/Hospitalist
  - ❖NICU & Newborn Medical Director/Neonatologist
  - ❖Pediatric Radiologist

Newborn Fall/Drop-Clinical Work Up Algorithm



Reference:
Kupperman, N. (2009, October 3). Identification of Children at Very Low Risk of Clinically Important Brain Injuries after Head Trauma: a Prospective Cohort Study. *Lancet*, 374(9696), 1160-1170.

Dr. Nathan Kuppermann:

- Younger the infant, the greater the risk of traumatic brain injury from a fall
- Fall of ≥ 3 feet increases risk of brain injury
- Skull fracture & scalp hematoma most sensitive indicators of brain injury

Theoretical Estimates of Radiation Exposure

- Head CT scan:
  - ❖ 1,000 one-year olds= 1 lethal malignancy
  - ❖Several additional non-lethal malignancies

- Age & size-related radiation reduction efforts ongoing in the U.S.

Electronic UOR/Debrief Process

- Combine UOR & fall debrief into one document
- Electronic entry & data retrieval
- Completed within the shift the fall occurred

Raise Awareness-Drive Reporting

- Actualize transparency in adverse event reporting
- Proactive risk reduction to insure patient safety
- Recognize these events may be underreported by parents because of their feelings of being at fault
- Facilitate identifying true incidence

National Safety Platform:

- Newborn falls & drops in the hospital setting should be included in the national falls prevention work in the U.S.
- Identify & report true incidence
- Improve safety for newborns in the hospital

References:

- AAP Policy Statement (March 2000) Changing Concepts of Sudden Infant Death Syndrome; Implications for Infant Sleeping Environment and Sleep Position. Available: www.aap.org

- Helsley, L., McDonald, J.V. & Stewart, V.T. Addressing In-Hospital “Falls” of Newborn Infants. *The Joint Commission Journal on Quality & Patient Safety July 2010;327-333.*

- Monson, S.A., et al, In-Hospital Falls of Newborn Infants: Data from a Multi-hospital Health Care System. *Pediatrics* 2008;122;e277-e280.

- UNICEF UK Baby Friendly Initiative sample policy (October 2003) http://www.babyfriendly.org.uk/pdfs/bedsharingpolicy.pdf