Newborn Falls/Drops in the Hospital Setting

Mead Johnson Virtual Journal Club

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There are no financial relationships to disclose.
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Learning Objectives:

• Recognize there is an undefined & underreported prevalence 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 prevalence & 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.
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
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-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

- Multidisciplinary-neonatologist, nursing, materials management, quality management, data analyst, & educators
- Representatives from each hospital
- Public Relations, Risk Management
Newborn Fall/Drop Prevalence?
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
This document reports Infant Falls occurring on Maternity/Ob/Perinatal Units at PH&S Oregon Facilities (except PHRMH) for the time period listed below.

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

**Number of Infant Falls/Drops**

at PH&S Oregon Hospitals

*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 Prevalence

- 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

- 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
Newborn Falls

Patient Safety Goal Impacted

Risk

Potential serious injury, death

Skull fracture, cervical fx, injury

High impact stress

Newborn strikes floor, table, rail

Newborn is dropped, falls

Why?

Effect

Cause

Possible Solutions:

Cause

Evidence:

Start with the Goals (in red) that have been impacted. Read the map to the right by asking Why questions.
Step 2. Analysis
Newborn Falls
Cause Map

- **Possible Solutions:**
  - Enforce a no co-sleeping policy
  - Provide information via the Patient safety contract
  - Change bed design to take into account newborn safety considerations, including guardrails and elimination of gaps

- **Evidence:**
  - Dropped from chair or bed
    - Newborn strikes floor, table, rail
  - Dropped while adult ambulating, transferring
  - Evidence: The Joint Commission Journal on Quality and Patient Safety article estimates 3.94 falls per 10,000 births
  - More than half of newborn falls occurred in early morning hours
  - Reluctance to report falls
  - Adult upset by incident
  - Adult ashamed
  - Large amount of information provided at once
  - Evidence: Patients are given information on many things during check-in during an exciting admission
  - Evidence: Extrapolating findings would suggest 600 to 1,600 newborns experience an in-hospital fall every year
  - Mother fell asleep, unaware
  - Exhausted from labor and delivery
  - Effects of medication
  - Design of hospital bed, chair
    - Evidence: Many beds have a space at hip level large enough for a newborn to fit
  - Equipment contributes to fall
    - Tripped on IV lines
    - Tripped on phone cord
    - Tripped on call light cord
  - Room conditions contribute to incident
    - Fluids on floor
    - Furniture in way
    - Bedding on floor
  - Fall during transfer or repositioning of newborn?
  - Co-sleeping
    - By healthcare provider
    - By family member
  - By family member
    - By healthcare provider
    - By family member
  - Newborn head is exposed
  - Adult loses control of newborn

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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

Newborn Fall/Drop

Notify Pediatric Provider

1. Physical Examination
2. Close Observation for 12-Hours with Neurological Checks
3. Document Fall & Interventions in Newborn Medical Record
4. Document Electronic UOR/Debrief Documents online within Shift the Fall Occurred

Positive Signs & Symptoms
1. Loss of Consciousness (Any Time Duration)
2. Behavior Change per nursing or parents
3. Vomiting

Head CAT Scan

CT Positive

CT Negative

Further Evaluation/ Treatment

No signs or symptoms of Injury

Resume Standard Care Toward Discharge

Reference:
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 prevalence
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 prevalence
- Improve safety for newborns in the hospital
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References:


