Improving Gastrostomy-Tube Care Discharge Training through Standardization and Clinical Simulation


1 Department of Neonatology, Maternal Fetal Neonatal Institute, 2 Department of Graduate Medical Education and 3 Center of Medical Simulation and Innovation Education, Johns Hopkins All Children’s Hospital, St. Petersburg FL

The CUIRE (Care Under the Intestinal Rehabilitation Excellence) program cares for a subset of medically complex patients, many of whom are discharged with MIC-KEY button g-tubes. These patients are at risk for g-tube-related complications such dislodgement, malfunction, infection and dehydration. At JHACH, parents of these children received basic & inconsistent bedside training on g-tube care. This led to a high number of EC visits and readmissions secondary to device-related complications. Research has found clinical simulation to be an effective learning tool for parents/caregivers. With a multidisciplinary approach, we developed a standardized g-tube discharge training program that incorporated clinical simulation.

**Educational Areas of Focus**

**Parental Technical Skills**
- Improve technical skills in management of g-tube care, feeds and medication administration

**Parental Behavioral Skills**
- Improve crisis resource management during g-tube dislodgement, feeding/medication administration issues or concerns for acute illness

**Parental Cognitive Skills**
- Identification and action plan of gastrostomy tube dislodgement, identifying signs/symptoms of infection and dehydration

**Description**

**Sims Issues and Factors**

- Parent receives G-tube
- Nurse bedside teaching
- Parent discharge

**Aim**

Improve mickey-button G-tube discharge training through standardization & simulation for CUIRE patients by August 2019

**4 Step Teaching Process Utilized:**

i. Demonstration by educator
ii. Caregiver performs with tight coaching
iii. Caregiver performs with minimal coaching
iv. Caregiver performs independently with debriefing using the skills checklist

**Actions Taken**

**Team Assembled:**
Interdisciplinary team including: nursing & simulation educators, bedside nurses, providers/physicians, dieticians, case managers & pharmacists

**Curriculum Design:**
- Caregiver education via standardized resources (Get Well videos, power points), two clinical simulation & skills training sessions
- Pre & Post simulation surveys
  - Assess caregiver competence & confidence
  - Implement necessary curriculum changes

**Results**

**PDSA Cycles:**

1. Evidence-based curriculum development & revising current bedside practices
2. Bedside RN training & feedback on curriculum
3. Caregiver feedback on curriculum
4. Revision of medication & formula administration with pharmacy & nutrition feedback

**Benefits**

- Provide structure for seamless transition to outpatient realm
- Develop confidence and competence in families/caregivers
- Provide feedback during simulation, skills training & debriefing to continually improve training curriculum & address individual caregiver needs
- Better assessment of caregiver’s ability to care for patient prior to discharge

**Future Actions**

i. Continue to improve discharge training curriculum per caregiver feedback
ii. Plan for retrospective collection of g-tube-related EC visits & readmissions prior to curriculum
iii. Plan to prospectively track G-tube-related EC visit & readmission data
iv. Ultimate plan to expand training to other G-tube subtypes and patient populations

**Sources:**

1. Chang LC, Lee PI, Guo NY, Huang MC. Effectiveness of Simulation-Based Education on Childhood Fever Management by Taiwanese Parents.