Background and Significance

- Traditional methods for educating and training patients and caregivers to manage complex medical conditions often prove insufficient to achieve full and successful knowledge/skill transfer.

- Through realistic opportunities to repetitively practice new skills in low-risk settings, simulation applied to patients and caregivers may improve knowledge acquisition and performance of technical skills, as well as reduce anxiety through increased perception of preparedness to function in emergency situations.

- Simulation for families may be particularly useful at the time of a new diagnosis, initiation of new therapies or technology, or prior to a procedure, as many families report feeling technically incompetent, anxious, and lacking in self-confidence when faced with novel medical experiences.

- To address the growing needs and applications of simulation for patient and families, our Simulator Program has created a specific service line, offering tailored experiences across multiple clinical specialties, with a focus on preparing patients and their caregivers for medical experiences.

Mission Statement and Broad Aims

To educate, prepare, empower, and reduce anxiety for patients, their families, and caregivers throughout the healthcare journey via life-like simulation-based practice opportunities.

**Broad Aims**

- Reduce anxiety and increase self-efficacy in parents/caregivers
- Reduce anxiety and improve coping in patients
- Improve medical outcomes (e.g., infection, readmission)

Examples of Current Programs

**SIMDISCOVERY**

A simulated medical experience, tailored to specific groups of patients, in a realistic medical environment to educate and prepare patients and their families for medical procedures and/or diagnoses.

**PAWPRINTS**

Simulated patient visits in various hospital settings to evaluate and train potential therapy dogs for the BCH Pawprints Program.

**Coping**

A child preparing for a spinal fusion

**Augmented Reality/Virtual Reality**

Piloting AR/VR opportunities for patients at the bedside and group activity room programs for diversion and coping, as well as procedural support.

Challenges Encountered & Lessons Learned

- The traditional teaching model of offering a simulation course at a specific date and time does not work with the demands of patients and caregivers.
  - Flexibility with time and schedules is necessary for success.
  - Not all patients benefit from simulation opportunities. Exposure in advance of a procedure may result in increased anxiety in some patients, which could negatively impact the actual procedure.
  - Brief screening of patients before initiating simulation experiences is essential.
  - Screening should include child’s age, developmental delays, temperament, coping style, previous medical experiences, and desire for information.
  - Consideration should also be given to timing of simulation and keeping the experience to aspects of the procedure that the child will be awake for.
  - Patients should be made aware that at any time they can take a break or stop participation in the simulation.

Conclusions and Future Directions

- The use of simulation with patients and caregivers provides opportunities for improving preparedness for medical procedures, returning home with complex medical regimens, and emergency scenarios.
- Future research will aim to demonstrate that similar to other preparation techniques, simulation with patients and caregivers may lead to decreased anxiety, increased self-efficacy, and ultimately improved medical outcomes.

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**Program Categories**

**PREPARING PARENTS/CAREGIVERS FOR HOME CARE**

Simulation programs enabling parents and caregivers to learn and practice medical care in a safe environment supported by their clinical team prior to being discharged home.

- Examples include, preparation for returning home with:
  - Ventricular assist device
  - Trach and vent
  - Central line
  - Parenteral nutrition

**PREPARING PATIENTS & PARENTS FOR MEDICAL EXPERIENCES**

Simulated rehearsal programs which allow patients and their parents to prepare for upcoming procedures, medical experiences, and new diagnoses in realistic spaces without limitations on time or frequency of repetition.

**Examples of Current Programs**

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