Simulating Teamwork and Observation for Procedural Safety (STOPS)

**JL Doolen, PhD, APRN-C, CNE1, KM Gulliver, MSN, RN-BC, CNE1, K Shetty2, MD, MP Schreiber, MD3**

1University of Nevada Las Vegas School of Nursing - Las Vegas, NV. 2University of Nevada School of Medicine - Las Vegas, NV. 3 MedStar Georgetown University Hospital / Washington Hospital Center – Washington, DC

**Introduction**
- Hallmarks of safe systems within a hospital include development of teamwork competency
- The insertion of a central venous catheter (CVC) is a clinical practice where systematic implementation of safety strategies have been demonstrated to have a measurable effect on patient outcomes5
- Current systems of practice do not provide an optimal amount of time to comprehensively educate nurses and residents of the value of a team approach to technically challenging operations like CVC insertion

**Methods**
- STOPS is a prospective, 2 year observational pilot study
- Participants represent a multispecialty training background
  - UNLV school of nursing students
  - UNSOM internal medicine residents
  - Training pilot made part of standard curriculum
- Pairs of nursing students and residents were assigned & underwent:
  - A multicomponent didactic session including:
    - An evidence based approach to central line insertion including a reference for training modalities, indications for stopping a procedure / minimizing complications, strategies for reducing central line associated blood stream infections (CLABSI)1-4
    - An instructional video demonstrating the procedure itself from an available online training site5
    - The basics of team based communication adapted from TeamSTEPPS training materials6
  - Simulation (directly observed via one way glass and camera)
    - Complete autonomy by the procedural team.
- Debriefing:
  - Focused feedback on the procedure, patient safety & team-based communication issues
- Research Survey (consent obtained)
  - IRB approved portion of STOPS
  - Questions adapted from AHRQ culture of safety survey 2 and the initial STOPS didactic session
  - Descriptive & comparative statistics derived from survey results

**Results**
- 83 participant experiences were observed
- Nursing students had significantly more positive views of systems based patient safety at baseline
  - This difference was negated in 2nd session resident responses
- Statistically significant improvements were seen in survey questions designed around constructive communication and feedback among nursing students
- Non-significant positive trends were observed in teamwork, and systems based safety responses among nursing students
- Non-significant positive trends were observed in CVC procedural knowledge among internal medicine residents

**Conclusions**
- Currently there is little published experience on multispecialty procedural training for central venous catheter insertion
- Nursing empowerment and a team-based approach to central venous catheter insertion has been shown to improve patient outcomes (i.e. CLABSI rates, hospital costs) 1
- Training such a team based, communication focused, approach to central line insertion is both institutionally feasible and individually beneficial
- Simulation based training of the teamwork aspects of central line insertion and patient safety may create significant improvements in important aspects of the multispecialty team
- Nursing care providers may experience the greatest benefit to multispecialty training in a simulation environment
- The introduction of similar simulation education programs should be considered in other institutions

**Survey Tool**

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**Survey Response to Constructive Communication & Feedback**

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**Survey Response to System Based Patient Safety**

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**Survey Response to Teamwork**

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**Survey Response to CVC Insertion / Technique**

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**References**