Proactively Preparing Interns for their NICU Rotation

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Background

Teaching hospitals like Tampa General Hospital (TGH) play a vital role in educating the future generation of medical professionals. In the case of future physicians graduating from medical school, thousands begin their residency training in hospitals like TGH; this transition involves a significant increase in patient care responsibilities for first-year interns. Long hours coupled with writing prescriptions for the first time contribute to the possibility of errors occurring during the learning process. In fact, studies have shown there to be an increase in medical errors that correlates with this time period, the so-called “July effect.”

In the Neonatal Intensive Care Unit (NICU) at TGH, a new set of interns begins a rotation through the department every four weeks. Due to the degree of specialization required for the care of acutely ill infants, this high rate of resident turnover leaves potential for the interruption of quality patient care or manifestation of the “July effect” once a month rather than once a year. Full-time staff maintain a system of checks and balances to catch such errors, but this increases their workload. Pre-emptive resident education may be the solution to reducing those errors that would mutually benefit all parties involved.

Previous research has suggested that such improvements to resident education prior to starting a new rotation leads to less anxiety and overall better patient care. NICU residents at TGH reported feeling less than adequately prepared for some of the unique tasks at the beginning of their four-week rotation (Figure 1). We determined that providing new residents with a handbook containing valuable NICU protocols and medication dosage information could potentially decrease the time required for them to become familiar with the daily tasks required while they are on service in the NICU.

Study Methods

Six first-year NICU residents were anonymously interviewed about their experience with the NICU rotation at TGH. Participants were asked to rate their level of confidence with various patient care tasks using a 1-10 scale (1 = no confidence; 10 = extreme confidence) – (Figure 1).

After compiling data on new resident confidence, we interviewed two neonatology attending physicians, one neonatology fellow, and three neonatal nurse practitioners to determine the most valuable information that would be useful to have in a new resident handbook. Data were gathered on each of the above subjects from multiple sources including TGH Portal (online handbook) and former unit handbook (TGH NICU 2006). The handbook was then systematically reviewed by one nurse practitioner, one attending physician and two interns.

Results

The interns, fellows, nurse practitioners and attending physicians compiled the following list that consisted of two general topics: unit protocol and patient care protocol.

Unit Protocol

• Personnel and Responsibilities
  • Team Members
  • On-Call Obligations
  • Unit Didactics
  • Schedule of Rounds

Patient Care Protocol

• Amount of Primary Patients per Week
• Charting
• New Admission Procedures
• Progress Notes
• Sign-Out/Hand-Off

Tables, figures and high-yield information were compiled to elicit the best possible resource for interns (and all practitioners) with quick ease of access (see figures 2 & 3).

Intern Preparedness Assessment

(What is your readiness to handle ____ ?)

Stress

Unit

Patient Load

Documentation

Rounds

Medications

Procedures

0 2 4 6 8 10

Figure 1. Interns reported various levels of comfort with the typical tasks required of them while on service in the NICU at TGH. Familiarity with medical procedures was, on average, the lower-ranked category. (n = 8; Scale: 0 = no confidence, 10 = extreme confidence)

Conclusions

With a unit as unique in operations and procedures as the NICU, it is natural for there to be a slower learning curve during an intern’s first rotation. These accepted adjustment periods create more work for the rest of the medical care team. While the unit does a phenomenal job accommodating efficient learning periods without creating dangerous lapses in patient care, improvements could be made to the orientation process. Currently, orientation occurs by short-lived, informal verbal communication between interns leaving the unit and interns coming on to their new rotation. It was clear after interviewing interns that informal learning is not the most efficient way to prepare and that a handbook might provide a simple, self-guided way to learning more about the unit beforehand. Also, the ease of access to high-yield formulas and charts that are used regularly could help expedite patient care and medical team decisions.

Research has shown that better orientation and preparation leads to an increase of preparedness and a decrease in errors. The aim of this project was to increase ease of orientation for interns, independent of preceptor training. Results and metrics are as yet undetermined and both short-term and long-term analysis would be extremely beneficial.

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Citations

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