

NPSF Funded Research (First 6 months Progress Report)
Pediatric Sedation: a Safety and Efficacy Problem for Children Requiring Diagnostic and Therapeutic Procedures in the Hospital Setting; a Human Factors Opportunity for Improvement.

Primary Investigator:

George T. Blike, M.D.
Assistant Professor of Anesthesiology; Obstetrics and Gynecology
Department of Anesthesiology
Dartmouth Hitchcock Medical Center
One Medical Center Drive
Lebanon, NH 03756

I am pleased to report that as per our proposed research plan:

1. We have successfully videotaped 100 pediatric procedures associated with a wide range of sedation strategies and techniques. This sample is diverse and includes many different procedure types, provider types and procedure locations/environments.
2. Human Factors analysis (qualitative) using process tracing techniques and structured interviews with sedation experts was performed on the first 10 procedure videos. The control model has been improved upon.
3. To develop a more quantitative metric of “process control,” a team of pediatric anesthesiologists analyzed the first 10 procedure videos and developed the Dartmouth Operative Conditions Scale (DOCS). This is a coding scheme that allows the patient state (as observed on video) to be represented and contrasted with the goals of sedation.
4. Secondary analysis of the 100 pediatric procedure videos has been completed using DOCS. The initial results of this methodology have been submitted for publication to the journal Pediatrics (titled-**A Semi Quantitative Method for Evaluating the Efficacy and Safety of Pediatric Sedation Services**, authors-**GT Blike MD, JP Cravero MD, Yasser Sowb PhD, JC Lancaster MD**). Presentations (abstract, poster, panel, invited lectures) have been made at: the Society for Pediatric Anesthesia Annual meeting 2000; the Society for Technology in Anesthesia annual meeting 2000; the Association of University Anesthesiologists annual meeting 2000; the Partnership for Patient Safety Symposium 2000 meeting and the American Society of Anesthesiologists annual meeting 2000 (accepted and pending). In all cases NPSF sponsorship of the research was stated.
5. Privacy issues regarding naturalistic observation with video have been reviewed with legal counsel. These data are initially protected under QA statutes, but must be modified to protect patients and providers before it can be used for presentation at academic meetings. It was decided to purchase equipment and used video editing consultants to “blur” the tapes such that the video data can be kept and used more broadly and indefinitely for this important safety research. To date 62 tapes have been “blurred.”
6. A database of case-data that is correlated with the procedure videos has been created. To date 18 cases have had pertinent data entered into the database.
7. A web-site has been created to disseminate Pediatric Sedation Safety research activities. Literature reviews are being posted. http://an.hitchcock.org/dmil/Pedi_Sedation_Bibliography.htm
8. A consensus conference to bring together Pediatric ER, Dental, Radiology, Oncology, Intensive Care and Anesthesia experts doing sedation has been organized and will occur September 9th. Based on this NPSF funded research, additional funding has been successfully obtained from AHRQ (exact amount pending).

We are receiving great interest in this research sponsored by NPSF. We have already begun to use this seed funding to compete for additional funds. On behalf of the research team, I wish to thank NPSF for supporting this research.

Sincerely,
George Blike