Workflow Process Change Using Bispectral Index Monitoring For Pediatric Patients Requiring Anesthesia

PURPOSE
The purpose of this scholarly project was to implement an improved workflow process to reduce delayed wake-up time by 20 percent in minutes in the pediatric patient population receiving Total Intravenous Anesthesia using Bispectral Index Monitoring (BIS) to shorten wake-up times.

BACKGROUND
One common monitor used to determine depth of anesthesia is the Bispectral Index Monitor (BIS). The project was implemented in the radiotherapy setting in an urban academic center in the southwest region of the United States.

METHODOLOGY
A data collection tool sheet was developed and used for a group of pediatric patients over a three-week period. The Institute of Healthcare model for improvement was used as a guide, which includes the systematic process, called plan-do-study-act in cycles.

RESULTS
Thirteen pediatric patients were observed in the radiotherapy BIS implementation study. A significant correlation was noted between the sleep time and drug time measured by the Spearman rho resulting in p=0.209 level (2-tailed). 20.9% was the amount of variance noted.

IMPLICATIONS
Successful implementation of an achievable practice change using BIS to improve patients’ outcomes promotes quality, value and efficiency in the off-site setting. Evidence shows the use of BIS monitoring in the radiotherapy setting decreases wake-up times in the pediatric population therefore improving the workflow process. The implementation of the BIS of the monitor in the radiotherapy setting showed a significant association between the drug totals and sleep time.