

**Authors:**

Catherina Madani RN, PhD, University of California San Diego Health System

Cassia Chevillon, RN, MSN, University of California San Diego Health System

Mary Hellyar, RN, MSN, University of California San Diego Health System

Son Chae Kim, RN PhD, Texas State University, Round Rock, Texas

**Title:** RANDOMIZED CONTROLLED TRIAL: EVALUATION OF MULTIFACETED PREOPERATIVE EDUCATION ON POSTOPERATIVE DELIRIUM, ANXIETY, AND KNOWLEDGE AMONG PATIENTS UNDERGOING PULMONARY THROMBOENDARTERECTOMY

**Objectives:** (1) To Evaluate the impact of multifaceted preoperative patient education on postoperative delirium, anxiety, and knowledge; (2) to explore predictors of postoperative delirium, duration of mechanical ventilation (MV), and intensive care unit (ICU) length of stay (LOS) among patients undergoing Pulmonary Thromboendarterectomy (PTE).

**Methods:** A prospective, randomized controlled trial. Consented patients undergoing PTE surgery from October 2011 to April 2013 were randomized to receive either individualized 45-minute multifaceted preoperative education entitled *What to Expect of Your ICU Stay* (experimental group,  $n=63$ ) or standard preoperative education (control group,  $n=66$ ) the day before their surgery. The education entailed an introduction to ICU equipment, sights and sounds of the ICU, hands-on experience with an ETT and Swan-Ganz catheter. The education was followed by a tour of the ICU by a RN. Participants completed a knowledge test and the State-Trait Anxiety Inventory before and 1 hour after receiving education. Incidence of delirium, duration of MV, and ICU LOS were collected postoperatively.

**Results:** The experimental group had significant improvement in postoperative care knowledge ( $p < 0.001$ ) and fewer days on MV ( $p = 0.038$ ) compared to the control group. No statistically significant differences were observed in anxiety, incidence of delirium, and length of ICU stay. In exploratory multivariate analyses, hearing impairment was a statistically significant positive predictor for days of delirium ( $p = 0.009$ ), days of MV ( $p < 0.001$ ), and ICU length of stay ( $p = 0.049$ ); whereas the posttest knowledge was a statistically significant negative predictor for days of MV ( $p = 0.018$ ).

**Conclusion:** This preoperative education appeared to be effective in improving knowledge and reducing days of mechanical ventilation. Hearing impairment was an unexpected predictor for negative patient outcomes, which may be amenable to nursing intervention.