Background: Surgical site infections are associated with increased morbidity, length of stay, and healthcare costs. Patients undergoing colorectal surgeries are at the highest risk for postoperative surgical site infections. A review of the current literature suggests perioperative use of a high fraction of inspired oxygen can help decrease the incidence of surgical site infections in colorectal surgery patients. A previous group of Kaiser Permanente School of Anesthesia Doctor of Nursing Practice students developed an educational module on the benefits of perioperative hyperoxia. This module was implemented at the Kaiser West Los Angeles facility.

Purpose: The purpose of this project is to evaluate anesthesia provider compliance with intraoperative hyperoxia in colorectal surgery patients after implementation of the educational module.

Methods: Electronic health record was reviewed for colorectal surgery patients in the six months before and the six months after implementation of the educational module (n = 91). Seventeen patients did not meet criteria and were excluded from the review, with a final sample size of 74. Intraoperative period was defined as the start of surgical incision to extubation and emergence of the patient. Hyperoxia was defined as inspired oxygen greater than 80%.

Results: The mean intraoperative FiO2 was 63.7% in the pre-intervention group, compared to 63.4% in the post-intervention group. The mean postoperative FiO2 was 42.1% for 48.2 minutes in the pre-intervention group, compared to 42.1% for 44.6 minutes in the post-intervention group. Data collection and analysis by the current authors demonstrated no appreciable differences in anesthesia provider practice regarding intraoperative hyperoxia in this surgical population.