

Low Flow Nasal Cannula Versus Face Tent Use in Post-Operative Care

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Background Information: Understanding the effectiveness of various oxygen delivery systems in the post-anesthesia care unit (PACU) is an important prerequisite to providing safe, cost-effective, and efficient care. Two devices in particular, face tents (FTs) and low flow nasal cannulas (NCs), are often used during recovery from general anesthesia.

Objectives of Project: This study's aim was to determine if NCs can be used during the first 20 minutes in the PACU as an effective alternative to FT use for patients with an initial peripheral oxygen saturation (SpO₂) greater than 92%.

Process of Implementation: A retrospective data analysis comparing the effectiveness of two oxygen delivery devices was performed using electronic health record data from 694 general anesthesia recovery encounters during a six-month period from January to June 2019. Information collected included the first five SpO₂ readings in the PACU, the oxygen delivery devices used, age, gender, body mass index (BMI), type of surgery, and anesthesia type.

Statement of Successful Practice: For three SpO₂ thresholds (>92%, >95%, and >98%), there was no difference between the NC and FT groups at 5, 10, 15, or 20 minutes after arrival in the PACU ($p > 0.05$). Odds ratios were calculated to determine the relative influence of age and BMI on SpO₂ outcomes for the FT and NC groups. Although differences were noted between groups for age and BMI, the effect size for these differences versus the overall sample was negligible ($\Delta R^2 < .003$).

Implications for Advancing the Practice of Perianesthesia Nursing: Our results suggest that despite the higher oxygen flow rates afforded by FTs, NCs performed equally well in the immediate post-operative period. Predominant surgical categories of patients included open and laparoscopic abdominal, orthopedic, and genitourinary. The use of NCs may be desirable because of cost-effectiveness, quicker set-up time, and conservation of oxygen supplies.