Nasal Cannula Versus Face Tent for Oxygen Delivery in the Post Anesthesia Setting

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Introduction: Different practices exist to safely oxygenate patients in the post-anesthesia care unit. The practice at Hunterdon Medical Center was to apply 40% face tent to each postoperative patient that received general anesthesia. A new anesthesia team at our facility introduced the practice of administering four liters by nasal cannula to our post-operative patients. A review of the literature was performed to evaluate the efficacy of the two different means of oxygen administration to post-operative patients who had received general anesthesia. There was a paucity of research comparing the two delivery systems in this patient population. To answer the question as to the difference between oxygen delivered via face tent and nasal cannula, I obtained IRB approval for a retrospective quality improvement study.

Purpose: The purpose of this study was to evaluate the difference between oxygen delivered via face tent and nasal cannula by measuring oxygen saturation and respiratory rate on admission to the PACU, 15 minutes and 30 minutes thereafter.

Methodology: A retrospective study looking at healthy adult patients receiving general anesthesia for laparoscopic cholecystectomy, knee arthroscopy and laparoscopic appendectomy. Outcome variables included oxygen saturation and respiratory rate both which were collected from a retrospective chart review.

Results: Data(n=124) were analyzed using a one-way Analysis of Variance (ANOVA). Resulting in p=0.16:indicating that there was no statistically significant difference between groups. This evidence supports the hypothesis that there is no difference between the two oxygen delivery systems.

Conclusion: This research will help improve patient safety and decrease hospital cost and waste. Practice has been changed based on the study findings and the unit had a substantial decrease in supply costs for oxygen maintenance.

Implications for perianesthesia nurse: Improve the postoperative patient's experience by making them more comfortable and reducing the risk of injury. There will also be potential for reducing hospital costs in equipment and nursing time.