

CHANGE IN NURSES' CONFIDENCE IN PATIENT READINESS FOR POST ANESTHESIA DISCHARGE AFTER VIEWING END TIDAL CO₂

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Introduction: Post-surgical patients are at risk for respiratory depression or hypoventilation. End tidal carbon dioxide (etCO₂) values may indicate respiratory abnormalities better than pulse oximetry.

Identification of the problem: EtCO₂ data is not included in the discharge scoring tool used to determine patients' readiness for discharge from the post anesthesia care unit (PACU).

Purpose of the Study: To determine if pre-discharge etCO₂ values after surgery changed nurses' perceptions of confidence in patients' readiness for discharge to next level care.

Methodology: This was a prospective, one-group (pre-post) comparative design. Nurses assessed confidence in readiness for discharge 2 times using a numerical rating scale ranging from 1, not confident at all to 10, completely confident; when they believed patients were ready for discharge (pre) and after monitoring etCO₂ for 3 minutes (post). In analysis, etCO₂ values were categorized into low, normal and high range.

Results: Of 133 patients, mean (SD) age was 56.8 (16.2 years), 47.3% were male, body mass index tended toward overweight/obese; mean was 31.3 (7.3) kg/m² and of surgical procedure categories, orthopedic cases were prevalent (29.6%), followed by hematology/oncology (16%). Mean etCO₂ level near discharge was 36.3 (5.8). Of nurses, years as a nurse and years in post-anesthesia care were 9.2 (9.3) and 3.0 (2.0) years, respectively. Nurses' confidence in readiness for discharge differed from pre-to-post etCO₂ assessment ($p=0.001$). Confidence decreased when etCO₂ was low ($p=0.003$) or high ($p=0.005$), compared to normal. Female gender of patients was the only factor associated with nurses' lowering their confidence in discharge readiness, $p=0.044$. No nurse factors were associated with their confidence in patient readiness for discharge. After controlling for patient gender, etCO₂ Primary Investigator: value remained an important factor in nurses' confidence in readiness for discharge ($p=0.001$).

Discussion: Availability of etCO₂ values after surgical recovery and before discharge may provide hypo or hyperventilation data that is not readily visible or visualized with pulse oximetry.

Conclusion: EtCO₂ values may increase nurses' confidence that patients are ready for discharge.

Implications for perianesthesia nurses and future research: Future research should be conducted to determine if etCO₂ assessment alters discharge time and reduces untold complications after surgery.