

Influence of physical restraint on unplanned extubation of adult intensive care patients: a case-control study.

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BACKGROUND: Unplanned extubation commonly occurs in intensive care units. Various physical restraints have been used to prevent patients from removing their endotracheal tubes. However, physical restraint not only does not consistently prevent injury but also may be a safety hazard to patients. **OBJECTIVES:** To evaluate the effect of physical restraint on unplanned extubation in adult intensive care patients. **METHODS:** A total of 100 patients with unplanned extubations and 200 age-, sex-, and diagnosis-matched controls with no record of unplanned extubation were included in this case-control study. The 300 participants were selected from a population of 1455 patients receiving mechanical ventilation during a 21-month period in an adult intensive care unit at a medical center in Taiwan. Data were collected by reviewing medical records and incident reports of unplanned extubation. **RESULTS:** The incidence rate of unplanned extubation was 8.7%. Factors associated with increased risk for unplanned extubation included use of physical restraints (increased risk, 3.11 times), nosocomial infection (increased risk, 2.02 times), and a score of 9 or greater on the Glasgow Coma Scale on admission to the unit (increased risk, 1.98 times). Episodes of unplanned extubation also were associated with longer stays in the unit. **CONCLUSIONS:** An impaired level of consciousness on admission to the intensive care unit and the presence of nosocomial infection intensify the risk for unplanned extubation, even when physical restraints are used. To minimize the risk of unplanned extubation, nurses must establish better standards for using restraints.