

# 冠狀動脈繞道手術後早期拔除氣管內管之關鍵性指標.

## Critical Indicators for Early Extubation after Coronary Artery Bypass Grafting

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### 摘要

本研究旨在探討影響冠狀動脈繞道手術後早期拔除氣管內管的因素與關鍵性指標，以方便取樣方式，在台北市某醫學中心收取冠狀動脈繞道手術病患，依時間順序分兩組進行：開發組 110 人，進行影響早期拔管的因素及關鍵性指標之探討；驗證組 79 人，用以驗證開發組之關鍵性指標對早期拔管之預測力。數據資料取自病歷，以  $\chi^2$ 、t-test、逐步複回歸為資料處理之主要方法。研究結果顯示：血液動力學的穩定、術後合併症如昏迷、出血之產生、及術後肌肉活動力的恢復是影響早期拔管的重要因素。開發組產生之 10 小時內拔管關鍵性指標為：持續 2 小時出血量小於 50 cc 所需的時間、術後升壓藥物指數小於等於 5 所需的時間與恢復肌肉活動力所需的時間，其解釋的總變異量為 22%。在驗證組中，能預測拔管時間的關鍵性指標與開發組的研究結果相同，其解釋的總變異量為 55%。以同時達此三項關鍵性指標作為預測 10 小時內拔管，得其預測力在驗證組分別為：敏感度 100%、特異性 42%、陽性預測值 72%、陰性預測值 100%、準確率 77%。本研究結果之影響早期拔管關鍵性指標，可供臨床醫護人員在照顧冠狀動脈繞道手術後評估拔管時機之參考。

### Abstract

Abstract: The purpose of this study was to investigate the impact factors and the critical determinants of early extubation for patients after coronary artery bypass graft surgery. Convenient sampling was conducted in a 10 months period to recruit subjects from a medical center at Taipei city. Cases were assigned to developing group or validating group according to their time of admission (the first 5 months vs. the second 5 months). Data were collected from chart review and clinical observations. The major statistical procedures applied to process the data were: independent-t,  $\chi^2$ , and stepwise multiple regression. In evaluating the predictive power of critical determinants, sensitivity, specificity, predictive (+), predictive (-), and overall correct rates were examined. There were 110 subjects in developing group and 79 subjects in validating group. The impact factors of early extubation generated from developing group were: cardiac functions, stability of hemodynamics, blood loss, conscious level, and recovery of muscle strength. The critical determinants were:

bleeding amount, inotropic equivalent, and recovery of muscle strength. They explain 22% of the variances of extubation time. Same impact factors and critical determinants were found in exam data obtained from validating group. The critical determinants explain 55% of the variance of the extubation time in validating group. The predictive power of these critical determinants in the validating group were: sensitivity, 100%; specificity, 42%; predictive(+), 73%; predictive(-), 100%; and overall correct rate, 77%. By applying the critical determinants to making decision of extubation, an early extubation within 10 hours of ICU admission can be achieved with less invasive assessments. Since data of this study were obtained from CABG patients, the application of these critical determinants to patients after other cardiac surgeries required further investigation.