

# Initial Postoperative Hemoglobin Values

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## Editorial

This is referred to as "patient blood management." Lung transplantation is a complex surgical procedure that frequently necessitates intraoperative transfusion of blood products. One of the four patients undergoing lung transplantation requires a massive blood transfusion. Because pre-transfusion hemoglobin thresholds may be impractical and inaccurate during active bleeding and in thermodynamically unstable patients, they should be avoided. In the absence of high-quality data, clinicians rely heavily on the outcomes of cardiac surgery patients. Patients undergoing lung transplantation, on the other hand, differ from other surgical patients in many ways. As a result of chronic hypoxia, many of them have pre-operative polycythemia, while others are anemic due to underlying chronic infections. Furthermore, the lung is the only solid or liquid organ.

As a result, the donor vascular plexus of the airways is perfused solely through the pulmonary circulation, which has lower oxygen content. As a result, tissue oxygenation depends on mixed venous oxygen saturation. An increase in hemoglobin Animal models have confirmed that, in the early stages after lung transplantation, the pulmonary epithelium pneumocytes are primarily affected, particularly in collapsed alveoli where diffusion of oxygen from the alveolus is further compromised. Donor bronchial hypoxia has been identified as a contributing factor to post-transplantation airway complications. After lung transplantation, increased expression of hypoxia-related genes in donor bronchi has been linked to respiratory failure, prolonged hospitalization, airway necrosis, and central airway stenosis. Age, sex, duration of surgery, intraoperative transfusion of PRBC and fresh frozen plasma (FFP), total fluid balance during surgery, and body mass index were all entered prospectively into the cardiothoracic anesthesia research database.

The maximally attainable sum of sensitivity and specificity in a generalized

additive model with smooth terms was used to calculate an optimal cutoff point for postoperative hemoglobin. Kaplan-Meier statistics were used to examine differences in cumulative survival between patients with postoperative hemoglobin levels above and below this level (log-rank test). The Wilcoxon signed-rank test was used to determine group differences. A relationship between higher hemoglobin levels immediately after surgery and better postoperative one-year survival was established in this retrospective cohort study of patients who underwent lung transplantation and received intraoperative transfusion of PRBC. Higher postoperative hemoglobin levels may be the result of higher preoperative hemoglobin levels, less blood dilution, and blood-saving surgical techniques.

In this study, the latter relationship was also true for postoperative anemia. Nonetheless, no correlation between preoperative hemoglobin levels and outcome was found in the current model. Although lower postoperative hemoglobin levels were associated with more FFP transfused, the number of FFP units was not associated with differences in total fluid intake, indicating that less FFP transfusion would be beneficial. This could explain why, in the current study, postoperative anemia affected one-year mortality independently of bleeding complications, supporting the authors' hypothesis that higher hemoglobin levels after lung transplantation contribute to better graft function and prevent systemic hypoxemia. Although association does not always imply causation, improved tissue oxygenation via an infusion In fact, higher oxygen partial pressures in kidney tissue after lung transplantation actually lower erythropoietin synthesis, while iron deficiency may persist for several weeks, preventing rapid anemia recovery. Furthermore, one-third of the current study's lung transplantation patients had chronic obstructive pulmonary disease prior to their transplant. PRBC transfusion is commonly used to rapidly increase hemoglobin levels. Transfusion of even small amounts of PRBC has been linked to increased morbidity and mortality in thoracic surgery, as well as other surgical specialties.

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