

## Retrospective/Prospective Analysis of Guideline Implementation and Transfusion Rates

**Authors :** B. Kenny

**Abstract :** The complications associated with transfusions are well documented, with the serious hazards of transfusion (SHOT) reporting system continuing to report deaths and serious morbidity due to the transfusion of allogenic blood. Many different sources including the TRICC trial, NHMRC and Cochrane recommending similar transfusion triggers/guidelines. Recent studies found the rate of infection (deep infection, wound infection, chest infection, urinary tract infection, and others) were purely a dose response relationship, increasing the Relative Risk by 3.44. It was also noted that each transfused patient stayed in hospital for one additional day. We hypothesise that providing an approved/standardised, guideline with a graphical summary of decision pathways for anaemic patients will reduce unnecessary transfusions. We retrospectively assessed patients undergoing primary knee or hip arthroplasties over a 4 year period, 1459 patients. Of these, 339 (23.24%) patients received allogenic blood transfusions and 858 units of blood were transfused, 9.14% of patients transfused had haemoglobin levels above 100 g/L, 7.67% of patients were transfused without knowing the haemoglobin level, 24 hours prior to transfusion initiation and 4.5% had possible transfusion reactions. Overall, 17% of allogenic transfusions to patients admitted to the Orthopaedic department within a 4 year period were outside NHMRC and Cochrane guidelines/recommendations. If our transfusion frequency is compared with that of other authors/hospitals, transfusion rates are consistently being high. We subsequently implemented a simple guideline for transfusion initiation. This guideline was then assessed. We found the transfusion rate post transfusion implementation to be significantly lower, without increase in patient morbidity or mortality,  $p < 0.001$ ). Transfusion rates and patient outcome can be optimized by a simple graphical aid for decision making.

**Keywords :** transfusion, morbidity, mortality, neck of femur, fracture, arthroplasty, rehabilitation

**Conference Title :** ICSRD 2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020