

# PATIENT BLOOD MANAGEMENT: EMERGING CONCEPTS

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## **Abstract:**

Patient blood management (PBM) is the wholesome management of medical and surgical patient's blood to minimize allogenic blood & blood product transfusion by treating preoperative anemia, iron deficiency, promoting various techniques for increasing red cell mass preoperatively, applying various techniques intraoperatively to decrease blood loss and applying evidence based practice for blood transfusion intraoperatively and postoperatively [1].

Physician Hamilton Fish is regarded as father of PBM who published related paper in 1899. Denton Cooley, a cardiac surgeon practiced cardiac surgery in 542 patients without blood transfusion & laid foundation for PBM [2, 3].

PBM is regarded essential as there are supply & demand issues, adverse reactions with blood transfusion, underestimated costs, new emerging pathogens & questionable efficacy.

PBM consists of three pillars and nine matrixes. Three pillars are optimizing red cell mass, minimizing blood loss & harness/optimize physiological reserve of blood loss. In surgical patients, three pillars are again divided in preoperative, intraoperative and postoperative periods which make it nine matrixes.

Anemia, Iron deficiency with or without anemia is associated with poor functional status, increased morbidity and mortality, increased hospital/ICU length of stay in neonatal, paediatric and adult surgical patients. Our study also demonstrated similar finding in cardiac surgical patients [4,5,6].

Barrier for implementation of PBM is mainly hospital culture, lack of awareness, lack of budget for personnel & equipments as well, and existing medical dogma of "blood transfusion is the treatment for anemia & blood loss." 3 E's which are evidence based medicine, economical benefit and ethical ground to use PBM protocol can motivate relevant stakeholders.

Many organisation like World Health Organisation, World Federation of Society of Anesthesiologists, Patient Blood Management Foundation, Society for the Advancement of Patient Blood Management & Werfen academy are working in this field so that all groups of patients of all ages; medical or surgical; will benefit from it. Decreased length of hospital stay

will increase the opportunity for enrolling new patients. Decreasing healthcare cost in transfusion area may be utilized in other areas of healthcare [7].

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