

Maximum Surgical Blood Ordering Schedule (MSBOS)

Orthopedic surgeries are usually associated with excessive [blood loss](#) which leads surgeons to overestimate need for blood transfusions and over ordering of blood. The cross matched blood, when not used, leads to the wastage of blood bank resources in terms of time, money and manpower. The objective of this study was to investigate the compliance to previously proposed MSBOS and to provide updated recommendations for all orthopedic procedures.

METHODS: A retrospective analysis was conducted between 1st June 2015 and 31st May 2016. Patients admitted to the orthopedic surgery service for whom blood products were requested were included. Cross Match/Transfusion (CT) Ratio, Transfusion Index and Transfusion Probability were calculated. Values of < 2.5 , > 0.5 and $> 30\%$ respectively, were taken as standards. Maximum Surgical Blood Ordering Schedule (MSBOS) was proposed based upon these calculations using Mead's criteria.

RESULTS: Six hundred and ninety-nine patients were sampled after implementing exclusion criteria. The overall CT ratio was 4.87, transfusion index was 0.55 and transfusion probability was 25%. A compliance rate of 24.6% was observed with the reference CT ratio of 2.5. Highest CT ratio was calculated for arthroscopic procedures while tumor resection had the lowest ratio. Age, procedure performed, ASA status and use of tourniquet were found to be significantly associated with CT ratio being greater or less than 2.5.

CONCLUSION: Results showed significant wastage of blood products and non-compliance with blood ordering guidelines. Hence there is need for large scale prospective studies to establish MSBOS and ensure its compliance ¹⁾.

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Hasan O, Khan EK, Ali M, Sheikh S, Fatima A, Rashid HU. "It's a precious gift, not to waste": is routine cross matching necessary in orthopedics surgery? Retrospective study of 699 patients in 9 different procedures. BMC Health Serv Res. 2018 Oct 20;18(1):804. doi: 10.1186/s12913-018-3613-9. PubMed PMID: 30342517.

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