

# Outcomes of patients receiving massive transfusions after trauma

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**Introduction:** Transfusion of red blood cells is a key component in the resuscitation of massively hemorrhaging patients post-injury. Little is known about the functional status of patients at discharge or the outcome of patients after discharge from acute hospitalization. We assessed the changes among major trauma patients who had received massive transfusions.

**Material and method:** This article is an overview of internal and external resources available.

**Results:** Massive transfusions, independent of injury severity, have been previously associated with adverse outcomes. We showed that this association was no longer demonstrable at 12 months after injury. Long-term outcomes and variables associated with unfavorable outcomes. Such as a significant reduction in the average volume of red cells transfused and with volumes of FFP transfusion remaining constant; a significantly higher proportion of patients received high ratios of FFP: RBC. In addition, prehospital plasma and RBC transfusions were associated with improved early outcomes and negligible blood products wastage; but not an overall survival advantage. In patients with a closed head injury, neither the administration of erythropoietin nor the maintenance hemoglobin concentration of greater than 10 g/dL resulted in improved neurological outcome at 6-months. The transfusion threshold of 10 g/dL was associated with a higher incidence of adverse events.

**Conclusion:** Massive transfusion rates after trauma had unfavorable outcomes at 6- and 12-months with little change over time. Long-term outcomes with functional status should be measured and more commonly reported to reflect the actual sequelae of major trauma and massive blood transfusions.

**Keyword:** blood transfusion; major trauma; massive blood transfusion; Outcome assessment