

# What is the Ideal Dose of Whole Blood in Massively Bleeding Trauma Patients?

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## Objective

The purpose of this study is to determine if there is an optimal ratio of whole blood to either packed red blood cell or plasma transfusion in massively bleeding trauma patients. We seek to determine what ratio mitigates ongoing blood loss and thus transfusion need.

## Background

Massive exsanguination following traumatic injuries is the most common cause of death within the first hour of presentation. Among the trauma population 80% of deaths in the operating room (OR) and 50% of deaths within the first 24 hours are from uncontrolled hemorrhage and uncorrected coagulopathy.

Use of stored, cold whole blood is becoming increasingly common in the civilian trauma setting and is now used at Saint Francis Hospital and Medical Center in severely bleeding trauma patients. Use of this product as an adjunct to standard component therapy is predicated on the premise that whole blood has better hemostatic efficacy than component transfusion. However, there are no studies evaluating how many units of whole blood should be transfused during a massive hemorrhage episode.

The **primary aim** is to determine if there is a dose-response relationship between number of units of whole blood given and total transfusion need within the first 2, 4, 6, 12 and 24 hours following onset of hemorrhage.

## Methods

This study is being conducted at Saint Francis Hospital in collaboration with George Washington University. We will enroll actively bleeding, unstable patients.

**This study does not govern or direct care to be given. This is a prospective, observational study evaluating care that is rendered. All patients will be managed according to the standard of care at their institution and at the discretion of their attending surgeon and clinical critical care team.**

## Data

Coded Information will be collected from the hospital electronic medical record (Epic) and from the trauma registry. De-identified data will be entered into a REDCap database.

This study is open and actively consenting patients.

**Patients enrolled at Saint Francis Medical Center: 3**



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