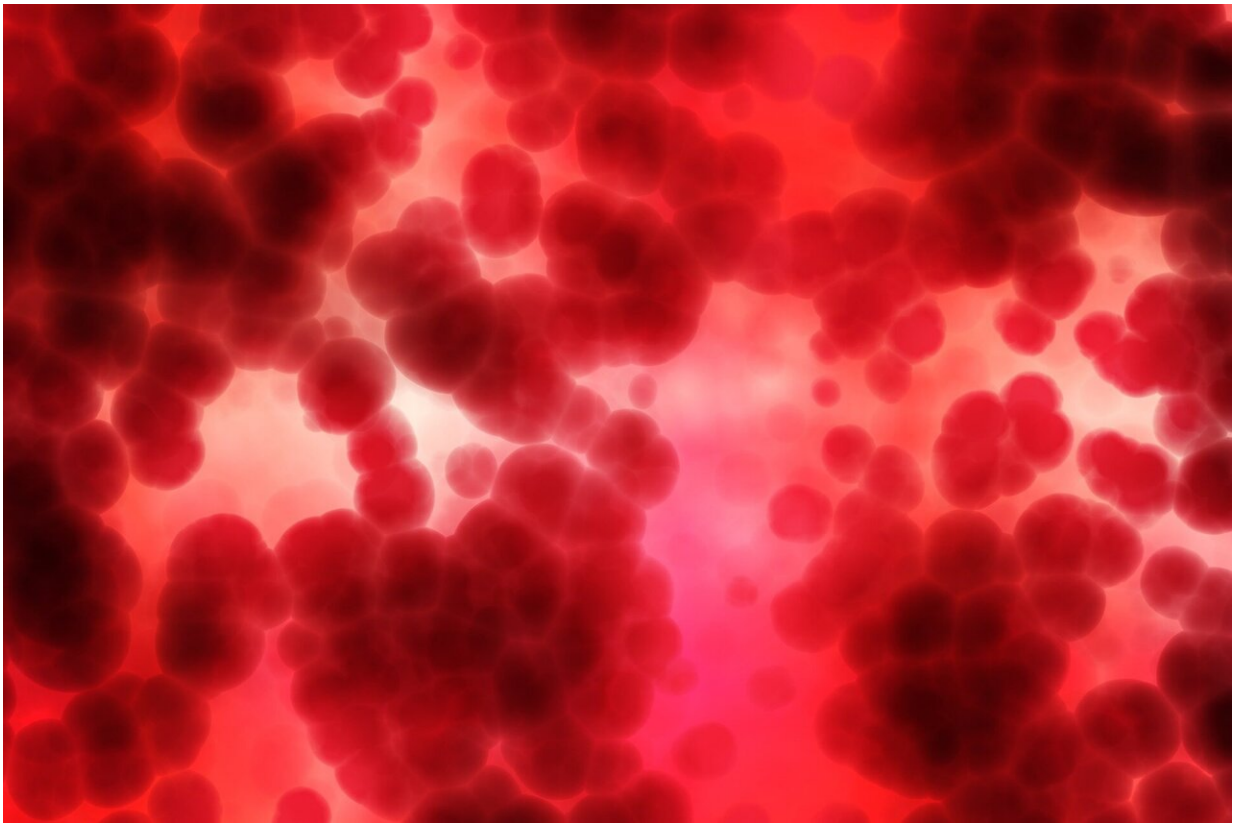


New transfusion product combining blood and plasma in one bag saves lives, study finds

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NHS Blood and Transplant, Queen Mary University London, and Barts Health NHS Trust have collaborated on a new study published in the journal *Critical Care*.

Plasma is the liquid part of the [blood](#). It contains clotting factors that reduce bleeding. NHSBT Blood and Transplant developed a new [transfusion](#) product that contained [red blood cells](#) and plasma together.

The study recruited 909 major traumatic [hemorrhage](#) patients who met the trial criteria. They were treated by Air Ambulances in England during 2018-2020. The patients received one of the following:

- The new product, which contained red blood cells and plasma together in one bag
- Separate transfusions of red blood cells and plasma
- Red blood cells only

Overall, the odds of surviving 24 hours were 1.5 times higher in patients who received combined red cells and plasma than those who received red cells alone. The authors say larger trials are needed to confirm these findings.

The primary aim of the trial was to see how the new product compared to the other two established treatments. There is because there may be practical benefits to carrying out one transfusion with one bag, instead of separate bags of plasma and red blood cells, which could benefit patients. Further trials would be needed to establish that.

Queen Mary University of London led the research. The product was developed by NHS Blood and Transplant. Barts Health NHS Trust provided clinical data and support.

Chief Investigator Dr. Laura Green, Reader in Transfusion Medicine at Queen Mary University of London and a Consultant Hematologist for NHS Blood and Transplant and Barts Health NHS Trust, said, "The majority of trauma deaths are within three hours. We know patients benefit from getting not just red blood cells but also plasma but it's

difficult to quickly carry out multiple transfusions in an urgent pre-hospital setting—such as by the roadside at night following a major crash, where a patient might have minutes to live.

"The study provides evidence that this new product, which contains both plasma and red blood cells unmixed in one bag, also saves more lives than just giving red blood cells alone. Now it can be explored further as a potential lifesaving new treatment which can be used outside of hospitals."

More information: Harriet Tucker et al, Association of red blood cells and plasma transfusion versus red blood cell transfusion only with survival for treatment of major traumatic hemorrhage in prehospital setting in England: a multicenter study, *Critical Care* (2023). [DOI: 10.1186/s13054-022-04279-4](https://doi.org/10.1186/s13054-022-04279-4)

Provided by Queen Mary, University of London

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