



**UK-REBOA**  
Bleeding control trial



**SCIENCE IN THE CITY**  
OVERSEAS  
ENGAGEMENT

# *the* **PAIR** *bulletin*

Patient Public advisors for Injury research

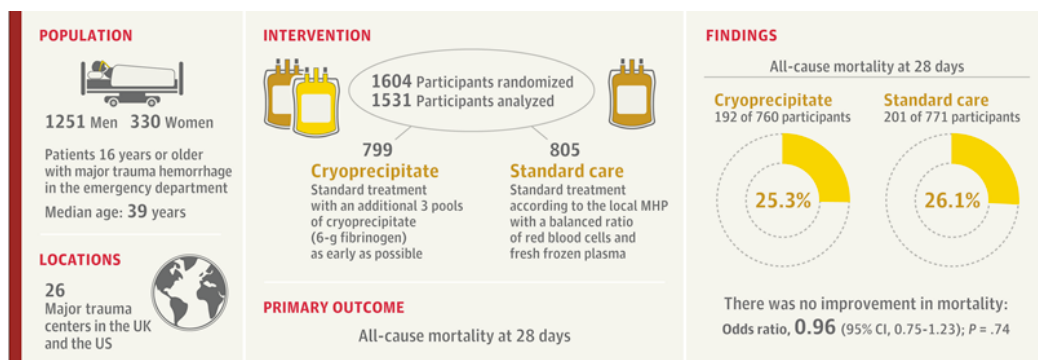
## Cryostat 2

Critical bleeding is a leading cause of death in people who have suffered serious injuries. Controlling this bleeding can be a challenge, especially in those who develop problems with their blood clotting.

CRYOSTAT2 was a randomised controlled trial where a group of patients were randomly chosen to receive an early transfusion of fibrinogen alongside the usual care compared with those that were treated as usual. Fibrinogen is converted by the body to strengthen blood clots and stop bleeding, but previous research has found that some people have very low levels after injury. CRYOSTAT 2 was the Largest trauma transfusion trial ever conducted, all 26 Major trauma units in the UK took part alongside hospitals in America in the first transatlantic trauma haemorrhage trial.

The aim of the study was to see if giving it to people within a few hours of their injury would improve outcomes and reduce mortality. It is always challenging to conduct research in such critically ill patients but the two groups were very well matched, with around 800 people in each arm.

The results found no difference in outcomes of the two groups with around a quarter of both groups sadly dying within a month of their injury. Investigating the figures more closely it became apparent that the kind of injury affected the outcome from the treatment. There were signs that those suffering from penetrating injuries like stabbings had worse outcomes with the new treatment compared to the usual practice.



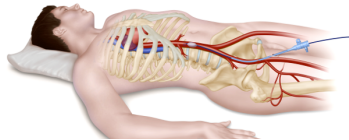
Davenport R, Curry N, Fox EE, et al. Early and Empirical High-Dose Cryoprecipitate for Hemorrhage After Traumatic Injury: The CRYOSTAT-2 Randomized Clinical Trial. JAMA. 2023;330(19):1882–1891.

**PAIR LINKS PATIENTS AND CARERS WITH RESEARCHERS. TO FIND OUT MORE CONTACT [J.PIERCY@QMUL.AC.UK](mailto:J.PIERCY@QMUL.AC.UK)**

In some cases giving fibrinogen did help but the time it was given was very important. The results show that it is not helpful to give the same treatment to everyone. More work needs to be done to identify the people who may benefit and move towards personalised treatment plans.

## UK REBOA

REBOA (which stands for Resuscitative Endovascular Balloon Occlusion of the Aorta) is a technique designed to stop internal bleeding. REBOA involves passing a small balloon into the aorta (the main artery in the



body). Inflating the balloon blocks the artery to stop the bleeding until a patient can be taken to an operating theatre. While REBOA seemed a promising treatment, doctors did not know if it was better than the standard care given to trauma patients. The UK-REBOA trial randomised people to groups

who had the treatment with normal care or standard major trauma care alone.

The results were presented this summer and showed that the intervention was not helpful and should not be used.

### REBOA

- increased mortality at 90 days and at all interim time points.
- increased deaths due to bleeding at 3 hours and 90 days.
- delayed the time taken to control bleeding.

## Science in the city

Queen Mary University London has a campus in Malta and in September C4TS joined with some of their medical students to present research topics as part of the Annual Science in the City programme.

The event took place just outside Valetta with a pop up festival of science activities taking advantage of Malta's great weather. The students were on hand to demonstrate anatomical models, take blood pressure readings and get visitors to take fake blood samples from a cannula arm. The 'blood' was tested to see how well it formed clots, leading to discussion of C4TS research projects and recent publications about clotting and blood testing.



## Meet the researcher



### Ross Davenport

My main research interest is in the major clotting problems which happen after serious injuries. This Trauma Induced Coagulopathy is a major cause of death in people with serious bleeding. My Research investigates the processes the body uses naturally to break down blood clots and how this sometimes happens too quickly and too soon. Early detection of these clotting problems is very important in treating people and my work as shown that a system called ROTEM can be used to identify problems within 5 minutes of testing.

Alongside the research I am a vascular surgeon at the Royal London Major Trauma Centre and a Senior Lecturer in Trauma Sciences at C4TS, teach students on the online [Masters programme in Trauma Sciences at QMUL](#).