



ENGAGING SCIENCE



FLYING DOCTORS

the PAIR *bulletin*

Cheltenham science festival

The Cheltenham science festival is one of the UK's largest celebrations of science and technology. Featuring talks, interactive activities, exhibitions and book signings, the festival sees thousands of people of all ages engaging with scientists and engineers to raise aspirations, share findings and celebrate new endeavours.

A team from the Centre for Trauma Sciences visited the festival in June 2023 to talk about their research into bleeding and the clotting disorders which develop in seriously injured patients.



The team took an interactive activity aimed at young people and designed to stimulate conversations about emergency medicine and how bleeding patients are tested and treated. People were invited to draw a small fake blood sample from an arm and to test this by shaking it in a small tube. Some samples would form a clot in the tube whilst others remained liquid. The results of each test were recorded by placing a model blood cell in a

beaker so that over the day the proportion of samples which failed to clot were recorded. The tubes were deliberately designed to reveal the correct percentages. Research shows that around 40% of patients will suffer clotting problems. The activity was very popular with 900 students from 6-18 years old taking samples and talking to staff.

The centre for Trauma Sciences are always keen to talk to people about their work and have developed a number of activities to explore their work including Billy and his blood cells which introduces children to what happens when you bleed after an accident.



PAIR visit to London Air Ambulance

Some members of the PAIR group met at the Blizard Institute and were invited on a trip to the 16th floor of the Royal London Hospital to visit the home of the London Air Ambulance.

The group were given a tour, shown the helicopter and talked to one of the doctors about the part that the charity plays in research alongside the treatment of patients.

Pair members heard about the SWIFT research project which is exploring these of whole blood in trauma and saw how the randomised trial is carried out with sealed boxes containing either whole blood or the standard red cell and plasma blood bags.



The view from the helipad was almost as amazing as the life-saving work of the HEMS crew.

Things we learnt about the Air ambulance

- the crew work within the M25 and can reach patients in 7 minutes
- the ambulance lands to treat patients at the scene but rarely transports them back to the hospital
- the helicopter has priority over other aircraft- there can be quite a few over a busy city like London
- the team have 2 helicopters but also use a fleet of 5 cars to quickly reach people where a close landing is impossible

Meet the researcher



Fayez Alruqi

I'm a PhD student at C4TS with a background in pre-hospital care. I worked as a paramedic in Saudi Arabia and furthered my skills through an internship in the USA. I have also completed a Master of Science in Disaster Medicine and Management at Thomas Jefferson University in Philadelphia.

My PhD project focuses on improving the pre-hospital care response in mass casualty incidents. Specifically, I am investigating life-saving interventions and the triage response, with the aim of increasing the efficacy and efficiency of emergency medical care during large-scale incidents. My research involves a simulation environment in which I study the performance and timing of different life-saving interventions for trauma patients outcomes in major incident hot zones