Advances in military, field, and austere transfusion medicine in the last decade.

Hess JR, Lelkens CC, Holcomb JB, Scalea TM.

ABSTRACT: Two decades of war in south-west Asia has demonstrated the essential role of primary resuscitation with blood products in the care of critically injured soldiers. This idea has been widely adopted and is being critically tested in civilian trauma centers. The need for red cells, plasma and platelets to be immediately available in remote locations creates a logistic burden that will best be eased by innovative new blood products such as longer-stored liquid RBCs, freeze-dried plasma, small-volume frozen platelets, and coagulation factor concentrates such as fibrinogen concentrates and prothrombin complex concentrates. Such products have long shelf-lives, low logistic burdens of weight, fragility, or needs for processing prior to use. Developing and fielding a full family of such products will improve field medical care and make products available in the evacuation chain. It also will allow treatment in other austere environments such as the hundreds of small hospitals in the US which serve as Levels 3 and 4 trauma centers but do not currently have thawed plasma or platelets available. Such small trauma centers currently care for half of all the trauma patients in the country. Proving the new generation of blood products work, will help assure their widest availability in emergencies.