Frozen Red Blood Cells (FRBC) have long been an FDA-licensed product manufactured by military donor centers for use in contingency operations. Traditionally employed in locations where it would be difficult to provide a large inventory of FDA-licensed liquid red cell units, frozen blood can be used by hospitals both stateside and overseas. Unfortunately, this resource has gone largely unused due to a variety of factors; primarily a lack of information about the product and its uses.

**History**
The Navy first made use of Frozen Red Blood Cells in a combat zone in 1966 at Naval Station Hospital, Danang, Republic of South Vietnam. In a seven month period, over 450 FRBC units were transfused to casualties treated at the hospital.¹ During the Persian Gulf War, over 250 FRBC units were deglycerolized but none were used, partly because the technology at that time only allowed for a 24-hour shelf life of deglycerolized red blood cells.² In 2005, the ACP®215 device was developed by Haemonetics allowing for a 14 day shelf life of deglycerolized units. From 2008-2012, 860 deglycerolized red blood cell units have been transfused within CENTCOM with no transfusion reactions or complications.³ The Joint Trauma System supports the use of deglycerolized blood within CENTCOM and has published a Clinical Practice Guideline to direct its use.⁴ FRBC units are routinely deglycerolized at Landstuhl Regional Medical Center, Naval Hospital Okinawa, and Portsmouth Naval Medical Center.

**Fresh & Clean**
Red cells frozen at up to six days post-collection are as beneficial and may be more efficacious than blood units that, while not expired, are yet older than deglycerolized (thawed) red cells. Additionally, deglycerolized red cells are a washed product, and are therefore less likely to cause transfusion reactions. The thawing process, or deglycerolization, cleanses the blood of proteins and antibodies that may cause transfusion related reactions.

**Available**
Deglycerolized red blood cells are readily available to military hospitals. The Army, Navy and Air Force have centers set up which can deglycerolize frozen blood and ship the products to a requesting treatment facility. Deglycerolized red cells are a great option for supplementation of liquid red cell inventories of any hospital. To find out more about frozen red blood cells visit our website at: [www.militaryblood.dod.mil](http://www.militaryblood.dod.mil)

³ Armed Services Blood Program Office, 7700 Arlington Blvd, Ste 5143, Falls Church, VA 22032