

U.S. DoD Deploys Blood Units Worldwide with ACP®215



Background

The U.S. Department of Defense (US DoD) established the first frozen blood program in the 1970s using the 115 Cell Washing System developed by Haemonetics Corporation. Although sophisticated for its time, the 115 device was an open and manual system that limited the shelf-life of deglycerolized blood units to 24 hours. Consequently, the US DoD had to operate numerous frozen blood depots in close proximity to intended theaters of operation. Moreover, to secure the required processing throughput and deliver deglycerolized products to end users within 24 hours through existing logistical paths, the depots had to be stocked with a substantial quantity of frozen blood and processing equipment.

Challenge

Because of the deglycerolized product's short shelf-life and the particulars of readiness plans, the majority of the deglycerolized blood expired before it could be used and was discarded. Three other limitations created logistical strains on the transportation of resources to theaters of operation: the inability to ship the blood product in its liquid state; the high rate of breakage of frozen product during transport; and the substantial number of trained personnel needed to handle the intensive manual process required by the 115 technology. Burdened with an expiring inventory, thawed product with a short shelf-life, and an inefficient distribution system, the US DoD was having difficulty meeting the logistical necessities of modern warfare.

Solution

In the late 1990s, the US DoD decided to modernize its blood program with the more efficient ACP®215 Cell Processing System, developed by Haemonetics under US DoD specifications. After a series of FDA clearances, in 2005 Haemonetics and the US DoD developed a new Strategic Frozen Blood Program.

Implementation of the program included three major steps:

- Use of previous units
- Replacement with ACP-processed units
- Rotation of stockpiles (every three years to accommodate new blood tests)

Rotation of stockpiles is performed by:

- Routine transfusion
- Supplemental blood supply to theaters of operation
- Use during civilian contingencies such as disaster-relief efforts requiring blood

Results

The ACP®215 system is the integral component of the US DoD's new Strategic Frozen Blood Program that has enabled it to achieve significant improvements and successful results in theaters of operation across the globe.

The readiness and contingency requirements of the program were all designed based on the advantages and efficiencies offered by the ACP 215 system:

- 14-day outdate of deglycerolized product
- Capability to ship liquid product
- Reduction in the number of required trained staff
- Reduction of the size of stockpiles
- Reduction in the number of remote storage depots

The Strategic Frozen Blood Program has been particularly effective during U.S. Army and U.S. Navy operations:

- The Army can now access a large pre-positioned stock of frozen blood for contingency purposes in high-conflict risk areas.
- The Navy now operates stockpiles and equipment on 13 amphibious assault vessels and two hospital vessels, supporting the needs of their deployed fleets and adding to the capacity of floating blood-storage depots that can be located anywhere in the world.

