CCCTG
Canadian Critical Care Trials Group

Age of BLood Evaluation (ABLE) Trial in the Resuscitation of Critically Ill Patients

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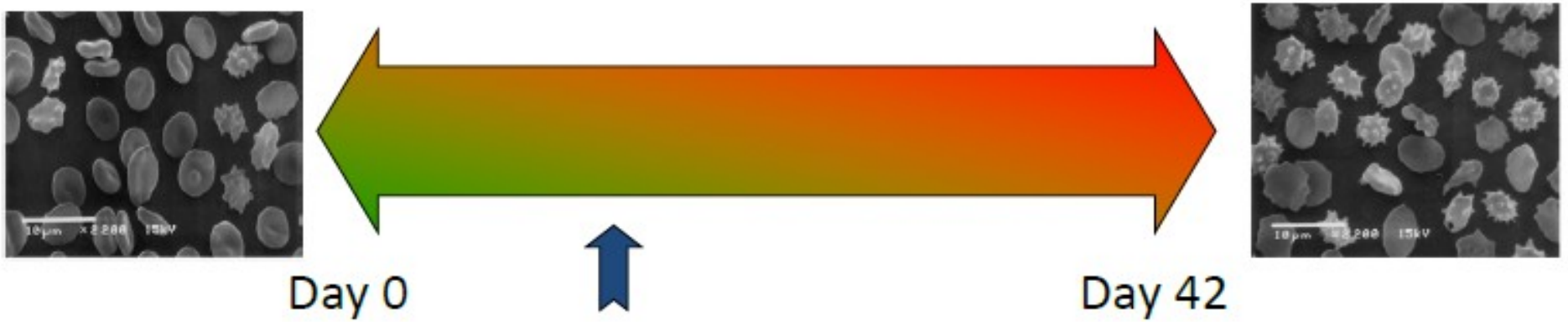
Overall objective

- To determine if transfusing 'fresh' RBCs (stored for less than 8 days) as compared to standard issue red cells improves 90 day mortality and morbidity



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Eligibility criteria

Inclusion criteria:

- Adult ICU patients
- Require at least 1 unit of RBCs
- Expected need for mechanical ventilation > 48 hrs

Expected mortality 25-30%

Exclusion criteria:

- Age less than 16 years of age.
- Previous enrolment in this study.
- Brain death or suspected brain death.
- Require uncrossmatched blood
- Difficulties with cross-match

Feasible to supply fresh RBCs

Results

- 27% France, UK, Netherland and Belgium
- 72% of recruitment from Canada

Adherence (Standard issue) - delivery of older units available •*Proportion of RBC units stored < 7 days*	**100%** ***2.8%***
Adherence(Fresh) •Proportion of RBC units stored ≤ 7 days	**90.49%**

	Fresh group	Standard group
Average age of blood (days)	**6.11±4.85**	**21.97±8.48**

Outcomes – all patients

Outcome	Number of patients	Percent
90-day mortality	870	36.0
ICU mortality	609	25.2
Multiple organ dysfunction syndrome	319	13.1
Nosocomial Infections	789	42.7
Thrombosis	72	3.0
Acute transfusion reaction	10	0.4

Conclusions

- Fresh red cells do not appear superior to standard issue red cells in critically ill patients

- Red cells undergo significant changes during storage
- Do not know if old blood is toxic

Planned sub-group analyses

- ✓Exposure to RBC: 1 to 3 units vs >3 units
- ✓Trauma vs non-trauma
- ✓Severe sepsis/septic shock vs other
- ✓Severity of illness: APACHE II <20 vs ≥ 20
- ✓ Admission type: perioperative vs medical