

Date: May 6, 2021
 To: Director of Clinical Laboratories Director of Transfusion Services
 From: Chris Lough, M.D., Vice President of Medical Services
 Re: Transition from CPDA-1 RBCs to AS-3 RBCS

In order to provide our customers with a continuous inventory of red blood cells (RBCs) for your neonatal/pediatric patients, LifeSouth will transition away from CDPA-1 RBCs to AS-3 RBCs by the end of the year. Please be aware, CPDA-1 or CPD RBCs will be available in limited quantities for hospitals when a special request is placed at least 24 hours prior to the date needed.

AS-1 and AS-3 RBCs have proven safe in all patient populations, including low volume transfusions (≤ 15 mL/kg) for neonates. (Conclusive studies have not been published concerning neonates and higher-volume transfusions of RBCs with additive solution). One of the main advantages of using AS-3 RBC components is that they do not contain mannitol and have a reduced amount of dextrose (see chart below). Also, by using additive-solution (AS-1 or AS-3) RBCs donor exposure is decreased, since one unit can be split several times for one or more patients for a longer period of time as the expiration date is longer than CPD and CPDA-1 (42 days for AS-3/AS-1 vs. 21 days for CPD and 35 days for CPDA-1). In addition, with additive-solution RBCs, nearly all of the donor plasma is removed and 100 mL of additive solution is combined with the RBC, resulting in a hematocrit of 55 to 60%. Please refer to *AABB Circular of Information* for additional information.

Units are in mg per product	AS-1	AS-3	CPDA-1	CPD
Dextrose	2200	1100	2010	1780
Adenine	27	30	17.3	0
Mannitol	750	0	0	0
Monobasic Sodium Phosphate	0	276	140	155
Sodium Chloride	900	410	0	0
Sodium Citrate	0	588	1660	1840
Citric Acid	0	42	206	209
Expiration	42 Days	42 Days	35 Days	21 Days

Product Class	Product Code	ISBT 128 Product Description
RBCs	E0382	RED BLOOD CELLS CP2D>AS3/500mL/refg ResLeu:<5E6
RBC	E0379	RED BLOOD CELLS CP2D>AS3/500mL/refg Irradiated ResLeu:<5E6
RBCs	E0378	RED BLOOD CELLS CP2D>AS3/500mL/refg Irradiated
RBCs	E0366	RED BLOOD CELLS CP2D>AS3/500mL/refg
RBCs	E0262	RED BLOOD CELLS CP2D/500mL/refg
Plasma 24	E2619	PLASMA CP2D/XX/<=-18C Frozen <=24h
FFP	E0713	FRESH FROZEN PLASMA CP2D/XX/<=-18C
Cryo Poor Plasma	E2617	PLASMA CP2D/XX/<=-18C Cryo reduced
Liquid Plasma	E2469	Liquid PLASMA CP2D/XX/refg

If you have any questions regarding this transition, or would like resources to use at your facility regarding the safety of AS-3, please feel free to contact me at cmlough@lifesouth.org.

- 1) Jain, R and Jaroz, C. Safety and efficacy of AS-1 red blood cell use in neonates. *Transfusion Apheresis Science* 2001, 24: 111-115.
- 2) Strauss, R et al. AS-1 red cells for neonatal transfusion: a randomized trial assessing donor exposure and safety. *Transfusion* 1996; 36:873-878.
- 3) Strauss, R. Data-driven blood banking practices for neonatal RBC transfusions. *Transfusion* 2000; 40: 1528-1540.
- 4) Strauss, R et al. Feasibility and safety of AS-3 red blood cells for neonatal transfusions. *Journal of Pediatrics* 2000; 136: 215-219.