

Background/Case Studies:

In August 2022, our medium sized community based blood center reviewed the increasing demand on the Low Titer O Whole Blood program (LTOWB), and recognized the need to grow the eligible donor pool. This program screened for eligible O-positive male donors at fixed sites. Our blood operations team decided to test the feasibility of adding female O-positive donors into the program.

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Study Design/Methods:

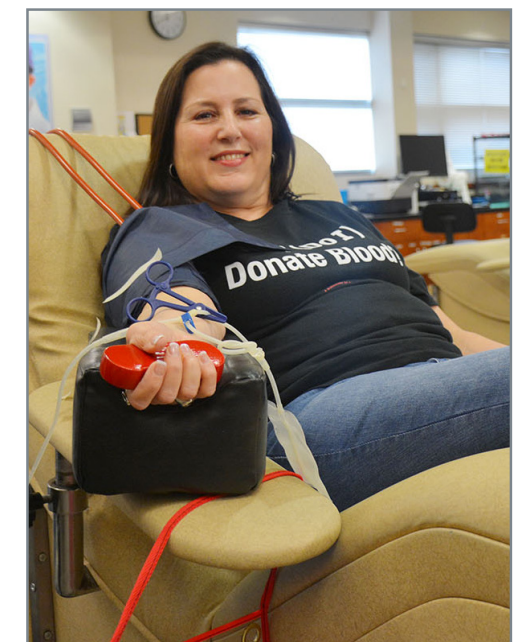
To begin, a trial was conducted by performing anti-A/anti-B isotiter testing runs from female O-positive donors in September 2022; the results supported continuing the proposed approach to grow the donor base. O positive donors with an anti-A/anti-B isotiter of less than 256 qualified. Using our Blood Establishment Computer System (BECS), we automated the ordering of the isotiter screening tests for applicable female donors; results were monitored through the end of 2022 as the eligible donor pool grew.

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Results/Findings:

The trial isotiter testing in September included 28 females with ages ranging from 19-74 years old, who donated whole blood at a fixed site location. To avoid pulling from our female platelet donor base, as well as the added complexity of managing additional Human Leukocyte Antigen (HLA) antibody testing, only females who identified as never pregnant were included to mitigate against transfusion related acute lung injury (TRALI). Overall, 20 of these donors tested low titer (71%). This was below our 82% low titer rate for males, but above the desired 65% goal for females set by the project team. At the event to celebrate the program anniversary in January 2023, 352 out of 507 females tested low titer. The number of screening tests per day was then capped at 9 total to support increasing LTOWB collections by 40% by the end of 2023 if needed. Since implementation, 81% of males and 69% of females have tested as low titer. When evaluating rates of low titer by age group, for females, in the 18-39 group, 158 of 276 are low titer (~57%); in the age group 40-59, it goes to 187 of 254 (~74%), and age group 60 and above shows 104 of 125 (~85%). This has important implications for recruitment. Testing donors over 60 years of age, will lead to more low titer donors versus testing donors 18-39 years of age.



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Conclusion:

Expanding the LTOWB donor eligibility to include females allows our blood operations team to support the increasing demand for this blood product. It also allowed for growth of a loyal and dedicated universal donor pool that can be called upon in case of emergency. Future expansion is being considered to add HLA testing, and to both screen and collect on mobile drives. The LTOWB program at our blood center continues to be a model for other regions of the country to adopt or expand.