

## Utilization of Cord Blood Banking Inventory: Impact on Banking Practices, DM Regan, KA Mueckl, DA Oliver, JM Alonso, CE Johnson, DA Wall. International Society for Hematotherapy and Graft Engineering, Quebec City, June 2001.

The St. Louis Cord Blood Bank utilizes a community-based collection method. For practical purposes, mainly cost constraints, the bank chose to process collections based on size and cell number (greater than 50 ml and  $8 \times 10^8$  cells). The decision was based on the rationale that cell dose was most important clinically in achieving early and durable engraftment. This approach has translated to an inventory of 5800 units with a TNC of  $1126 \times 10^6$  (range:396-4720). Approximately 50% of the inventory can accommodate a minimum cell dose of  $1.5 \times 10^7$ /kg for a 70kg adult. The utilization of banked units based on final cell count was evaluated (average post processing yield is 89% of the initial product). The median TNC of the first 239 units exported from the bank was  $1490 \times 10^6$  (range:665-4720), delivering a median cell dose of  $5.3 \times 10^7$ /kg (range:1.2-39.7). The largest 10% of the banked units provided over a third of the units used in transplantation. Units less than  $900 \times 10^6$  preprocessing cell count accounted for 30% of the inventory but were utilized much less frequently (6% of cords released). With the current minimum standards, 25% of collected units are banked. Increasing the minimum collection volume to 70 ml or the cell dose to  $900 \times 10^6$  cells would result in banking approximately 18% of collected cord blood units. From an economic standpoint, given the degree of HLA disparity that is tolerated with cord blood, banking the larger units is a reasonable approach.

