

The Hospital for Sick Children (SickKids) Research Ethics Board Blood Sampling Guidelines

In term newborns, the average blood volume is 85 mL/kg. In premature infants the average blood volume is 90 mL/kg. Blood volume increases to an average of 105 mL/kg during the first few days after birth and then decreases during the first few months. The average blood volume of infants after 6 months of age is 75-77 mL/kg, similar to that of older children and adults.*

For research of infants, children and adolescents, the REB will allow total blood-drawing of up to 5% of the research subject's total blood volume over a 3 month period, on a single occasion or in divided portions. Example: a newborn weighing 2.5 kg has a blood volume of $85 \times 2.5 = 212$ mL. Upto 5% can be removed for research : $.05 \times 212 = 10.5$ cc.

Research requiring blood volumes in excess of 5% will be considered by the REB but detailed justification must be provided.

**from Pearson HA, " Blood and Blood-forming Tissues " in Rudolph's Pediatrics, CD Rudolph and AM Rudolph (Editors), McGraw-Hill, New York, 21st Edition, 2003, page 1521.*