Guidelines for the Blood Transfusion Services

3.7: Volume of donation

http://www.transfusionguidelines.org/red-book/chapter-3-care-and-selection-of-whole-blood-and-component-donors-including-donors-of-pre-deposit-autologous-blood/3-7-volume-of-donation

3.7: Volume of donation

3.7.1: Whole blood

A donation of 450 ml ±10% is required to ensure the final red cell component meets specification. No more than 15% of the donor's estimated blood volume (EBV) should be taken during any one donation. In general 470–475 ml of blood, excluding samples, is collected into the main pack.

3.7.2: Component donation

The final volume of collected components should not exceed 880ml (including anticoagulant).

The Extra-Corporeal Volume (ECV) should not exceed 16% of the donor's EBV at any point in the procedure. Estimation of the ECV excludes the volume of anticoagulant in the collected component(s). See Appendix 3 in the JPAC *Donor Selection Guidelines*[1].

Attention must be paid during apheresis to the ECV in order to avoid rendering the donor significantly hypovolaemic. Consideration must be given to the following factors:

- donor weight and estimated blood volume
- type of apheresis procedure: intermittent flow or continuous flow
- donor's haematocrit: this influences volume of plasma collected during any one cycle of an intermittent flow procedure

In practice, modern component collection systems automate most of the calculations required to ensure donor safety during an apheresis procedure. All procedures should be carried out in line with the operating instructions for the collection system in use.

To avoid citrate toxicity, the reinfusion rate of citrated blood or plasma should not exceed 0.015 mmol citrate /kg/min for intermittent flow cell separator machines (or 0.010 mmol citrate/kg/min for continuous flow cell separator machines). The anticoagulant ratio during collection influences the final volume of anticoagulant in collected plasma. This may be relevant to the intended use of the collected components.

The collection system used must be capable of adjustment to suit each individual donor's safety tolerance limits.