Guidelines for the Blood Transfusion Services

3.15: Blood tests

http://aws-lon-jpac.targetservers.uk/red-book/chapter-3-care-and-selection-of-whole-blood-and-component-donors-including-donors-of-pre-deposit-autologous-blood/3-15-blood-tests

3.15: Blood tests

3.15.1: Estimation of the concentration of haemoglobin in donor blood

The haemoglobin (Hb) concentration should be determined each time a potential donor presents.

The acceptable lower limits for haemoglobin screening by donation type (e.g. whole blood, plasmapheresis etc.) are detailed in the JPAC Donor Selection Guidelines[1] (see the entry for Haemoglobin Estimation).

Several methods of screening donors for their blood Hb concentration are available (or in development). These include:

- gravimetric method using solutions of copper sulphate on blood samples obtained by fingerprick
- spectrophotometric devices using capillary or venous samples
- non-invasive technology
- full blood count using venous or capillary samples.

The final method chosen must be validated, and validation should include comparison to a full blood count measured on a venous sample.

A donor who fails their initial Hb screening test can be offered a further test for accurate determination of their Hb concentration. If the Hb concentration so determined is at or exceeds those quoted above the donor may be invited to give a full donation.

Donors whose Hb concentration is below the minimum values should not be bled. The reason for deferral should be explained and the donors advised to see their own general practitioner if this is considered to be appropriate as defined by Blood Service procedures.

If a quantitative method of Hb determination is employed, before or after the donation, individuals found to have a concentration of Hb above the normal upper limit as indicated in the JPAC *Donor Selection Guidelines*.[1] should be referred for further investigations.

3.15.2: Additional tests for component donors

All component donors must have a full blood count performed at the first donation and this must be repeated at least annually.

The platelet count should be performed at each visit for plateletpheresis donors.

Total serum protein must be measured at the first donation for all component donors who give plasma. As a minimum, total serum protein should be repeated with every eighth plasma donation thereafter. For donors who give less than eight plasma donations per year, testing must be repeated at least once every 12 months. Total serum protein must not be less than 60 g/L.

A system must be in operation for regular review of these results, together with a documented protocol for the management of donors with any abnormal findings.

All Blood Services should perform a risk assessment to evaluate the relative risks and benefits of implementation of leucocyte antibody screening of platelet donors. If leucocyte antibody screening is implemented, platelet donors with a subsequent history of pregnancy (regardless of the outcome) should be re-tested (see section 16.8.8).