

# JPAC workshop on management of haemoglobin and iron in blood donors

Tuesday 10<sup>th</sup> June 2008  
Grenville Suite, Strand Palace Hotel, 372 Strand, LONDON, WC2R 0JJ

## SUMMARY

### Aims

The overall aim is to improve our procedures to:

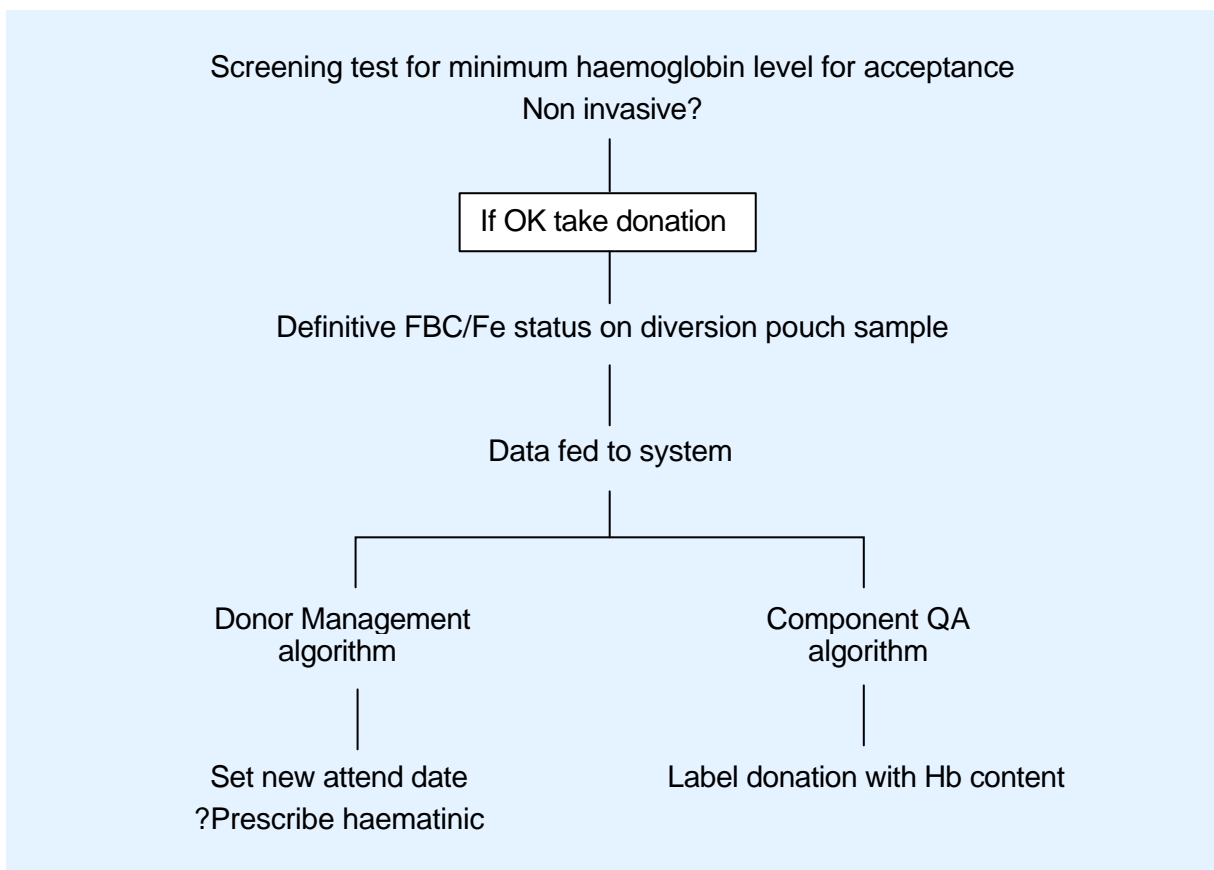
- Minimise the risk of taking a donation from someone who might be acutely harmed by withdrawal of 450ml of blood because of pre-existing frank or borderline anaemia
- Safeguard donors from any harm that might result from the effect of repeated donation on iron and haemoglobin levels
- Minimise the risk that we refuse to take a donation from a person who is healthy and would not be harmed by donating, and thereby risk “medicalising” the individual

### Key points from presentations

- Data from UK population studies shows the distribution of haemoglobin concentrations and ferritin levels among healthy individuals.
- A statistical definition of lower (and upper) acceptance limits of haemoglobin concentration could be derived from these data
- On an individual basis, anaemia may be defined as the haemoglobin concentration below that which represents the steady state for a healthy individual
- The evidence that iron deficiency in the absence of anaemia is harmful in adult humans is not strong
- Many individuals who donate whole blood at the frequency approved in UK do not become iron deficient or anaemic
- For donors with a tendency towards iron deficiency, iron losses by donation can be replaced by iron supplementation at a dose very unlikely to cause side effects
- Frequent double red cell donations can be tolerated by male donors given low dose oral iron supplementation in a “multihaematinic” formulation.
- Haematological indices on a venous blood sample taken at the time of donation (possibly combined with ferritin measurement) may have value in predicting the period that should elapse before the following donation and/or to identify the need for haematinic supplements.

## Key points from discussion

- For reasons of donor safety there must be a specified Hb concentration, measured before each donation, below which the withdrawal of a whole blood donation will not be considered.
- Ideally this value would be obtained with a non-invasive screening method that had been demonstrated to reliably identify individuals whose Hb concentration fell below the prescribed level.
- A rough schema of the approach discussed is given below



### Each element of such a schema would require to be defined and then evaluated

- “Safe to take donation” Hb level - define
- Predonation methodology for Hb estimation – evaluate candidate non invasive methods
- Donor Management Algorithm, to be defined: e.g.
  - donor red cell indices to determine the interval before next donation, prescribe iron supplementation, or both
  - donor serum ferritin, sTfR to determine the interval before next donation, prescribe iron supplementation, or both
- Haematinic, i.e. iron, supplementation regime to be defined

- Guidance on investigation and management of anaemic or iron deficient donors to detect causes other than blood donation to be developed

## **Next steps**

- Develop a work programme to refine and answer the key questions
- Define programme objectives and priorities
- Obtain organisational endorsement of outline objectives and plan.
- Identify key partners
- Set up management and leadership for the work programme
  - Lead investigator(s)
  - Scientific steering group
  - Data management and analysis group
- Obtain resources
  - Staff
  - Accommodation
  - Statistical IT support
- Prepare protocols as well as grant application(s) if required.