Guidelines for the Blood Transfusion Services

Chapter 7: Specifications for blood components

http://aws-lon-jpac.targetservers.uk/red-book/chapter-7

Chapter 7:

Specifications for blood components

7.1: Introduction

This chapter details process, product, quality monitoring, labelling, discard, storage and transport specifications for blood components currently manufactured in the blood transfusion services in the UK. Blood components are grouped together into the following component types:

- **7.2: Whole Blood Components**
- **7.3: Red Cell Components**
- **7.4: Platelet Components**
- **7.5: Plasma Components**
- **7.6: Granulocyte Components**
- **7.7: Components suitable for use in Intrauterine Transfusion, Neonates and Infants under 1 year**

In addition, to the blood components described in chapter 7:

- Provisional components are found in **Annexe 3**
- Redundant blood components are found in **Annexe 4**
- Blood components for contingency use are found in **Annexe 5**

Introduction contents

7.2: Whole Blood Components

Whole blood components are collected from UK donors as described in Chapter 5. These components undergo primary processing to separate the blood constituents into red cell, platelet, granulocyte and plasma components.

Whole blood components are used to treat major haemorrhage providing a balanced transfusion of red cells and plasma in a single component.

Specifications

7.3: Red Cell Components

Red cell components are manufactured from whole blood or apheresis donations and suspended in additive solution and/or plasma. All red cell components are leucocyte depleted. Some components undergo additional processing steps described.

Specifications

7.4: Platelet Components

Platelet components are manufactured from pooling whole blood-derived buffy coats or directly from apheresis collections. They are suspended in plasma with or without a platelet additive solution.

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7.5: Plasma Components

Plasma components are manufactured from whole blood or apheresis collections. These components a rapidly frozen to retain labile clotting factors. All plasma components are leucocyte depleted. Some components undergo additional processing steps described.

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7.6: Granulocyte Components

Granulocyte components are manufactured from whole blood-derived buffy coats and are not leucodepleted.

Specifications

7.7: Components suitable for use in Intrauterine Transfusion, Neonates and Infants under 1 year

General requirements

- Unless they are subjected to a validated pathogen inactivation process, components for use in intrauterine transfusion, neonates and infants under 1 year must be prepared from previously tested donors who fulfil the following criteria:
    - have given at least one donation in the last 2 years, which was either negative for all mandatory markers, or if repeat reactive, has been confirmed to be non-specifically reactive and the donor reinstated in accordance with section 9.4, Reinstatement of blood donors
    - negative results were obtained for mandatory microbiology markers with the current donation.
- Red cell and platelet components should be negative for CMV antibodies although leucodepleted components may be used if CMV antibody negative components are not available.

- Components should be tested and shown to be free of clinically significant, irregular blood group antibodies including high-titre anti-A and anti-B.
- It is good practice to provide neonates, who are likely to be repeatedly transfused, with components in which the original donation has been split, thereby providing the potential to reduce donor exposures in this vulnerable group of recipients.
- When a component is to be split for neonatal use, the original pack must first be mixed thoroughly by a validated procedure to ensure that the contents are homogeneous.
- When a component is split for neonatal use, it is sufficient to undertake leucocyte counting on the parent pack or process.
- When a component is split for neonatal use, each ‘split’ must be identified by a unique number to ensure all splits can be accounted for.

Specifications