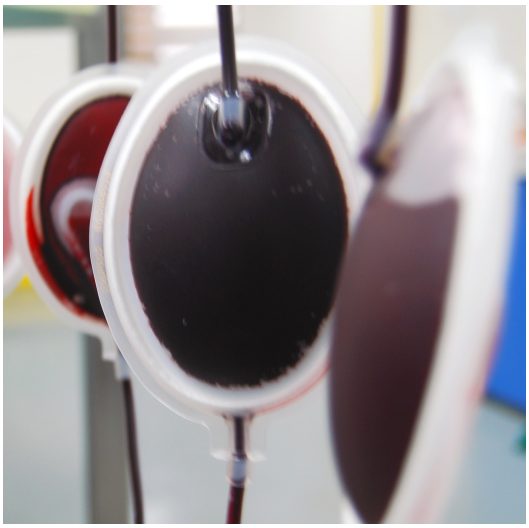
Blood modification information

LD

Leucodepleted



Modified products

- RCSAG-LD
- RCWB-LD
- PLTPL-LD
- PLAP-LD

Important notes

- Alert the blood bank of patients requiring leucodepleted blood products

When to request?

Patients requiring repeated red cell and/or platelet transfusions

- Thalassaemia
- Aplastic anaemia
- Haematological malignancies
- Intensive chemotherapy
- HSC transplantation
- Patients with repeated episodes of FNHTR

Transplant candidates

- HSC transplant
- Renal transplant

Neonates

- Neonatal intensive care
- Exchange transfusion

Maternity

- CMV seronegative mothers

HSC: Haematopoietic stem cells; FNHTR: Febrile non-haemolytic transfusion reaction; CMV: Cytomegalovirus

Leucodepletion (LD) is the process of removal of leucocytes from cellular blood products. Non-leucodepleted red cells and platelets contain approximately 10^9 leucocytes. The leucocytes present in these blood components are liable to cause febrile non-haemolytic transfusion reaction (FNHTR) and sensitization to HLA antigens, especially in multiply transfused patients. Formed anti-HLA antibodies predispose patients to platelet transfusion refractoriness and may complicate stem cell and solid organ transplants. In addition, leucocytes may harbour intracellular viruses such as CMV and HTLV-1. Removal of leucocytes from cellular components by at least 3-logs to less than 10^6 per unit has been shown to reduce these complications.

Leucocytes from red cell products such as RCWB and RCSAG are removed by leucodepletion filters. The majority of LD platelets are obtained through apheresis platelets (PLAP-LD) that have integrated LD in the process. Occasionally, when there is short supply of PLAP, 4-6 random platelet units obtained from whole blood donations are pooled together aseptically and filtered through a leucodepletion filter, to provide pooled LD platelets (PLTPL-LD).