

Best Practice Guide for the use of Ro Red Cell Units

Individuals who have the Rh phenotype of Ro (most commonly cDe/cde) are relatively uncommon in the UK population. Only 2-3% of regular blood donors will have this phenotype although it is recognised that prevalence varies significantly depending on ethnic background. The Ro phenotype is present in 55% or more blood donors from Black African or Caribbean backgrounds compared with only 2.4% of donors from other ethnic backgrounds

Patients with sickle cell disease and other haemoglobinopathies receive red cells matched for their Rh phenotype as their requirement for transfusions may be lifelong. Preventing sensitisation to red cell antibodies is important because it will prevent future issues with; the provision of red cells, delayed haemolytic transfusion reactions and potential hyperhaemolysis.

The Problem:

The demand for Ro red cell units is increasing at pace. The demand in 2026 is currently showing a 9% year on year increase. The reasons behind this increase in demand is, however, multifactorial:

- a) More patients with sickle cell disease are surviving to adulthood, which means an increase in patients requiring red cells for long term management of complications such as stroke prevention.
- b) There has been an expansion in the use of chronic red cell exchange (RCE) programmes across the UK as the evidence of wider clinical benefit is now available.
- c) The recognition that automated red cell exchange is a better treatment than simple top up transfusions as it reduces HbS levels more effectively whilst minimising iron accumulation.

Unfortunately, this means that the increase in demand for Ro red cells is greater than the rate of increase in the number of Ro donors that NHS Blood and Transplant can recruit.

What NHSBT is doing to increase the number of Ro donors:

- Communications and marketing activity focussing on inspiring people of Black African and Black Caribbean heritage to donate.
- Changing the way we test potential donors to increase the amount of Black heritage donors who are eligible to donate.
- Providing guidance and support for Red Cell exchanges and supporting transfer of red cell units between hospital trusts.
- Changing where we collect blood to go into communities with higher Black heritage populations, for example we have just launched a new mobile donor centre that will be travelling into communities in London.

What can laboratories do to help?

The way laboratories order and manage Ro red cells has a significant impact on the availability of these units for all patients.

Recommendations:

Establishment Arrangements:

- Ensure the laboratory and the team performing red cells exchanges have good communication. This may include including the laboratory in any MDTs
- Consider a sharing agreement with other hospitals in the locale that perform RCE.
 - This may be within your own network but may be in other networks
 - NHSBT will be happy to help with discussions. Please contact your Customer service manager if you need assistance.
- Establish periodic audits of Ro red cell usage to ensure that Ro units are being transfused to the most appropriate patients

Laboratory Arrangements:

- a) There should be no need to keep a stock of Ro red cells
- b) Order Ro red cells on a named patient basis only
- c) For routine RCEs, order red cells as far in advance as possible, at least 7 days before the procedure
- d) Order the same ABO group as the patient
- e) If the patient is Ro, order Ro red cells. Do not substitute with rr red cells as this prevent NHSBT from accurately monitoring and forecasting demand
- f) Do not order more units than required for the RCE
- g) If a procedure is cancelled:
 - a. If the red cell units haven't yet been delivered, cancel the order in OBOS and notify Hospital Services by phone
 - b. If the units have been delivered, consider if these will remain in date for the rescheduled procedure.
 - c. If the units will not be in date, review upcoming scheduled RCEs and consider allocating to another patient, thereby reducing wastage.