

K+ and K- red cells; when is it safe to transfuse?

Transfusing K+ red cells

The following patients can safely receive K+ red cells:

- All male patients, with no detectable anti-K, regardless of their K status (unless they are regularly transfused)
- All female patients >50 years old, with no detectable anti-K, regardless of their K status (unless they are regularly transfused)
- All K+ patients

Transfusing K- red cells

The following patients should be offered K- red cells:

- All patients with detectable or historical anti-K
- All K- and K unknown female patients of childbearing potential (<50 years old)
- Regularly transfused K- patients requiring Rh and K matched red cells
- Bone marrow transplant patients where the donor or the recipient has anti-K, until engraftment. Post engraftment transfuse red cells matching the patient's K phenotype

Context

The original K antigen is identified as a frequency of 9% in Caucasians but it is rare in other ethnic groups.

Following exposure to K+ red cells, K- individuals can develop alloantibodies (more commonly IgG). Anti-K can cause mild/severe delayed haemolytic transfusion reaction and haemolytic disease of the fetus and new born (often with severe anaemia).