



TO: Transfusion Lab Staff, c/o of the Saskatchewan Transfusion Medicine Working Group

FROM: Dr. D. Ledingham, Southern Saskatchewan Consultant, Transfusion Medicine
Dr. O. Prokopchuk-Gauk, Northern Saskatchewan Consultant, Transfusion Medicine

DATE: December 8, 2017

RE: **Recommendation regarding Kell (K) negative red cell inventory in Saskatchewan**

As a follow-up to discussion at the Saskatchewan Transfusion Medicine Working Group (TMWG) meeting on September 27, 2017, the Saskatchewan Transfusion Medicine Service is recommending that:

- All facilities should ensure that at least two Kell (K) negative red blood cell (RBC) units of each ABO group and Rh type within their usual inventory are available for issue to patients who require unmatched blood.
- All facilities should endeavor to provide women of childbearing potential (≤ 50 years of age) with crossmatched red blood cell units which are K-negative.

These recommendations are based upon the evolving standard of care for prevention of red cell alloimmunization in women of childbearing age, including the evidence that anti-K is a significant cause of hemolytic disease of the fetus and newborn (HDFN).

Western Canadian data have shown that transfusion with K-positive RBC units is a major cause of alloimmunization in affected mothers (Goldman M et al. 2015. *Transfusion* 55: 1486-1491). HDFN due to anti-K is often severe as it causes both hemolysis and suppression of bone marrow red blood cell production (Vaughan JI et al. 1998. *NEJM* 338: 798-803). These effects are independent of antibody titer, and there is no preventive immune globulin therapy parallel to Rh D immune globulin. European health systems already use K-negative or K-matched units to prevent this unfortunate outcome.

Implementation of these practices will depend on individual laboratory turn-over of red blood cells. There is no need to discard red cell units currently on the shelf; these practices can be incorporated into inventory management on a go-forward basis.

Canadian Blood Services (CBS) has markedly increased donor K phenotyping, and is prepared to support Saskatchewan laboratories in implementing this preventive approach. Donors which have been typed as K-negative will be identified as such on the RBC end label.

Thank you for sharing this message with your colleagues and for your partnership in Transfusion Safety. If you have questions or concerns, please feel free to contact one of us:

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