Calculation for packed RBC transfusion

Weight in Kg x Blood Volume per Kg x (Desired PCV – Observed PCV)  
Hematocrit of blood to be given

Average blood volume of newborn is 80 ml/kg. The hematocrit of Packed RBCs is 70 and whole blood is around 50.

Example: In infant weighing 2.5 kg is on ventilator, needs 40% oxygen and has a haematocrit of 20. The volume of packed cells required to be transfused will be

\[ \frac{2.5 \times 80 \times (40-20)}{70} = 55 \text{ml} \]

The maximum transfusion should be 10-15 ml/kg. Volumes larger than 15 ml/kg are to be divided. The transfusion should be given over a period of 3-4 hrs.

Exchange transfusion with packed RBC is preferred when there is severe anemia and large volume is required to correct anemia. This would help to prevent CHF due to circulatory overload.