



RCSAG

Red Cells in Additive Solution
(SAGM*)

syn. Packed cells, Red cell concentrates

*SAGM – Saline Adenine Glucose Mannitol



Storage: 4(±2) °C
Shelf life: 42 days

Units should not be exposed to temperatures exceeding 10°C for more than 30 minutes. Red cells stored or transported under suboptimal temperatures undergo haemolysis and may not be suitable for transfusion.

Contains red blood cells prepared by centrifuging a unit of donated whole blood to remove the plasma and substituted with red cell preservative solution

Final average haematocrit is 50% in total volume of 200 – 300 ml.

Indications

Symptomatic anaemia or critical deficit of oxygen carrying capacity

Refer to 'Guidelines for red cell transfusions' info-sheet for advice on when to transfuse red cells

Contraindications

Patients with anaemia amenable to therapy (e.g. iron deficiency) should only be transfused in the setting of severe symptoms or organ dysfunction.

Dosage

One unit will increase haemoglobin by approximately 10 g/L in a haemodynamically stable 60 kg adult

Suggested paediatric dosing is 10–15 ml/kg



Modifications

- ⊕ Leucodepleted
- ⊕ Irradiated
- ⊕ Washed

Refer to relevant info-sheets for information regarding above secondary modifications

Pre-transfusion testing requirements

All patients planned for red cells transfusions must have a correct ABO and RhD type on record. Transfused red cells must be ABO compatible to the patient at all times. RhD-patients should always be transfused RhD-blood unless in emergency situations or in post-menopausal females and elderly males.

A valid antibody screen to identify the presence of atypical antibodies capable of causing haemolytic transfusion reaction or reducing survival of the transfused red cells should be performed and if antibodies are identified, antigen negative red cells will need to be issued.

Minimum sample required

Adult:	3 ml in one EDTA tube
Child (> 12 months):	3 ml in one EDTA tube
Infant (4-12 months):	1 ml each in two EDTA microtainer tube
Infant (0-4 months):	1 ml in one EDTA microtainer tube + 3 ml of biological mother's sample in one EDTA tube



Administration

- ⊕ Use standard blood transfusion set (170-260 µm) and change every 8 hours
- ⊕ Transfusion must not exceed 4 hours
- ⊕ Start transfusion at 1-2 ml/min for first 15 min
- ⊕ Typical transfusion is over 2 hours but can be adjusted according to clinical condition

Nursing observations

	Pre-transfusion vital signs (V/S)?	Stay at patient bedside?			Vital signs during transfusion		Post-transfusion monitoring
		First 5 mins	First 10 mins	First 15 mins	After 15 mins	Remainder of transfusion	
Adults (in-patients)	Yes	Yes	No, but must be immediately available		Yes	Every 15 mins for 1 st hour, then hourly	V/S on completion then monitor as needed
Adults (out-patients)	Yes	Yes	No, but must be immediately available		Yes	Every 15 mins for 1 st hour, then hourly	V/S at completion then monitor for at least 60 min post*
Paediatrics & Neonates	Yes	Yes			Yes	1 st hr – every 15 mins 2 nd and 3 rd hr – every 30 mins then hourly until completion	V/S at completion then monitor for at least 60 min post

Adverse reactions

All units are tested negative by serology and nucleic acid technology for HBV, HCV and HIV I/II. Nonetheless, there is a remote risk of transfusion-transmitted infections if the donated unit happens to be within a window period of testing. There is also a small risk of infection by bacteria or from non-tested viruses (e.g. CMV) or emerging infections.

Non-infectious risks include febrile non-haemolytic transfusion reactions (FNHTR), haemolytic transfusion reactions (HTR), either immediate or delayed, allergic reactions, transfusion related acute lung injury (TRALI), transfusion associated cardiac overload (TACO) and transfusion associated graft versus host disease (TA-GVHD).

Please refer to relevant info-sheets for further information on recognition and management of these adverse events.