Drug Therapy Protocols:
Packed Red Blood Cells – Group O negative

Policy code	DTP_PABC_0119
Date	January, 2019
Purpose	To ensure a consistent procedural approach to packed red blood cells – group O negative administration.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Packed Red Blood Cells – Group O negative

Drug class

Haemoglobin replacement

Pharmacology

Packed red blood cells (PRBC) replace lost haemoglobin, aiming to improve oxygen carrying capacity of the blood and volume replacement.[1,2]

Metabolism

N/A

Indications

- **Ongoing haemodynamic instability secondary to haemorrhage** (following an appropriate volume resuscitation strategy)

Contraindications

- Non-consenting conscious patient (e.g. Jehovah Witness)

Precautions

- Previous transfusion reaction
- Immunosuppressed patients
- Hyperkalaemia

Side effects

- Acute haemolytic transfusion reaction
- Acute febrile transfusion reaction
- Anaphylaxis/allergic reactions
- Infection (bacterial, viral including low risk for HIV, Hep C and other blood borne viruses)
- Fluid overload
- Acute lung reaction
- Electrolyte imbalances
- Hypothermia
- Acidosis

Presentation

- 200–400 mL bag, Group O negative PRBC

Onset (INF)	Duration (INF)	Half-life
Immediate	Variable	N/A

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Schedule

- Unscheduled.

Routes of administration

Intravenous infusion (IV INF) ECCP

Intraosseous infusion (IO INF) ECCP

Special notes

- Ambulance offers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the QAS Clinical Consult and Advice Line.
- Each unit contains enough haemoglobin to raise the haemoglobin concentration in an average size adult by approximately 10 g/L.
- PRBC should be mixed thoroughly by gentle inversion before use and then transfused through an intravenous line approved for blood administration incorporating a standard 170 – 200 micrometre filter.
- Patients receiving transfusions shall be monitored for signs of potential complications of transfusions and any suspected problems must be dealt with swiftly and efficiently. Severe reactions are most likely to occur within the first 15 minutes of the transfusion. If any reaction occurs cease infusion immediately and discuss with RSQ coordinator or QAS Clinical Consultation and Advice Line (as appropriate). Clinical presentation of transfusion reactions include: tachycardia, hypertension, fever, rigors, headache, myalgia, altered level of consciousness, bronchospasm, pulmonary oedema, and worsening coagulopathy.[1]

Special notes *(cont.)*

- Vital signs (temperature, pulse, respirations and blood pressure) shall be measured and recorded at the beginning and during each transfusion, least every 15 minutes.
- The bag label numbers of all PRBC transfusions administered to the patient must be documented on the e-ARF.
- All transfusion reactions must be immediately reported to the QAS on-call medical officer.
- All used PRBC infusion bags are to be left with the medical/nursing staff at the receiving hospital.
- Informed consent for transfusion means a dialogue has occurred between the patient and the clinician. The significant risks, benefits and alternatives to transfusion, including the patient's right to refuse the transfusion, will have been discussed. As a result of the discussion the patient should:
  - understand what medical action is recommended
  - be aware of the risks and benefits associated with the transfusion
  - appreciate the risks, and possible consequences of not receiving the recommended therapy
  - be given an opportunity to ask questions
  - give consent for the transfusion.

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Adult dosages

Ongoing haemodynamic instability secondary to haemorrhage (following an appropriate volume resuscitation strategy)		
E CCP	**IV INF**	CCP ESoP aeromedical – RSQ consultation and approval required in all situations. CCP ESoP HARU – QAS Clinical Consultation and Advice Line approval required in all situations. **PRN** – titrate according to the indication and patient's physiological response to treatment. Administer via a QAS approved blood warmer (Belmont® buddy lite™/ enFlow®).
E CCP	**IO INF**	CCP ESoP aeromedical – RSQ consultation and approval required in all situations. CCP ESoP HARU – QAS Clinical Consultation and Advice Line approval required in all situations. **PRN** – titrate according to the indication and patient's physiological response to treatment. Administer via a QAS approved blood warmer (Belmont® buddy lite™/ enFlow®).

Paediatric dosages

Ongoing haemodynamic instability secondary to haemorrhage (following an appropriate volume resuscitation strategy)		
E CCP	**IV INF**	CCP ESoP aeromedical – RSQ consultation and approval required in all situations. CCP ESoP HARU – QAS Clinical Consultation and Advice Line approval required in all situations. **PRN** – titrate according to the indication and patient's physiological response to treatment. Administer via a QAS approved blood warmer (Belmont® buddy lite™/ enFlow®).
E CCP	**IO INF**	CCP ESoP aeromedical – RSQ consultation and approval required in all situations. CCP ESoP HARU – QAS Clinical Consultation and Advice Line approval required in all situations. **PRN** – titrate according to the indication and patient's physiological response to treatment. Administer via a QAS approved blood warmer (Belmont® buddy lite™/ enFlow®).

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