# Haemolysis Protocol

**1. Cross References**

<table>
<thead>
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<th>Treatment of hyperkalaemia</th>
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**2. Purpose**

The source of haemolysis must be promptly identified to avoid life threatening complications.

Haemolysis is a rare, recognisable complication of haemodialysis.

**3. Causes:**

- Chemical: from contaminated dialysis water
- Osmolar: due to hyper/hypotonic dialysis solution from insufficient water to concentrate ratio
- Thermal: from overheated dialysis solution greater than 42 degrees Celsius
- Mechanical: as a result of kinked lines, blood pump and needle trauma to the red blood cells

**Signs and symptoms:**

- Nausea
- Vomiting
- Chest pain/tightness
- Cramping
- Shortness of breath
- A port wine appearance of blood in the venous line
- Hyperkalaemia & associated ECG changes: arrhythmias
- Anaemia
- Back pain
- Dramatic deepening of skin pigmentation
- Burning sensation in access

**Procedure:**

- Stop the blood pump immediately
- Complete a set of obs: BP, P, Temp, RR, Sa02 and administer oxygen.
- Call for medical assistance, **call a PACE Tier 2 and collect arrest trolley**
- **(Sutherland to call 000 for urgent ambulance for transfer to ED)**
- **Do not** return the blood, keep the dialysis tubing, dialyser, packaging, saline bag
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and tubing, these items may need to be tested for possible causes

• **Withdraw blood in cannulae and discard, then flush with N/Saline to maintain patency and access**

• Cardiovascular and respiratory assessment, including ECG, oxygen saturations, blood gasses and troponin, **URGENT** urea, K+, FBC, LFT, LDH and amylase.

• Treat hyperkalaemia and any other symptoms (this may be via haemodialysis)

• **Test water (if positive for chloramines immediately cease dialysis for all other patients and inform Gambro Technician immediately).**

• Observe other patients for signs and symptoms of haemolysis

• Document the event in the patients notes and RISC & complete an IIMS

• Arrange for admission and transfer of patient to the critical care environment as directed by medical officer.

• Provide open disclosure with the patient and family when the cause of the issue has been identified

4. Network file location/reference, if applicable

http://stgrenal.med.unsw.edu.au/StGRenalWeb.nsf/page/Nursing+Protocols

http://stgrenal.med.unsw.edu.au/StGRenalWeb.nsf/page/Hyperkalaemia

5. External References

Further Reading


Revision and Approval History

<table>
<thead>
<tr>
<th>Date published</th>
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<th>Author/Contact Officer (Position)</th>
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<tbody>
<tr>
<td>August 2014</td>
<td>1</td>
<td>Tracey Blow Nurse Unit Manager</td>
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<td>1</td>
<td>A/Prof Ivor Katz</td>
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