## PERITONEAL DIALYSIS (PD) PATIENTS – IRON MANAGEMENT

| Cross References (including NSW Health/SESLHD policy directives) | NSW Health PD2013_043 Medication Handling in NSW Public Health Facilities  
SGH CLIN166 Ambulatory Care Unit – Referrals and Process: Administration of Medications And Treatments  
SGH CLIN177 Iron Ferric Carboxymaltose (Ferinject®) - Prescribing and Administration in Ambulatory Care Unit (ACU)  
SGH CLIN279 Iron Polymaltose (Ferrosig®) - Prescribing And Administration  
SGH WPI 142 Commencement and Management of Peritoneal Dialysis Patients At Home - Appendix B Routine Bloods for Peritoneal Dialysis |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What it is</td>
<td>A clinical business rule to describe a nurse facilitated and medical driven process to maintain optimal iron stores in PD patients</td>
</tr>
<tr>
<td>2. Risk Rating</td>
<td>Medium</td>
</tr>
</tbody>
</table>
| 3. Employees it Applies to | Registered Nurses (RN) trained in peritoneal dialysis  
Medical Officers (MO) trained in peritoneal dialysis |

### 4. Process
Iron deficiency is one of the common causes of anaemia in PD patients. Routine monitoring of iron studies and iron suplementations are necessary measures in the prevention of iron-deficiency anaemia.

**Definitions**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia</td>
<td>patients with Hb &lt;100 g/L</td>
</tr>
<tr>
<td>Iron deficient</td>
<td>patients with Ferritin &lt;300 ug/L and/or TSAT &lt;20%</td>
</tr>
<tr>
<td>Iron replete</td>
<td>patients with optimal iron store of Ferritin 300-800 ug/L and TSAT 20-50%</td>
</tr>
</tbody>
</table>

**4.1 RECOMMENDED DOSAGE FOR IRON SUPPLEMENTATION**

- 500 – 1000 mg iron administered intravenously in a single infusion  
  Or  
  250 mg iron administered intravenously every week for 4 doses

**4.2 IRON AND HAEMOGLOBIN (Hb) TARGETS FOR PD PATIENTS**

<table>
<thead>
<tr>
<th>Component</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferritin</td>
<td>300 – 800 ug/L</td>
</tr>
<tr>
<td>TSAT</td>
<td>20 – 50%</td>
</tr>
<tr>
<td>Haemoglobin</td>
<td>100 – 120g/L</td>
</tr>
</tbody>
</table>

**4.3 PROCEDURE**

1. PD patients are to have iron studies every 3 months as per SGH WPI 142 Commencement and Management of Peritoneal Dialysis Patients At Home - Appendix B Routine Bloods for Peritoneal Dialysis. Pathology request form can be provided by the medical officers (MO) in renal clinic or by the PD nurses;
2. PD nurse will review Hb and iron studies results;
3. PD nurse will notify and forward a copy to MO of all results outside the iron and Hb target range;
4. PD nurse will flag to MO all patients with Hb <100 g/L with iron deficiency (Ferritin <300 ug/L and/or TSAT <20%). These patients are to be recommended for IV iron infusion.

**Note**: Patients who will be NOT recommended to have iron infusion include:
- Patients who had IV iron infusion within the past 6 months;
- Patients who had prior adverse reaction/allergy to IV iron formulations i.e. iron polymaltose (Ferrosig, Ferrum H) or ferric carboxymaltose (Ferinject);
- Patients known to have acute bleeding;
- Patients with active infection;
- Patients with iron overload (Ferritin >800 ug/L and TSATS >50%)
- Iron replete patients

5. 2 weeks after IV iron infusion, patient is to have repeat iron studies and Hb. Pathology request form can be provided by the medical officers (MO) in renal clinic or by the PD nurses;
6. PD nurses to review results of repeat iron studies and Hb, notify and forward a copy to MO if results remain outside the iron and Hb target range.

**4.4 IV IRON REFERRAL PROCESS**

1. MO will refer patients for IV iron infusions to the Ambulatory Care Unit (ACU) by completing the forms utilising the approved Iron referral form (Ambulatory Care Unit Iron Infusion Referral) and prescription as per SGH CLIN166 Ambulatory Care Unit – Referrals and Process: Administration of Medications And Treatments and SGH CLIN279 Iron Polymaltose (Ferrosig®) - Prescribing And Administration or SGH Clin177 Iron Ferric Carboxymaltose (Ferinject®) - Prescribing and Administration in Ambulatory Care Unit (ACU):
   a) Complete an **external prescription** for Ferinject 500-1000 mg
      
      Or
      
      Complete an **internal prescription** for Ferrum H or Ferrosig 500-1000 mg
   b) Complete the approved iron referral form and Community Medication Authorisation and Record (S0168) as per SGH CLIN166 Ambulatory Care Unit – Referrals and Process: Administration of Medications And Treatments:
      i. Note if IV iron order is “first” or “maintenance” dose

2. Fax the completed referral form to ACU (X31923 or 9113 1923);
3. Inform the patient that ACU will book the appointment and will notify them by phone or by mail;
4. Provide patient all the original forms and prescription and ACU contact details. Advice the patient to contact ACU (Monday to Friday, 0800-1630, ph 9113 2333) directly if booking notification is not received after 2 weeks or to change/reschedule IV iron appointment;
   o ACU hours of operation: Monday to Friday 0800 – 1630
   o Saturday 0830 – 1630
5. Instruct patient to bring iron ampoules and original forms to ACU on the day of infusion.
4.5 IRON MANAGEMENT FLOWCHART FOR PD PATIENTS

**Indication for iron infusion:**
Hb <100g/L
and
Ferritin < 300ug/L
and/or
TSAT < 20%
No exclusion criteria are met

**Required:**
1. Doctor to complete the ACU approved iron referral form and ACU Community Medication Authorisation and Record (S0168) chart for IV iron Infusion – must state 1st or maintenance dose for Ferrum H or Ferrosig;
2. Doctor to complete external prescription for Ferinject 500-1000 mg
   Or
   Doctor to complete internal prescription for Ferrum H or Ferrosig 500-1000 mg
3. Fax the completed referral form to ACU
4. Inform patient that ACU will book the appointment and will notify them by phone or by mail
5. Provide original forms and prescription to patient with instructions and ACU contact details
6. Advice patient to:
   a. Contact ACU directly if booking notification is not received after 2 weeks;
   b. Bring iron ampoules and original forms to ACU on the day of infusion

**Patients:**
There will be a co-payment required for the medication
Patient may contact ACU directly during Monday to Friday, 0800 – 1630 to change or reschedule IV iron appointment or if appointment is not received after 2 weeks from time of referral
ACU operating hours are:
Monday to Friday 0800 – 1630
Saturday 0830 – 1630
Patient must bring iron ampoules and original forms to ACU on the day of the infusion

**Ferinject or Maintenance Ferrum H/Ferrosig**
ACU Clinical Business Rule for maintenance iron dose:
- Patient can expect a **shorter length of stay (1-4 hours)**

**First dose Ferrum H/Ferrosig**
ACU Clinical Business Rule for first test dose:
- Patient can expect a **full day admission**
- Patient will be in a **bed**

**Post infusion follow-up:**
1. Patient to have a repeat blood test 2 weeks after IV iron infusion
2. PD nurse to review results & notify/forward to MO if results remain outside the iron and Hb target range
### 5. Keywords
Peritoneal Dialysis, Iron infusion, Iron management, Ferinject, IV Iron, Ferrosig, Ferrum H

### 6. Functional Group
Renal, Peritoneal Dialysis

### 7. External References

### 8. Consumer Advisory Group (CAG) approval of patient information brochure (or related material)
Not applicable

### 9. Implementation and Evaluation Plan
- **Inservices**
- **Learning Packages**
- **Publication on SGSHHS CIBR intranet page**

### 10. Knowledge Evaluation
- Q1: When is iron infusion/supplementation required?
  - A: Iron infusion/supplementation is recommended for PD patients with Hb <100 g/L and iron deficiency (Ferritin <300 ug/L and/or TSAT <20%).

---

Approved by: SGH & TSH Clinical Governance Documents Committee
Date: October 2019
Trim No. T19/70404

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE
Q2: What are the exclusion criteria for iron infusion?  
A: Iron infusion is not recommended for:  
- Patients who had IV iron infusion within the past 6 months;  
- Patients who had prior adverse reaction/allergy to IV iron formulations i.e. iron polymaltose (Ferrosig, Ferrum H) or ferric carboxymaltose (Ferinject);  
- Patients known to have acute bleeding;  
- Patients with active infection;  
- Patients with iron overload (Ferritin >800 ug/L and TSATS >50%)  
- Iron replete patients  
Q3: What is the monitoring required after the patient receives iron infusion?  
A: 2 weeks after IV iron infusion, patient is to have a repeat blood test for iron studies and Hb. PD nurses will review the results and notify/forward to MO if results remain outside the iron and Hb target range 

11. Who is Responsible  
Medical Director Renal Service.  
Nursing Unit Manager, Dialysis Unit 

Approval for PERITONEAL DIALYSIS (PD) PATIENTS – IRON MANAGEMENT 

| Specialty/Department Committee | Committee title: Peritoneal Dialysis Committee  
Chairperson name/position: Franziska Pettit, Staff Specialist  
Date: 15.08.19 |
|---|---|
| Nurse Manager | Name/position: Christine Day, Nurse Manager Medicine  
Date: 22.08.19 |
| Medical Head of Department | Name/position: George Mangos, Department Head Renal Services  
Date: 15.08.19 |
| Safe Use of Medicines Committee (SGH) | Chairperson’s Name: A/Prof Winston Liauw  
Date: 24.10.19 |
| Executive Sponsor | Name/position: Christine Day, Nurse Manager Medicine  
Date: 22.08.19 |
| Contributors to CIBR development  
e.g. CNC, Medical Officers (names and position title/specialty) | Kerrie Thomas, CNC Ambulatory Care |
Revision and Approval History

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision number</th>
<th>Author (Position)</th>
<th>Revision due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 2016</td>
<td>0</td>
<td>Anna Claire Cuesta (PD CNC)</td>
<td>Sep 2019</td>
</tr>
<tr>
<td>Oct 2019</td>
<td>1</td>
<td>Anna Claire Cuesta (PD CNC)</td>
<td>Oct 2022</td>
</tr>
</tbody>
</table>

General Manager's Ratification

Name: Leisa Rathborne  Date: 25.10.19