

Intravenous Iron for Home Dialysis Patients - Full Clinical Guideline

Reference no.: CG-T/2009/117

1. Introduction

Correction of anaemia in dialysis patients requires adequate iron stores in order to maximise the response to Erythropoietin Stimulating Agents (ESA s)

Intravenous administration is widely accepted as the most effective route for delivery of iron to haemodialysis patients, NICE (2006). This takes place predominantly within the hospital environment however NICE recognises that “in appropriate circumstances, iron treatment can also be delivered in the community”.

The administration of Intravenous products by patients at home is not a new concept. Patients have been administering antibiotics at home in the U.K. since the mid 80s. (Cattermole and Cooper, 2008)

NICE recommend people receiving ESA maintenance therapy should be given iron supplements to keep their:

Serum ferritin levels between 200 and 500 µg/l in both haemodialysis and non-haemodialysis patients, **and either**
transferrin saturation level above 20% (unless ferritin is greater than 800 µg/l)
or
percentage hypochromic red cells (%HRC) less than 6% (unless ferritin is greater than 800 µg/l).

In practice it is likely this will require intravenous iron.

2. Aim and Purpose

Current practice does not meet the needs of the growing Home Haemodialysis (HHD) population. The benefits of a change in practice to allow the Home Haemodialysis patient to self administer their intravenous iron can be measured not only in monetary terms achieved by optimisation of ESA therapy, reduction in need for patients to attend RDU with it's inherent costs, but by facilitating self management of a chronic condition where there is evidence supporting health and quality of life benefits. (Expert Patient, 2001)

However the administration of intravenous iron is not without risks. Though uncommon, possible side effects can range from temporary changes in taste and low blood pressure to serious allergic reactions. A robust management plan needs to be in place to provide guidance in the event of an adverse reaction

3. Definitions

HHD:	Home Haemodialysis
Training:	Competency based approved education programme applicable to intravenous iron administration.
Parenteral Therapies:	Intravenous and subcutaneous administration of fluids or medications.
Prescriber:	The individual responsible for prescribing intravenous iron and is responsible for the patients' treatment.
Trainer:	The registered general nurse responsible for instructing patient/ carer in the knowledge and skills of administering intravenous iron.
Assessor:	The registered general nurse responsible for evaluating competence of patient/ carers' knowledge and skills in administering intravenous iron.

4. Guidelines

Intravenous Iron administration for Home Haemodialysis patients in the community

Inclusion criteria

- Patient/ carer agreeable to administer IV iron at home.
- Both patient and carer should have successfully completed the HHD training programme
- Patients and their home environment will already have been assessed as appropriate to undertake home haemodialysis; however phone coverage is an essential inclusion criteria.
- Both patient and carer should have successfully completed the competency based administration of iron training programme. **To include a minimum of 2 doses of intravenous iron administered under the supervision of the trainer within an environment with full resuscitation equipment available.**
- Prescribed IV iron preparation.
- Patient and carer should be assessed as competent to administer an EpiPen.

Exclusion criteria

- Patient with an allergy/ reaction to IV iron

Procedure for Administration of Intravenous Iron during Haemodialysis using Aseptic Non Touch Technique.

Equipment

Plastic Tray
Syringe
2x Green needles
2x Antiseptic wipes
Sharps box
2x Gloves
Alcohol Hand Gel
Iron Preparation prescribed

- Blood pressure to be taken and recorded before and after iron administration

Procedure

1. Check the prescription for required preparation, dose and frequency
2. With clean hands clean the plastic tray with an antiseptic wipe, gather equipment.
3. Wash hands with soap and water followed by alcohol hand gel
4. Put on non sterile gloves
5. Remove packaging and attach a green needle to the syringe, place in tray
6. Break off top of ampoule
7. Remove cover from needle and draw up required dose using a non touch technique.
8. Remove needle and dispose of in sharps box
9. Remove packaging and attach second green needle on to syringe. Place in tray.
10. Prepare to administer, gaining free access to the IV line
11. Remove Gloves, use alcohol gel and re-glove.
12. Wipe Blue Injection Port with antiseptic wipe and allow to air dry (30 seconds)
13. Remove Cover from green needle, inserting it into blue injection port at 90 degrees.
14. Inject: rate of administration is 100mg (5 ml) over 5 minutes.
15. Once the syringe is empty, remove needle from injection port and dispose of both needle and syringe into sharps box.

16. Remove Gloves, wash hands with soap and water followed by alcohol hand gel

17. Document date and time.

Potential Problems

Common	
Metallic taste	No action
Uncommon	
Headache Dizziness Fever/shivering Nausea/ vomiting Abdominal pain Diarrhoea Rash/ itching Cramps/ muscle pain	STOP IRON and ring the Renal Unit
Rare	
Unresponsive Low blood pressure/ collapse Chest pain Rapid heart beat Wheezing/ difficulty in breathing Swelling of face and hands	STOP IRON DIAL 999 (Landline) 112 (Mobile) INJECT EPIPEN (intramuscular) Discontinue dialysis leaving fistula needles in place.

Monitoring Compliance and Effectiveness

The effectiveness of therapy will be monitored by measuring at least monthly full blood count and three monthly Haematinics. This will be performed as part of the regular patient review process and if patients' results do not meet local and national recommendations, therapy and patient compliance will be reviewed. This data will be audited and presented as part of the Clinical Governance agenda.

5. References (including any links to NICE Guidance etc.)

National Collaborating Centre for Chronic Conditions (NCCC). 2006. **Anaemia management in chronic kidney disease: National clinical guideline for management in adults and children**. London: Royal College of Physicians, Clinical Guideline no 039.

Reed J, Charytan C, Yee J. **The Safety of Intravenous iron Sucrose Use in the Elderly Patient.** Consult Pharm. 2007 Mar;22(3):230-8.

Macdougall IC, Roche A. **Administration of Intravenous Iron Sucrose as a 2 minute Push to CKD Patients: A Prospective Evaluation of 2,297 Injections.** Am J Kidney Dis. 2005 Aug;46(2):283-9.

Cattermole B, Cooper C. **The practicalities of home IV antibiotics.** British Journal of Home Healthcare 2008;4(3):4-5.

6. Documentation Controls

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7. Appendices – where used