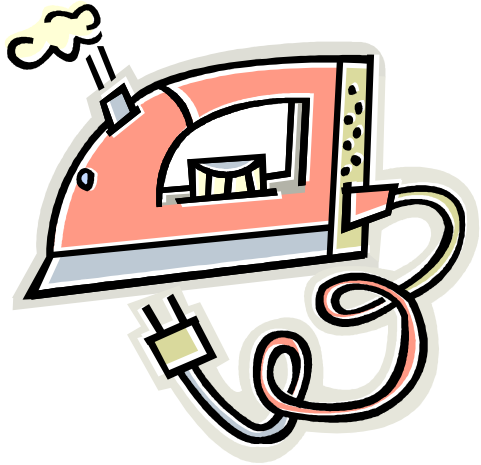
Implementing an IV Iron Service



The Beginning…

- Service reconfiguration led to…

“Can you get this patient in for a bit of blood”

- Patients with results such as…

Hb	8.1
HCT	26
MCV	57
MCH	17.5
Iron	<1
Transferrin	3.3
Transferrin Saturation	
Ferritin	3

The Need for a Formalised Service

- Who to decide IV iron necessary?
- Who to prescribe?
- Who to administer?
- Who to follow up?
- Patient information

Led to…

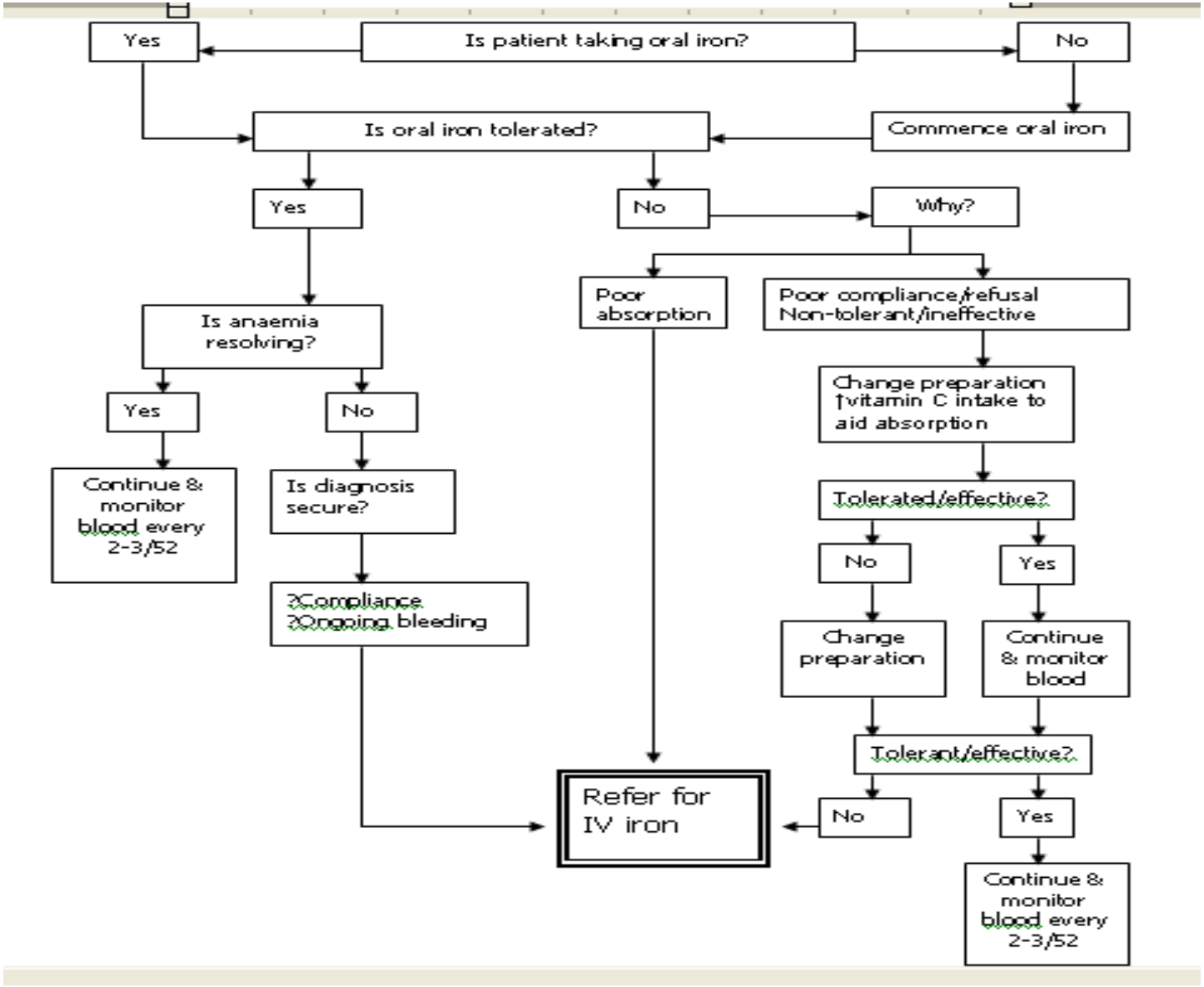
- Setting up of Nurse led IV Iron service
- With Consultant Haematologist input if required

But what about the details?....

The Referral

- Flow chart for the use of IV iron – i.e ensuring appropriate referrals
- Designated referral form (internal)
- Recent blood results
- Emphasises that patient will remain under the care of the referring physician
- Referred to me
- GP referrals sent to the haematologists then to me.

Treatment flow chart for iron deficiency anaemia once investigations for cause are complete



REFERRAL FOR TREATMENT WITH INTRAVENOUS IRON

Patient name

Patient DOB

Patient hospital number

Name of referring physician

Contact number (bleep/secretary)

Recent blood results

Date			
Hb			
Hct			
MCV			
MCH			
Iron			
Transferrin			
Transferrin saturation			
Ferritin			
Weight (kg)			

Has iron deficiency been investigated? Yes ☐ No ☐

Reason for iron deficiency if known -

Has the patient been given oral iron? Yes ☐ No ☐

Why is the patient being referred for IV iron?

Has the patient previously had IV iron? Yes ☐ No ☐

Other relevant information

Send referral to Frances Hinch– Transfusion Practitioner frances.hinch@hinchingbrooke.nhs.ukk or C/O Pathology office

THE PATIENT WILL REMAIN UNDER THE CARE OF THE REFERRING PHYSICIAN

Admission

- Upon referral patients are contacted by myself – for medical history including weight & allergies, explanation of procedure and choices of treatment

- Admission is then arranged. Aim is to get all patients treated within 1 – 4 weeks of referral as outpatients, usually same or following day if inpatients.

The Prescription

- Originally a lot of running around to find a doctor who didn't know the patient, would never meet the patient, didn’t know the drug so had to be told what to write!

- Now…..

The Patient Group Directive (PGD)

- PGD, approved by physicians and pharmacy,
- for total dose infusion of iron Dextran (CosmoFer).
- for repeated dose iron sucrose (VenoFer)
- If a patient does not meet the criteria of the PGD they can still receive IV Iron under the direction of a consultant.

Iron Dextran (Cosmofer)

- *Usually* able to be administered as a total does infusion
- Dosed according to weight and current/ target Hb – we use a target of 13g/dl
- Involves 1 full day in hospital (approx 6 hours)

Iron Sucrose (Venofer)

- Can not be given as a total dose
- Dosed on weight and current-target Hb
- Short visits of approx 1 hour, max of 3 times per week, number of visits depends on current and target Hb (average 5-6 visits)

What Influences the Choice of Preparation?

- Patient choice – length of stay, frequency of visits, usually to fit around work commitments
- Medical history – Venofer 1st choice for patients with history of severe / multiple allergy

Information

- Dedicated section on the hospital intranet for the IV Iron service;
- Referral
- Full Protocols for both Cosmofer and Venofer detailing indications, dosage table, administration
- Nursing Care Plans
- Patient information

Administration

- Patients admitted as a day case to procedure unit
- Admitted under me….but given by them!
- Dedicated unit with trained staff
- Full facilities for CPR and anaphylaxis management for dealing with potential adverse reactions

Follow up

- Patients given forms for blood tests 3-4 weeks post infusion
- I follow up and send one standard letter with results to patient and GP/hospital consultant
- No further follow up but advised to contact GP if symptoms related to anaemia arise in the future
- A number of patients now receive regular infusions and are monitored by their consultants and myself and brought in when their Iron levels begin to drop.

Case study 1

- Male 43 years old
- Ulcerative Colitis – previous Colectomy
- Unable to tolerate oral Iron, issues around malabsorbtion.
- Symptomatic affecting work and home life
- Previously transfused
- Brought in for Cosmofer total dose infusion
- Good response to treatment – now has regular infusions

	Pre	Cosmofer infusion	Post	
	(pre-op)			
Date of blood test	07/05/2008	16/05/2008	30/06/2008	
Hb	9.5		12.5	
HCT	0.32		0.4	
MCV	65		74	
MCH	19.8		22.9	
Iron	1.8		9	
Transferrin	2.7		2.1	
Transferrin Saturation	3		17	
Ferritin	6		43	

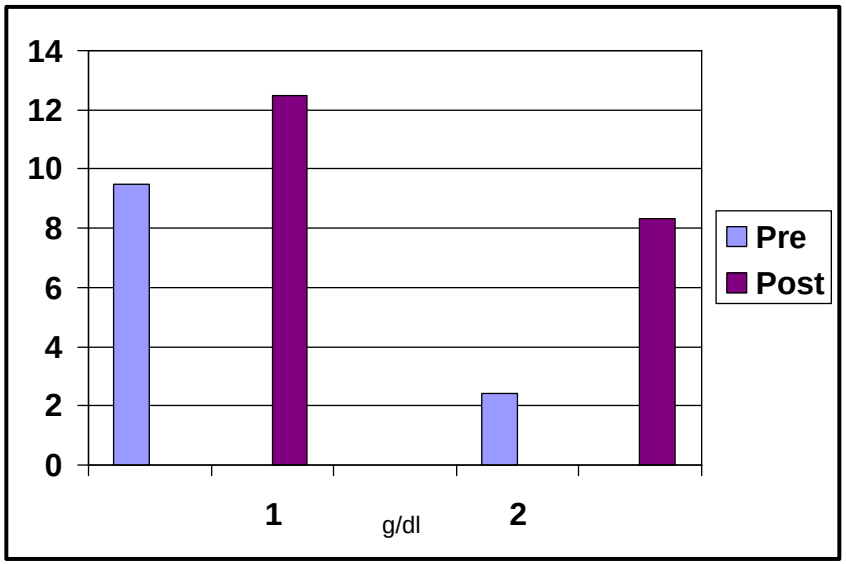
Case study 2

- Male 47 years
- Complex medical history
- MDS – refused all treatment, H.b averaged 2-3g/dl for over 1 year.
- V. Poor quality of life
- Finally agreed to have an Iron infusion – still refused blood.

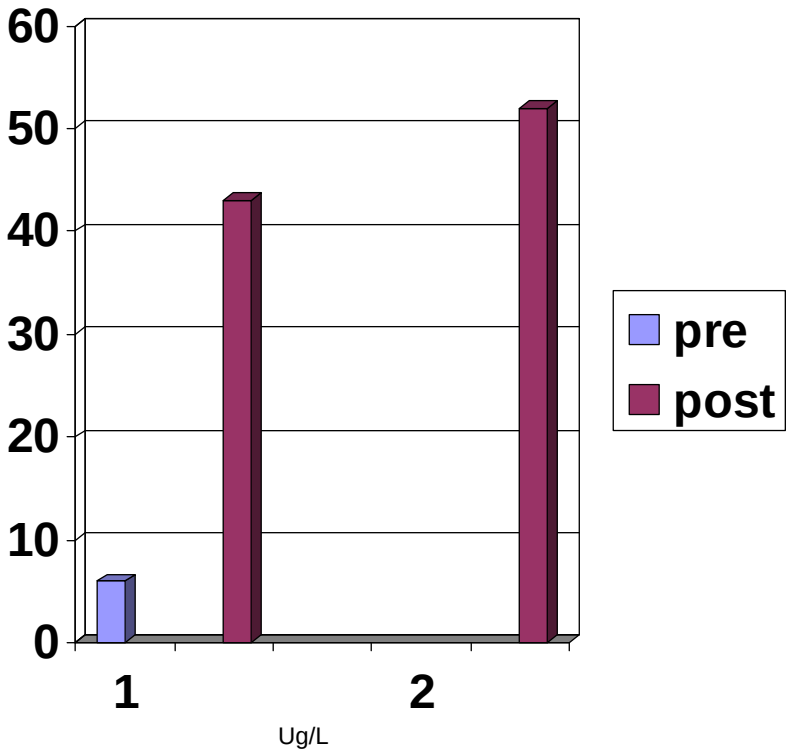
	Pre	Cosmofer infusion	Post	
Date of blood test	28/10/2008	20/11/2008	10/12/2008	
Hb	2.4		8.3	
HCT	0.26		0.38	
MCV	49		65	
MCH	12		19.3	
Iron	<1		2.6	
Transferrin	2.5		1.8	
Transferrin Saturation			6	
Ferritin	<1		52	

Results

Rise in Hb



Rise in Ferritin



Conclusion

- Decrease in red cell usage
- Correct treatment for patients
- Improvement of quality of life for patients
- Increased awareness of IDA and the appropriate treatment.
- Largest uptake has been in gastroenterology(IBD), gynaecology and Obstetrics (manage their own case load), but also has been used pre-operatively.

- To date 40 Patients have used the IV Iron service receiving over 123 Iron infusions

- Most of these patients would previously have received red cell transfusions inappropriately.

Therefore this service has saved the equivalent of a months usage of red cells over its 2 year existence!