

Management of Anaemia

Janet Birchall Consultant
Haematologist North Bristol Trust
and NHS Blood & Transplant

Case History - DW age 86 years

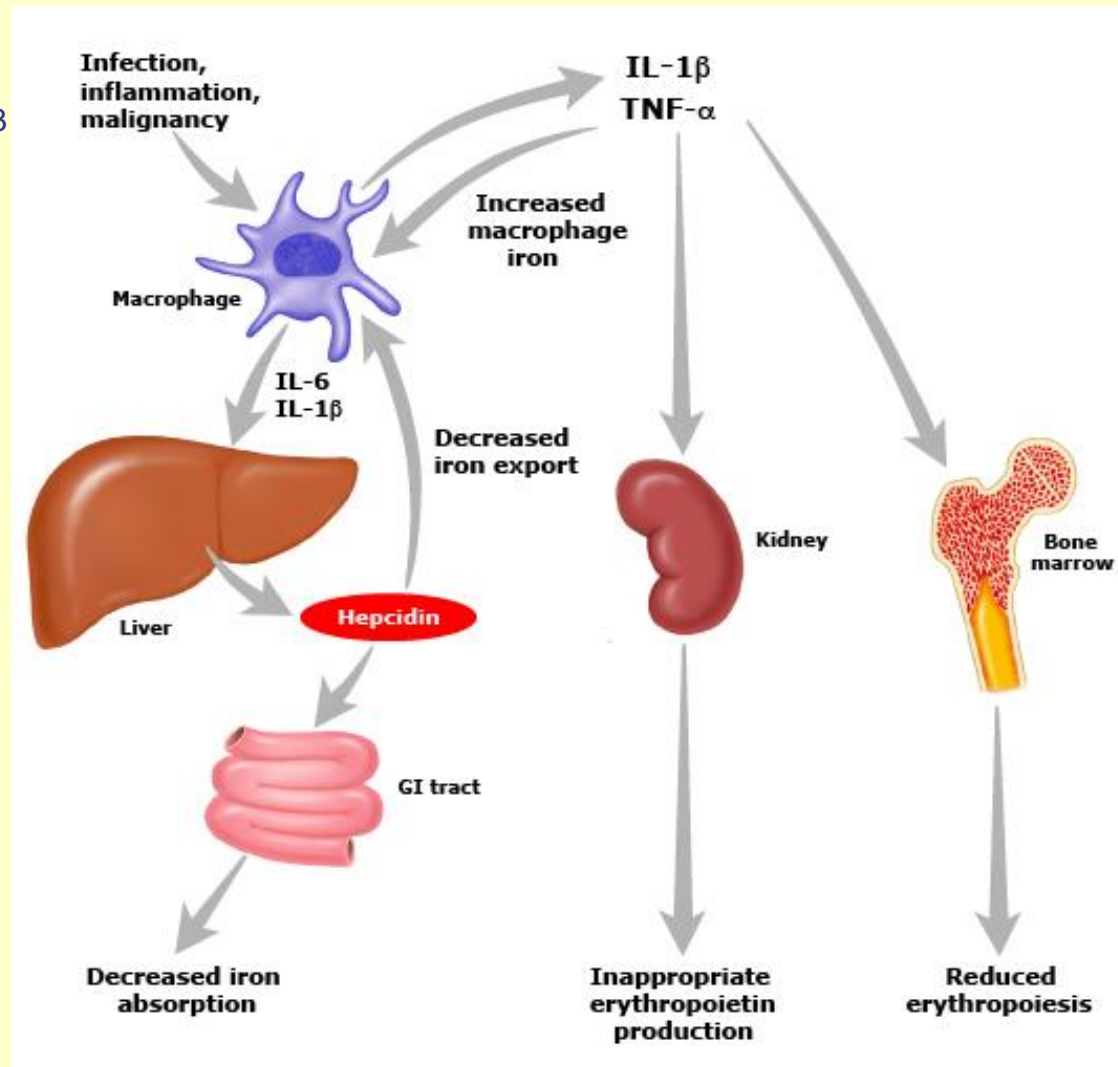
- 14.30 FBC by GP – Hb 58 g/L, ferritin 3microg/L. Hospital review organised
- 14.45 following day patient walked into NBT
H/O lethargy, weakness, dizzy on standing last 10/7, ° syncope/chest pain, ° acute bleed
O/E ° SOB, HR 109, BP 100/60, O2 sats 95%, RR17, CVS OK, RS OK, abdo soft, PR °melena, GCS 15/15, Hb 61 g/L
Treatment - iv fluids, 4 unit RBCs

Prevalence of anaemia

- Anaemia ↑ with age. ~ 10% if > 65yrs in western world. In this group anaemia with impaired iron common i.e. anaemia of chronic disease (ACD) & absolute iron deficiency (AID)
- Prior to major joint surgery
 - ~ 20% patients anaemic - 65% consistent with ACD
 - ~ 40% of anaemic patients receive blood transfusion
- Absolute iron deficient (AID) anaemia. Frequently presenting problem with colorectal cancer
- 2011 Medical Use of Blood national audit. 13 % of cases transfusion likely associated with iron deficiency.

Mechanism anaemia of chronic disease

UpToDate
Feb 12, 2013



Can overcome iron impairment with iv iron

Why does anaemia matter and why not just transfuse blood?

Morbidity & Mortality associated with anaemia

- Pre-operation anaemia – associated with - ↑ morbidity & mortality, ↓ quality of life and predictive for blood transfusion.

Correction with blood doesn't improve outcome and linked with ↑ infection, and in cancer relapse. Dose-dependent relationship observed.

- Medical anaemia associated with ↑ cardiovascular events, hospitalisation, mortality, ↓ quality of life.

Blood transfusion linked with adverse outcome

ORIGINAL ARTICLE

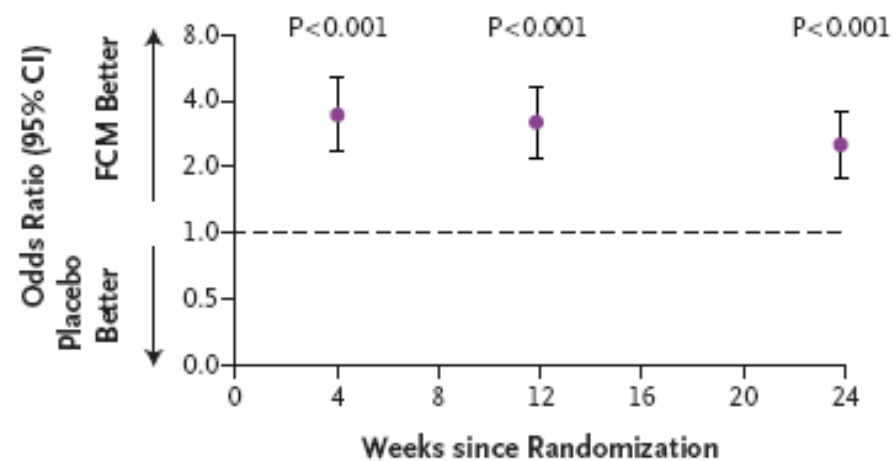
Ferric Carboxymaltose in Patients with Heart Failure and Iron Deficiency

Stefan D. Anker, M.D., Ph.D., Josep Comin Colet, M.D.,

Study population 459 patients with -
chronic heart failure NYHA class II & III with Hb 95 – 135g/l **and**
- either ferritin < 100µg/l
-or ferritin 100-299 µg/l if transferrin saturation < 20%

Method - randomly assigned ferinject or placebo
1°EP Patient global assessment & NYHA functional class
2°EP distance walked in 6 mins & quality of life

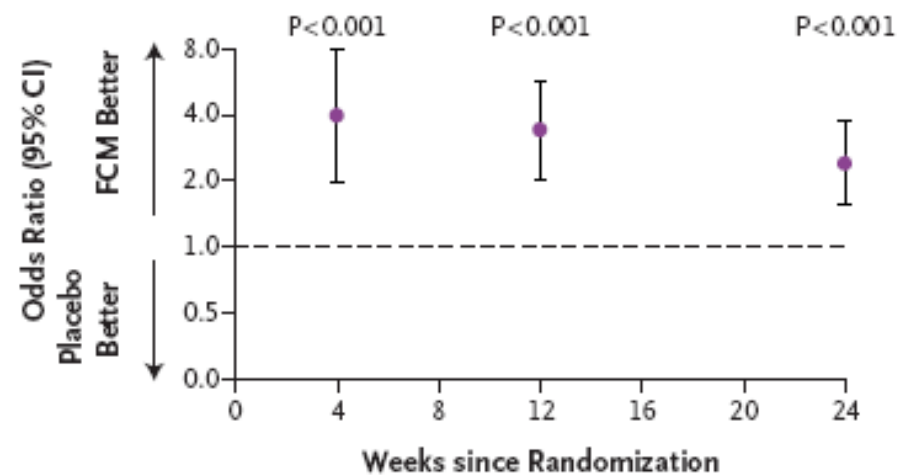
A Self-Reported Patient Global Assessment



No. of Patients

	4	12	24
FCM	282	291	292
Placebo	146	149	149

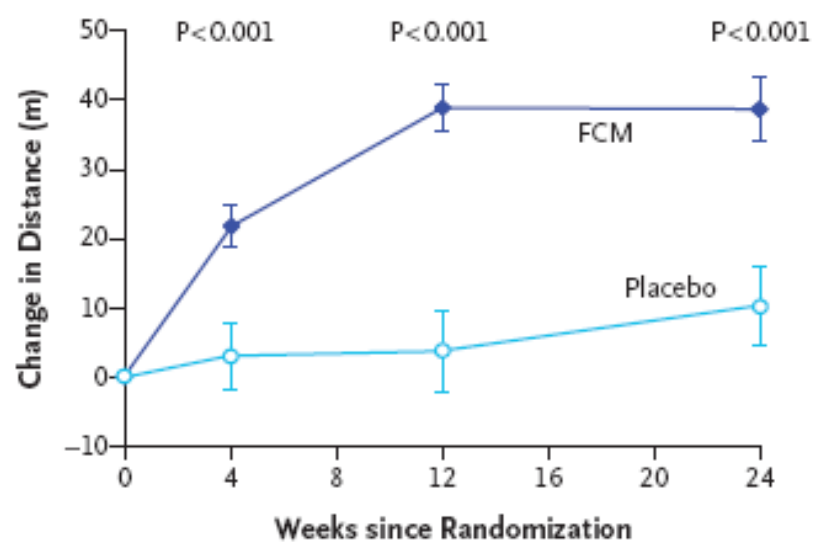
B NYHA Functional Class



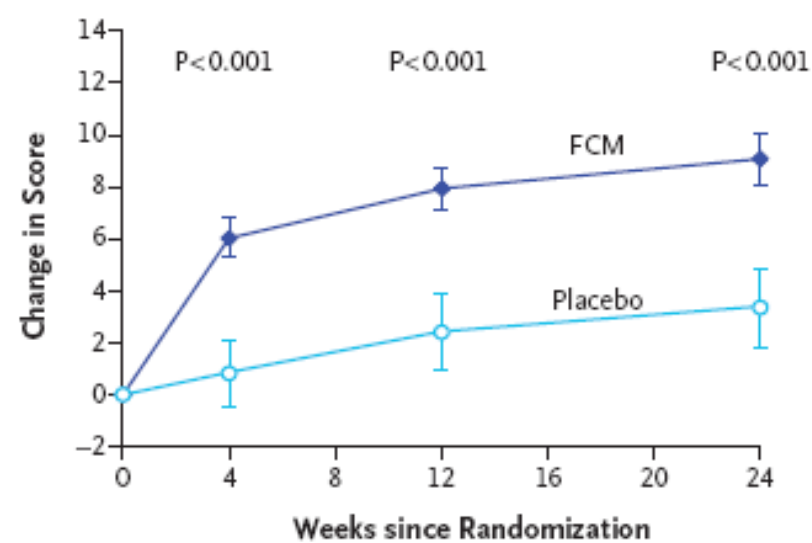
No. of Patients

	4	12	24
FCM	304	287	294
Placebo	155	147	150

C 6-Minute-Walk Test



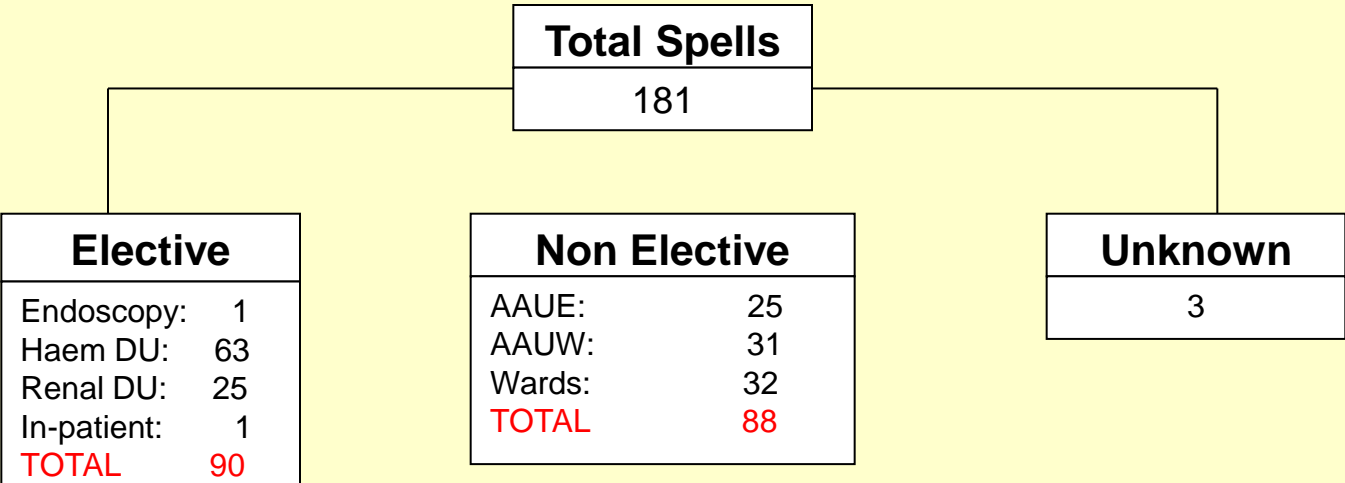
D EQ-5D Visual Analog Scale



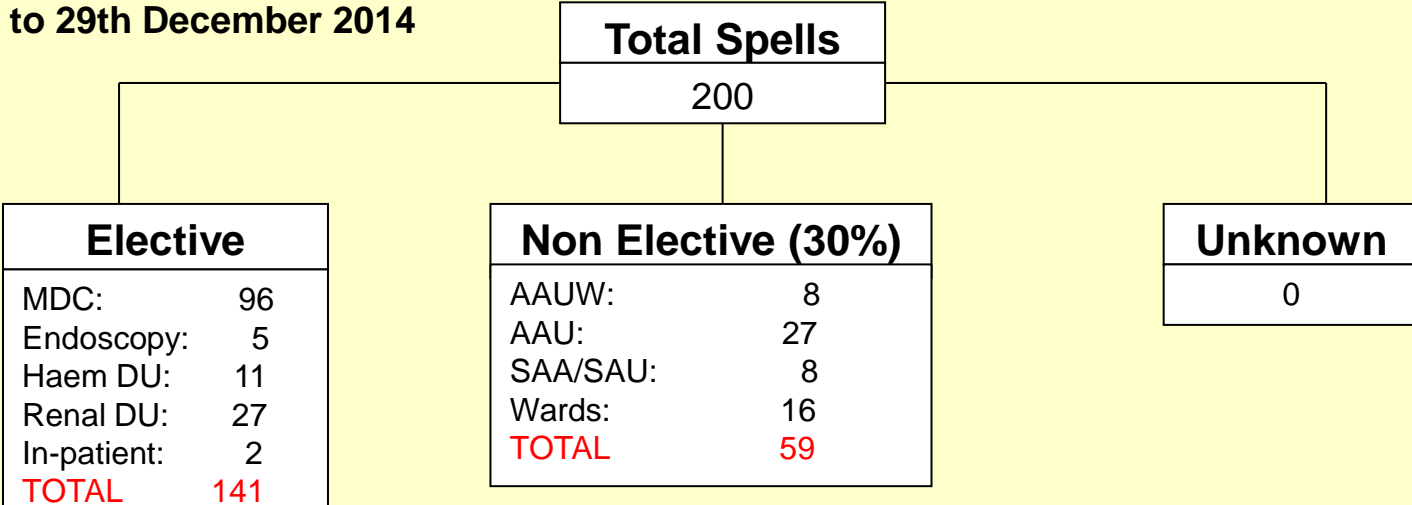
Iron Deficient Anaemia HRG Code SA04F/SA04D

Care which should not involve hospital admission. Iron def - national 5th most common, NBT 2nd most common
 Cost elective admission £500, cost non elective admission £2,000

NBT 2012-2013

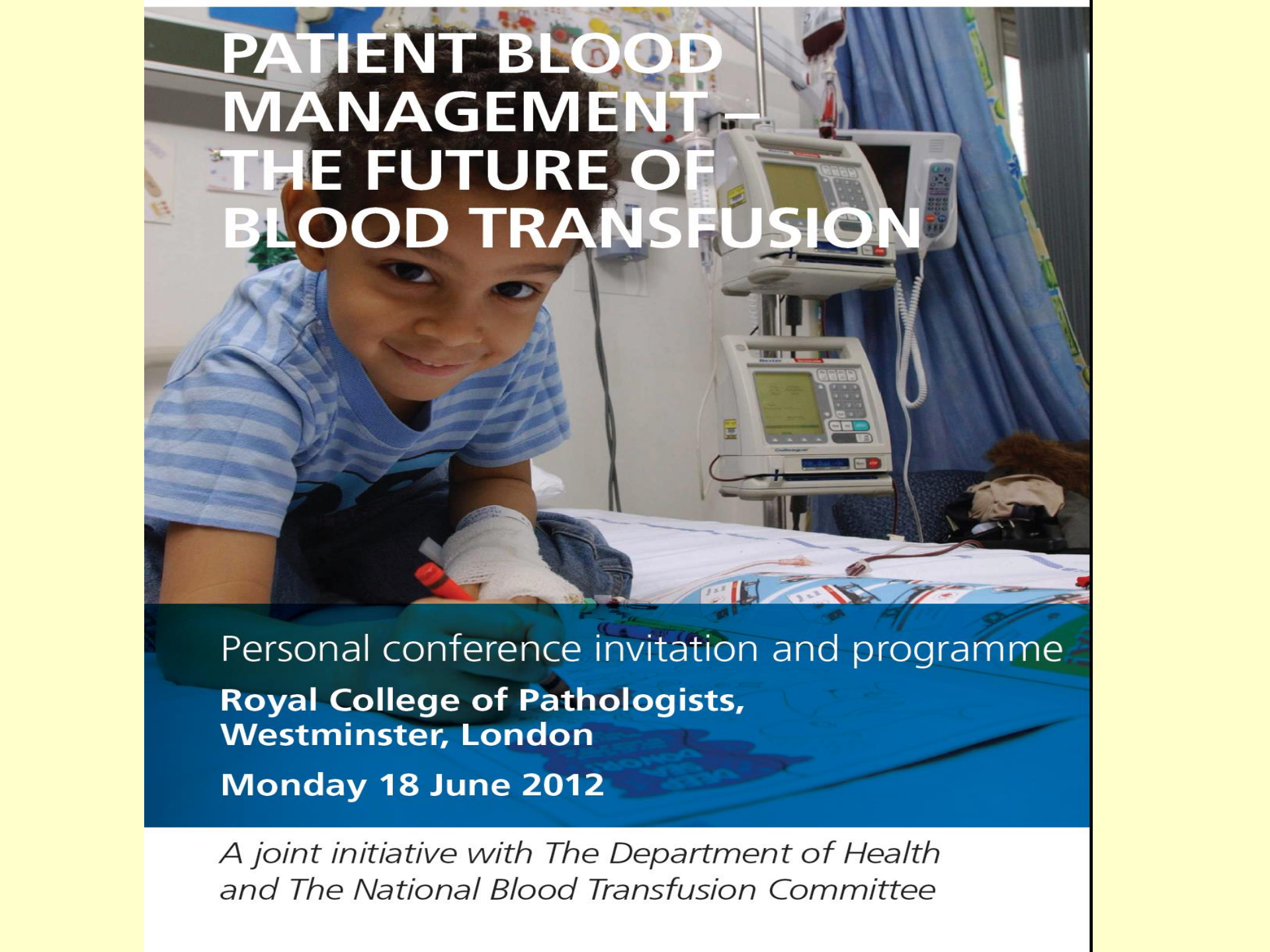


NBT 1st April to 29th December 2014



Patient Blood Management

- Patient blood management (PBM) - timely application evidence based medical & surgical intervention to maintain Hb, optimise haemostasis and minimise blood loss → improve patient outcomes
- Principles particularly relevant to patients scheduled for elective surgery with significant blood loss.
- Effective conservation & management of patient's own blood requires multidisciplinary approach. GPs unique role as care co-ordinator, advocate and referrer of their patients.

A young child with dark curly hair, wearing a blue and white striped hospital gown, is lying in a hospital bed. The child is smiling and looking towards the camera. Their right hand is wrapped in a white bandage. In the background, there is a medical monitor on a stand, blue curtains, and a window. The overall scene is a hospital room.

PATIENT BLOOD MANAGEMENT – THE FUTURE OF BLOOD TRANSFUSION

Personal conference invitation and programme
**Royal College of Pathologists,
Westminster, London**
Monday 18 June 2012

*A joint initiative with The Department of Health
and The National Blood Transfusion Committee*

CLINICAL



Patient blood management

The GP's guide

Sandra Minck

Kathryn Robinson

Ben Saxon

Tracey Spigiel

Amanda Thomson

Reprinted from AUSTRALIAN FAMILY PHYSICIAN VOL 42, NO. 5, MAY 2013

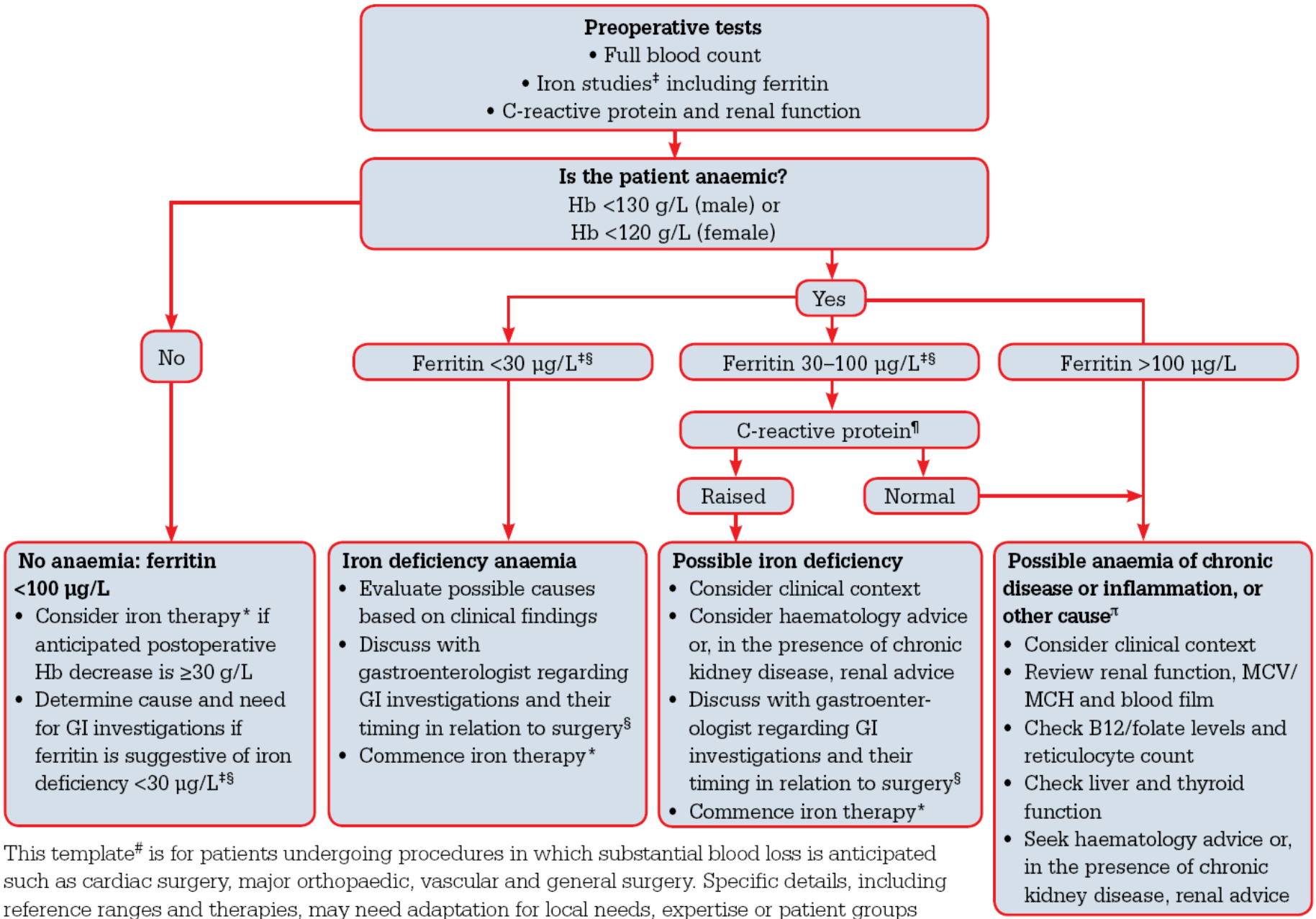
Management of Anaemia, Wednesday 10th June 2015 - Dr Janet Birchall

Role of GP

Table 1. Questions to consider when referring a patient for elective surgery

- Is the surgery likely to result in significant blood loss?
- Does my patient have anaemia or are they at risk of anaemia?
 - What are my patient's iron stores?
- Are there comorbidities that may contribute to adverse outcomes if anaemia develops?
 - If so, what steps are needed to optimise these conditions (eg. cardiac disease)?
- Are there chronic conditions that may impede a haematopoietic response (eg. chronic kidney disease, inflammation or bone marrow pathology)?
- What medications and complementary medicines is my patient taking that might increase their bleeding risk?
- Is my patient informed about the possible risks associated with blood transfusion and alternatives that may be available?

Algorithm to assist preoperative assessment of anaemia



PBM/Anaemia Management

Iron therapy

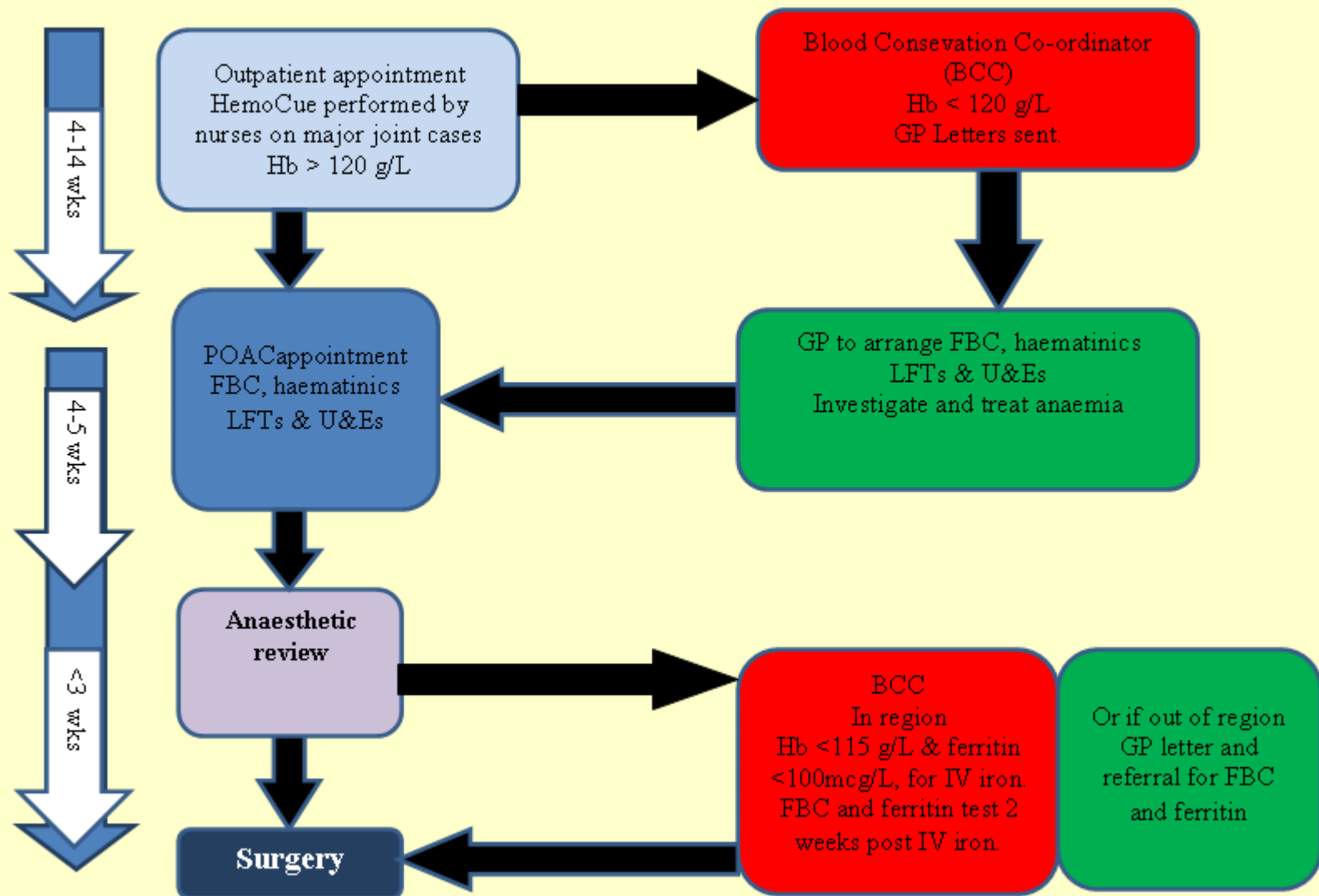
Oral Iron - divided daily doses

IV iron - oral contraindicated (ACD), not tolerated/effective, rapid repletion (eg. <1/12 to non-deferrable surgery)

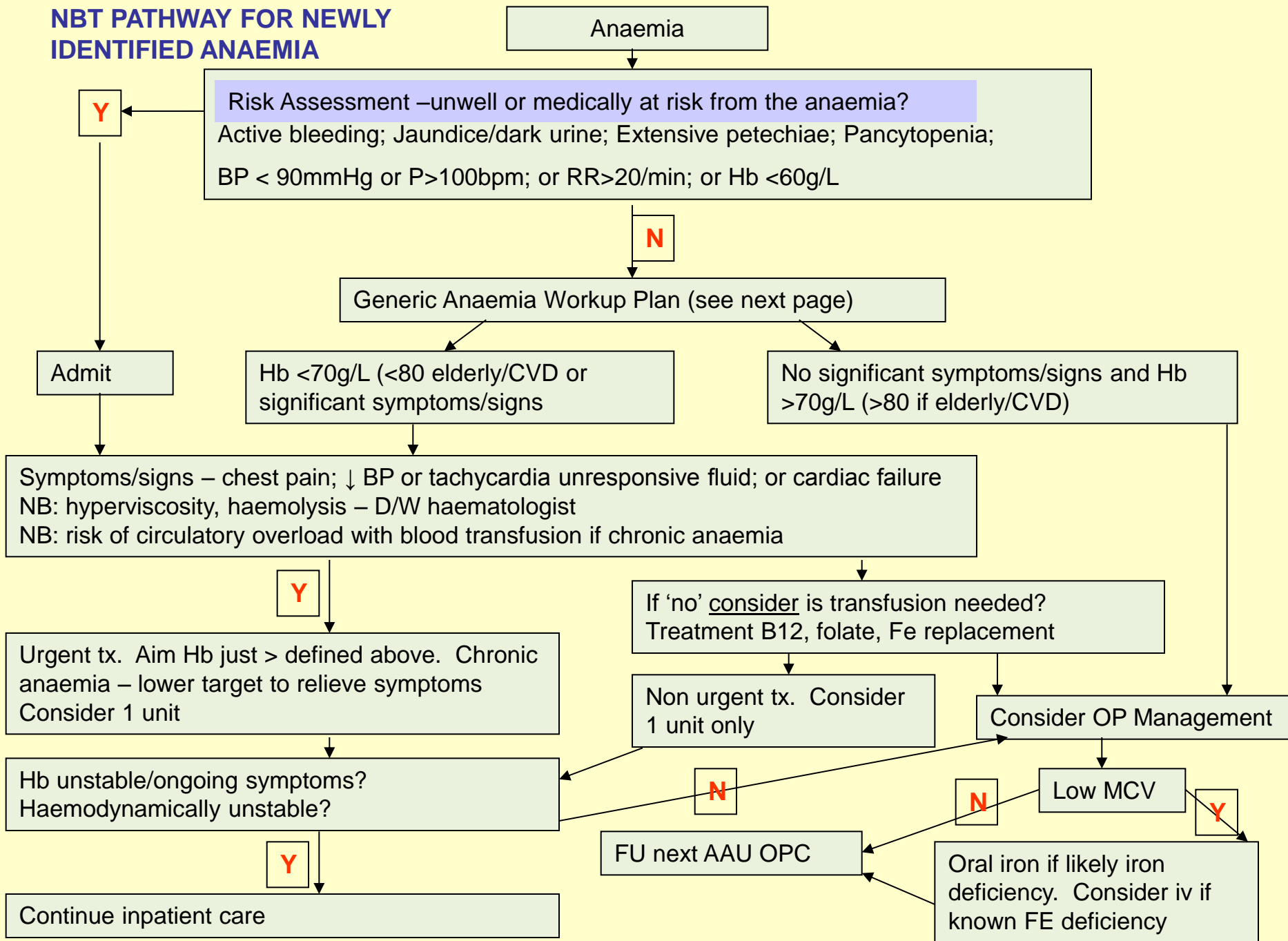
Haemostasis Management

- Hospitals often have own guidelines and pathways
- Early referral if complicated or high risk case
- GPs should ensure patients aware of medications & complementary medicines with a bleeding risk

NBT Surgical pathway when significant blood loss anticipated



NBT PATHWAY FOR NEWLY IDENTIFIED ANAEMIA



PATHWAY FOR NEWLY IDENTIFIED ANAEMIA

All patients – Workup considerations

History:

Bleeding (GI, GU, PV); Drugs/alcohol; Malabsorption; FH; Diet; Blood donation; AID

Consider sickle cell / thalassaemia

Is this acute or chronic anaemic (recent symptoms versus slow increase in symptoms)

Examination:

GI; Massive haematomas?; Cardiac failure?; Pulse/BP

Consider the RBC result – does the result fit the clinical picture?

Check previous history/results. Has this already been investigated?

Low MCV

Normal/High MCV

Request from:

Haematinics (ferritin and/or transferrin saturation);
TSH; Coeliac D screen; CRP/PV; Consider Hb
electrophoresis; If bleeding likely arrange appropriate
investigations eg OGD, colonoscopy, abdo US

Request from:

Retic; Haematinics; Blood Film; LDH; DAT; Myeloma
screen; Coeliac D screen; TSH; Renal & liver function.
Arrange investigations, eg OGD, colonoscopy, abdo US

Outpatient considerations:

Is patient well with minimal symptoms?; Evidence of acute blood loss?; Cope at home?

What is the benefit of an admission – would they be better managed by OP investigation?

Summary

GPs should play vital role in anaemia management/PBM

- Identify/manage anaemia & suboptimal iron stores
- Awareness medications & complementary medicines that affect haemostasis
- Educate patients about options – e.g. blood transfusion and associated risks and benefits
- Anaemia management in primary care first step → best patient outcome