HAEMOGLOBIN ASSESSMENT AND OPTIMISATION
ACTION PLAN

WHAT DO YOU NEED TO DO?

IF IRON THERAPY IS REQUIRED IN ANY TRIMESTER:
- Provide the patient with a completed Maternity Iron Handout for oral supplementation and BloodSafe handout: A Guide to Taking Iron Tablets
- If iron is recommended, add details to the patient record

FIRST TRIMESTER VISIT – ≤20 WEEKS
- Check FBC and ferritin on all women
- Is Hb electrophoresis required? Refer to Haemoglobin Assessment and Optimisation First Trimester
- If already taking iron, enquire about compliance, side effects etc
- Provide patient with request form for FBC and ferritin for 26–28 weeks routine blood tests (or where appropriate, add ferritin to 28 week OGTT request form)

SECOND ANTENATAL VISIT
- Review booking blood results
- Is iron required? Refer to Haemoglobin Assessment and Optimisation First Trimester
- Provide patient with request form for full blood count (FBC) and ferritin for 26–28 weeks routine blood tests (or where appropriate, add ferritin to 28 week OGTT request form) if required

SECOND TRIMESTER VISIT – 26–28 WEEKS
- Review FBC and ferritin result
- Is iron required? Refer to Haemoglobin Assessment and Optimisation Second Trimester
- If already taking iron, enquire about compliance, side effects etc
- Provide patient with request form for FBC and ferritin for 32-36 weeks if required

THIRD TRIMESTER VISIT – 32–36 WEEKS
- Review FBC and ferritin result
- Is iron required? Refer to Haemoglobin Assessment and Optimisation Third Trimester
- If already taking iron, enquire about compliance, side effects etc
- Provide patient with request form for FBC and iron studies; B12 & folate (if levels were low in pregnancy) for 6 weeks postpartum; copy to GP

INTRAPARTUM
- Review FBC and ferritin result
- Is iron required? Refer to Haemoglobin Assessment and Optimisation Admission in Labour – Intrapartum
- If already taking iron, enquire about compliance, side effects etc

POSTPARTUM
- Is FBC required following delivery? Refer to Haemoglobin Assessment and Optimisation Postpartum
- Provide patient with request form for FBC and iron studies; B12 & folate (if levels were low in pregnancy) for 6 weeks postpartum; copy to GP
- Complete feedback form
HAEMOGLOBIN ASSESSMENT AND OPTIMISATION

**FIRST TRIMESTER**

**First antenatal visit ≤20 weeks**
- Document the presence of any risk factors for anaemia (see Note 1)
- Request **full blood count (FBC)** and **ferritin** on all women as part of the booking bloods.

**Women additionally need a haemoglobin (Hb) electrophoresis** as part of their booking bloods if they have risk factors for a haemoglobinopathy (see Note 2) OR the booking FBC shows a MCV ≤80 fL and/or MCH <27 pg.

**If Hb electrophoresis result is abnormal:** arrange to test the partner (Hb electrophoresis/FBC/ferritin) unless previously tested (a hard copy of result is required). Note the female partner’s details on the request form and refer the patient to the doctor’s antenatal clinic (ANC).

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**Hb >110 g/L**

- Ferritin >30 mcg/L
  - Depleted iron stores
    - Oral iron supplements containing a minimum of 60 mg elemental iron daily
    - Continue iron rich diet and pregnancy multivitamins
    - Provide BloodSafe A Guide to Taking Iron Tablets handout
    - Assess compliance, correct administration and enquire about side effects at every visit
    - Provide blood form for repeat blood tests

**Hb 70–110 g/L**

- Ferritin ≤30 mcg/L
  - Iron deficiency anaemia
    - Therapeutic dose oral iron supplements containing 100–200 mg elemental iron daily

**Hb <70 g/L**

- Ferritin >30 mcg/L
  - Concomitant causes contributing to the anaemia (i.e. folate deficiency or anaemia of chronic disease) need to be excluded

**Severe anaemia**
- Therapeutic dose oral iron supplements containing 100–200 mg elemental iron daily
- Urgent referral to a specialist

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**Repeat FBC as part of the routine 26–28 week blood tests**
**Refer to Haemoglobin Assessment and Optimisation Second Trimester**

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**Note 1** - Risk factors for anaemia: previous anaemia, inter-pregnancy interval <1 year, multiple pregnancy, parity ≥3, vegetarians, teenage pregnancies, recent history of bleeding, Aboriginal and Torres Strait Islander women.

**Note 2** - Risk factors for haemoglobinopathies: women with a family history of anaemia, thalassaemia or other abnormal haemoglobin variant; and any woman from a high-risk ethnic background who has not previously been tested.
26–28 weeks
Request a **full blood count (FBC) and ferritin** on all women

**If applicable**
Document iron preparation and dose being taken
Assess compliance and enquire about side effects

- **Hb >105 g/L**
  - Has there been a ≥15 g/L fall in Hb compared to the booking result?
  - Is the woman at high risk for postpartum haemorrhage? Would she decline a blood transfusion? (see Note 2)
  - Did the woman have depleted iron stores earlier in pregnancy?

- **Hb 70–105 g/L**
  - Ferritin ≤30 mcg/L
  - Depleted iron stores
    - Oral iron supplements containing a minimum of 60 mg elemental iron daily
  - Anaemia
    - Therapeutic dose oral iron supplements containing 100–200 mg elemental iron daily

- **Hb <70 g/L**
  - Severe anaemia
    - Therapeutic dose oral iron supplements containing 100–200 mg elemental iron daily

  - Continue iron rich diet and pregnancy multivitamins
  - Provide BloodSafe *A Guide to Taking Iron Tablets* handout if not given previously
  - Assess compliance, correct administration and enquire about side effects at every visit (see Note 1)
  - Provide blood form for repeat blood tests

  - Urgent referral to a specialist
  - Review with a repeat FBC and ferritin result at 32–36 weeks
    - Refer to *Haemoglobin Assessment and Optimisation Third Trimester*

**Note 1** - If nausea and epigastric discomfort are experienced, try preparations with lower iron content.
Slow release enteric coated forms should be avoided.

**Note 2** - Non-anaemic women where estimation and optimisation of iron stores is necessary as significant blood loss may occur at delivery: Jehovah’s witnesses, recent history of bleeding, previous postpartum haemorrhage, placenta previa/accreta.
HAEMOGLOBIN ASSESSMENT AND OPTIMISATION
THIRD TRIMESTER

32–36 weeks
Document iron preparation and dose being taken
Assess compliance and enquire about side effects
Review repeat full blood count (FBC) and ferritin results to assess response to oral iron

Hb >110 g/L
Continue oral iron for the remainder of pregnancy and until at least 6 weeks postpartum
Continue iron rich diet and pregnancy multivitamins

Hb 70–110 g/L
Refer the patient to the next doctor’s antenatal clinic (ANC)

Hb <70 g/L
Severe anaemia
Therapeutic dose oral iron supplements containing 100–200 mg elemental iron daily

Is ferritin ≤30 mcg/L?
Yes
Request/review B12 and folate
No
Is the MCV ≥100 fl?

Low
Normal
Supplement B12 and folate as required

Ferritin ≤30 mcg/L
Iron deficiency anaemia

Ferritin >30 mcg/L
Refer to a specialist

Re-check B12 and folate at 6 weeks postpartum
IV iron recommended in women who are intolerant/non-compliant/ >36 weeks/failed to respond to appropriate trial of oral iron

Provide blood form for 6 weeks postpartum blood tests (FBC and iron studies; B12 and folate if levels were low). Document the request in the hospital discharge summary. Tests recommended to be performed prior to the 6 week GP visit. GP to receive the result.
Refer to Haemoglobin Assessment and Optimisation Admission in Labour – Intrapartum

transfusion.com.au/maternity | This resource is also available on our app. Download now - itransfuseapp.com
Version 5.0 17 April 2018. The disclaimer found at transfusion.com.au applies to this resource. These algorithms were compiled by Dr F Sethna, Dr B Stephens and Dr P Crispin from the Canberra Hospital in collaboration with the Australian Red Cross Blood Service.
Admission in labour
Review haemoglobin (Hb) result from the last available antenatal full blood count (FBC) for all women on admission (see Note 1)

Hb >110 g/L
- Routine intrapartum management

Hb ≤110 g/L
- Repeat FBC and request a group and screen
- Is Hb ≤110 g/L?
  - Yes
  - IV access in labour
    - Active management of third stage labour (Syntometrine® recommended unless medically contraindicated)
    - Accurately record blood loss at delivery
    - Manage any primary postpartum haemorrhage as per hospital guidelines
    - Refer to Haemoglobin Assessment and Optimisation Postpartum
  - No

Note 1 - Women anaemic at the time of delivery may require additional precautions at the time of delivery.
Did the woman have a primary postpartum haemorrhage (PPH)? (see Note 1)

No PPH

Did the woman have a full blood count (FBC) checked postpartum incidentally for some other reason?

No

Yes

Hb >110 g/L and no PPH

Did the woman have depleted iron stores or was anaemic in pregnancy? Was she taking oral iron supplements or did she receive an IV iron infusion during the pregnancy?

No

Continue oral iron supplements for at least 6 weeks postpartum

Yes

Did the woman have a FBC checked in labour and has there been a ≥15 g/L fall in Hb compared to the booking result?

No

Continue routine postnatal care

Yes

Hb >110 g/L and PPH

Oral iron supplements containing a minimum of 60 mg elemental iron daily for at least 6 weeks postpartum

Provide BloodSafe A Guide to Taking Iron Tablets handout

Hb ≤110 g/L +/- PPH

Anaemia

Refer to guidance on red cell transfusion for postnatal patients not actively bleeding to aid clinical decision-making

Ensure woman has blood form on discharge from hospital for 6 week postpartum blood tests (FBC and iron studies; B12 and folate if levels were low in pregnancy)

Document the request for blood tests in the hospital discharge summary

Tests recommended to be performed prior to the 6 week GP visit. GP to receive and action results, requesting further blood tests or investigations as appropriate

If the woman has not received an IV iron infusion in the postpartum period, commence therapeutic dose oral iron supplements containing 100–200 mg elemental iron daily for at least 3 months postpartum

Provide BloodSafe A Guide to Taking Iron Tablets handout

Note 1 - Primary postpartum haemorrhage (PPH) is defined as excessive bleeding in the first 24 hours post-birth, and is traditionally defined as blood loss of ≥500 mL after vaginal birth or ≥1000 mL blood loss after caesarean section.

Note 2 - There is no role for checking a ferritin level or iron studies in the immediate postpartum period as the results are not interpretable.