Maternal Blood Optimisation Pathways

FIRST TRIMESTER OR BOOKING VISIT

NOTE 1 Risk factors for anaemia
Obesity, low socio economic status, previous anaemia, interpregnancy interval < 1 year, multiple pregnancy, parity ≥ 3, meat-free or poor diet, teenage pregnancies, recent history of bleeding, haemoglobinopathy (eg. women with a family history of anaemia, thalassaemia or other abnormal haemoglobin variant).

NOTE 2 If oral iron is not well tolerated, eg. causing nausea or constipation, consider alternate day dosing or ↓ dose to 60 mg elemental iron or greater (eg. Ferro tab). Slow release enteric coated forms should be avoided.

FIRST ANTENATAL VISIT ≤ 20 WEEKS
Document the presence of any risk factors for anaemia (see Note 1 above)
Request complete blood count (CBC) and ferritin on all women as part of the booking bloods
Encourage iron rich diet (eg. discuss flip chart)
Provide blood form for repeat blood tests at 26-28 weeks

Hb ≥ 110 g/L
- Ferritin ≥ 30 mcg/L
  - Iron deficiency
    - Therapeutic dose oral iron supplements containing 100-200 mg elemental iron daily (see Note 2 above)
    - Assess compliance, correct administration and enquire about side effects at every visit
- Ferritin ≤ 29 mcg/L
  - Iron deficiency anaemia

Hb 90-109 g/L
- Ferritin ≤ 29 mcg/L
  - Iron deficiency anaemia
- Ferritin ≥ 30 mcg/L
  - Other causes contributing to the anaemia (eg. folate deficiency or anaemia of chronic disease) need to be excluded
  - Request: B12, folate, CRP, renal function

Hb ≤ 89 g/L
- Ferritin ≥ 30 mcg/L
  - Severe anaemia
  - Therapeutic dose oral iron supplements containing 100-200 mg elemental iron daily (see Note 2 above)
  - Request: B12, folate, CRP, renal function
  - Assess compliance, correct administration and enquire about side effects at every visit

Ferritin
≥ 30 mcg/L
- Ferritin
≤ 29 mcg/L

REPEAT CBC AND FERRITIN AS PART OF THE ROUTINE 26-28 WEEK BLOOD TESTS
Refer to Maternal Blood Optimisation: Second Trimester

REFERRAL TO OBSTETRIC SPECIALIST
Urgent: < 90 g/L
Acute: < 70 g/L

Adapted from the Australian Red Cross Blood Service with permission
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Maternal Blood Optimisation Pathways
SECOND TRIMESTER

NOTE 1 If oral iron is not well tolerated, eg. causing nausea or constipation, consider alternate day dosing or ↓ dose to 60 mg elemental iron or greater (eg. Ferro tab). 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. Provide blood form for repeat blood tests at 32-36 weeks.

26-28 WEEKS
Request complete blood count (CBC) and ferritin on all women
If applicable – document iron preparation and dose being taken
– assess compliance and enquire about side effects
Continue iron rich diet

<table>
<thead>
<tr>
<th>Hb ≥ 105 g/L</th>
<th>Hb 90-104 g/L</th>
<th>Hb ≤ 89 g/L</th>
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<tbody>
<tr>
<td>Ferritin ≥ 30 mcg/L</td>
<td>Ferritin ≤ 29 mcg/L</td>
<td>Ferritin ≥ 30 mcg/L</td>
</tr>
<tr>
<td>Iron deficiency</td>
<td>Iron deficiency Anaemia</td>
<td></td>
</tr>
</tbody>
</table>
| Did the woman have iron deficiency earlier in pregnancy? | Therapeutic dose oral iron supplements containing 100-200 mg elemental iron daily (see Note 1 above) | Other causes contributing to the anaemia (eg. folate deficiency or anaemia of chronic disease) need to be excluded
Request: CRP, renal function, B12, folate |
| YES | NO | |
| CONTINUE ROUTINE ANTENATAL CARE (see Note 2 above) | CONTINUE ROUTINE ANTENATAL CARE (see Note 2 above) | Therapeutic dose oral iron supplements containing 100-200 mg elemental iron daily (see Note 1 above) |

Assess compliance, correct administration and enquire about side effects at every visit (see Note 1 above)
Provide blood form for repeat blood tests at 32-36 weeks

REVIEW WITH A REPEAT CBC AND FERRITIN RESULT AT 32-36 WEEKS
Refer to
Maternal Blood Optimisation: Third Trimester
Maternal Blood Optimisation Pathways
THIRD TRIMESTER

32-36 WEEKS
Document iron preparation and dose being taken
Assess compliance and enquire about side effects
Request complete blood count (CBC) and ferritin if indicated by previous iron deficiency ± anaemia

- Hb ≥ 105 g/L
  - Continue oral iron* for the remainder of pregnancy
  - Continue iron rich diet
  - If ferritin ≥ 30, consider low dose or alternate day dosing
    *Unless Hb > 130 then stop oral iron

- Hb 90-104 g/L
  - Antenatal clinic referral, with tests below if appropriate
  - Therapeutic dose oral iron supplements containing 100-200 mg elemental iron daily if no iron infusion has been given
  - Advice may be provided by triaging practitioner, or an iron infusion recommended, rather than a review in clinic

- Hb ≤ 89 g/L
  - Severe anaemia
  - Therapeutic dose oral iron supplements containing 100-200 mg elemental iron daily

- Is the MCV ≥ 100 fL?
  - YES
    - Request/Review: B12 and folate
      - Low
        - Supplement B12 and folate as required
        - Is Ferritin ≤ 29 mcg/L?
          - YES
            - Iron deficiency Anaemia
          - NO
            - Re-check B12 and folate at 6 weeks postpartum
      - Normal
    - NO
  - Request: Complete blood count with blood film, CRP, renal function, B12, folate

- Ferritin ≤ 29 mcg/L
  - Request: CRP, renal function, B12, folate

- Ferritin ≥ 30 mcg/L
  - Request: CRP, renal function, B12, folate

Provide blood form for 4-6 weeks postpartum blood tests (CBC and Ferritin; B12 and folate if levels were low).
Document the request in the hospital discharge summary.
Tests recommended to be performed prior to 4-6 week midwife or GP visit. GP or midwife to receive and action result.

Refer to
Maternal Blood Optimisation: Intrapartum – Admission in Labour
Maternal Blood Optimisation Pathways

INTRAPARTUM – ADMISSION IN LABOUR

NOTE Anaemic women may have reduced tolerance to blood loss and will require active management at time of delivery.

ADMISSION IN LABOUR
Review haemoglobin (Hb) and ferritin result from the last available antenatal blood tests for all women on admission (see note above)

Hb ≥ 105 g/L

ROUTINE INTRAPARTUM MANAGEMENT

Hb ≤ 104 g/L

Repeat complete blood count (CBC) and request a group and screen

Is Hb ≤ 104 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 parturium haemorrhage as per hospital guidelines

Refer to Maternal Blood Optimisation template and PPH guideline (GLM0021)
Maternal Blood Optimisation Pathways

INPATIENT POSTPARTUM

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

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**Estimated blood loss (EBL) at delivery**

- ≤ 499 mL
- ≥ 500 mL

**Did the woman have a complete blood count (CBC) checked postpartum incidentally for some other reason?**

- **YES**
  - Hb ≥ 100 g/L and EBL ≤ 499 mL
  - Hb ≥ 100 g/L and EBL ≥ 500 mL
  - Hb ≤ 99 g/L (any EBL)

- **NO**
  - Did the woman have depleted iron stores earlier in pregnancy?

**Did the woman have depleted iron stores earlier in pregnancy?**

- **NO**
  - Continue oral iron supplements for at least 6 weeks postpartum unless IV iron given in last 6 weeks

- **YES**
  - Repeat complete blood count (CBC) 12-24 hours following delivery unless medically indicated to be repeated sooner (see note above)

**Anaemia**

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**Ensure woman has blood form on discharge from hospital for 4-6 week postpartum blood tests (CBC and Ferritin; 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 4-6 week midwife or GP visit. Person requesting the test needs to receive and action results, requesting further blood tests or investigations as appropriate.**