Iron Deficiency and Iron-Deficiency Anaemia: Nursing Notes

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Iron-deficiency anemia (anaemia) develops when too little available iron limits haemoglobin production and haemoglobin falls below the applicable reference threshold. Iron deficiency can occur before anaemia develops. For nursing assessment, connect symptoms and blood results with possible blood loss, dietary intake and absorption problems; tiredness alone does not confirm the diagnosis.

Related anatomy learning: For the physiological context of nutrient absorption, review digestion, intestinal absorption and nutrient transport in our complete BS Nursing Anatomy and Physiology I & II guide.

Iron deficiency vs iron-deficiency anaemia

Review how hemoglobin, hematocrit, MCV and RDW fit together in the CBC blood test nursing notes, then use this article to study iron deficiency specifically.

Iron is required to make haemoglobin, the oxygen-carrying protein in red blood cells. Iron stores can fall before haemoglobin becomes low. With longer-standing deficiency, red cells are often smaller (microcytic) and contain less haemoglobin (hypochromic); these patterns are not specific to iron deficiency and should be assessed alongside relevant laboratory tests.

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Common causes and risk factors

- Blood loss: heavy menstrual bleeding, gastrointestinal blood loss and other chronic bleeding causes.
- Increased requirements: periods of growth and pregnancy may increase iron needs.
- Reduced intake: diets supplying insufficient available iron for a person’s requirements.
- Impaired absorption: malabsorption conditions, certain gastrointestinal procedures and other relevant disorders.

Important: In adults, particularly where unexplained iron deficiency occurs, identifying the source of blood loss or malabsorption is essential. Iron replacement alone should not obscure assessment of a potentially serious underlying cause.

Symptoms and nursing assessment

Possible features include fatigue, decreased activity tolerance, dizziness, exertional breathlessness, pallor and headache. Symptoms overlap with many other conditions and may be subtle in early deficiency. Nurses assess baseline function, bleeding history, diet, medication history, cardiopulmonary symptoms and available test results. Pallor appearance

differs across skin tones; no single visual sign confirms anaemia.

Which blood tests help investigate iron deficiency?

Haemoglobin (Hb)

Indicates the concentration of haemoglobin; a low result supports anaemia, not necessarily its cause.

Mean corpuscular volume (MCV)

Average red-cell size; reduced MCV can accompany iron-deficiency anaemia, but other diagnoses are possible.

Ferritin

Reflects stored iron and is commonly useful when assessing iron deficiency; it can rise with inflammation, potentially masking depleted stores.

Transferrin saturation and other iron studies

Can help clarify iron availability, alongside clinical history and inflammatory context.

Haemoglobin, MCV and ferritin: what does the pattern suggest?

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TABLE / Interpret the laboratory pattern, not one isolated result

Pattern	What a student can conclude
Low haemoglobin and low ferritin	The findings support anaemia with depleted iron stores. The cause of iron loss or insufficient supply still needs investigation.
Haemoglobin in range and low ferritin	Iron stores can be depleted before anaemia develops. A normal haemoglobin result does not answer every question about iron status.
Low haemoglobin with normal or raised ferritin	Do not assume iron stores are adequate from ferritin alone. Inflammation and other conditions can raise ferritin; interpret further iron studies and clinical findings with the clinician.
Low MCV without iron studies	Small red cells are a clue, not proof of iron deficiency. Other causes of microcytosis need consideration.

Use the reporting laboratory's intervals and the patient's clinical context. Ferritin interpretation and the laboratory-test study guide explain why results are reviewed together.

Clinical pathway: from a symptom to an explanation

A nursing student’s reasoning pathway

- Observe fatigue or breathlessness; assess urgency and symptoms.
- Check CBC and clinician-requested iron studies.
- Consider bleeding history, diet, absorption and inflammatory context.
- Communicate findings and provide prescribed care and patient education.
- Review follow-up tests, symptom trends, tolerability and adherence when relevant.

Management concepts and clinical caution

Management typically addresses both the iron deficit and its underlying cause. A clinician may prescribe oral iron, dietary advice or, in selected circumstances, intravenous iron. Nursing responsibilities include checking the prescription, discussing possible adverse effects, supporting adherence, watching for intolerance, and explaining the importance of follow-up. Do not recommend unsupervised iron dosing; excess iron can be harmful.

What should nurses teach a patient taking prescribed oral iron?

- Follow the prescribed product and schedule. Ask the pharmacist about timing with other medicines, calcium or antacids, because interactions may affect absorption or treatment.
- Discuss tolerability. Nausea, constipation or diarrhoea can make treatment difficult. Report problems so the prescriber can review the plan; do not independently change the dose.
- Explain stool changes carefully. Iron may darken stools. Black, tarry stools, visible blood or significant abdominal pain need prompt clinical advice rather than an assumption that iron explains them.
- Keep follow-up appointments. Symptoms, blood results, treatment tolerance and the underlying cause all need review.
- Store iron out of children’s reach. Suspected accidental ingestion requires urgent poison or emergency advice.

Teach-back prompt: "How will you take your prescribed iron, what problems will you report, and when is your follow-up?" See MedlinePlus: taking iron supplements.

Worked case

An adult reports persistent tiredness and heavy menstrual bleeding. The appropriate nursing approach is to assess symptoms and bleeding severity, identify signs requiring urgent escalation, document relevant history, and support ordered blood testing and review. It is not appropriate to assume that fatigue proves iron deficiency or to ignore other possible explanations.

Short questions and answers

- Can iron deficiency exist without anaemia? Yes. Stores may fall before haemoglobin crosses the anaemia threshold.
- Is low MCV enough to confirm iron deficiency? No. It is one clue and must be interpreted with ferritin, other tests and clinical context.
- What does ferritin represent? An indicator of iron stores that is also affected by inflammation.
- Why investigate bleeding? Iron replacement will not resolve a persistent source of iron loss.
- Can nurses diagnose iron deficiency from symptoms alone? No. Symptoms are nonspecific; testing and medical assessment are necessary.

Related nursing notes

Study medical-surgical nursing and anaemia, CBC interpretation and applied nutrition.

References

- MedlinePlus: Iron Deficiency Anaemia.
- MedlinePlus: Iron Tests.
- MedlinePlus: Ferritin Blood Test.

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Prepared for qualified academic review. Clinical investigation and treatment must follow current local guidance and individual patient assessment.

Source: https://mynursinghub.com/iron-deficiency-anemia-nursing/