Interpretation results

Date: **01.06.2026**

User: **Female, 32 y.o.**

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Test type

Blood biochemistry + iron status markers, vitamin D, magnesium, thyroid screening (TSH).

Summary table of results

Marker	Result	Reference (from the form)	Status
Glucose	97 mg/dL	70–105 mg/dL	NORMAL
Total protein	7.0 g/dL	6.4–8.3 g/dL	NORMAL
ALT	18 U/L	≤33 U/L	NORMAL
AST	19 U/L	≤32 U/L	NORMAL
Total bilirubin	0.8 mg/dL	0.3–1.2 mg/dL	NORMAL
Ferritin	12 ng/mL	15–150 ng/mL	LOW
Serum iron	44 µg/dL	50–170 µg/dL	LOW
Vitamin D, 25-OH	18 ng/mL	30–100 ng/mL	LOW
Magnesium	1.7 mg/dL	1.7–2.4 mg/dL	NORMAL, at lower limit
TSH	2.1 mIU/L	0.4–4.0 mIU/L	NORMAL

Interpretation of deviations

Ferritin — 12 ng/mL, LOW

- Clinical meaning: Ferritin reflects iron stores. A low ferritin level may indicate depleted iron reserves, even before anemia appears on a complete blood count. This can be associated with fatigue, low energy, dizziness, reduced exercise tolerance, and hair shedding.
- Possible causes: heavy or prolonged menstrual bleeding, low dietary iron intake,

vegetarian/vegan diet without adequate iron replacement, recent blood loss, frequent blood donation, impaired absorption, gastrointestinal blood loss, or increased needs.

Serum iron — 44 µg/dL, LOW
- Clinical meaning: **Low** serum iron supports the possibility of iron deficiency, especially together with **low** ferritin. Serum iron can fluctuate during the day and with diet, so it is best interpreted with ferritin, transferrin/TIBC, and transferrin saturation.
- Possible causes: similar to **low** ferritin — menstrual blood loss, insufficient intake, malabsorption, or chronic blood loss.

Vitamin D, 25-OH — 18 ng/mL, LOW
- Clinical meaning: This level is below the laboratory reference range and is consistent with vitamin D deficiency/insufficiency. It may contribute to fatigue, muscle aches, **reduced** well-being, and **low** energy, though symptoms are nonspecific.
- Possible causes: limited sun exposure, sunscreen/clothing coverage, **low** dietary intake, winter season, darker skin pigmentation, malabsorption, or higher body fat percentage.

Combined assessment

The main abnormalities are **low ferritin + low serum iron**, which together suggest **iron deficiency or depleted iron stores**. This pattern fits the user's complaints of **persistent fatigue, low energy, hair shedding, and occasional dizziness**. However, anemia cannot be confirmed or excluded without a complete blood count.

Vitamin D is also **low** and may be an additional contributor to fatigue and **low** energy.

TSH is within the reference range, so these results do not suggest overt thyroid dysfunction based on TSH alone. Liver enzymes, bilirubin, protein, and glucose are within the provided reference intervals. Magnesium is technically **normal** but at the lower boundary.

Recommended additional tests

- **Complete blood count with indices: hemoglobin, hematocrit, MCV, MCH, RDW** — to check whether iron deficiency has already caused anemia or microcytosis.
- **Transferrin, TIBC/UIBC, transferrin saturation** — to better confirm the degree of iron deficiency.
- **C-reactive protein, CRP** — ferritin can rise with inflammation; CRP helps interpret ferritin more accurately.
- **Vitamin B12 and folate** — deficiencies can also contribute to fatigue, dizziness, and hair shedding.
- **Reticulocyte count** — useful if anemia is found, to assess bone marrow response.

- **If periods are heavy: gynecologic evaluation and possibly pelvic ultrasound** — to look for causes of menstrual blood loss.
- **If there are gastrointestinal symptoms or no obvious menstrual cause: stool occult blood test and evaluation for malabsorption/celiac disease** — to rule out GI blood loss or impaired absorption.
- **Repeat ferritin, serum iron studies, and vitamin D after treatment** — usually after several weeks to months, depending on the plan from a physician.

Which doctor to consult

- **Primary care physician / internist** — to evaluate fatigue, confirm iron deficiency, and plan supplementation safely.
- **Gynecologist** — if menstrual bleeding is heavy, prolonged, irregular, or associated with clots.
- **Hematologist** — if anemia is present, iron levels do not improve with treatment, or the cause is unclear.
- **Gastroenterologist** — if there are digestive symptoms, unexplained iron deficiency, positive stool blood test, or poor response to iron therapy.

General recommendations

- Discuss iron supplementation with a physician. **Low** ferritin often requires replacement, but dose and duration should be individualized.
- Increase dietary iron intake: red meat, poultry, fish, eggs, legumes, lentils, tofu, pumpkin seeds, spinach, and fortified grains.
- Combine plant-based iron sources with vitamin C-containing foods, such as citrus, berries, bell peppers, or tomatoes, to improve absorption.
- Avoid taking iron together with calcium supplements, dairy, tea, coffee, or **high**-fiber supplements, as they may reduce absorption.
- Discuss vitamin D replacement with a clinician; the result is below the form’s reference range and likely needs supplementation.
- Ensure adequate sleep, hydration, and regular meals, especially given dizziness. If dizziness is frequent, severe, associated with fainting, chest pain, shortness of breath, or palpitations, seek medical care promptly.

Important: This decoding is preliminary. Reference values are taken from your form. Consult a physician for diagnosis.

> ⚠️ **Important notice**

This interpretation is for informational purposes only and is not medical advice, a diagnosis, or a treatment recommendation. Test results must be reviewed by a qualified physician taking into account your medical history and clinical picture.