Yukon-Kuskokwim HEALTH CORPORATION

Clinical Guideline

Anemia in Adults

Note: this guideline does NOT apply to patients with acute blood loss requiring transfusion.

Adult male with Hgb < 13 g/dL or
Adult non-pregnant female with Hgb < 12 g/dL

MCV > 95?

No → **Microcytic or Normocytic Anemia**

DDx: Iron deficiency, chronic inflammation, chronic kidney disease, thalassemia, hemolysis, chronic blood loss (GI cancer, menorrhagia, etc)

Order: Iron profile, BMP, retic count, IFOB

Hx of CKD or inflammatory condition?

- Yes → • Manage underlying disease. If CKD and Hgb < 10, consult nephrology.
  • Review iron profile for concomitant deficiency. Start iron repletion if indicated.
- No → Findings support iron deficiency?
  - Yes → • Start iron repletion.
    • Evaluate for and manage blood loss or heavy menses.
    • Refer for colonoscopy and/or EGD if age > 40 and not up to date.

    Reassess after 6-12 weeks → Hgb, ferritin, Tsat normalized?
    - Yes → • Stop iron supplementation.
      • Reassess CBC and iron panel in 6-12 months.
    - No → Patient was on oral iron?
      - No → Consult & refer to hematology or internal medicine.
      - Yes → • Reassess for ongoing blood loss.
        • Switch to ferrous gluconate or liquid ferrous sulfate if med tolerance is issue.
        • Consider IV iron.
  - No → Is the pt acutely infected?
    - Yes → Repeat iron profile, BMP, retic count after infection/ inflammation resolved.
    - No → Refer to hematology.

Yes → **Macrocytic anemia**

DDx: B12 or folate deficiency, alcohol, thyroid or liver disease, medication-related (methotrexate, azathioprine, etc), myelodysplastic syndrome, others

Order: B12, folate, TSH, CMP, methylmalonic acid, homocysteine

Etiology identified?

- No → Refer to hematology.
- Yes → • Treat underlying disease to resolution.
  • Recheck CBC.

  Anemia not resolved? → Refer to hematology.

Oral Iron Repletion

- Ferrous sulfate 325mg daily or every other day is generally acceptable
- No data to support vitamin C co-administration
- If GI side effects, consider ferrous gluconate 324mg daily or liquid ferrous sulfate

Candidates for IV Iron

*(See **Iron Infusion Guideline**.)*

- Elderly patients
- Hx gastric surgery, PUD, H pylori
- Hospitalized with acute bleeding needing transfusion (can give in same hospitalization)
- Heart failure with reduced ejection fraction
- IBD, celiac disease, other malabsorption syndromes
- Inability to tolerate oral iron
- Lack of response to oral iron

Findings **diagnostic** of iron deficiency:

- Ferritin < 30ng/ml or < 100ng/ml in patient with chronic inflammation
- Transferrin saturation (Tsat) < 20%

Findings **supporting** iron deficiency:

- RBC count low
- Corrected retic count low
- TIBC increased

References: UpToDate, Dynamed

B12 Reference Values

> 300pg/ml: Normal

200-300pg/ml: Borderline, check MMA/ homocysteine

< 200pg/ml: Low

NB: High B12 in pt not on supplementation should prompt hematology referral due to risk of MDS

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.
Approved by Clinical Guideline Committee 8/2/24.
If comments about this guideline, please contact clinical_guidelines@ykhc.org.