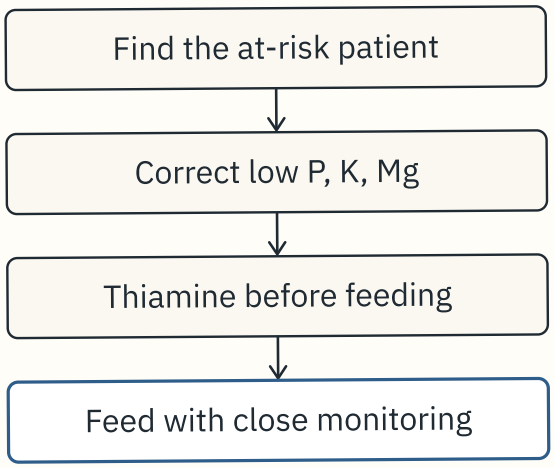
# Refeeding syndrome

Low phosphate, potassium and magnesium after feeding a starved patient




## Step by step

1. Normal serum levels in starvation do not exclude depletion
2. Feeding raises insulin: $K^+$ and glucose enter cells
3. Anabolism consumes phosphate (ATP, 2,3-DPG)
4. Symptoms usually within 2–5 days of feeding

| Grade | Criterion |
|---|---|
| Mild | 10–20% |
| Moderate | 20–30% |
| Severe | >30%, or organ dysfunction (from the fall or thiamine deficiency) |

ASPEN 2020 severity (fall in P, K or Mg)

### Prevention order

**Identify risk, then check and correct P, K, Mg**

**Thiamine about 100 mg before feeding or dextrose**

**Feed, then monitor electrolytes, fluids, rhythm**

## Exam traps

- A normal admission phosphate is not reassuring.
- Insulin also retains sodium and water: oedema, heart failure.
- Any route can cause it: oral, tube or intravenous.

Refeeding syndrome: why feeding a starving patient drops phosphate

Video, written lesson, practice question and sources: medservatory.com/usmle-step-2-ck/nephrology-electrolytes/refeeding-syndrome-low-phosphate-potassium-magnesium

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