

# DO YOU KNOW THE ANSWER?

A 68 y/o man presents with new weakness. Had total gastrectomy 5 years prior for early stage gastric cancer. He has been on replacement iron and vitamin B12 since that time. On exam, he is weak, has increased reflexes, and has spasticity of most muscle groups. CBC reveals a microcytic anemia. Ferritin is normal.

Which of the following is most likely?

- A. Iron deficiency
- B. Copper deficiency
- C. Iodine deficiency
- D. Manganese deficiency
- E. B12 deficiency



**Answer:**

## **B. COPPER DEFICIENCY**

This patient has microcytic anemia as well as neurologic symptoms (hyperreflexia and spasticity). Although iron deficiency is the most common cause of microcytic anemia, this patient's iron indices are normal and he is on iron replacement.

Gastrectomy and other malabsorptive conditions (such as celiac deficiency) are risk factors for copper deficiency.

Iodine deficiency causes goiter. B12 deficiency causes a macrocytic anemia. Manganese deficiency is rare and is associated with dermatitis, skeletal deformities and poor growth in children.