Biotin Interference in Laboratory Tests

Summary of Problem and Scope:

Biotin in blood or other samples taken from patients who are ingesting high levels of biotin in dietary supplements can cause clinically significant incorrect lab test results.

Biotin in patient samples can cause falsely high or falsely low results, depending on the test. Incorrect test results may lead to inappropriate patient management or misdiagnosis. Many dietary supplements promoted for hair, skin, and nail benefits contain biotin levels up to 650 times the recommended daily intake of biotin. Physicians may also be recommending high levels of biotin for patients with certain conditions such as multiple sclerosis (MS). Biotin levels higher than the recommended daily allowance may cause interference with lab tests. Since patients are unaware of biotin interference, patients may not report taking biotin supplements to their physicians, and may even be unware they are taking biotin (e.g., when taking products generally labeled for their benefits to hair and nails).

- Talk to your patients about any biotin supplements they may be taking, including supplements marketed for hair, skin, and nail growth.
- Be aware that lab tests that use biotin technology are potentially affected, and incorrect test results may be generated if there is biotin in the patient's specimen.
- Communicate to the lab conducting the testing if your patient is taking biotin.
- If a lab test result doesn't match the clinical presentation of your patient, consider biotin interference as a possible source of error.
- Know that biotin is found in multivitamins, including prenatal multivitamins, biotin supplements, and dietary supplements for hair, skin, and nail growth in levels that may interfere with lab tests.

BAH Assays affected by Biotin Interference	**Direction of Interference**
B12	Positive
CK-MB	Negative
Cortisol	Positive
Ferritin	Negative
Folate	Positive
PTH	Negative
NT-pro-BNP	Negative
Total bHCG	Negative
Troponin I	Negative
TSH	Negative