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To: All COSs, DOMs & Medical staff,
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Alert: Biotin (Vitamin B7) Interference on Immunoassays

Biotin: Biotin (Vitamin B7), is a water soluble vitamin of the B-complex. The US Department of Agriculture Recommended Dietary Reference Intake of biotin is 30 mcg per day. Pharmaceutical dose (5-30 mg/day) and mega-dose (up to 300 mg/day) are sometimes indicated for rare metabolic disorders such as biotinidase deficiency / propionic academia; and multiple sclerosis, respectively. Besides, many lifestyle supplements may also contain biotin with levels up to hundreds times the recommended daily intake dose.

Biotin Interference and Laboratory Testing: Biotin technology is frequently employed in routine immunoassays for diagnosis and management of endocrine dysfunctions, anemia, malignancies, autoimmune disorders, etc. The recent marked increase in the use of over-the-counter, high-dose biotin supplements has been accompanied by an increase in the number of reports of analytical interference by exogenous biotin in the immunoassays. High level of biotin in patient samples can cause falsely high or falsely low results, depending on the test design. Incorrect test results may lead to inappropriate patient management and misdiagnosis.

(<https://www.fda.gov/safety/medwatch/safetyinformation/safetyalertsforhumanmedicalproducts/ucm586641.htm>).

Recommended Practices: Biotin has a very rapid elimination half-life of about 2 hours; theoretically, most of it should clear from the body within 4-5 hours. A practical and immediate solution to prevent or limit the insidious biotin interference is to inquire and advise patients to abstain from biotin intake before blood sample collection. To mitigate potential analytical interference, no sample should be taken until at least 8 hours after the last biotin administration for patients taking high biotin doses (5 mg/day); and 2 days for mega-doses biotin prescription.

If there is enquiry, please contact our Duty Biochemist at 3505 2685, or page through PWH Operator at 3505 2211.

Sincerely yours,

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