



## Biotin (Vitamin B7) Interference & Laboratory Assays

The FDA issued a Safety Communication warning of biotin (vitamin B7) interference with some laboratory assays. This was in response to a death which resulted from a false-negative troponin in a patient taking high-dose biotin. Though biotin interference is extremely rare, it is a potential consideration in patients who take supplements and have unexpected laboratory results. This also reinforces the importance of discussing OTC supplements with patients.



Welcome to **In the Loop**, the newsletter from UnityPoint Health – Des Moines Laboratories.

The purpose of this newsletter is to distribute valuable information to our service area, including new test availability, test updates regarding methodology, specimen collection, and normal values.

We may also include feature topics related to laboratory diagnostics and test utilization.

If you have suggestions for topics you would like to read about in the newsletter, please email [Kimberly.VonAhsen@unitypoint.org](mailto:Kimberly.VonAhsen@unitypoint.org)

### Background

Biotin and streptavidin form one of the strongest non-covalent bonds in biochemistry. This has led to the widespread use of biotin-streptavidin as molecular linkage to assemble reagents in many immunoassays (immunoassays are utilized to detect and quantify large molecules such as proteins and hormones). Addition of excess biotin can disrupt this linkage, causing these reagents to dissociate and, thus, yield inaccurate lab results.

Biotin interference has generally not been an issue, as the amount of biotin present in multivitamins and other dietary sources is insufficient to impact lab results. However, recent years have seen high-dose biotin used therapeutically (for metabolic disorders and multiple sclerosis) and in dietary supplements advertised for hair and nail health. The massive doses used in these settings are sufficient to interfere with laboratory results.

### Summary

The specific assays affected vary by manufacturer, but the most commonly implicated tests are thyroid function tests, hormones, viral serologies, and troponins. Interference is only seen in patients on high doses (> 5mg/day), and not those taking standard multivitamins (which contain less than 1mg). Because of the short half-life of biotin, the impact can be mitigated by waiting 8 hours after the last dose before drawing samples from patients taking high-dose biotin.

Additional questions, please contact Dr. Jacob Sramek, Clinical Pathologist at [Jacob.Sramek@unitypoint.org](mailto:Jacob.Sramek@unitypoint.org)

## Clinical Laboratory Updates

### **i Positive Blood Culture Notification Change – Effective Monday April 30<sup>th</sup>**

Our Critical Value Call Policy for positive blood cultures will change to include BOTH the gram stain and Biofire Blood Culture Identification (BCID) Panel by PCR when appropriate. Previously, the policy was to call the Gram stain to the patient's care provider within one hour of the bottle(s) turning positive. After the gram stain was called, the Microbiology staff would then perform the Biofire BCID panel, if appropriate, and update the patient's chart with the result of this additional testing. No additional call was made.

In an effort to provide outstanding care for our patients, effective next Monday April 30<sup>th</sup>, Microbiology will be calling the Gram stain AND the Biofire result at the same time within 2 hours of the bottle(s) turning positive, note there are organisms that can't be tested using the Biofire and in those instances, only the Gram Stain will be called within 1 hour.

Our providers have indicated that having the additional information of the Biofire result will allow them to better select the appropriate anti-microbial therapy in a timely manner for their patients.

### **i Automatic Reflex of Strep A Culture on all **pediatric** NEGATIVE Strep A Antigen Testing**

Effective immediately, to be in compliance with the manufacturer's recommendations and College of American Pathologist Standard MIC.22140, if *Streptococcus* Group A Rapid Antigen test is negative on patients <18 years of age, a *Streptococcus* Group A culture will be performed.

### **i NEW laboratory barcode tube type - GRNICE**

To better identify testing that requires special collection, a new tube type has been put into use for samples that need collected in Green Lithium Heparin tubes and immediately placed on ice. Barcode labels with GRNICE on the top right indicate that you need to collect a Green on Ice.

### **i Ordering Miscellaneous Testing - Mayo Misc Lab Test [LAB2608] or Misc Lab Test [LAB2607]**

To ensure that all testing correctly interfaces from Epic into the Sunquest Laboratory System, a separate miscellaneous test order must be placed. Please do not list more than one test per order as it increases the chance of testing being missed, left off the order due to character limitations in the interface or errors in interpreting the test desired. Limit any collection or other instructions to after the test name in the comment field to again ensure that the test name correctly populates on the collection label and is visible in the Sunquest Laboratory System for laboratory staff.

# Congratulations to our UnityPoint Health – Des Moines Laboratory

## 2018 ASCLS-Iowa Awardees!

During the American Society for Clinical Laboratory Science - Iowa (ASCLS-IA) Annual Conference coLLABoration 2018 in April; UnityPoint Health - Des Moines were honored to have the following employees receive awards.

### Danielle Laugal - Outstanding Support Staff of the Year

Danielle (left) was nominated by the Methodist Client Services Department and in except from her nomination "Danielle has great phlebotomy skills and a willingness to teach her peers the tips and tricks for difficult draws. Danielle has an extensive knowledge base for the Laboratory Support Tech role. Danielle is a great resource for her team and will even track down the answer if it something that she doesn't know. Her incredible flexibility and dedication makes her a valuable asset to our team!"



### Renee Mason - Phlebotomist of the Year

Renee was nominated by the Methodist Client Services Department and in except from her nomination "Her extraordinary dedication to our team, staff, patients, and our hospital as a whole is truly outstanding. She definitely lives our FOCUS values by covering open shifts and helping out her peers. She is an extremely skilled phlebotomist, and is a teammate that her peers look up to. Renee truly cares about our patients and ensuring that they receive the most timely and best care possible. Her spirit, sincerity, and attitude make her a joy to have in our department and representing our team.

### Carrie Beck - Mentor of the Year

Carrie was nominated by Ryan Metzger, Laboratory supervisor. An excerpt from Ryan's nomination said, "I cannot say enough about how important Carrie has been to me in my career. I count on her to answer many questions as I learn this new role. I have been blessed with leadership that is always willing to try my ideas and willing to make changes to build better practices. Whenever I bring Carrie an idea she is always willing to talk it through and give it a try. If something isn't possible she always explains the process and gives me something else to try."



### Omicron Sigma Recipients

Omicron Sigma is the ASCLS President's Honor Roll for Outstanding Service. It provides lasting recognition of those dedicated members who volunteer their personal resources, time and energy to the ASCLS. Recognition is at three levels: national, regional, and constituent society.

**Sarah Taylor** (left), Methodist Client Services was recognized at the Regional Level.



**Kim Von Ahsen** (left), Methodist Client Services was recognized at the National Level.



In the Loop (April 2018)