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Tennessee Department of Health Laboratory Services Public Health Newsletter

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TN Department of Health

PROCEDURE FOR REFERRING SUSPECTED SELECT AGENT RULE-OUT

When testing bacterial agents, notification and consultation with your local LRN laboratory subject matter expert will help both you, as the provider sentinel laboratory, and the LRN reference laboratory to appropriately determine if the sample is a rule-out for a select agent, as well as expedite testing and rule-out or confirmation.

1. Follow American Society of Microbiology guidelines for rule-out/refer specimens.
2. If algorithm does not rule-out a select agent:
   - Cease your attempt to identify.
   - Call your LRN reference laboratory.
     - TDH Laboratory Services (Nashville) - 615-406-3792
     - Memphis Shelby County Health Department—901-268-0846
     - Knoxville Regional Laboratory—865-789-6545
3. Following consultation with the LRN laboratory, submit specimen for rule-out.
   - Complete Select Agent Rule—Out Laboratory Requisition PH-4263.
   - Package according to DOT regulations, being sure to include a **PH-4263** requisition form in the package.

Soon, new LRN bench guides for Rule-Out/Refer will be distributed to sentinel laboratories performing microbiological testing.

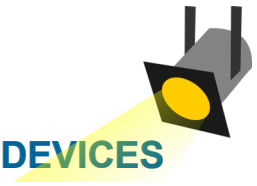
POMPE DISEASE: TN NOW SCREENS ALL NEWBORNS

In 2010, Hollywood's movie "Extraordinary Measures" brought Pompe disease to light. The film is based on a true story of the Crowley's who have two children, Meagan and Patrick, with Pompe. Their dad, John Crowley, a successful and passionate man was determined to find medicine to save his children. He co-founded the enzyme replacement therapy for Pompe. Produced by Genzyme, the drug was called Myozyme prior to FDA approved in 2006. It is now called Lumizyme. On Rare Disease Day in 2017, President Trump invited the Crowley family to his joint address to Congress in which he highlighted Megan's extraordinary story (4).

Pompe is a rare, inherited metabolic disease that is progressive and can be fatal (1). Pompe occurs when there is a defect with the enzyme, acid alpha-glucosidase and/or mutations on the GAA gene. This defect or mutation causes the inability to break down the complex sugar glycogen into the simple sugar glucose, resulting in the toxic buildup of glycogen in the lysosomes and bodily tissues. The severity of the disease depends on the age of induction, degree of organ of involvement, and the condition of the muscles. Pompe is classified into three types based on onset: classic-infantile, non-classic infantile (onset between one year of age and adolescence), and late (adolescence-adult hood) (5).

Continued on page 3

Spotlight on Safety



LABORATORY USE OF PERSONAL ELECTRONIC DEVICES

For the safety of laboratorians, their family, and the laboratory, the use of any personal electronic device* should be prohibited in the technical work area of the laboratory under the following circumstances:

1. During work with any category of hazardous materials,**
2. If Personal Protective Equipment is being worn,
3. During work on specimens or data or any process that may affect accuracy of results,
4. During work in any area in which PED may distract or interrupt others,
5. During work in any area in which accidental release of protected health information could occur,
6. If PED cannot be worn without posing a hazard due to dangling wires or other accessories, and
7. If PED interferes with the worker's ability to detect potential hazards, such as an approaching obstacle or hearing an alarm

*Cell phones, portable music players, radios with headphones, personal digital assistants, test messaging or other wireless devices

**Chemical or Biological

Reference: Clinical Laboratory Standards Institute (CLSI)
GP17-A3 (Clinical Laboratory Safety) 5.5.3.1

Submitted by Rolinda Eddings, MT(ASCP)
Biosafety Officer

Cell Phones in Laboratories: A Scientific and Psychological Review of Challenges webinar
https://attendee.gototraining.com/566f1/register/5284942659348530689?tz=America/Chicago

ARLN RECEIVES NEW TECHNOLOGY

In January, the Antibiotic Resistance Laboratory Network lab completed the process of validating the TREK microbroth dilution instrument in accordance with CDC recommendations and standards. This test is considered the "gold standard" of susceptibility testing and takes the place of time-consuming disk-diffusion methods which require subjective user interpretation. TREK will allow the ARLN department to more quickly provide accurate and consistent antibiotics MIC interpretations. The ARLN department is excited to have this new, cutting edge equipment with which to provide our clients rapid, pertinent information. ARLN management thanks Tracey Woodard's team for their hard work during this process!

Submitted by Tracy McLemore, MT, MBA
Manager, ARLN/Enteric Microbiology

POMPE DISEASE: TENNESSEE NOW SCREENS ALL NEWBORNS (Continued)

The signs and symptoms of classic infantile Pompe are inability to gain weight, failure to thrive, loss of muscle tone (floppy baby), weakness, swelling, organ dysfunction, enlarged organs, heart problems, and even death if left untreated, due to respiratory failure or cardiac arrest. In the non-classic infantile form, the signs and symptoms are muscle weakness, delayed motor skills, an enlarged heart, which can lead into serious breathing problems, and death. Those with non-classic infantile Pompe live into early childhood. With late onset Pompe disorder, the major sign and symptom is muscle weakness that can lead to respiratory failure; however, it is less likely to involve the heart. Non-classic infantile and late onset Pompe are not as severe as classic infantile Pompe. Pompe disorder effects approximately 1 in 40,000 infants in the United States, but prevalence varies with ethnicity (5).

Testing for Pompe disease and other lysosomal disorders in infants is quite recent. According to NewSteps.org, the US Secretary of Health and Human Services' Discretionary Advisory Committee on Heritable Disorders in Newborns and Children voted to add Pompe Newborn Screening to the Recommended Uniform Screening Panel in May of 2013. It was not until March 2015 that the final confirmation from the HHS Secretary was announced (2). Beginning in July 2017 and in harmony with this recommendation, every baby in Tennessee is now screened for Pompe in addition to other four other lysosomal disorders. Pompe is screened from a dried blood spot collected optimally between twenty-four to forty-eight hours after the baby's birth. If the GAA activity is below the established cutoff, then a sample is sent to a reference lab for confirmation. Tennessee is one of a few states to test for Pompe disease on newborns.

Pompe is the only glycogen storage disease that is considered a lysosomal storage disorder (1). Unfortunately, there is no cure, but there are treatments available with the most effective being enzyme replacement therapy. Along with treatment, those with Pompe require supportive care systems because of the medical impairments that the disease causes (3). Varying degrees of physical and mental barriers occur in Pompe and will often limit function in life. However, these barriers have not stopped Megan Crowley.

Megan is a successful double-major at Notre Dame and has been able to thrive in academics, religious activities, dorm events, student government, theatre, and games. Despite the effects of Pompe, Crowley has discovered a way to not just cope, but overcome. Crowley once stated, "But what I can do outweighs what I cannot do, and that is life to the fullest!" (4). In screening for Pompe Disease, it is hoped that affected infants born in Tennessee are given the same chance at a productive life as Megan Crowley.

Submitted by Kendra Gluff, MLT(ASCP)
PH Laboratory Scientist I, Newborn Screening

References

1. *ACMG Work Group on Management of Pompe Disease:, Kishnani, P. S., Steiner, R. D., Bali, D., Berger, K., Byrne, B. J., . . . Watson, M. S. (2006, May). Pompe disease diagnosis and management guideline. Retrieved January 21, 2018, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3110959/*
2. *Disorders: Pompe. NewSTEPs: A Program of the Association of Public Health Laboratories. Retrieved from https://www.newsteps.org/disorders/pompe*
3. *Lim, J., Li, L., & Raben, N. (2014, July 04). Pompe disease: from pathophysiology to therapy and back again. Retrieved January 21, 2018, from https://www.frontiersin.org/articles/10.3389/fnagi.2014.00177/full*
4. *O'Shaughnessy, Brendan. Office of Public Affairs and Communications University of Notre Dame. (2017). High Heeled Wheeler: Megan Crowley Steps out of her Father's Shadow. Retrieved from https://www.nd.edu/features/high-heeled-wheeler/*
5. *Pompe disease - Genetics Home Reference. (n.d.). Retrieved January 21, 2018, from https://ghr.nlm.nih.gov/condition/pompe-disease#genes*

Send *Candida* Isolates to Your Public Health Lab

What to Send

- All confirmed or suspected *Candida auris* (*C. auris*) isolates (any specimen source)
- Yeast isolates from any specimen source when unable to identify species after identification was attempted
- *Candida* species **other than** *C. albicans, C. parapsilosis, C. tropicalis, C. krusei, C. dubliniensis,* and *C. lusitaniae*
- All *C. glabrata* isolates (any specimen source)

SHIPPING & TESTING ARE FREE | SPECIES ID IN 7 DAYS

Labs that take swift action to submit isolates to their public health lab can help detect *Candida* and stop its spread.

Candida is one of the most common causes of healthcare-associated bloodstream infections in the United States and antifungal drug resistance in *Candida* is increasing. There are new and emerging species, like *Candida auris*, which can spread in healthcare settings and cause outbreaks.

With support from CDC's Antibiotic Resistance Lab Network, your regional lab can:

- Identify species and detect organisms that are public health threats
- Provide antifungal susceptibility data to track resistance
- Help respond to outbreaks of *Candida*

CDC's AR Lab Network can also test:

- Carbapenem-resistant Enterobacteriaceae (CRE)
- Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA)
- Emerging threats, like *mcr* (plasmid-mediated colistin resistance)
- *Clostridium difficile*
- *Mycobacterium tuberculosis*
- Drug-resistant *Neisseria gonorrhoeae*

What makes *Candida auris* a public health threat?

It's difficult to identify.
C. auris can be misidentified by commonly used yeast identification methods. Among others, it is often misidentified as *C. haemulonii*.

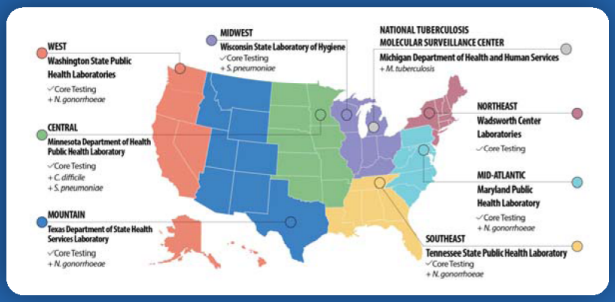
It causes severe infections.
1 in 3 patients with an invasive *C. auris* infection dies.

It's often drug-resistant.
Some *C. auris* infections are resistant to all 3 major antifungal classes of medicines.

It's becoming common.
C. auris has been reported in more than 20 countries, including the United States.

It can spread in healthcare settings.
C. auris can live on surfaces for weeks and spread between patients, causing outbreaks.

Find the latest CDC *C. auris* guidance:
www.cdc.gov/Fungal/Diseases/Candidiasis/Candida-auris.html



About CDC's AR Lab Network

The AR Lab Network can rapidly detect antibiotic resistance in healthcare, food, and the community, and inform local responses to prevent spread and protect people. The AR Lab Network supports lab capacity in 56 state and local labs, including 7 regional labs and the National TB Center. The regional labs provide core testing, including *Candida* testing and CRE colonization testing, for states in their region. Some perform additional screening for *Streptococcus pneumoniae, Neisseria gonorrhoeae,* and *Clostridium difficile.*

www.cdc.gov/DrugResistance/Solutions-Initiative/AR-Lab-Networks

ARLABnetwork

CDC U.S. Department of Health and Human Services Centers for Disease Control and Prevention

Tennessee Candida Testing Lab-
Contact Dorothy Baynham or Natasha Lindahl at 615-262-6366

Training News

2018 PACKAGING AND SHIPPING WORKSHOPS

Individuals who send or oversee the transportation of infectious or biological substances must know and understand regulations and changes to regulations that apply to the mode of transportation they employ. This workshop will assist participants in maintaining compliance with the Department of Transportation, the United States Postal System, and the International Air Transport Association regulations currently in effect.

DATES & TIMES

- APRIL 26: Chattanooga (*AM ONLY*)
- MAY 3: Knoxville (AM/PM)
- MAY4: Johnson City (*AM ONLY*)
- JUNE 26: Cookeville (*AM ONLY*)
- JULY 26: Nashville (AM/PM)
- OCTOBER 4: Jackson (AM/PM)

SESSION TIMES

AM SESSION: 8:15—11:15
PM SESSION: 1:15—4:15

AM ONLY SESSION: 9:00 AM—12:00 PM

Additional Packaging and Shipping Division 6.2 Materials Workshops hosted by the National Laboratory Training Network for the following locations: Memphis and Nashville will be announced by the Association of Public Health Laboratories at a later date.

CLICK ON THE WORKSHOP DATES TO REGISTER!

Announcement Coming Soon:
2018 LRN Roadshow Workshops

2018 A PLAN OF ACTION: BIOTERRORISM PREPAREDNESS FOR CLINICAL LABS WORKSHOP

All-day, wet workshop focuses on practical methods that clinical laboratories can use to remain alert for the agents of bioterrorism. Participants will learn about surveillance and evaluation procedures that can be integrated into the routine work of the microbiology lab. Procedures for the referral of suspect cases will also be discussed. In this hands-on course, following appropriate safety precautions, participants will examine actual cultures and organisms in a laboratory setting.

DATES

THURSDAY	FRIDAY	THURSDAY	FRIDAY
MAY 17	MAY 18	SEPTEMBER 13	SEPTEMBER 14

To register for workshops or for more TDH Laboratory Services Training Opportunities visit the Lab Services Continuing Education Page:
https://www.tn.gov/health/health-program-areas/lab/lab-education.html

Employee Service Awards

Employee Service Awards were presented on March 7, 2018.

5 Years:
- Tim Morris
- Kim Walker
- Justin Geise
- Linda Thomas

10 Years:
- Wanda Frye
- Tim McCollum
- Natasha Lindahl
- Jonathan Gaddes
- Patrick Leathers
- Tracey Woodard
- Dennis Turner
- Sue Fuller

15 Years:
- Mark Young
- Bill Moore

20 Years:
- Loretta Morris
- Gwendolyn Hall
- Mike McWilliams

25 Years:
- Gail Dewberry

30 Years:
- Linda Satterwhite

Standing: Keith Gaddes, Justin Geise, Patrick Leathers, Mark Young, Natasha Lindahl, Tim McCollum, Linda Thomas Bill Moore. Front: Tim Morris

School of Public Health Microbiology Class of 2018!

Maya Spann, Rachel Yates, and Amanda Uhls completed the 2017-2018 School of Public Health Microbiology MT Training program in February. Ms. Spann, Ms. Yates, and Ms. Uhls successfully completed their ASCP Microbiology certification exam in March of 2018.

Congratulations!

Welcome New Employees

JANUARY 2018

Fiona Retzer
PH Laboratory Scientist I
Sequencing

Cheyenne Gallina
Laboratory Technician 2
Media Prep

Jeffrey Smith
PH Laboratory Scientist 1
Knoxville Regional Lab

FEBRUARY 2018

Amanda Santander
Clinical App Coordinator I

MARCH 2018

Janine Clewell
Administrative Secretary
Knoxville Regional Lab

Tiffany Golden
PH Lab Technician
Newborn Screening

Rhett Milam
PH Lab Technician
Inventory Warehouse

Leslie Taylor
PH Laboratory Scientist I
Newborn Screening

Congratulations!

on your Retirement!

January 2018

Mike Krajnak
Sue Fuller

April 2018

Jim Gibson

Congratulations on Your Promotions!

December 2017

Daniel Golson
Clinical App Coordinator 3

Blanca Martinez
Microbiologist 3—Newborn Screening

February 2018

Lynn Graham
Clinical App Coordinator 2

Hugh Peeples
Clinical App Coordinator I

March 2018

Ariana Allgood
PH Laboratory Scientist I

Employment Opportunities

- **PH Laboratory Scientist 2**
  - Clinical Laboratory, Nashville, TN. TN Medical Laboratory Technologist or Medical Laboratory Technician licensure required.

To apply or for more information about employment opportunities with the State of Tennessee, visit:

https://agency.governmentjobs.com//tennessee/default.cfm

For more information about the many TN state employee benefits, visit:

https://www.tn.gov/hr/employees1/benefits.html

The State of Tennessee is an equal opportunity, equal access, affirmative action employer.

The Tennessee Department of Health Division of Laboratory Services is in the process of reclassifying all technical laboratory positions.

Laboratory technical personnel with TDHDLS were classified as Microbiologists, Chemists, and Biologists.

The process will reclassify all three categories into the PH Laboratory Scientist, PH laboratory Manager, and PH Laboratory Consultant series.

Tennessee Department of Health

Division of Laboratory Services

630 Hart Lane
Nashville, TN 37216
615-262-6300

The Mission of Laboratory Services is to provide high quality analytical services of medical and environmental testing and to achieve the Mission of the Department of Health.

https://www.tn.gov/health/health-program-areas/lab.html

TN Department of Health

Department of Health. Authorization No. 343472

Website only