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Tennessee Department of Health Public Health Laboratory Newsletter

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Commissioner of Health

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INSIDE THIS ISSUE:

TENNESSEE TO ADD SIX NEW DISORDERS TO NEWBORN SCREENING PANEL IN 2017

In 2017, Tennessee will add six new disorders to the newborn screening panel. The disorders are Pompe, Hurler, Krabbe, Gaucher, Fabry and X-linked Adrenoleukodystrophy (X-ALD). The addition of Pompe, Hurler and X-ALD is based on the Recommended Universal Screening Panel (RUSP). The RUSP is a listing of disorders for which all infants born in the United States should be screened and is developed by the Advisory Committee on Heritable Disorders in Newborns and Children (ACHDNC) in conjunction with the Department of Health and Human Services (HHS). The Tennessee Department of Health Genetics Advisory Committee (GAC) also recommends Krabbe, Gaucher and Fabry be included. The GAC consists of Tennessee medical experts from each regional genetic center, each sickle cell center, other newborn screening medical experts and a citizen representative.

Pompe, Hurler, Krabbe, Gaucher and Fabry are all characterized by a lack of specific enzymes found in the lyso-

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NEW SUBMISSION FORMS FOR CLINICAL AND SELECT AGENT RULE-OUT SPECIMENS

The Clinical Submission Requisition Form (PH-4182) has been revised. The new form should be used for most clinical specimen submissions to TDH Laboratory Services. This link can be used to download the latest version:

http://tn.gov/assets/entities/health/attachments/PH-4182.pdf

The Clinical Select Agent Rule-Out Submission Requisition has also been updated. This form should be used when submitting clinical samples to TDH Laboratory Services for select agent rule-outs.

NOTE: TDH notification is required PRIOR to sample submission.

The latest version may be downloaded at:

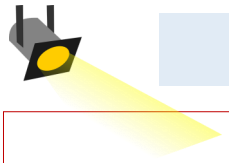
http://tn.gov/assets/entities/health/attachments/PH-4263_-_Special_Agent_Rule-Out_Submission.pdf

TN Department of Health

NEWBORN SCREENING FEE CHANGE

To fund the additional testing and provide appropriate follow-up services, the current fee for newborn screening will increase from $125 to $145. This increase will go into effect for all newborn screening samples received beginning on January 1, 2017. The fee will cover the addition of Lysosomal Storage Disorders (LSD), X-linked Adrenoleukodystrophy (X-ALD) screening and the current panel of 60 disorders. The fee for unsatisfactory samples will also change from $250 to $290. This fee covers the first unsatisfactory submission and any additional repeat specimens. For education on proper specimen collection and guidance to prevent unsatisfactory samples, please contact the Family Health and Wellness Newborn Screening Follow-up Program (615-532-8462). There are also resources available at:

http://www.tn.gov/health/topic/MCH-nbs



SPOTLIGHT ON SAFETY

A **Biorisk Management Plan** for the clinical laboratory should include the following activities:

- Risk assessment policy and procedure
- Personnel responsibilities
- Medical surveillance program
- Laboratory safety levels and their description
- Laboratory equipment and proper use
- Laboratory safety equipment and proper use
- Good laboratory techniques
- Emergency response procedures
- Disinfection, sterilization and waste management procedures
- Proper transport of infectious substances

Risk assessment is the backbone of the practice of biosafety in the clinical laboratory. Risk Assessments should be performed for all lab procedures, beginning with those that are deemed to pose the greatest hazards. A helpful tool for use in performing a microbiological risk assessment is a listing of risk groups for microbiological agents. Below are two links to Risk Group Information:

https://my.absa.org/tiki-index.php?page=Riskgroups

http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php

Please note the Biosafety Level, which should be determined by Risk Assessment, does not always equate to Risk Group and vice versa.

The definition of Risk Groups may be found under Section II, page 10 of the Biological Risk Assessment of the BMBL 5th edition (Biosafety in Microbiological and Biomedical Laboratories) at:

https://www.cdc.gov/biosafety/publications/bmbl5/

Descriptions of the Biosafety Levels of Containment are also found at the above link in Sections III and IV.

As we progress together across Tennessee in completing Risk Assessments in our laboratories, remember this process will take time to implement and the documents, once implemented, are not static. They are living documents that should be in a state of change depending on your current laboratory staffing, equipment, methods and procedures.

If I may be of assistance, contact me at rolinda.eddings@tn.gov .

Submitted by
Rolinda Eddings
Biosafety Officer

TRAINING NEWS

PACKAGING AND SHIPPING: DIVISION 6.2 MATERIALS

Sponsored by Tennessee Department of Health Division of Laboratory Services and the National Laboratory Training Network

This FREE full-day, intermediate level workshop taught by Patricia Payne, PhD, MT(ASCP) is designed for laboratorians. The workshop provides an overview of regulations applicable to packaging and shipping laboratory specimens using lectures, demonstrations and group exercises. Participants who successfully complete the workshop will be awarded 7.0 hours of P.A.C.E CEU credits. Each workshop is limited to 24 participants.

Knoxville—March 21, 2017 **Nashville—March 23, 2017**

Participants must register directly through APHL.

Please visit **https://www.aphl.org/courses/Pages/009-17.aspx** to register.

Sign up to Receive Notifications Related to TDH Training Opportunities!

Tennessee Department of Health Division of Laboratory Services now has an online registration to allow you to be notified of upcoming training opportunities. Register today to receive email notifications and newsletters from TDH Laboratory Services. From time to time, we might also ask for your input on future training topics. You may unsubscribe at any time. The link to register is:

http://www.surveygizmo.com/s3/3036915/Laboratory-Services-Training-Notification

Additional Disorders Added to NBS Panel (continued)

somes of cells and are therefore collectively called Lysosomal Storage Disorders (LSD). Without these enzymes, complex cellular components are not broken down into simpler molecules and toxic levels accumulate to cause cell and organ damage. With X-ALD, very long chain fatty acids (VLCFA) accumulate in the tissues causing damage to the myelin of the central nervous system and the adrenal cortex. Early detection of these disorders may provide the opportunity for treatment and disease management.

With the addition of these new tests, we are excited to provide the citizens of Tennessee with a model combined newborn screening and follow-up program. We ask for your cooperation and patience as we implement these changes in 2017. Please direct any questions you have to the Newborn Screening Laboratory (615-262-6352) or Family Health and Wellness Follow-up (615-532-8462).

Submitted by
Thomas Childs
Newborn Screening Manager

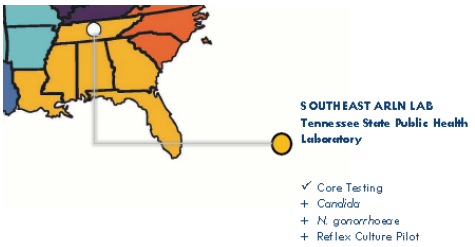
ARLN CANDIDA ANTIFUNGAL RESISTANCE TESTING UPDATE

Beginning January 1st 2017, the Special Microbiology department will begin to identify *Candida* antifungal resistance and emerging resistant species such as *Candida auris*. Hospitals, regional healthcare facilities and public health laboratories within the six-state, Southeast region may submit isolates for testing. Identification of *Candida* genus and species will be determined at the health care facility or reference laboratory before submitting samples to TDH. Only *Candida* samples that meet the submission guidelines will be accepted for testing.

Candida auris infections have been added to the Reportable Diseases and Events Laboratory Guidance for 2017. Infections of *C. auris* will require submission of isolates to the TDH Laboratory Services. When stored at room temperature, *Candida* isolates are stable for up to a month.

Submission criteria:

- *Candida* isolates must be from a sterile body site
- All *Candida auris, glabrata* and *haemulonii* are of concern
- Isolates must be submitted on Sabouraud's Dextrose agar slant
- All isolates must be accompanied with a completed PH-4182 Clinical Submission form



At this time the following species should **not** be sent regardless of the source site:

C. albicans, C. dubliniensis, C. krusei, C. parapsilosis, C. lusitaniae and C. tropicalis .

Questions regarding ARLN (Antibiotic Resistance Laboratory Network) antifungal resistance testing may be directed to Dorothy Baynham, Special Microbiology Manager at 615-262-6393 or Dorothy.Baynham@tn.gov.

MOLECULAR BIOLOGY SEQUENCING DEPARTMENT

Since 2006 when one person performed once a week Sanger sequencing on bacterial and fungal isolates, the Sequencing section of the Molecular Biology Department has rapidly expanded in the last two years. This section has become an ARLN (Antibiotic Resistance Laboratory Network) Sequencing CORE facility with four full-time employees. In addition to Sanger Sequencing, all of these individuals are trained to perform Whole Genome Sequencing (WGS). CORE laboratories utilize WGS to test *Salmonella, E. coli, Campylobacter, Shigella, Listeria* and other occasional special project requests, such as Group B *Streptococcus* and *Elizabethkingia*. Sanger Sequencing methodology is still used on all Norovirus and Cryptococcus specimens and a limited number of bacterial and fungal isolates. Our next project is to perform in-house bioinformatics analysis of the sequenced data enabling the laboratory to have a more active role in outbreak detection and surveillance.
With the increased testing methods and specimen requests, we anticipate new position openings in the Sequencing CORE laboratory. For more information on current openings in the CORE laboratory, contact amy.woron@tn.gov .

Sequencing Section Staff
From left: Nathan Britt, Zach Perry,
Christina Moore (Supervisor), and Rhonda Kellem.

Submitted by
Christina Moore, Sequencing Supervisor
And Linda Thomas, Molecular and Enteric Manager

Welcome New Employees!

September

Fiona Retzer - Molecular Biology

Jason Pepper - Molecular Biology

Gabriell Gassaway - Newborn Screening Follow-up

LaKisha Prowell - Newborn Screening

Tanya Cooper - Special Microbiology

October

Jon Smith - Immunoserology

November

Brian Humel - Inventory

Elva Roland - Lab Informatics

Alessandra Rodriguez - Vector Borne Diseases

December

Cathy Nash - Newborn Screening

Helen Ray - Administration

Carolyn Wynacht - ARLN CORE Lab

Amanda Uhls - PH Micro Lab Program

Maya Spann - PH Micro Lab Program

Erica Reaves - Virology

Renee Johnson - Bioterrorism

Congratulations on Your Retirement!

Irmgard Brown - 16 years of State Services

Congratulations on Your Promotion!

Sandra Buchanan - ASA 2

Rachel Yates - PH Micro Lab Program

Positions Available with TDH Laboratory Services

Microbiologist 4 (CERT)

Serology / Virology Manager

Microbiologist 2 (CERT)

Multiple Departments

Job openings and applications can be found at:

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

2017 List of Reportable Diseases in Tennessee

For Laboratories

The diseases, events and conditions reportable to Tennessee Department of Health (TDH) for 2017 by laboratories, including laboratories in healthcare facilities, are listed below. Laboratories should refer to the Detailed Laboratory Guidance document for additional guidance on reportable tests and results, and specimen/isolate submission to the state public health laboratory. Refer to Page 1 of this document for a list of diseases, events and conditions reportable by healthcare providers. More information about reporting, including the reporting form (PH-1600), is available at the Reportable Diseases website at https://apps.health.tn.gov/ReportableDiseases. Lab reports and forms may be faxed to the Division of Communicable and Environmental Diseases and Emergency Preparedness (CEDEP) at (615) 741-3857. To fax directly to the local or regional health office, refer to http://tn.gov/health/topic/localdepartments. The PH-1600 also is available for completion online at https://is.gd/TNReportableDiseases. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006.

Disease Outbreaks (e.g., foodborne, healthcare-associated, waterborne) !

Acinetobacter Species: Carbapenem-Resistant eip

Anaplasma phagocytophilum

Babesia species

Bacillus anthracis ! 🧪

Bordetella pertussis ☎

Borrelia burgdorferi

Brucella species ☎ 🧪

Burkholderia mallei ☎ 🧪

California/LaCrosse Serogroup viruses

Campylobacter species 🧪

Candida auris ☎ 🧪

Chikungunya virus ☎

Chlamydia psittaci

Chlamydia trachomatis

Clostridium botulinum:
- Foodborne, Wound ! 🧪
- Infant 🧪

Clostridium difficile eip 🌡

Clostridium tetani 🧪

Colistin-resistant (plasmid-mediated) gram negative bacteria ☎ 🧪

Corynebacterium diphtheria, ulcerans ☎ 🧪

Coxiella burnetii ☎

Cryptosporidium species 🧪

Cyclospora species

Dengue virus

Ehrlichia species

Enterobacter species: Carbapenem-Resistant *Enterobacteriaceae* 🧪

Enterococcus species: Vancomycin-Resistant Invasive Disease

Escherichia coli: Carbapenem-Resistant *Enterobacteriaceae* 🧪

Escherichia coli: Extended Spectrum Beta Lactamase-Producing eip 🌡

Escherichia coli: Shiga toxin-producing 🧪

Equine Encephalitis viruses: Eastern, Venezuelan, Western ☎

Francisella: tularensis, species ☎ 🧪

Haemophilus influenzae ☎ 🧪

Hepatitis, Viral- Type A: Acute ☎

Hepatitis, Viral- Type B: Acute

Hepatitis, Viral- Type B: Perinatal (age ≤24 months), Pregnant Female (each pregnancy)

Hepatitis, Viral- Type C: Acute, Chronic

Human Immunodeficiency Virus 🔒

Influenza A virus: Novel ! 🧪

Klebsiella species: Carbapenem-Resistant *Enterobacteriaceae* 🧪

Lead Levels UT Extension

Legionella species 🧪

Listeria species 🧪

Measles virus ! 🧪

Meningitis: Other Bacterial ☎ 🧪

Middle East Respiratory Syndrome coronavirus (MERS-CoV) ! 🧪

Mumps virus ☎ 🧪

Mycobacterium leprae 🧪

Mycobacterium nontuberculous species (extra-pulmonary only) 🌡

Mycobacterium tuberculosis complex (*M. tuberculosis, M. bovis, M. africanum, M. canettii, M. microti*) ☎ 🧪

Neisseria gonorrhoeae

Neisseria meningitidis ! 🧪

Plasmodium species 🧪

Poliovirus ☎ 🧪

Pseudomonas aeruginosa: Carbapenem-Resistant eip 🧪

Rabies virus: Animal, Human !

Ricin toxin !

Rickettsia species (other than *R. typhus*)

Rubella virus ☎ 🧪

St. Louis Encephalitis virus

Salmonella: Typhi ☎ 🧪, other species 🧪

Shigella species 🧪

Staphylococcus aureus:
- Enterotoxin B-producing (pulmonary) !
- Methicillin-Resistant Invasive Disease eip
- Toxin-producing (TSST-1)
- Vancomycin Non-Sensitive (All Forms) ☎ 🧪

Streptococcus agalactiae Invasive Disease

Streptococcus pneumoniae Invasive Disease 🧪

Streptococcus pyogenes:
- Invasive Disease ☎ 🧪
- Toxin-producing 🧪

Treponema pallidum:
- Congenital ☎,
- Other

Trypanosoma cruzi

Variola virus (Orthopox virus) !

Vibrio: cholerae 🧪, species 🧪

Viral Hemorrhagic Fever viruses (e.g,. Ebola, Lassa, Marburg) ! 🧪

West Nile virus

Yellow Fever virus

Yersinia: pestis ☎ 🧪, species 🌡

Zika virus ☎

Specimen or Isolate Submission: 🧪 Required 🌡 Requested

For more details about the laboratory tests and results, specimen or isolate submission requirements, and catchment areas for individual pathogens, please refer to the 2017 Reportable Diseases in Tennessee: Detailed Laboratory Guidance.

Regular Reporting:	
	PH-1600 only in 1 week (all diseases for Regular Reporting)
!	Phone immediately + PH-1600 in 1 week
☎	Phone next business day + PH-1600 in 1 week
eip	Complete the PH-1600 online or fax to HAI Emerging Infections Program at (615) 741-3857 within 30 days. Refer to the Detailed Laboratory Guidance for Catchment. Send questions to HAI.Health@tn.gov.

Special Reporting:	
🔒	PH-3273 form (≥13-years-old) or PH-3274 form (<13-years-old) in 1 week
UT Extension	Blood Lead Levels of ≥ 5µg/dl in 1 week, < 5 µg/dl in 1 month Mail to: Martha Keel, PhD, Professor | Housing and Environmental Health, University of Tennessee Extension | 119 Morgan Hall, 2621 Morgan Circle | Knoxville, TN 37922-4501

TN Department of Health

Tennessee Department of Health
Division of Laboratory Services

630 Hart Lane
Nashville, TN 37216
615-262-6300
www.tn.gov/health/topic/lab

Winter Puzzle

BLANKET	FIREPLACE	HIBERNATE	SKIING
BLIZZARD	FLANNEL	ICE	SNOW
BOOTS	FLEECE	ICICLE	SWEATER
COAT	FREEZING	PINECONES	TOBOGGAN
COLD	FROSTBITE	SCARF	WIND
	GLOVES	SLED	

E B Q B G S T F S N O W E U G W L T E V L J U W D
Z C L Y T F M A K Z L H K O P F N Y S J T J H E H
J Q A I G F M B I F R A C S D Q H N J H P D L A Z
Q V S L Z D B H I N G C F T U G U F E Y G S I G O
C F T S P Z L Y N C E T H V U O B A B P E P W G F
Z W W B H E A E G X F Y B M V H A E J Y T E L V R
H K C X B H R R N C D U A L X K R I X Y I W Q Q E
U H S N W Y G I D N W J F L B I I Q M M B Z J J E
W Z K S Y E W T F Y A G L O V E S P A A T X T T Z
V C J G C T H E A D K L O H K X M J X S S I A D I
P I N E C O N E S G Z T F F T H G T R E O N A L N
T P E U G B W S O D S X B L G M V R X P R L J O G
R L E H F C D B G A K D N E Q C F S O E F R U C Y
F N I G L G J K I A D I D Z N N Q M B C T E O I B
O F F X Y V N X D O L I Y I Z K W I N U W T X E T
S M C Y C I N T C N T U Z H O H H C H R B A Y V J
E Y X A W H C S K P M E Z H N C T R B X F E O W M
U H T Y D B C I B T V E R J Q O B N O D P W U G T
W E X T N O F N C S B S F J B J P V D I V S Y Q M
S D N T A O H K J L E K P O L B N I M Q W A D U N
B G O U S O L G K Z E H G P R L O K W L Z D A H S
C U I Y Q R C G Q R P G T I Q K K M B K W Z G S W
I E E B E N Q F N Q A I J C Q W D T I E H I K J P
Q P C I V H T E K N A L B E O Q Y A O M H Q N C Z
N Y G K Y W Y F E O F P S A S Y K T H Y L Y C D M

Department of Health. Authorization No. 343472

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