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-

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
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:


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/](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.

**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:


**SPOTLIGHT ON SAFETY**

Submitted by
Rolinda Eddings
Biosafety Officer
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.

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)

Some 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
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.

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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.

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
- Brian Humel - Inventory
- Elva Roland - Lab Informatics
- Alessandra Rodriguez - Vector Borne Diseases

**November**

**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

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**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

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**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](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. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006.

<table>
<thead>
<tr>
<th>Disease Outbreaks (e.g., foodborne, healthcare-associated, waterborne)</th>
<th>Escherichia coli: Carbapenem-Resistant Enterobacteriaceae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acinetobacter Species: Carbapenem-Resistant</td>
<td>Escherichia coli: Extended Spectrum Beta Lactamase-Producing</td>
</tr>
<tr>
<td>Anaplasma phagocytophilum</td>
<td>Escherichia coli: Shiga toxin-producer</td>
</tr>
<tr>
<td>Babesia species</td>
<td>Equine Encephalitis viruses: Eastern, Venezuelan, Western</td>
</tr>
<tr>
<td>Bacillus anthracis</td>
<td>Francisella tularensis, species</td>
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<tr>
<td>Bordetella pertussis</td>
<td>Haemophilus influenzae</td>
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<tr>
<td>Borrelia burgdorferi</td>
<td>Hepatitis, Viral - Type A: Acute</td>
</tr>
<tr>
<td>Brucella species</td>
<td>Hepatitis, Viral - Type B: Acute</td>
</tr>
<tr>
<td>Burkholderia mallei</td>
<td>Hepatitis, Viral - Type B: Perinatal (age ≤24 months), Pregnant Female (each pregnancy)</td>
</tr>
<tr>
<td>California/LaCrosse Serogroup viruses</td>
<td>Hepatitis, Viral - Type C: Acute, Chronic</td>
</tr>
<tr>
<td>Campylobacter species</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>Candida auris</td>
<td>Influenza A virus: Novel</td>
</tr>
<tr>
<td>Chikungunya virus</td>
<td>Klebsiella species: Carbapenem-Resistant Enterobacteriaceae</td>
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<td>Chlamydia psittaci</td>
<td>Lead Levels</td>
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<td>Chlamydia trachomatis</td>
<td>Legionsella species</td>
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<td>Clostridium botulinum:</td>
<td>Listeria species</td>
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<tr>
<td>Foodborne, Wound</td>
<td>Measles virus</td>
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<tr>
<td>Infant</td>
<td>Meningitis: Other Bacterial</td>
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<tr>
<td>Clostridium difficile:</td>
<td>Middle East Respiratory Syndrome coronavirus (MERS-CoV)</td>
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<td>Clostridium tetani</td>
<td>Mumps virus</td>
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<tr>
<td>Colistin-resistant (plasmid-mediated) gram negative bacteria</td>
<td>Mycobacterium leprae</td>
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<tr>
<td>Corynebacterium diphtheriae, ulcerans</td>
<td>Mycobacterium non-tuberculosis species (extra-pulmonary only)</td>
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<tr>
<td>Coviello barnetti</td>
<td>Mycobacterium tuberculosis complex (M. tuberculosis, M. bovis, M. africanum, M. canetti, M. microti)</td>
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<tr>
<td>Cryptosporidium species</td>
<td>Nesseria gonorrhoeae</td>
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<tr>
<td>Cyclospora species</td>
<td>Nesseria meningitidis</td>
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<tr>
<td>Dengue virus</td>
<td>Plasmodium species</td>
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<tr>
<td>Ehrlichia species</td>
<td>Poliovirus</td>
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<tr>
<td>Enterobacter species: Carbapenem-Resistant Enterobacteriaceae</td>
<td>Pseudomonas aeruginosa: Carbapenem-Resistant</td>
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<tr>
<td>Enterococcus species: Vancomycin-Resistant Invasive Disease</td>
<td>Rabies virus: Animal, Human</td>
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<td></td>
<td>Rich toxin</td>
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<td></td>
<td>Rickettsia species (other than R. typhus)</td>
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<td></td>
<td>Rubella virus</td>
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<td></td>
<td>St. Louis Encephalitis virus</td>
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<td></td>
<td>Salmonella: Typhi, other species</td>
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<td></td>
<td>Shigella species</td>
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<td></td>
<td>Staphylococcus aureus: Enterotoxin B-producing (pulmonary)</td>
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<td></td>
<td>Methicillin-Resistant Invasive Disease</td>
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<td></td>
<td>Toxin-producing (TSST-1)</td>
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<td></td>
<td>Vancomycin Non-Sensitive (All Forms)</td>
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<td></td>
<td>Streptococcus agalactiae: Invasive Disease</td>
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<td></td>
<td>Streptococcus pneumoniae: Invasive Disease</td>
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<td></td>
<td>Streptococcus pyogenes: Invasive Disease</td>
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<td></td>
<td>Toxin-producing</td>
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<tr>
<td></td>
<td>Treponema pallidum: Congenital, Other</td>
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<td></td>
<td>Trichomonas vaginalis</td>
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<tr>
<td></td>
<td>Varicella virus (Orthopoxvirus)</td>
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<td></td>
<td>Vibrio cholerae, species</td>
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<tr>
<td></td>
<td>Viral Hemorhagic Fever viruses (e.g., Ebola, Lassa, Marburg)</td>
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<td></td>
<td>West Nile virus</td>
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<td></td>
<td>Yellow Fever virus</td>
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<td></td>
<td>Yersinia: pestis, species</td>
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<td></td>
<td>Zika virus</td>
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</tbody>
</table>

**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 3 week**

**Special Reporting:**
- **PH 3273 form (213 years old) or PH 3274 form (+13 years old) in 1 week**
- Blood lead levels of >5 µg/dL in 1 week, >10 µg/dL in 1 month

Mail to Martha Saul, PhD, Professor | Housing and Environmental Health, University of Tennessee Extension | 129 Morgan Hall, 2321 Morgan Circle | Knoxville, TN 37992-0821
Winter Puzzle

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

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 X 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
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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
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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
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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
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Website only