

# The Pump The Pump Handle



"I had an interview with the Board of Guardians of St. James's parish, on the evening of Thursday, 7th September, and represented the above circumstances to them. In consequence of what I said, the handle of the pump was removed on the following day."

John Snow, 1855

## June 2017 Topics

- Safety at Summer Events and Fairs – Jill Baber
- June Advisory Committee on Immunization Practices Update – Molly Howell
- Food Safety Tips for Summer – Laura Cronquist
- Tracy Miller is on the Move!



### **Safety at Summer Events and Fairs**

Taking a few precautions at summer fairs, festivals, and rodeos can help prevent transmission of zoonotic illness such as *Escherichia coli*, *Salmonella*, and influenza among humans and animals. Recommendations to reduce disease transmission include:

- Wash hands before and during exposure to live animals, as well as between viewing different types of animals to avoid spreading illness between animals.
- Do not eat or drink while in petting zoos or animal viewing areas.
- Never touch an animal unless invited to do so.
- Do not allow children to put anything in their mouths while visiting petting zoos or animal viewing areas.

- Do not take toys, pacifiers, cups, baby bottles, strollers, or similar items into animal viewing areas, as these items can pick up germs from the animal environment and become a source of contamination.
- Watch children younger than five closely in animal viewing areas.
- Do not touch any animal that looks or acts sick, and avoid animal and animal viewing areas if you are sick.
- Consider avoiding animals and enclosed animal viewing areas if you are at high risk of complications from diseases such as *E. coli* and influenza. High-risk groups include pregnant women, children under five, the elderly, and people with compromised immune systems.

Clinicians should consider exposure to animals as a possible source of infection for people sick with a zoonotic illness. Variant influenza viruses originating in swine cannot be distinguished from season influenza via clinical feature or commercial laboratory tests. Respiratory samples for immediate submission to the state lab should be taken from patients sick with an influenza-like illness that have had recent swine contact.



### **June Advisory Committee on Immunization Practices Update**

The Advisory Committee on Immunization Practices (ACIP) met June 21 and 22, 2017. Below is a summary of what was discussed at the meeting. Complete minutes and presentations from the meeting will be available in the future at [www.cdc.gov/vaccines/acip/index.html](http://www.cdc.gov/vaccines/acip/index.html).

#### **Hepatitis A Vaccine:**

- The ACIP is in the process of updating the 2006 Hepatitis A recommendations. The committee chose to explore catch-up hepatitis A vaccination and post-exposure prophylaxis (PEP)
- Catch-up vaccination of children ages 2-8:
  - Hepatitis A vaccine is currently recommended for children at ages 12-23 months.
  - Rates of hepatitis A immunization in infants lag behind other infant vaccines.
  - Cases and outbreaks of hepatitis A continue to occur in the U.S.
  - The committee was presented a cost-effectiveness study to determine whether to implement a catch-up recommendation for the hepatitis A vaccine, the only childhood vaccine without one. Results showed that catch-up was not cost effective given the current low disease rate. However, the model used only considered childhood vaccination and not its effect on herd immunity in adults, nor the effects of childhood vaccination on adult disease, especially as children age into adulthood.
  - Hepatitis A vaccination catch-up will continue to be discussed at the February 2018 meeting.
- Hepatitis A PEP:
  - Hepatitis A vaccine is currently recommended for PEP in people ages 12 months to 40 years.
  - Immunoglobulin (Ig) is recommended for PEP in people older than 40.
  - Recent studies have shown a decreased potency of Ig due to adults not having antibodies to hepatitis A.
  - Ig may not be readily available.
  - The ACIP will discuss this issue at the February 2018 meeting.

### **Influenza Vaccine:**

- The 2016-2017 influenza season was moderate in severity. Influenza A H3N2 was the predominant strain. There were 101 pediatric deaths in the United States due to influenza reported.
- Flu vaccine effectiveness (VE) for the 2016-2017 season:
  - All ages, any flu strain: 42%
  - Ages 18 to 49, any flu strain: 19%
  - Ages 65 and older, any flu strain: 25%
  - Ages 8 months to 6 years, any flu strain: 61%
  - All ages, Influenza A H3N2: 34%
  - All ages, Influenza B: 56%
- Live attenuated influenza vaccine (Flumist®) will not be recommended for the 2017-2018 influenza season. Additional data will be presented on LAIV at the October 2017 meeting.
- The ACIP voted to recommend Afluria® for people ages five years and older, instead of nine years and older.
- The ACIP voted to recommended allowing any licensed, recommended and age-appropriate trivalent or quadrivalent inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV) for pregnant women. Previously, the recommendation had specified use of IIV for pregnant women.

### **Herpes Zoster Vaccine:**

- The ACIP was presented data from a long-term effectiveness study of Zostavax® (Merck). Overall VE against herpes zoster (HZ) was 49.1%, which was similar to the Shingles Prevention Study rate of 51%. The VE ranged from 67.5% within one year of vaccination to 31% by seven to eight years. A small proportion of the patients in this study received Zostavax® when they were immunocompromised, and the VE was similar.
- A new GlaxoSmithKline zoster vaccine (Shingrix®) should be licensed before the October 2017 ACIP meeting. A vote on recommendations for that vaccine is anticipated at that time.
  - The new zoster vaccine was found to be safe, even if previously vaccinated with Zostavax®.
  - Data reported in the New England Journal of Medicine showed that in adults ages 70 and older, two doses of the GSK zoster vaccine demonstrated 90% protection compared with a placebo. The efficacy of the GSK zoster vaccine went down only slightly, from 90% to 88%, four years after people were vaccinated.
  - A cost-effective analysis for the new zoster vaccine has not yet been completed. The ACIP zoster workgroup would like to see the vaccine recommended at age 50, but it will depend on cost effectiveness. Zostavax® is currently recommended at age 60.

### **Mumps Vaccine:**

- In 2016, 6,320 cases were reported in the U.S. So far, 3,299 cases have been reported in 2017.

- Data shows an individual is more likely to get mumps if it has been 13 or more years post measles, mumps, rubella (MMR) vaccination (waning immunity).
- Data was presented on implementing a third dose of MMR during an Iowa mumps outbreak. Data showed an incremental increase in mumps VE after a third dose.
- The ACIP needs more data to make recommendations regarding a third dose of MMR for mumps.

### **Meningococcal Vaccine:**

- Eculizumab (Solaris®) therapy increases the risk of serious meningococcal infections (1,000 – 2,000 times the incidence).
- Both MenACWY and serogroup B meningococcal (MenB) vaccines should be administered to patients receiving eculizumab according to ACIP guidelines. ACIP noted that one patient died from a nongroupable meningococcal strain in spite of elevated MenB-4C (Bexsero®—Novartis) antigens collected in the patient’s blood at the time of death. Nongroupable strains rarely cause infections. A review of other cases demonstrated nongroupable strains caused 50% of cases of infection. Vaccination appears to cause incomplete or no protection for nongroupable strains for patients receiving eculizumab, suggesting that antibiotic prophylaxis may be necessary for patients receiving this drug.

### **Dengue Vaccine:**

- DenVaxia® (Sanofi) is a dengue vaccine that may be submitted to the FDA for approval in the near future.
  - Clinical trials for DenVaxia® are being conducted in people living in endemic areas, not travelers.
- Dengue is endemic in the Caribbean and Pacific Islands. Outbreaks have occurred in Florida, Hawaii, and Texas.

### **Yellow fever vaccine:**

- The shortage of YF-Vax (Sanofi) vaccine has been caused by transitioning of production to a new facility and shutdown of the old facility. During this shortage, the Stamaril® (Sanofi) vaccine is being imported from France and distributed under FDA guidance. The Expanded Access Program (EAP) is allowing 250 sites to distribute the vaccine under an investigational new drug (IND) protocol. The sites, which were selected by volume of yellow fever vaccine distributed the previous year, must sign an agreement, undergo training, follow protocol, track vaccine use, and monitor safety. The new manufacturing facility will start supplying YF-Vax by mid-2018.
- For the IND, patients will be required to be screened for inclusion and exclusion criteria, sign a consent, and report any adverse effects that occur. The exclusion criteria are stricter than current ACIP recommendations and include women who are breastfeeding, as well as infants ages 6 to 8 months.



## **Overview of GeneXpert Xpert MTB/RIF Assay**

The Xpert MTB/RIF assay, a qualitative, nested real-time polymerase chain reaction (PCR) *in vitro* diagnostic test of *Mycobacterium tuberculosis* complex DNA, is now available through the North Dakota Public Health Laboratory (NDPHL). The test simultaneously detects *Mycobacterium tuberculosis* complex (MTBC) and resistance to rifampin (RIF) in less than three hours. The Xpert MTB/RIF® is approved to test sputum specimens. NDPHL will perform Xpert MTB/RIF® testing on two specimens submitted. An AFB culture and smear order are also required for each sample.

As with other tests, the Xpert MTB/RIF® should be interpreted along with clinical, radiographic and other laboratory findings. The Xpert MTB/RIF® does not replace the need for smear with microscopy for acid-fast bacilli, culture for mycobacteria and growth-based drug susceptibility testing.

### **RIF Resistance Detected**

Results that are positive for MTBC and RIF resistance mean that the bacteria have a high probability of resistance to RIF. This should be confirmed by additional testing. If RIF resistance is confirmed, rapid molecular testing for drug resistance to both first-line and second line drugs should be performed so that an effective treatment regimen can be selected.

### **RIF Resistance Not Detected**

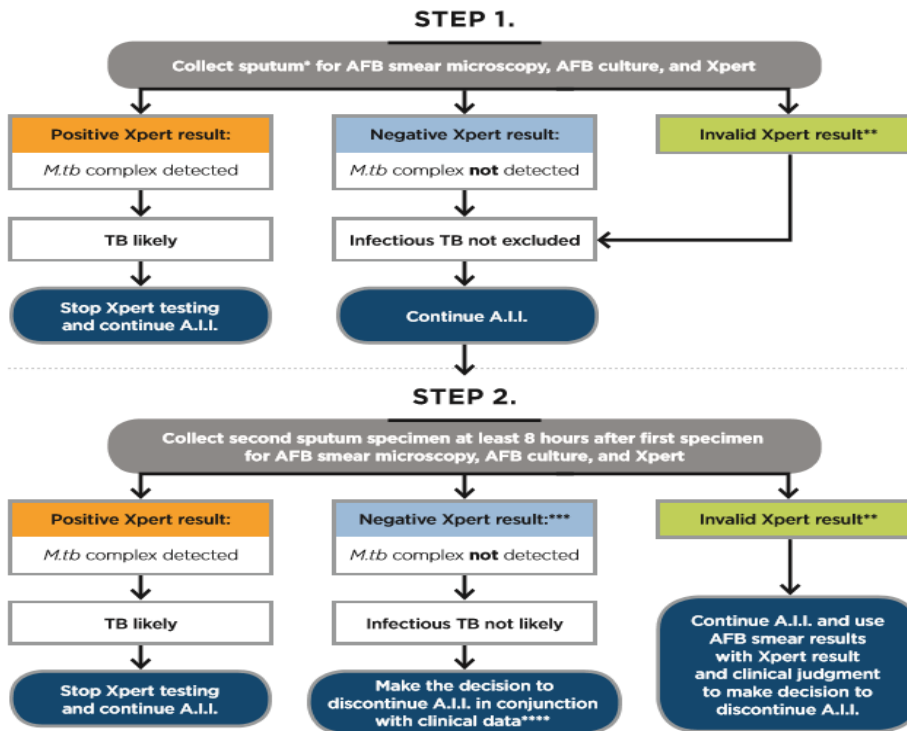
Results that are positive for MTBC, but negative for RIF resistance mean that the bacteria are probably susceptible to RIF. However, all tests that are positive for MTBC should have growth-based susceptibility testing to first-line TB drugs.

### **RIF Resistance Indeterminate**

Results that are positive for MTBC and indeterminate for RIF resistance mean that the test could not accurately determine if the bacteria are resistant to RIF. Growth-based susceptibility testing to first-line TB drugs should be performed.

The National TB Controllers and the Association of Public Health Laboratories developed a consensus statement on the use of Cepheid Xpert MTB/RIF® assay to aid in making decisions to discontinue airborne infection isolation in healthcare settings. Because the MTB/RIF test can detect TB better than the smear, results from two MTB/RIF tests can be used in the decision to remove patients from isolation. The complete statement is located at [NTCA Resources Airborne Infection Isolation](#).

## USE OF GENEXPERT IN DISCONTINUING AIRBORNE INFECTION ISOLATION



*M. tb*: *Mycobacterium tuberculosis* A.I.I.: Airborne infection isolation



### Food Safety Tips for Summer

The NDDoH reminds residents that proper food handling and preparation can help prevent foodborne illness. Each year, one out of six Americans get sick from contaminated foods or beverages, according to the CDC. Key recommendations for safe food handling and preparation include washing hands and surfaces often and using a food thermometer to ensure meat, poultry, seafood and other items are thoroughly cooked.

The following tips will help reduce the risk of foodborne illness:

- Wash all fruits and vegetables before eating. Scrub fruits with rinds, such as watermelon and cantaloupe, with clean water and a food brush before slicing. Bacteria can transfer from the knife on the outside of the fruit and contaminate the flesh of the fruit. Use clean knives and cutting boards. Do not wash raw meat and poultry, as this practice can spread bacteria.
- Hot perishable foods, such as casseroles and meats, left out at room temperature may become unsafe within two hours. In temperatures higher than 90°F, food may become unsafe in just one hour. Food that has been cooked and left sitting out for several hours should not be eaten. Cooked foods either need to be kept hot at 140°F or above, or chilled at 40°F or below. Use the grill and warming trays to keep food warm while serving. Leftovers should be stored in clean, shallow containers to allow them to chill faster.
- Bacteria can grow and multiply in food that is not properly chilled. Sliced fruits and vegetables, cold salads, deli meat and other cold perishable foods should not be kept at room temperature for more than two hours. Meals served outside in temperatures higher

than 90°F should not be left out for more than one hour. During summer picnics, use an insulated cooler filled with ice or frozen gel packs to keep food cold.

- A common mistake backyard chefs make is serving cooked food on the same plate that was used to transport the raw meat or poultry from the kitchen to the grill. Cross-contamination also can occur when vegetables or other uncooked foods come into contact with cutting boards, plates and utensils that were used for raw meat and poultry products. Keep it safe by using two plates – one for raw foods and one for cooked foods.
- Sauces and marinades used on raw meat or poultry should never be reused on cooked foods. Bacteria from the raw meat can grow in the reused marinade and make people sick. Prepare a fresh batch of marinade for use as a dipping sauce or for basting cooked foods. Always marinate meat and poultry in the refrigerator. At room temperature, bacteria on raw meat and poultry can double in number every 20 minutes. Thaw meat and poultry in the refrigerator, cold water or the microwave – never on the counter.

For more information about food safety or to report a possible foodborne illness, contact Laura Cronquist at [lcronquist@nd.gov](mailto:lcronquist@nd.gov), 800.472.2180 or 701.328.2378.



### **Tracy Miller is on the Move!**

Tracy Miller, North Dakota State Epidemiologist, is now in the Office of the State Health Officer! Instead of being in the Division of Disease Control, she will now be stationed at the Capitol in the judicial wing, making her more accessible to provide expertise and guidance to all divisions within the NDDoH. We will miss Tracy here in Disease Control, but look forward to continuing to work closely with her as she settles into her new role! Good luck, Tracy!



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