

**EPI Update for Friday, March 2, 2018**  
**Center for Acute Disease Epidemiology (CADE)**  
**Iowa Department of Public Health (IDPH)**

Items for this week's EPI Update include:

- **Gram stains and *Neisseria meningitidis***
- **Consider neurocysticercosis if symptoms/exposure fits**
- **Iowa Acute Disease Monthly Update**
- **In the news: They're hosting parasitic worms in their bodies to help treat a neglected disease**
- **In the news: Could these bacteria stop skin cancer?**
- **Infographic: Mosquito bite prevention for travelers**
- **Meeting announcements and training opportunities**

**Gram stains and *Neisseria meningitidis***

A suspected case of *N. meningitidis* was recently investigated who had many contacts to consider for post-exposure prophylaxis. The initial laboratory result was a gram stain on cerebrospinal fluid that showed gram negative diplococci, which is consistent with *N. meningitidis*. However, the culture was ultimately positive for *Streptococcus pneumoniae*, a more common cause of bacterial meningitis and one that requires no public health response since it does not spread person-to-person like *N. meningitidis*.

IDPH investigates similar cases each year, where the initial gram stain indicates the presence of *N. meningitidis*, but the culture later grows a different organism that does not require public health action. In general, IDPH's policy is to wait for a more definitive laboratory test than a gram stain on a biologic specimen - such as a culture result - before recommending mass prophylaxis for large numbers of contacts. However, household-like contacts and exposed health care providers can be considered for post-exposure prophylaxis based on gram negative diplococci seen on a gram stain.

Suspected cases of *N. meningitidis* are immediately reportable in Iowa. If you suspect a patient may have *N. meningitidis*, please contact CADE immediately at 800-362-2736 (during business hours) or 515-323-4360 (outside business hours). For more information about *N. meningitidis*, visit [www.cdc.gov/meningococcal/index.html](http://www.cdc.gov/meningococcal/index.html).

**Consider neurocysticercosis if symptoms/exposure fits**

In the last several months, two refugees, who recently arrived in Iowa, have been diagnosed with Neurocysticercosis.

Cysticercosis, which includes neurocysticercosis, is caused by an infection with the larval form (eggs) of the tapeworm *Taenia solium* (the pork tapeworm). These tapeworm eggs can be spread through food, water, and surfaces contaminated with feces of a person with a tapeworm. When the eggs hatch, the larvae can

travel to tissues, such as muscle and brain, and form cysts there (these are called cysticerci). When cysts are found in the brain, the condition is called neurocysticercosis. (A person develops an intestinal tapeworm after eating undercooked pork containing *Taenia solium* cysts).

The highest rates of infection are found in areas of Latin America, Asia, and Africa that have poor sanitation and free-ranging pigs that have access to human feces. Although uncommon, cysticercosis can occur in people who have never traveled outside of the United States if they are exposed to tapeworm eggs.

Seizures are the most common manifestation, present in 70-90 percent of symptomatic patients in published case series. Less frequent clinical manifestations include intracranial hypertension, hydrocephalus, chronic meningitis, and cranial nerve abnormalities. Diagnosis usually involves both serological testing and brain imaging.

The most urgent therapeutic interventions are aimed at managing the neurological complications and may require anticonvulsant therapy, corticosteroids, neurosurgical intervention and/or treatment of increased intracranial pressure. Anthelmintic treatment may be indicated, but must be administered with caution, because larval death provokes an inflammatory response that may increase symptoms. Concomitant steroids are usually indicated.

For additional information on Cysticercosis, visit:

[www.cdc.gov/parasites/cysticercosis/health\\_professionals/index.html](http://www.cdc.gov/parasites/cysticercosis/health_professionals/index.html)

### **Iowa Acute Disease Monthly Update**

The new issue of the Iowa Acute Disease Monthly Update is available on our website. Visit [idph.iowa.gov/CADE](http://idph.iowa.gov/CADE) and scroll down to 'Reports' or access the report directly with the following link:

[idph.iowa.gov/Portals/1/userfiles/79/Reports/Misc/Monthly%20Report/IADMU%20Final.pdf](http://idph.iowa.gov/Portals/1/userfiles/79/Reports/Misc/Monthly%20Report/IADMU%20Final.pdf).

### **In the news: They're hosting parasitic worms in their bodies to help treat a neglected disease**

[www.nytimes.com/2018/03/01/health/parasitic-worms-schistosomiasis-trial.html](http://www.nytimes.com/2018/03/01/health/parasitic-worms-schistosomiasis-trial.html)

### **In the news: Could these bacteria stop skin cancer?**

[www.nbcnews.com/health/health-news/could-these-bacteria-stop-skin-cancer-n852046](http://www.nbcnews.com/health/health-news/could-these-bacteria-stop-skin-cancer-n852046)

### **Infographic: Cysticercosis**

NEGLECTED PARASITIC INFECTION:

# Cysticercosis



[Up to] **1 in 10 people** hospitalized for neurocysticercosis in the United States dies from the preventable parasitic disease.



Learn more: [www.cdc.gov/parasites/npi/](http://www.cdc.gov/parasites/npi/)

To view in full size, visit

[www.cdc.gov/parasites/npi/images/cysticercosis\\_infographic.jpg](http://www.cdc.gov/parasites/npi/images/cysticercosis_infographic.jpg)

## Meeting announcements and training opportunities

None

## Have a healthy and happy week!

Center for Acute Disease Epidemiology

Iowa Department of Public Health

800-362-2736