Food Safety News

Steer clear of fair foibles — pun intended; pigs problematic, too

By Cookson Beecher | July 21, 2017

It's fair season, and a new crop of parents is taking excited youngsters to county and state fairs across the country so they can see the farm animals. Not only see them, but pet them as well. Maybe even kiss them.

Stop right there, many veterinarians and fair directors will say. Before heading to the fairgrounds parents should take time to learn about how animals can infect people with intestinal diseases such as E. coli, Listeria, Campylobacter, Cryptosporidium and swine flu. Yes, even those adorable baby animals might harbor and pass on bacteria and viruses to fair visitors.

But, by following simple, down-to-earth, practical advice, people can safely interact with animals in settings such as fairs and petting zoos.

Hand washing with running water and soap is at the top of the list.

Like other veterinarians, South Dakota state veterinarian Russ Daly believes that fairs can give people the chance to observe farm animals in safe settings.

“Although animal exhibits at fairs are substantially safe, they're not risk free,” he said. “Adequate hand washing and common sense safety measures will help ensure a safer experience for everyone involved.”

Keeping children safe in such circumstances is not a part-time endeavor. Marla J. Calico, chief operating officer of the International Association of Fairs & Expositions, said parents and others responsible for children must be diligent.

“Teach your children about proper hand hygiene, monitor them and enforce it,” Calico recommended.
Not just from food
It comes as a surprise to many people that it isn't just food that can make them sick from pathogens such as E. coli, Salmonella and Cryptosporidium and Campylobacter. They can also become ill through contact with animals carrying the pathogens.

This can happen when petting an animal, rubbing up against the bars or fencing holding it in, hand-feeding animals, even by taking a stroller into a livestock barn and then taking it home with you on the stroller's wheels. And while many baby animals seem to want to be kissed — and there are many beautiful photos of kids and animals kissing one another — this is a definite no-no.

One mother's story
Emily Miller, whose two young boys were hospitalized earlier this year with E. coli that they most likely picked up at a petting zoo, told a WFAA reporter she wasn’t aware that you could get it from animals and livestock.

Even so, she had taken hand sanitizer for the boys to clean their hands after petting some animals. But according to the Centers for Disease Control and Prevention, hand-washing with running water and soap is more effective, although if sanitizers are the only option, go ahead and use them but follow up with soap and water as soon as possible.

Both of Millers's boys were diagnosed with E. coli, and both had to go to the hospital. Her 5-year-old son, who had to go through dialysis, spent 27 days in the hospital, including several nights, in the Intensive Care Unit.

Earlier this month, nearly 280 pigs of various ages at an Ohio fair had to be destroyed and the barn had to be disinfected after one of the pigs tested positive for swine flu.

While no human cases of this type of swine influenza, H3N2, have been reported from the Ohio situation, the Centers for Disease Control and Prevention says that humans can be infected with it. In fact, according to the agency, the infection is most commonly associated with prolonged exposure to pigs at agricultural fairs.

The Journal of the American Veterinary Medical Association also reported most documented cases of swine-to-human influenza A virus (IAV), transmission have been associated with exposure to swine during agricultural fairs.

In 2012, there were 309 confirmed cases of H3N2 variant infection reported with 90 percent of the victims infected that year reporting contact with swine at an agricultural fair, according to the report.
“It’s awful,” Miller said about the ordeal her sons went through. “You can’t do anything but just sit there and watch your child hurt.”

Both boys are doing well now, but the five-year-old still needs to take blood-pressure medicine due to the illness.

**How does it happen?**

Perfectly healthy animals can be harboring diseases that can make humans sick. And though the pathogens don’t always make the animals sick, they do end up in the animals’ poop. And that’s where the problem begins.

Referred to as the fecal-to-oral route, it’s not as straightforward, or as ghastly as that may sound. What can happen is that poop can get on the animal’s hide, its bedding, the railings or fencing around the animals, and even in the dust in the air.

Fair-goers who pet the animals or touch the rails or fencing around them can also pick up the germs on their hands. And if they don’t wash their hands before eating, these fecal germs can get into their mouths and from there into their intestinal systems.

You can’t see them, of course, but here are some of the ways can these germs can get on people, according to a report by veterinarian Daly:

- Because it is common for an animal’s fur, hair, skin, or saliva to become contaminated with these fecal organisms, transmission may occur when people pet, touch, or are licked by animals.
- Touching surfaces that animals or manure may contact such as walls, floors, bedding, panels, or pen dividers also represents a source of infection to humans.
- Hand-to-mouth activities such as eating, drinking, smoking, and use of pacifiers and sippy cups increase risk of infection.

Daly said even though infections can occur in people of all ages, three groups of individuals are at highest risk:

- The young — children 5 years old and younger;
- The elderly — people older than 60; and
- The immunocompromised — which includes diabetics, cancer patients, organ transplant recipients, and people on immunosuppressive therapy and HIV/AIDS patients.
Symptoms usually develop two to five days following exposure to E. coli and Campylobacter and include abdominal cramps, nausea, diarrhea that is often bloody, and sometimes vomiting. The most severe complication of E. coli infection is Hemolytic Uremic Syndrome (HUS), which develops in about 6 percent of infected patients, and is characterized by anemia and kidney failure.

Anyone who develops these symptoms after being in contact with animals or their surroundings should contact a doctor or other medical professional. These animal-borne diseases can be passed from person to person.

**Advice to parents, fair organizers**

Veterinarian Daly advises parents to make sure they and their children don’t come into contact with manure and surfaces where manure might be. They should also make sure no one engages in hand-to-mouth activities such as eating, drinking and smoking before washing their hands.

He also advises parents not to take strollers into livestock barns and to animal exhibits. If, however, this happens, the wheels should be cleaned and disinfected after leaving an animal exhibit. That’s because those same wheels can contaminate a home’s flooring or carpeting, which could, in turn, cause a crawling baby to become infected.

And most important, make sure hands are washed with soap and water right after visiting an animal exhibit. That means helping younger children to make sure they are thorough. Some health officials suggest having children sing happy birthday two times to make sure they scrub and rinse long enough.

Fair directors should make sure there’s a transition area between livestock exhibits and places where food is available to avoid cross contamination. Foods and beverages should not be allowed in animal exhibit areas.

Handwashing units, including some low enough for children to use, should be available in the transition areas and other areas of a fair. And signs advising people to wash their hands after visiting a livestock exhibit should be prominently displayed.
What’s the problem?
According to a national veterinarians' report on minimizing risks from animal contact with humans, some of the inherent reasons fairs can pose problems include:

- Animals are more likely to shed pathogens such as E. coli O157:H7 because of the stress they suffer from prolonged transportation, confinement, crowding, and increased handling.
- Co-mingling of animals increases the probability that animals shedding pathogens will infect other animals.
- The presence of certain enteric pathogens such as E. coli O157:H7 is higher in young animals, which are frequently in petting zoos and educational programs, more so than in mature animals.
- Shedding of these types of pathogens and Salmonella organisms is highest in the summer and fall, when substantial numbers of traveling exhibits, agricultural fairs, and petting zoos are scheduled.

The report’s cover letter says that while there are many positive benefits of human-animal contact, “infectious disease outbreaks related to such contacts have been increasingly reported.”

Pointing out that farm and ranch families make up just 2 percent of the U.S. population, Veterinarian Daly said that it’s more critical than ever for children — and adults — to have the chance to observe and interact with farm animals and to understand how they’re being raised.

Calico of International Fairs and Expositions agreed.

“The importance of understanding animals, humans and non-human animal relations, and of agriculture to feed a growing population should be acknowledged,” she said. “Agricultural fairs play a vital role in creating a safe and fun environment for this to occur.”

Updated Zika Virus Testing Algorithms—July 25, 2017

Summary of Changes:

- Extend PCR testing out to 12 weeks for pregnant women, regardless of symptom status
  - Rationale: Reported prolonged detection of Zika virus RNA in serum

- Same algorithm used for symptomatic and asymptomatic pregnant women
  - Consider testing convalescent serum for asymptomatic women

- No changes to algorithm for non-pregnant persons

- CDC will no longer accept placenta or umbilical cord for asymptomatic women with phenotypically normal infants

Additionally, Zika Care Connect, a website intended to help link pregnant women and families of infants with Zika to care, is expanding to cover Washington state. March of Dimes, the host of ZCC, will be recruiting providers in WA to be included as specialists on their site.
Pregnant (regardless of symptoms) with exposure to an area with Zika virus risk if specimens collected ≤12 weeks since onset or last exposure

Serum and urine specimens (possibly with CSF or amniotic fluid)

Test all specimens by RT-PCR/NAAT
Note: urine and amniotic fluid are not acceptable specimen types for dengue and chikungunya (RT-PCR)

Dengue (if symptomatic)
- Serum or CSF positive for dengue virus infection.
- Serum (and CSF, if tested) negative for dengue virus RNA.

Chikungunya (if symptomatic)
- Serum or CSF positive for chikungunya virus infection.
- Serum (and CSF, if tested) negative for chikungunya virus RNA.

Zika
- Serum or CSF positive for Zika virus infection.
- Serum (and CSF, if tested) negative for Zika virus RNA.

Serological testing
Serum specimen should be tested by
- Zika MAC-ELISA
- A dengue IgM assay (if symptomatic)
If any IgM assay yields positive or equivocal results for a specimen, results must be confirmed by PRNT.

One or both tests are positive or equivocal
Forward for confirmation by PRNT

All tests negative. No further testing of specimen required. If asymptomatic, consider testing follow-up serum collected >2 weeks after exposure

PRNT
Serum tested by CDC or CDC-designated Confirmatory Testing Lab.
Combine PRNT results with results of other diagnostic tests to determine overall interpretation.
## 2017 Reportable Conditions, Chelan-Douglas Counties

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**Not reported**: Cases investigated but did not meet case definition for reporting.

**OOJ (out of jurisdiction)**: Cases investigated but found to belong to another jurisdiction (county).

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**Animal Rabies Testing 2017**

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**Washington State Reportable Conditions Posters by Reporter**

**Washington State Reportable Conditions Forms and Guidelines**

**TO REPORT A NOTIFIABLE CONDITION:**

Phone (509) 886-6400 Fax (509) 886-6478

After hours call: (509) 886-6499