

## A Taste of Food Poisoning

She Knew All About Salmonellosis -- Except What It's Really Like to Have It

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My daughter never met a chicken tender she didn't like. But during a recent family vacation in Florida, 9-year-old Anna was struck with a bad case of salmonellosis -- disease caused by salmonella. And while we'll never know for sure, we strongly suspect it was caused by contaminated, undercooked poultry at one of her daily restaurant chicken meals.

There is more than a little irony in this tale of excruciating stomach pains, bathroom vigils and hospital emergency rooms.

As a food writer for 25 years, I've interviewed numerous victims of food-borne diseases and parents of children who've died from them. I've attended scores of conferences and hearings where food safety issues are debated among government officials, industry and activist groups.

But this was the first time I got to see firsthand how devastating full-blown food-borne illness can be. Believe me, we're not talking about a bad tummy ache.

And while the experience illuminated many of the food safety issues that I have long covered, I was still surprised and overwhelmed by Anna's illness. Surprised at the nonchalant attitude of doctors toward food-borne disease and the uneven follow-through of the public health system. Surprised at the gap between the bureaucratic rhetoric and the reality of the problem. And overwhelmed by a very sick daughter, whose condition she accurately described as "having my butt on full blast."

The Centers for Disease Control and Prevention (CDC) estimates that there are 76 million cases of food-borne illness a year in the United States. (We're dealing here only with sickness caused by a bacteria or virus in a contaminated food. The CDC estimate does not include the untold millions of upset stomachs caused by overeating, rich foods and such that many people mistake for food-borne illness.) The problem sends nearly 325,000 people a year to the hospital; 5,000 a year die from it. The young, the old and the immune-compromised are hit hardest.

Some progress is being made, however. In April, when Anna was home sick, the CDC announced its latest food-borne diseases surveillance figures -- a story I (ironically) had to cover.

The good news: Infections caused by five hard-to-spell bacteria -- E. coli O157:H7, campylobacter, cryptosporidium, listeria and yersinia -- underwent significant declines in 2004, compared with 1996-1998. The bad news: Salmonella infections showed the smallest decline. Of 15,806 laboratory-diagnosed cases of food-borne infections from the 10 states under CDC surveillance, more cases -- 6,464 -- were from salmonella than any other bug.

In what may be the most surreal exchange of my career, I asked Agriculture Secretary Mike Johanns during a telephone press conference why there hadn't been more progress made in combating salmonellosis -- and what the U.S. Department of Agriculture (USDA) planned to do about it. Johanns passed the question to another USDA official, who said that the agency was committed to developing policies to address the problem. Somehow, with my salmonella-infected daughter groaning in the next room, I didn't find this answer adequate.

Even CDC surveillance data don't get at the real scope of the problem. Most food-borne infections go undiagnosed and unreported because many sick people don't seek attention. Of those who do, many are not tested. In the case of salmonellosis, the CDC estimates that 38 cases occur for every one that's actually reported.

I can certainly see why.

### **Finding the Culprit**

When we brought Anna to the hospital with severe stomach pains, diarrhea and dehydration, the doctor -- who seemed intent on diagnosing appendicitis -- ordered a sonogram, an X-ray and finally a CT (computed tomography) scan, which shows the most detailed images. But a stool culture -- the standard diagnostic test for food-borne illness and a cinch to collect while your child is perennially on the pot -- was not even mentioned, even though frequent diarrhea and stomach pains are hallmarks of the illness.

While it was prudent to rule out appendicitis, you might think food poisoning would have been high on the list of next suspects. But my requests for a culture were ignored.

The second doctor on duty finally agreed to take a stool sample, but said she doubted the problem was linked to anything Anna had eaten. She said that Anna probably had a gastrointestinal virus -- like the other five kids in the ER that night. I don't know how many (if any) of them were tested for a food-borne infection.

Patricia Griffin, chief of the food-borne disease branch of the CDC, said that an emergency room physician recently told her that she doesn't take stool cultures anymore since the results generally don't come back for a couple of days -- after the patient has been discharged. Plus, she said, a positive result wouldn't affect treatment: Although the type and severity of food-borne disease determines the specific therapy, many infections are not treated with antibiotics or anti-diarrhea medications. That's because antibiotics can complicate the condition and possibly lead to drug resistance, and anti-diarrheals

keep the disease-causing bacteria in the system rather than help get it out. Since in many cases, there's no treatment other than keeping hydrated, doctors may figure it's fruitless to take a culture. "In their minds, they're not going to do anything different," Griffin said.

But there are good public health arguments for testing for food-borne disease.

"It's hard to talk about it in our society, which is so focused on health care for the individual person," said Griffin. "But from the societal point of view, that's the way we find outbreaks. It's the main way we find things wrong with our food system."

Although state procedures vary somewhat, the basic protocol for responding to a suspected food-borne illness is this: If a stool sample tests positive for food-borne bacteria, the results are supposed to be reported to the state, which then alerts the CDC. The hospital or private lab is urged to send a sample of the bacteria to the state, which does further testing to determine the serotype -- the specific strain of the bacteria identified. Knowing the serotype may help identify the food that caused the problem, since certain serotypes are more common to specific foods. Monitoring serotypes also helps the CDC keep tabs on which strains are increasing in prevalence and which are decreasing.

The state labs may also take a genetic fingerprint of the bacteria and enter it into a CDC database, to see if there are any matches. Since food processors distribute their food nationwide, people in Maine and California could get sick from the same firm's hamburgers. DNA matches could help spot outbreaks and stop them from spreading.

### **Follow-Through**

In my daughter's case, the state never received her bacteria sample from the hospital, so her salmonella was never serotyped, and a genetic fingerprint was never sent to the CDC. I know this from Holly Conners, a nurse with the epidemiology and surveillance branch of the Montgomery County Health Department and the bright light of this whole ordeal. Conners ran interference for me to get this information, as I learned that protocol and privacy acts make it difficult to get it yourself -- even when it's your own kid.

All we know from the lab report is that Anna had salmonella Group D, which consists of nearly 200 strains, but that it was not the kind that can lead to typhoid fever.

Figuring out what made an individual person get sick often is impossible. "Sometimes you can, sometimes you can't," said Donna Rosenbaum, a food safety consultant and the first executive director of Safe Tables Our Priority (STOP), an advocacy group for victims of food-borne disease. "Occasionally you get lucky."

Sometimes, too much time has elapsed to find evidence, such as a suspect food item or a food service worker who failed to wash hands or follow sanitary procedures. When a lot of people at a wedding reception or restaurant get sick, the chances are greater that a link

will be uncovered. But what are the chances that one cooking error or contaminated turkey sandwich will ever be tracked down?

Trying to piece the puzzle together yourself can become practically a full-time job. All while your child is screaming her head off on the toilet.

It took five days after my daughter got sick in Florida for her to be diagnosed with salmonellosis. (By that time she'd been flown back to Maryland and was hospitalized.) Then it took another day to reconstruct exactly what she ate during our week-long vacation, and where she ate it.

While we will never be sure of the meal that did it, several factors point to the chicken tenders Anna ate in a restaurant 10 hours before she made her first beeline to the bathroom.

For one, when we told her that she probably got sick from something she ate, she immediately said, "I know where." With no prompting, she told us that parts of the chicken tenders tasted cold and hard. For another, it seemed obvious that the busy restaurant had a doneness problem: My fish was dry and overcooked. When I called the restaurant to inquire further into the situation, the owner said he believed the tenders were purchased partially cooked and frozen. Perhaps, I suggested, the fry cook didn't fully cook them? If the tenders were contaminated with salmonella, undercooking them might not kill the bacteria.

The restaurant owner, who appeared to listen sympathetically, told me he would check with the kitchen staff and get back to me. He never did. Concerned about the possibility of further illnesses, I reported the restaurant to the Florida authorities -- the county department of business regulation, not the health department.

### **New Habits**

It took three weeks and lots of follow-up calls to confirm that an inspector had been dispatched to the restaurant. By then, of course, none of the implicated food was available. But I was told that the inspector found no refrigeration or cooking temperature violations, no sick employees who could have transmitted the infection, and no other reported food-borne illnesses from the day we ate there.

"It's tough to catch these things," a state official told me.

I am happy to report that after missing two full weeks of school and spending several weeks on the BRAT diet (bananas, rice, applesauce and toast), Anna is fully recovered. She isn't squeamish about eating at restaurants, but sometimes asks me to examine her food to make sure it's fully cooked. At home, she has the opposite concern, berating me for cooking her chicken and hamburgers to death. But Anna has definitely broadened her dining-out repertoire. Now she mostly orders grilled cheese.

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