

# Likely the Filthiest Food on Earth, yet Seen as Wholesome

Analysis by [Dr. Joseph Mercola](#)

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## STORY AT-A-GLANCE

- › According to preliminary data from the CDC, there were 25,606 food-borne infections, 5,893 hospitalizations and 120 deaths from food poisoning in 2018. In 2017, there were 24,484 infections, 5,677 hospitalization and 122 deaths
- › Poultry is a major source of Campylobacter, which has been the most commonly identified infection since 2013. It causes diarrhea and 18% of those affected require hospitalization. Guillain-Barré syndrome is a rare but possible outcome of Campylobacter infection
- › A 2011 study conducted by the Physicians Committee for Responsible Medicine (PCRM) found 48% of the 120 chicken products tested were contaminated with E. coli, commonly found in feces. The following year, repeat testing revealed the exact same result: 48% of chicken products again tested positive
- › PCRM filed a petition for rulemaking with the USDA in 2013, asking the agency to regulate fecal contamination as an adulterant. PCRM has now filed a lawsuit against USDA over the agency's failure to respond
- › Studies using DNA matching have shown a majority of urinary tract infections are the result of exposure to contaminated chicken, not sexual contact with an infected person or transfer of your own E. coli from your anus to your urethra

***Editor's Note: This article is a reprint. It was originally published May 15, 2019.***

While there are many environmental and human health hazards associated with modern food production, perhaps one of the most pressing concerns for any given individual is

the ever-rising risk of food poisoning.

According to preliminary data from the CDC, there were 25,606 foodborne infections, 5,893 hospitalizations and 120 deaths from food poisoning in 2018.<sup>1</sup> In 2017, there were 24,484 infections, 5,677 hospitalization and 122 deaths.<sup>2</sup>

For further comparison, between the years of 2009 and 2015 – a span of six years – there were 5,760 reported foodborne outbreaks resulting in 100,939 illnesses, 5,699 hospitalizations and 145 deaths.<sup>3</sup>

According to a recent report,<sup>4</sup> the incidence of infection per 100,000 Americans was highest for *Campylobacter*, which was responsible for 19.5% of all cases – a 12% increase from 2015-2017 – followed by:

**Salmonella 18.3%** – A 9% increase from 2015-2017

**Shiga toxin–producing *Escherichia coli* (STEC) 5.9%** – An increase of 26% from 2015-2017

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**Shigella 4.9%**

**Vibrio 1.1%** – An increase of 109% from 2015-2017

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**Yersinia 0.9%** – An increase of 58% from 2015-2017

**Cyclospora 0.7%** – A 399% increase from 2015-2017

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**Listeria 0.3%**

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## Chicken Is a Primary Source of Many Food-Borne Illnesses

While produce has become a significant source of food poisoning – two multistate outbreaks of STEC in 2018 were traced back to contaminated [romaine lettuce](#),<sup>5</sup> for example – raw chicken remains a primary concern. As noted in the CDC report:<sup>6</sup>

*“Campylobacter has been the most commonly identified infection ... since 2013. It causes diarrhea, sometimes bloody, and 18% of persons are hospitalized. A*

*rare outcome of Campylobacter infection is Guillain-Barré syndrome, a type of autoimmune-mediated paralysis.*

*Poultry is a major source of Campylobacter. In August 2018, FSIS [U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service] began using a new testing method; in a study of that method, Campylobacter was isolated from 18% of chicken carcasses and 16% of chicken parts sampled ...*

*The incidence of infections with Enteritidis, the most common Salmonella serotype, has not declined in over 10 years. Enteritidis is adapted to live in poultry, and eggs are an important source of infection.*

*By 2012, FDA had implemented the Egg Safety Rule, which requires preventive measures during the production of eggs in poultry houses and requires subsequent refrigeration during storage and transportation, for all farms with  $\geq 3,000$  hens.*

*In 2018, a multistate outbreak of Enteritidis infections was traced to eggs from a farm that had not implemented the required egg safety measures after its size reached  $\geq 3,000$  hens.*

*Chicken meat is also an important source of Enteritidis infections. In December 2018, FSIS reported that 22% of establishments that produce chicken parts failed to meet the Salmonella performance standard ..."*

## **Factory Farmed Chicken Is Notoriously 'Dirty'**

Over the years, food testing has shown that factory farmed chickens (i.e., chickens raised in concentrated animal feeding operations or CAFOs) are particularly prone to contamination with dangerous pathogens, including **antibiotic-resistant bacteria** that make the illness all the more difficult to treat. For example:

- Consumer Reports testing in 2007 found 80% of whole chicken broilers harbored salmonella and/or campylobacter,<sup>7</sup> two of the leading causes of foodborne illness.

Retesting in 2010 revealed a modest improvement, with two-thirds being contaminated with these disease-causing bacteria.

Three years later, in 2013, Consumer Reports<sup>8</sup> found potentially harmful bacteria on 97% of the chicken breasts tested, and half of them had at least one type of bacteria that was resistant to three or more antibiotics.

- A 2011 study conducted by the Physicians Committee for Responsible Medicine (PCRM) found 48% of the 120 chicken products tested (obtained from 15 grocery chains in 10 U.S. cities) were contaminated with E. coli, commonly found in feces.<sup>9,10</sup> The following year, repeat testing revealed the exact same result: 48% of chicken products again tested positive for fecal bacteria (E. coli).<sup>11</sup>
- An Environmental Working Group analysis<sup>12,13</sup> of food testing done by the Food and Drug Administration (FDA) in 2015 found 36% of chicken breasts, legs, thighs and wings were contaminated with drug-resistant enterococcus faecalis, 71% of which were resistant to tetracyclines.

## **PCRM Sues USDA Over Failure to Address Contamination Issue**

Based on its 2011 test results, the PCRM filed a petition for rulemaking<sup>14</sup> with the USDA in 2013, asking the agency to address the issue of fecal contamination on chicken by regulating fecal contamination as an adulterant under the Federal Meat Inspection Act and the Poultry Products Inspection Act. As noted by PCRM in its April 17, 2019, press release:<sup>15</sup>

*“Although USDA implements a ‘zero tolerance’ policy for fecal contamination, this policy only applies to visible fecal contamination. Chicken products pass inspection as long as feces are not visible to the naked eye.*

*The lawsuit and petition quote a federal inspector who said, ‘We often see birds going down the line with intestines still attached, which are full of fecal contamination. If there is no fecal contamination on the bird’s skin, however, we can do nothing to stop that bird from going down that line.*

*It is more than reasonable to assume that once the bird gets into the chill tank (a large vat of cold water), that contamination will enter the water and contaminate all of the other carcasses in the chiller. That's why it is sometimes called 'fecal soup.'*"

In its petition for rulemaking, the PCRМ argued that the USDA's standard of "no visible feces" is woefully inadequate and would be considered "disgusting by the average consumer." According to PCRМ, fecal bacteria really should be regulated as an adulterant.

The lawsuit arose because the USDA failed to respond not only to the PCRМ's 2013 petition but also to its 2017 Freedom of Information Act (FOIA) request, in which the physicians group sought "documentation of fecal contamination rates detected in poultry slaughter plants and other data related to poultry inspection and slaughter line speed."<sup>16</sup>

The lawsuit seeks to compel the USDA to provide a "substantive response" to its petition, as well as a response to its FOIA request. The New Poultry Inspection System implemented by USDA in 2014 increased allowable slaughter and processing line speeds to between 140 and 175 birds per minute. According to PCRМ:

*"Data show that plants operating under this model are more likely to fail USDA's performance standards for Salmonella, a bacteria found in feces, than those operating under the traditional inspection scheme."*<sup>17</sup>

The USDA defends its standard, saying that fecal bacteria and fecal material are not interchangeable terms. KatieRose McCullough, director of regulatory and scientific affairs for the North American Meat Institute, told The Washington Post:<sup>18</sup>

*"Bacteria like E. coli are naturally present in the environment as numerous studies on all types of items from foods to phones, keyboards and toothbrushes have shown. This does not mean any of those items are contaminated with feces."*

# Contaminated Chicken Is a Primary Risk Factor for UTIs

Food poisoning isn't the only concern when it comes to contaminated chicken. A form of *E. coli* known as ExPEC (extra-intestinal pathogenic *E. coli*) has been shown to be responsible for 85% of urinary tract infections (UTIs).<sup>19</sup> Conventional wisdom has maintained UTIs are primarily caused by a transfer of the *E. coli* via sexual contact with an infected individual and/or the transferring of fecal bacteria from your anus to your urethra.

However, more recent studies have shown this to be incorrect, showing a majority of UTIs are in fact the result of exposure to contaminated chicken.<sup>20</sup> What's more, of the 8 million UTIs occurring in the U.S. each year, an estimated 10% are now resistant to antibiotics, which can result in kidney infection and blood poisoning (sepsis).

Drug resistance has become common enough that doctors are now advised to test for drug resistance before prescribing an antibiotic for a UTI. Part of the problem goes back to the fact that antibiotics have remained widely used in agriculture for growth promotion purposes, allowing resistance to develop.

As early as 2005, papers were published showing drug-resistant *E. coli* strains from supermarket meat matched strains found in human *E. coli* infections.<sup>21</sup> American, Canadian and European studies<sup>22,23,24</sup> published in 2012 all confirmed close genetic matches between drug-resistant *E. coli* collected from human patients and those found on poultry (chicken and turkey).

More recently, a study<sup>25</sup> published in the journal *mBio* in 2018 found 79.8% of chicken, pork and turkey samples purchased from large retail stores in Flagstaff, Arizona, were contaminated with *E. coli*. The researchers also tested blood and urine samples from people who visited a major medical center in the area, finding *E. coli* in 72.4% of those diagnosed with a UTI.

In particular, a strain of *E. coli* known as *E. coli* ST131 showed up in both the meat samples (particularly poultry) and the human UTI samples. Most of the *E. coli* in the

poultry was a variety known as ST131-H22, which is known to thrive in birds. This specific strain was also found in the human UTI samples.

“Our results suggest that one ST131 sublineage – ST131-H22 – has become established in poultry populations around the world and that meat may serve as a vehicle for human exposure and infection,” the researchers noted, adding that this E. coli lineage is just one of many that may be transmitted from poultry and other meat sources to people.

## **Make Sure Chicken and Eggs Are Organic and Free-Range**

While findings such as the ones discussed in this article are a potent reminder to cook poultry thoroughly and handle it carefully during preparation, another option is to skip CAFO chicken entirely. It's easily one of the most contaminated foods in the U.S. and also has a weak nutritional profile compared to other protein sources, including pasture-raised chicken.

For example, a study<sup>26,27,28</sup> by the American Pastured Poultry Producers Association (APPPA), which compared the nutrient value of pastured chickens with the USDA's National Nutrient Database for Standard Reference values for CAFO chicken, found pasture-raised chickens contained 406.8% more vitamin E (1.86 IUs per 100 grams compared to 0.367 IUs) and had an average omega-3-to-6 ratio of 1-to-5, which is near ideal, compared to the USDA's value of 1-to-15.<sup>29</sup>

Pastured chicken also had about half the fats of CAFO chicken (saturated, monounsaturated and polyunsaturated), and 11.1% more cholesterol.

Considering the hazards associated with raw chicken, if you're going to eat it, I would recommend making sure it's organic and free-range, pasture-raised. Ditto for eggs, as CAFO eggs are also far more prone to pathogenic contamination than organic pastured eggs.

Your best bet is to find a local source of organic, free range eggs. The Cornucopia Institute's [egg report](#) and [scorecard](#) ranks 136 egg producers according to 28 organic

criteria, is an excellent resource if no local producers are available.

In June 2017, Cornucopia also began working on a chicken report and scorecard. Considering the egg report took six years to produce, it may still be a while before the chicken scorecard is ready. You can contribute to this report by following the simple instructions listed in their June 13 Action Alert.<sup>30</sup>

## **Commonsense Precautions When Handling Chicken**

If and when you do cook chicken, be sure to take commonsense precautions to avoid contaminating other foods and kitchen surfaces and spreading any bacteria that may be present to yourself or others. To avoid cross-contamination between foods in your kitchen, adhere to the following recommendations:

- Use a designated cutting board, preferably wood, not plastic, for raw meat and poultry, and never use this board for other food preparation, such as cutting up vegetables. Color coding your cutting boards is a simple way to distinguish between them
- To sanitize your cutting board, use hot water and detergent. Simply wiping it off with a rag will not destroy the bacteria
- For an inexpensive, safe and effective kitchen counter and cutting board sanitizer, use 3% hydrogen peroxide and vinegar. Keep each liquid in a separate spray bottle, and then spray the surface with one, followed by the other, and wipe off. Coconut oil can also be used to clean, treat and sanitize your wooden cutting boards. It's loaded with lauric acid that has potent antimicrobial actions. The fats will also help condition the wood

Also, be sure to wash your hands with warm water and soap before and each time after you handle the chicken. The video below demonstrates how to properly wash your hands to avoid the spreading of bacteria.

## **How to Treat UTIs Without Antibiotics**



Lastly, should you contract a UTI, here are some helpful tips. While cranberry juice is often recommended, most cranberry juices are loaded with fructose, which tends to promote health problems when consumed in high amounts. For this reason, I don't recommend drinking cranberry juice when you have an infection. Since your immune system is already taxed, adding fructose into the mix is inadvisable.

A far better alternative is pure D-mannose, which is the active ingredient in cranberry juice responsible for its benefit to your urinary system. It can also be derived from berries, peaches, apples and other plants. Pure D-mannose is 10 to 50 times stronger than cranberry and has been shown to cure over 90% of UTIs within one to two days. It's nontoxic and completely safe, with no adverse effects.

I also recommend trying D-mannose before you resort to antibiotics, to avoid killing off beneficial bacteria. Digestive problems and secondary yeast infections are common side effects of antibiotics. D-mannose doesn't actually kill bacteria — it just renders them unable to stay in your urinary tract.

The cell walls of E. coli are covered with tiny fingerlike projections called fimbria, made of a glycoprotein called lectin that makes them sticky. This allows them to cling to the inner walls of your bladder and even work their way upward to your ureter and kidneys.

The lectin on the bacteria's fimbria binds to mannose, which naturally covers the internal lining of your urinary organs. This is why they're so difficult to flush out. When you take D-mannose, the E. coli suddenly find mannose molecules present not only on the surface of your epithelial cells but also in the urine. As they latch on to the mannose in your urine, they are easily expelled through your urine.

To help flush the bacteria out, be sure to drink plenty of clean, pure water to encourage plentiful urination. To alleviate the burning sensation, dissolve 1 teaspoon of baking soda in 8 ounces of water and drink the whole glass first thing in the morning. Its alkaline nature can help neutralize or lessen the acidity of your urine, thereby making urination less uncomfortable.

## Sources and References

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