**Food Forensic Files: A Cold Cuts Case**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-Narrator #1**

“Welcome to Food Forensic Files. We are taking you back to a cold Valentine’s carnival at a boys’ boarding school in New Hampshire. Join \_\_\_\_\_\_\_\_\_\_\_\_\_\_ for this trip down memory lane that left hundreds sick and others plugging their noses.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- Narrator #2**

“On February 15, 1959 just after Valentine’s Day, an outbreak of gastroenteritis followed a winter carnival banquet of nearly 180 people representing the faculty, students, and guests of a private New Hampshire boarding school for high school boys. The usually quiet campus was booming from the boys’ bowels. It wasn’t only the boys who were in for a rough ride but several other witnesses. Today, we will interview these individuals and suspects to determine who and what is responsible for what we are calling “A Not So Sweet, Valentine’s Day Treat.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- now nearing his 70’s was a boy afflicted with gastroenteritis**

“I remember it like it was yesterday. I had just eaten some of the cook’s signature roast beef dinner, ice cream, and a glass of milk. When I returned to my dorm room that is when I began making deals with the devil. My severe abdominal cramps had me screaming for my mother for about two to four hours. Luckily, I was almost all better by the following day.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- school nurse, now almost 85 years old**

“I examined many of the students and found that they had low grade fevers up to 101.4F with weak pulses. There was no abdominal rigidity or localized tenderness. I even checked blood counts and urine samples and everyone seemed fine. Many of them improved quickly. I just assumed it was food poisoning. But who or what could have caused all of this illness? You have no idea what that place smelled like after hours of diarrhea from nearly 180 people. I felt like I worked at a sewage treatment plant.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- a FDA investigator reading notes from the archives**

“I reviewed the case file from the FDA investigators and noticed a few things. Patients in the infirmary that were interviewed all admitted to eating roast beef without gravy and broccoli with hollandaise sauce. A few students got sick a couple of days later and these students, on February 17th, became ill. They also ate leftover roast beef from the Valentine’s meal. Upon investigation, we cultured the roast beef for salmonella but it was negative, however, there was heavy growth of a bacteria growing in grape-like clusters.”

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- a boarding school administrator reading from the archives**

“I read the report from the school’s maintenance and noted that all food was stored in a walk-in refrigerator between 40F and 50F. Seven employees worked in the kitchen, four men and three women. None of the employees had any sign of illness, infection, or wounds on their bodies. ”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- chef, and not a very good one**

“I hate to waste food. Also, trying to feed nearly 200 people every day and getting everything out in time is really hard. It is easy for me to work with my staff and prepare the food in the early morning. I keep them in the kitchen and just rewarm them right before the meal. My boss told me that I should first cool the food and then reheat, but there just isn’t time. It is easier just to reheat them from a lukewarm temperature. The time interval between preparation and reheating allows the staff to enjoy our afternoon siesta.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- Artifact Reporter**

“What you also need to know is that this same kitchen had earlier episodes of food poisoning. An inspection of the walk-in refrigerator showed a lot of old leftover food. The chef did not like to waste anything and served them for future meals. In addition, throat and stool cultures were taken from the kitchen staff on four different occasions at three to four week intervals and all but one tested positive for *a toxin that causes vomiting in as little as 30 minutes* after the events on Valentine’s Day.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-Food Science Student interested in History**

“After the staff at the boarding school in New Hampshire realized that improper food handling and poor staff practices led to the poopy pants of almost 200 people, the Chef was informed that she would have to change her crazy ways. Cleansing and sanitizing the walls, ceiling, floors of the kitchen, utensils, refrigerator, and work surfaces along with following the 4 C’s- Cleaning, cooking, chilling and prevent contamination were demanded by the staff. In addition, all 6 of the kitchen workers were treated with antibiotics to treat this bacteria that is carried on the skin and in nasal passages of humans and often found in infected cuts and burns.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-Pathologist**

“This case is extremely interesting because of the repeated food poisoning outbreaks that were traceable, not to the usual boils or other infected skin lesions of human carriers but to pathogenic bacteria shed from the noses, throats, and gastrointestinal tracts of chronic carriers. This type of carrier is a potential community hazard in that he or she may be a source of infection not just to these 180 people but to many more.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- Narrator #1**

“As you can see, this rapidly multiplying bacteria is a not only a pathogen that people must fear in hospitals but even cafeterias, restaurants, grocery stores, and one’s own kitchen. This pathogen impacts all people and can be found on nearly any food. This bacteria exists in the air, dust, sewage, water, milk, and on many foods, animals, and humans.”

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-Narrator #2**

“Once again, this terrible case of dirty drawers could have been avoided by following the 4 C’s and ensuring that cooking staff did a better job of washing hands and treating their own illnesses. **Remember, fight bac or it will kick your’s!**

*Fight Bac Song*

When I walk into the room this is what I do,

I wash my hands and I separate my food,

I chill to be cool,

I heat before I eat,

safe food handling is a treat.

Fight BAC!”

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Who’s responsible for making all of these people sick? Which of the **12 “Most Unwanted” Bacteria** (p.29) is this?

These are the cold, hard facts of the case:

Illness

Incubation: usually rapid - within 30 minutes to 6 hours after eating contaminated food

Symptoms. Nausea, abdominal cramps, vomiting and diarrhea were serious but not life threatening.

Duration: 24 - 48 hours

Sources

This case was isolated to roast beef, however, other cases can and have involved: dairy products, salads, cream filled pastries and other desserts, high protein foods such as cooked ham, raw meat, and poultry.

In addition, humans can be infected with this pathogen and then spread it to one another, as well as, contaminate food that is then given to others.

Other problems

Bacteria multiplies rapidly in food that’s left out at room temperature. These dishes are left out for several hours at a time and never chilled between preparation and serving (at least a four-hour interval).

*Which of the 12 food borne pathogens (“12 Most Unwanted” Bacteria p. 29) do you think this is? Justify your answer with at least three pieces of evidence. Write answer below.*

**Assignment:**

Now, you and a team (of two or three others) will be assigned one of the 12. It is your team’s job to educate the rest of the class about this organism. You will provide a three to five minute presentation. Creativity counts: students want to be entertained while they learn. Make your peers laugh… it will make this assignment that much more fun.

Try using one or more of the following:

Visual aids Songs Dance Color

Games Plays Technology Costumes