



Protecting, maintaining and improving the health of all Minnesotans

**Outbreak of Norovirus Gastroenteritis Associated with a Restaurant
Jimmy John's
Eagan, MN
November 3, 2006**

Background

On November 6, the Minnesota Department of Health (MDH) foodborne illness hotline received a call reporting gastrointestinal illness in four of four co-workers who had consumed sandwiches from Jimmy John's in Eagan, Minnesota for lunch on November 3 (complaint A). The co-workers reportedly had no other recent common food exposures. An outbreak investigation was initiated in collaboration with the MDH Environmental Health Services Section (EHS). On November 9, the foodborne illness hotline received an independent complaint reporting illness in six of eight co-workers from a separate business who had consumed sandwiches delivered from Jimmy John's in Eagan to their work place for lunch on November 3 (complaint B). They also reported having no other recent common food exposures.

Methods

Complainants were interviewed by phone about food consumption and illness history using a standard form. A case was defined as a person with vomiting or diarrhea (≥ 3 loose stools in a 24-hour period), and/or a stool sample that was positive for norovirus after eating food from Jimmy John's in Eagan. Six ill persons submitted stools to MDH for bacterial and viral testing, including two associated with complaint A and four associated with complaint B.

An MDH sanitarian went to the restaurant on November 9 to evaluate foodhandling practices. MDH EHS staff interviewed food workers by phone about recent duties, work schedules, and recent gastrointestinal illness in themselves or their family members.

Results: Epidemiologic Investigation

Seven members of the complainant groups were interviewed (four from complaint A and three from complaint B). All seven of the interviewed persons met the case definition. All seven cases had vomiting, six (86%) had diarrhea, six (86%) had cramps, and one of six (17%) had a fever. Illness was ongoing in four cases at the time of interview. The median duration of illness for the other three cases was 34 hours (range, 33 to 59.5 hours). The median incubation period from consumption of Jimmy John's food was 33 hours (range, 10 to 40 hours).

Cases reported eating a variety of sandwich types including ham and cheese (n=2 cases), turkey (n=2), Italian (n=2), and tuna special (n=1). Lettuce was the most common add-on vegetable ingredient; it was used on sandwiches for six of the seven interviewed cases.

Tomato was the next most common vegetable ingredient; it was used on sandwiches for four of the seven interviewed cases.

Norovirus was detected in stool samples from five of six cases, including one of two from complaint A and four of four from complaint B (including one case who did not complete an interview). Nucleic acid sequencing was conducted on all five positive samples, and all five yielded an identical sequence.

Results: Environmental Health Investigation

On the November 9 evaluation conducted by the MDH sanitarian, a critical violation was cited for not attempting to limit bare hand contact with ready-to-eat foods. Six of eight food workers who worked at Jimmy John's on November 3 were interviewed. None reported any recent gastrointestinal illness in themselves or their family members.

The MDH sanitarian ordered the use of approved food handling gloves for the handling of ready-to-eat foods, provided education and guidance on employee illness and symptoms of foodborne illness, and ordered management to increase monitoring of food workers and ensure that no employees worked while ill with vomiting or diarrhea. Management was instructed to ensure that if ill employees were identified they must contact MDH, and then ensure that the employee did not return to work until 72 hours after vomiting and diarrhea ended.

Conclusions

This was an outbreak of norovirus gastroenteritis associated with eating submarine sandwiches from a chain restaurant. Two unrelated groups of diners reported illness after eating at the restaurant at the same time on the same day. Control subjects were not enrolled, so a specific food ingredient could not be implicated. The ultimate source of the outbreak was not determined. However, the most plausible source was an unrecognized infected food worker who had bare hand contact with one or more sandwich components.