

**Conference for Food Protection
2016 Issue Form**

Issue: 2016 III-017

Council Recommendation:	Accepted as Submitted _____	Accepted as Amended _____	No Action _____
Delegate Action:	Accepted _____	Rejected _____	

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Issue History:

This is a brand new Issue.

Title:

Amend Food Code – Clarify Clean-up of Vomiting and Diarrheal Events

Issue you would like the Conference to consider:

A recommendation is being made to change the 2013 FDA Food Code, Section 2-501.11 Clean-up of Vomiting and Diarrheal Events to include a clarification of specific written procedures for managing vomit events. FDA Food Code 2-501.11 discusses general information on addressing vomit and diarrheal events but current science has evolved sufficiently to provide more details on procedures to address risk factors.

Public Health Significance:

Human norovirus (NoV) causes a disease characterized by vomiting- its hallmark symptom, with nausea, diarrhea, abdominal pain, headache, and low-grade fever. By virtue of the sheer numbers of cases per year, even a low likelihood of severe disease (0.03%) or death (<0.1%) will still result in a large number of serious outcomes (Scallan et al., 2011). Current estimates are that human NoVs are responsible for 56,000 - 71,000 hospitalizations and 570 - 800 deaths annually (Hall et al., 2013).

Infected individuals shed high concentrations (up to 10¹¹ genomic copies/g feces measured by RT-qPCR) of virus in their feces before, during and after illness (Atmar et al., 2008). In human challenge studies with Norwalk virus, virus shedding was first detected a median of 36 hours (ranging 18-110 hours) after exposure and lasted a median of 28 days (range of 13-56 days). Peak Norwalk virus concentration (median of 9.5 x 10¹⁰ genomic copies/g feces) occurred 4 days post-challenge and then decreased after 2 weeks.

Aside from the well-recognized impact that fecal material plays in NoV transmission, vomitus can also play a major role. In fact, aerosolization of NoV caused by vomiting has long been believed to be important to transmission (Sawyer LA et al., 1988; Gellert and Glass 1994; Caul EO 1994; Chadwick and MaCann 1994; Marks et al., 2000; Marks et al., 2003). Greenberg et al., 1979 estimated that 3 x 10⁷ virus particles are released in 30 ml of vomitus based on electron microscopic analysis. At the time of this writing, these were the only quantitative data available. Further, human NoV have been detected in both oral

mouthwash and fecal samples collected from individuals who had experienced illness for over three weeks. Human NoV detection in mouthwash samples correlated with vomiting incidents (Kirby et al., 2010). There is also a substantial body of evidence supporting a role for vomiting in the transmission in human NoV, including outbreaks occurring in hotels, schools, aircraft, concert halls and cruise ships (Cheesbrough et al., 2000; Kimura et al., 2011; Marks et al., 2000; Thornley et al., 2011; Marks et al., 2003; Evans et al., 2002; Cheesbrough et al., 1997; Gallimore et al., 2006; Gallimore et al., 2008; Isakbaeva et al., 2005). It has been hypothesized that widespread environmental contamination due to virus aerosolization (Marks et al., 2000; Marks et al., 2003) has been an important contributing factor in such outbreaks.

Instances of vomiting have been implicated as the source of human NoV contamination of ready-to-eat foods. For instance, an ill baker vomited in a sink prior to preparing bread rolls for a large buffet lunch, causing 250 individuals to become ill (deWit et al., 2007). In another example, a kitchen assistant vomited in a sink, resulting in contamination of potato salad that caused half of over 100 guests at a wedding reception to become ill (Patterson et al., 1997). Vomiting into a waste bin at a restaurant was also implicated as the source of NoV contamination of an antipasti platter that resulted in workers and over 350 patrons getting sick (CDC 2007).

Recommended Solution: The Conference recommends...:

that a letter be sent to the FDA recommending the 2013 Food Code be amended to include clarifying language for written procedures as follows (new language is underlined):

2-501.11 Clean-up of Vomiting and Diarrheal Events.

A FOOD ESTABLISHMENT shall have written procedures for EMPLOYEES to follow when responding to vomiting or diarrheal events that involve the discharge of vomitus or fecal matter onto surfaces in the FOOD ESTABLISHMENT. The procedures shall address the specific actions EMPLOYEES must take to minimize the spread of contamination and the exposure of EMPLOYEES, consumers, FOOD, and surfaces to vomitus or fecal matter.

In the case of a vomit event, these written procedures must include cordoning off an area of no less than 25 feet in diameter, initial cleaning of gross visible contamination with water to minimize spread and take into account the likelihood of aerosolization of virus particles. Procedures must also include subsequent disinfection with 1000 ppm chlorine (or other disinfectant registered as effective against norovirus by the Environmental Protection Agency (EPA). Procedures must also include steps for segregating cleaning and sanitation equipment from food preparation, storage and handling areas. Procedures also must include a training program for clean-up employees, include the use of personal protective equipment (PPE), and the monitoring of clean-up employees for symptoms for 72 hours post event.

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Supporting Attachments:

- "Detection and quantification of airborne norovirus during outbreaks in heal"
- "Aerosolization of a Human Norovirus Surrogate, Bacteriophage MS2, during Si"

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