



FoodHandler® SafeBites

## NOROVIRUS TOO TOUGH TO TAME?




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### Specific Objectives

- Provide a **4-Step** process to **prevent** norovirus and the spread of illness, as well as respond to a body-fluid cleanup event.
- **Understand the importance of implementing and monitoring basic hygiene and safety practices.**
- Assist in developing an FDA specific prevention system.



### Goals for Today

- Describe why norovirus is a concern for foodservice
- **Give examples of how norovirus is transmitted**
- Apply a four-step approach for norovirus prevention and control.

### Too Tough To Tame?

- Leading cause of foodborne illness and endemic diarrhea in the US.
- **Highly contagious**
- Easily spread
- **Long survival**
- Hard to kill

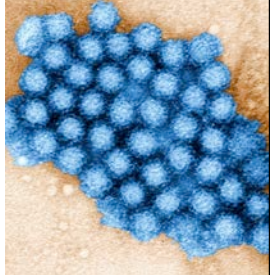


Photo source: CDC.gov  
Hall, J Infect Dis. (2012) 205 (11): 1622-1624.

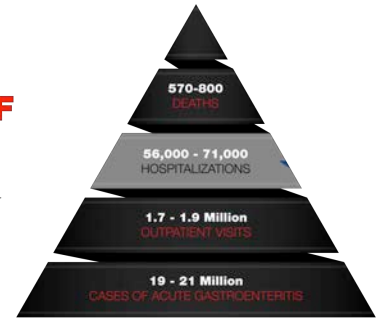
## BURDEN OF DISEASE

MMWR Vital Signs: Foodborne Norovirus Outbreaks — United States, 2009–2012



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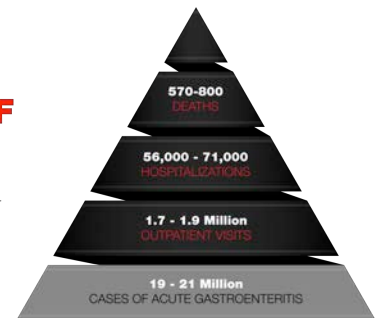
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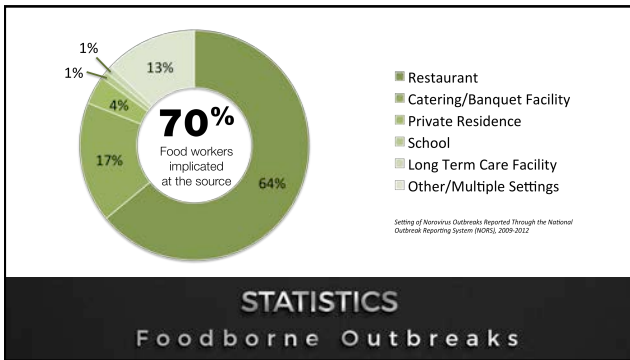
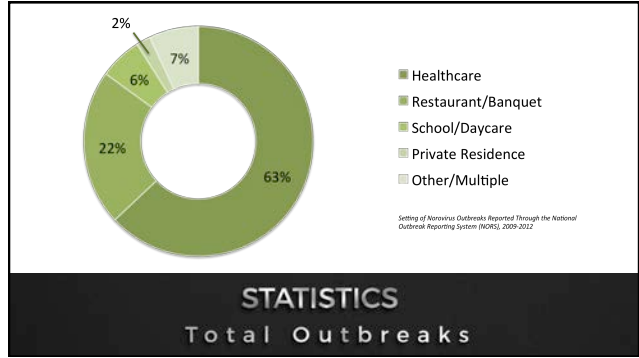
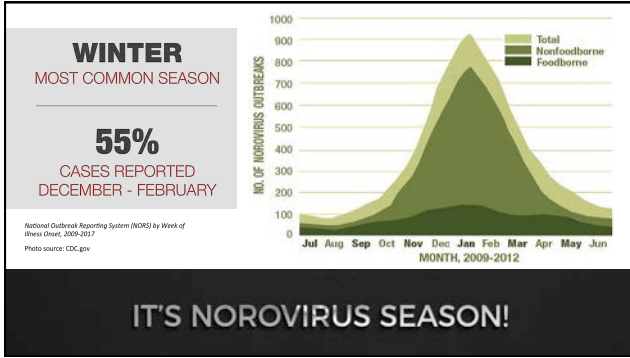
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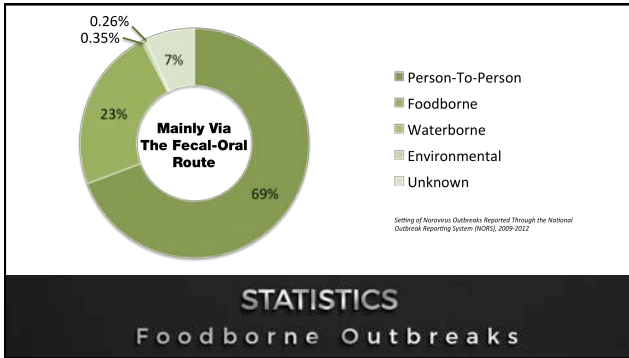




**THOUGHT QUESTION**

**LEADING MODE OF TRANSMISSION?**

- A. Airborne Particles
- B. Environmental Surfaces
- C. Food
- D. Person-To-Person
- E. Water



## Highly Contagious

**5-100 Billion**  
Viral copies per gram of feces\*

**30 Million**  
Particles in a vomiting episode\*\*

**≥18 Viral Particles**  
Equals One Infectious Dose\*

\*Hest, J Infect Dis, 2012; 205 (11): 1622-1624. / \*\*PLoS One 2015; 10(8): e0134277. / Photo source: CDC.gov

## Foodborne Outbreaks

**92%** Contaminated During Preparation

**Foods eaten raw**

- Leafy Vegetables
- Fruits
- Mollusks

**75%**

**2-4** Weeks of Survival On Food Contact Surfaces

MMAA's Vital Signs: Foodborne Norovirus Outbreaks – United States, 2009-2012  
Food Environ Virol 2014 Sep;6(3):182-8. Journal of Food Protection® Volume 75, Number 5, May 2012, pp 1027-1035(9) Elsevier, B.V., Rijswijk, The Netherlands, H. Gensel, C. Jaykus, L.A.

## Hard To Kill

**Sanitizers are ineffective.**

**Disinfectants are required**

**EPA List G:** Registered Antimicrobials Effective Against Norovirus

**Chlorine Bleach**

- 5.25% concentration (vs 8.25%)
- 1000\* – 5000\*\* parts per million (5\* - 25\*\* Tbsp per gallon)

www.CDC.gov/norovirus/preventing-infection.html

**Crowded Restaurant**  
**25 Ft Span**  
 Aerosolized Airborne Particles

**TRANSMISSION MODE**  
**AIRBORNE**

**Symptoms**

**12 - 48 Hrs** | **1-3 Days**  
 After Exposure | Recovery Time

**Most Common Symptoms**

- Diarrhea
- Vomiting
- Nausea
- Stomach Pain

www.cdc.gov/norovirus

**Too Tough To Tame?**

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FDA - Employee Health and Personal Hygiene Handbook & 2013 FDA Food Code

**Hand Hygiene**      **Exclusion & Restriction**      **No Bare Hand Contact**

Photo used with permission: TheICM.org

**PREVENTION**

## Handwashing

**“Handwashing reduces the spread of pathogenic microorganisms that are transmitted through food.”**

- Training (Initial and Ongoing)
- Monitoring
- Setting the example

FDA - Employee Health and Personal Hygiene Handbook & 2013 FDA Food Code



## When To Wash

- **Before** starting work & handling food or clean food contact surfaces
- **After** using the toilet
- **Before** gloving
- **Between** tasks (*Raw - RTE*)
- When soiled\*

FDA - Employee Health and Personal Hygiene Handbook & 2013 FDA Food Code



## How To Wash

- Dedicated sink
- **Running warm water**
- Soap
- **Friction (10-15 Seconds)**
- Rinse & dry

FDA - Employee Health and Personal Hygiene Handbook & 2013 FDA Food Code



## Is It Enough?

“Proper handwashing can result in a 2-3 log reduction in transient bacteria and a 2-log reduction in transient viruses and protozoa.”

**100,000,000,000**

VS. **18-100** Infective Dose

FDA - Employee Health and Personal Hygiene Handbook & 2013 FDA Food Code

## Hand Sanitizers

### Alcohol-Based Hand Sanitizers:

"Currently available products appear to be **relatively ineffective** against norovirus."



Liu et al., 2010. Appl Environ Microbiol, 76(2): 394-399  
J Food Prot. 2010 Dec;73(12):2232-8.

## FOOD TYPES READY-TO-EAT

### FOOD THAT IS...

**Edible without additional preparation**

e.g. washing or cooking



FDA - Employee Health and Personal Hygiene Handbook & 2013 FDA Food Code



**NO BARE HAND CONTACT**

## Employee Health

### Report The Following:

- Vomiting\*
- Diarrhea\*
- Jaundice (Yellowing)
- Sore Throat With Fever

### Also Report:

- Cuts & infected wounds on Hands, Wrists, or Arms.
- Current diagnosis or recent exposure to a foodborne illness.\*



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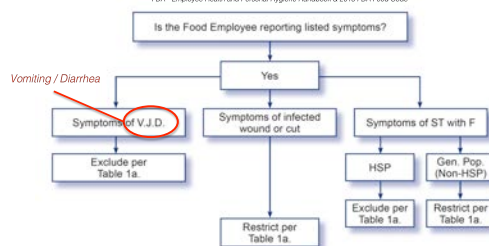
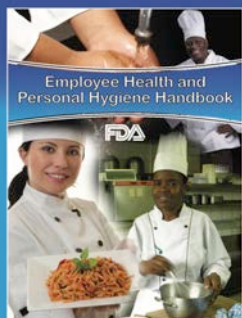
## Exclusion & Restrictions

### Restrict

Reassign - activities limited – cannot work with exposed food or clean food-contact surfaces

### Exclude

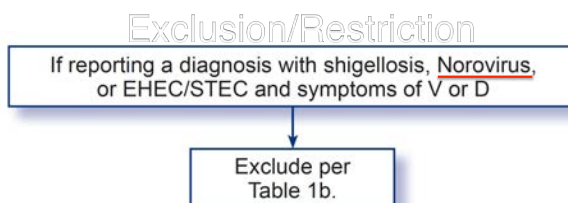
Stay/send home – not permitted to work where food is received, prepared, stored, packaged, served, vended, transported, or purchased.



EXCLUSION / RESTRICTION

Symptom	EXCLUSION OR RESTRICTION		Removing Symptomatic Food Employees from Exclusion or Restriction	RA Approval Needed to Return to Work?
	Facilities Serving an HSP	Facilities Not Serving an HSP		
Vomiting	EXCLUDE 2-201.12(A)(1)	EXCLUDE 2-201.12(A)(1)	When the excluded food employee has been <u>asymptomatic</u> for at least 24 hours or provides medical documentation 2-201.13(A)(1). <b>Exceptions:</b> If diagnosed with Norovirus, <i>Shigella</i> spp., <i>E. coli</i> O157:H7 or other EHEC/STEC, HAV, or typhoid fever ( <i>S. Typhi</i> ) (see Tables 1b & 2).	No if not diagnosed
Diarrhea	EXCLUDE 2-201.12(A)(1)	EXCLUDE 2-201.12(A)(1)	When the excluded food employee has been <u>asymptomatic</u> for at least 24 hours or provides medical documentation 2-201.13(A).	No if not diagnosed

EXCLUSION / RESTRICTION



EXCLUSION / RESTRICTION



Pathogen Diagnosis	Facilities Serving an HSP	Facilities Not Serving an HSP	Removing Diagnosed Food Employees Who Never Develop Gastrointestinal Symptoms from Exclusion or Restriction	RA Approval Required to Return to Work?
Norovirus	<b>EXCLUDE</b> 2-201.12(D)(1)	<b>RESTRICT</b> 2-201.12(D)(2)	Remains excluded or restricted until <u>approval is obtained from the RA</u> 2-201.13(D), and <ul style="list-style-type: none"> <li>• Medically cleared 2-201.13(D)(1), or</li> <li>• More than 48 hours have passed since the food employee was diagnosed 2-201.13(D)(3).</li> </ul>	Yes to return to an HSP or to return unrestricted; not required to work on a restricted basis in a non-HSP facility

**EXCLUSION / RESTRICTION**

**THOUGHT QUESTION**

**SCENARIO:**

A morning shift employee reports having diarrhea last night . . .



**THOUGHT QUESTION**

**WHAT ACTION SHOULD THE MANAGER TAKE?**

- A. Restrict** Employee's Duties
- B. Exclude** Employee From The Operation



**THOUGHT QUESTION**

**WHEN CAN THE EMPLOYEE RETURN?**

- A. 24 Hours**
- B. 24 Hours, With Restrictions For 24 Hours**
- C. 48 Hours**
- D. Upon Approval Of Regulatory Authority**


\*CHOICES REFER TO BEING SYMPTOM FREE



## FOOD SAFETY THE BASICS

- **Cook** Food Including Shellfish, Thoroughly
- **Wash** Fruits and Vegetables
- **Clean and Sanitize** Food Contact Surfaces

FDA - Employee Health and Personal Hygiene Handbook & 2013 FDA Food Code



## Be Prepared

### Body fluid clean-up

- Personal protective equipment
- Cleaning aids
- Disinfectant effective against norovirus



2013 FDA Food Code - Annex 3 2-501.11 Clean-up of Vomiting and Diarrheal Events  
www.TheCN.org/norovirus Food Marketing Institute Norovirus Information Guide

Photo used with permission - TheCN.org

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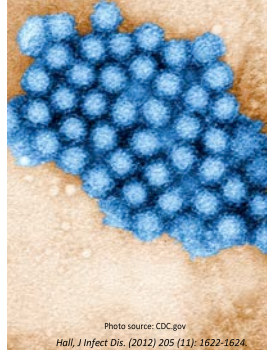


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## Resources

### Food & Drug Administration

- Employee Health & Hygiene
  - Handbook
  - Interactive DVD
  - Satellite Broadcast

### FDA Food Code

- Annex 3
  - 2-201.11, 2-201.12, 2-201.13, 2-3, 3-301.11, 2-501.11



## ICN Resource Kit

- Training video
- Trainer & participant manuals
- Mini posters & fact sheets
- Standard operating procedures
- Online courses
- [www.TheICN.org/norovirus](http://www.TheICN.org/norovirus)



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**THANK YOU!**  
QUESTIONS?

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