

Inspection Report Item 5: Procedures for responding to vomiting and diarrheal events

Code Reference: 2009 FDA Food Code w/Supplement: 2-501.110

When an employee, customer, or other individual vomits or has a diarrheal event in a food establishment, there is a real potential for the spread of harmful pathogens in the establishment. Putting the proper response into action in a timely manner can help reduce the likelihood that food may become contaminated and that others may become ill as a result of the accident.

According to the CDC, Norovirus is the leading cause of foodborne disease outbreaks in the United States.

Effective clean up of vomitus and fecal matter in a food establishment should be handled differently from routine cleaning procedures. It should involve a stricter cleaning and disinfecting process. Some chemicals that are routinely used for sanitizing food-contact surfaces and disinfecting countertops and floors, such as certain quaternary ammonium compounds, may not be effective against Norovirus.

It is therefore important that food establishments have procedures for the cleaning and disinfection of vomitus and/or diarrheal contamination events that address, among other items, the use of proper disinfectants at the proper concentration.

Consumers are at risk of contracting Norovirus illness from direct exposure to vomitus or from exposure to airborne Norovirus from vomitus. Additionally, exposed food employees are also at risk of contracting Norovirus illness and can subsequently transfer the virus to ready-to-eat food items served to consumers.

A clean-up and response plan should address situations where a food employee or other individual becomes physically ill in areas where food may be prepared, stored or served. Once such an episode has occurred, timely effective clean-up is imperative.

When developing a plan that addresses cleaning and disinfection of a vomitus and/or diarrheal contamination event, a food establishment should include specific directions for cleanup:

- 1) Designate who should cleanup – this should be someone not directly involved in food prep or service. Cleanup employee should wear personal protection – explain what to do with soiled PPE.
- 2) Describe process for containment and removing soil to prevent contamination of other surfaces.
- 3) Describe cleaning supplies needed and process to clean. (disposable items are best).
- 4) Describe how to disinfect (bleach solution is best) any surfaces that may have become contaminated. Steam clean items that cannot be bleached.
- 5) Describe procedures for the evaluation and disposal of any food or food contact surfaces that may have been exposed to discharges.
- 6) Describe procedures for disposal of personal protective equipment and direct employees to wash hands before returning to work.

Full Facility Norovirus Cleaning – Reference Document for Food Establishments

- **Before beginning, gather the following necessary supplies:**
 - **Equipment to protect yourself (personal protective equipment):**
 - Disposable gloves
 - Disposable hair cover
 - Disposable shoe covers
 - Disposable gown
 - Disposable face mask (for use if you need to clean up any bodily fluids or when mixing cleaning/disinfectant products)
 - **Clean-Up Kit:**
 - Disposable mop (avoid wooden mops)
 - Mop bucket
 - Disposable towels and cloths
 - Trash bags/plastic bags
 - A disinfectant proven to kill Norovirus:
- **Recommended Disinfectant:** Mix a chlorine bleach solution using **non-scented** bleach. Warning: Chlorine bleach may damage some fabrics and surfaces so you should spot test areas before applying the solution.
 - Chlorine Bleach solutions should be freshly mixed just before beginning cleaning procedures.
 - Water should be approximately **75°F**. Water temperatures higher than this can decrease the effectiveness of bleach solutions.
 - **For hard surfaces (e.g. non-porous surfaces, ceramic, sealed countertops, utensils):**
 - Bleach solution should contain **1000 ppm** chlorine
 - Add **1/3 cup bleach** (5.25 - 6.15% sodium hypochlorite) to **1 gallon water**
 - **For porous surfaces (e.g. unsealed concrete or natural stone):**
 - Bleach solution should contain **5000 ppm** chlorine
 - Add **1 2/3 cups bleach** (5.25 – 6.15% sodium hypochlorite) to **1 gallon water**
 - **CONSULT THE PRODUCT LABEL - NOTE THE CONCENTRATION OF BLEACH YOU ARE USING (% SODIUM HYPOCHLORITE). THIS**

DETERMINES THE AMOUNT OF BLEACH YOU MUST ADD TO THE MIXTURE.

- If the bleach you are using is more or less concentrated from the concentrations listed above, consult the manufacturer's instructions for proper mixing directions.
- You can also use another disinfectant registered as effective against Norovirus by the Environmental Protection Agency (EPA) (see attached list).
- **NOT ALL DISINFECTANTS SHOWN ON THE EPA LIST ARE APPROVED FOR USE IN FOOD FACILITIES.**
- **Make sure that product labels contain language which states that they are approved to be used in FDA food facilities AND that the label provides adequate directions for use in these settings.**
- **QUATERNARY AMMONIA PRODUCTS ARE LESS EFFECTIVE.¹**
- If you have questions, consult the manufacturer for more information on the approval for use of their product on food contact surfaces and/or in food service facilities.
- Any product that will be used to sanitize food contact surfaces must be approved by FDA under 21CFR178.1010. See the following link for a list of approved chemicals:
<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=178.1010>

¹ CDC. Updated Norovirus Outbreak Management and Disease Prevention Guidelines. MMWR 2011;60(RR03):1-15.

Procedure:

- **WASH YOUR HANDS**
- **PUT ON PERSONAL PROTECTIVE EQUIPMENT** (change if any item becomes soiled)
- **CLEANING**
 - **Begin with clean equipment and clean supplies.**
 - Make sure that cleaning supplies are clean.
 - Begin with fresh cleaning solution in a spray bottle so that the cleaner solution doesn't become contaminated.
 - If you use a mop and bucket to clean the floor, the mop head should be thrown away and the mop equipment (including handles, mop bucket and wheels, etc.) should be disinfected when finished. Mop equipment can hold bacteria and viruses and can contaminate already-cleaned surfaces.
 - **Do not use wooden mops.** Some are not sealed and cannot be disinfected properly.
 - **Clean**
 - **Cleaners** (also known as **detergents**) remove dirt and germs off surfaces so they can be rinsed away with water. **Cleaning** is important as you must make sure dust and dirt are removed from surfaces before disinfecting or the disinfectant will not be effective.
 - **Rinse**
 - Rinsing is an important part of the cleaning process.
- **DISINFECTION**
 - **Disinfectants** are chemical products that destroy or inactivate germs and prevent them from growing. Disinfectants have no effect on dirt, soil, or dust so surfaces **MUST** be cleaned (as described above) before they are disinfected.
 - **Apply disinfectant to all surfaces in the room, paying close attention to frequently-touched areas**
 - Change cloth when soiled.
 - Make sure to allow the disinfectant to remain in contact with the surface it is applied to for the appropriate amount of time (this is referred to as "contact time"). Use the manufacturer's guidelines to determine what the appropriate contact time is.
 - **Bleach solutions typically need at least 5 minutes of contact time.**
 - If the disinfectant dries before the appropriate contact time has passed, you should re-apply disinfectant to that area.

- **RINSE Food Contact Surfaces**
 - BEFORE USE, RINSE ALL FOOD CONTACT SURFACES WITH POTABLE WATER (WATER THAT IS SAFE FOR DRINKING) AFTER THE APPROPRIATE CONTACT TIME HAS PASSED.
 - **IF SURFACES ARE NOT RINSED, LEVELS OF THE DISINFECTANT THAT ARE LEFT BEHIND MAY MAKE PEOPLE SICK.**
- **Air Dry**
 - **Allow all surfaces to *air dry*. Do NOT use towels to dry any surfaces as they may re-contaminate equipment.**
- **Work from clean to dirty surfaces**
 - Always begin cleaning in the least dirty areas and clean toward the known, dirtier areas.
 - If you are cleaning up any bodily fluids (such as vomit), you should clean from the edges of the spill toward the center.
 - Bathrooms should be cleaned last.
- **Clean from top to bottom**
 - Carpets and floors should be cleaned last.
 - **Carpets** should be cleaned with a chemical disinfectant that is effective against Norovirus (see attached list) and then carpets should be **steam cleaned at 158°F for 5 minutes or 212°F for 1 minute** for complete inactivation.
- **Separate clean from dirty**
 - Do not place dirty items with, above, or close to clean items.
- **Laundering of dirty linens/clothing**
 - Items containing bodily fluids (such as vomit) that need to be laundered should be double-bagged.
 - Handle laundry carefully and avoid shaking it as this can spread the virus.
 - Launder with hot water in a Virkon™ solution or other laundry detergent effective against Norovirus (see attached list) for the longest available cycle length. Laundry should then be machine dried.
- **WHEN FINISHED, REMOVE ALL PERSONAL PROTECTIVE EQUIPMENT AND PLACE IN A TRASH BAG**

- **WASH YOUR HANDS THOROUGHLY WITH SOAP AND WATER IMMEDIATELY AFTER DISPOSING OF TRASH**
 - Hand sanitizers may not be effective against Norovirus and should not be used as a substitute for hand washing.
- **CONTACT YOUR INSPECTOR FOR FINAL APPROVAL OF NOROCLEAN PROCEDURES BEFORE RE-OPENING TO THE PUBLIC.** Contact information for inspectors by county can be found at: <http://dia.iowa.gov/page27.html>
- **Resources:**
- “Clean Up and Disinfection for Norovirus” - Downloadable posters in English & Spanish. Disinfect for Health – Water Quality & Health Council. <http://www.disinfect-for-health.org/resources>
- “Norovirus for Food Handlers” - Centers for Disease Control & Prevention (CDC) – Several resources available for download at bottom of web page.
<http://www.cdc.gov/norovirus/food-handlers/work-with-food.html>

US Environmental Protection Agency

Office of Pesticide Programs

List G: EPA Registered Hospital Disinfectants Effective Against Norovirus (Norwalk-like virus)

16-Jun-16

EPA	Primary Product Name
777-99	BRACE
1677-21	MIKRO-QUAT
1677-216	EXSPOR BASE CONCENTRATE
1677-226	VIRASEPT
1677-233	Multi-Purpose Disinfectant Cleaner
1677-237	FF-ATH
1677-238	PEROXIDE MULTI SURFACE CLEANER AND DISINFECTANT
1677-241	HYDRIS
1839-79	NP 4.5 DETERGENT/DISINFECTANT
1839-95	NP 4.5 (D & F) DETERGENT/DISINFECTANT
1839-188	AEROSOL SDAS
5741-28	TUMULT
5813-21	Tackle
5813-99	Wave
5813-102	CGB1
5813-103	CGB3
5813-104	CBG4
5813-105	HBL
5813-106	Ax1
5813-100	PUMA
6659-3	SPRAY NINE
6836-77	LONZA FORMULATION S-18
6836-78	LONZA FORMULATION R-82
6836-139	LONZA FORMULATION R-82F
6836-140	LONZA FORMULATION S-21F
6836-152	LONZA FORMULATION DC-103
6836-245	CSP-46
6836-266	BARDAC 205M-10
6836-333	MMR-4U
6836-346	LONZAGARD RCS-256
6836-347	LONZAGARD RCS-128
6836-348	LONZAGARD RCS-128 PLUS
6836-349	LONZAGARD RCS-256 PLUS
9480-8	PDI SANI-CLOTH BLEACH WIPES
10324-58	MAQUAT 128
10324-81	MAQUAT 7.5-M
10324-214	MAGUARD 5626
11346-2	Clorox HL
11346-3	Clorox HW

11346-4	Clorox QS
11346-6	Clorox HS
34810-36	CLEAN-CIDE WIPES
46781-12	CAVICIDE 1
56392-7	DISPATCH HOSPITAL CLEANER DISINFECTANT WITH BLEACH
56392-8	Dispatch Hospital Cleaner Disinfectant Towels with Bleach
65402-3	VIGOROX SP-15 ANTIMICROBIAL AGENT
67619-8	CPPC Ultra Bleach 2
67619-12	CPPC TSUNAMI
67619-13	CPPC STORM
67619-17	SHIELD
67619-20	REX
67619-21	CARB
67619-24	BLONDIE
67619-25	DAGWOOD
67619-26	BORIS
67619-27	BUSTER
67619-28	MILO
67619-30	GNR
67619-32	PPD Puma
70060-19	ASEPTROL S10-TAB
70271-13	PURE BRIGHT GERMICIDAL ULTRA BLEACH
70271-24	TECUMSEH B
70590-1	HYPE-WIPE
70590-2	BLEACH-RITE DISINFECTING SPRAY WITH BLEACH
70627-56	OXIVIR TB
70627-58	OXY-TEAM DISINFECTANT CLEANER
70627-60	OXIVIR WIPES
71654-7	VIRKON
71847-2	KLOR-KLEEN
72977-3	AXEN(R) 30
72977-5	SDC3A
73232-1	ALPET D2
74559-1	ACCEL TB
74559-8	Accel 5 RTU
74986-4	SELECTROCIDE 2L500
82972-1	VITAL-OXIDE
84368-1	URTHPRO
84526-1	SANOSIL S010
87518-1	HSP2O
88089-4	PERIDOX RTU (TM)