

VIRAL ASSAY OF STOOL FOR NOROVIRUS (previously known as Norwalk virus)

Viral assay should be performed in any outbreak that has a "Norovirus profile", i.e., incubation period in the range of 5-72 hours (often clustering around 30 hours), usually with a high incidence of both diarrhea and vomiting. Duration is usually 24-48 hours, but can be longer.

Contact the ODH Outbreak Response & Bioterrorism Investigation program (ORBIT) at (614) 995-5599 as early as possible in an outbreak investigation if you suspect a viral etiology.

Specimen Collection

ODH Lab can test bulk stool for Norovirus. Fresh stool should be collected into a clean, dry container. It should not come in contact with urine. It needs to be kept at refrigerator temperature. **DO NOT FREEZE.**

Number of stools to submit:

- Please submit 2-5 bulk stools (one from each of 2-5 ill people) per outbreak.
- If more than 5 bulks are submitted, the lab will select the best samples to run.
- A minimum of 2 and a maximum of 5 bulk stools will be tested, per outbreak. (Single stools will not be tested.) Please try to submit 5 bulk stools whenever possible.
- Stools from secondary cases are acceptable for testing.
- Do not submit bulk stool from well people. That is, do not submit bulk stool from people who have not had gastro-intestinal symptoms.

Timing of stools:

- Acute, diarrheal stool is ideal.
- It is still worth requesting the bulk stool if it can be collected within 7 days of the end of the diarrhea.

Amount of stool in each sample:

- Approximately 3-4 tablespoons of stool are needed.

Shipping and handling:

- The stool should be placed in a urine specimen cup with a secure screw-on lid. Label with person's name and date of collection. Place the urine cup in a ziplock bag.
- Keep the bulk stool at refrigerator temperature at all times. Do not freeze.
- Bulk stools should be shipped on frozen freeze packs in a styrofoam-lined cardboard shipping box. Cary Blair can be shipped in the same box with bulk stools.
- Ship overnight to: Attention: Specimen Receiving; ODH Lab; Building 22; 8995 E. Main Street; Reynoldsburg, OH 43068
- Do not ship on Fridays or the day before a holiday.

The bulk stool kit:

ODH Lab does not provide urine cups. You may be able to obtain urine cups from a local hospital or lab or from WIC, STD or family planning clinics. It may be helpful to supply plastic gloves, and disposable plastic spoons along with the urine cups, to help the patient collect the sample.

Also:

- In addition to the bulk stool sample, collect a stool sample in Cary Blair media to culture for bacterial pathogens.
- Vomitus can be submitted for viral assay. Submit 3-4 tablespoons in a urine cup and keep refrigerated, like a bulk stool. (Stool is preferable to vomitus.)
- Please note that improper collection containers or gross contamination of the outside of the container may result in the lab rejecting the sample.

- There is currently no routine laboratory method for detecting virus particles in food. The assay currently used requires a large number of virus particles for detection, and there are generally very few present on food. However, it is important to rule out bacterial pathogens (e.g. *Salmonella*, *Shigella*, *E. coli* O157) on the food. The food can also be tested for fecal coliforms as a marker for fecal (and viral) contamination. This can be performed at ODH Lab.

Accompanying Forms

For each bulk stool sample: the standard ODH Microbiology form should be completed. If both a bulk and a Cary Blair are being submitted (same collection date, same patient), only one Micro form is needed.

Prevention and Control:

See the CDC website for control recommendations:

<http://www.cdc.gov/norovirus/index.html>

EPA approved list of Norovirus disinfectants:

http://www.epa.gov/oppad001/list_g_norovirus.pdf

In summary:

1. To evaluate an outbreak for bacterial and viral agents, collect the standard Cary Blair specimens (for bacteria) and 3-4 tablespoons of bulk stool in a urine specimen cup for Norovirus.
2. Submit 2-5 bulk stool specimens. Acute diarrheal stool is best.
3. Keep the stool at refrigerator temperature until submitted to the laboratory.
4. Call ORBIT, ODH at 614/ 995-5599 to make arrangements for testing.

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