



Colorado Department
of Public Health
and Environment

ENTERIC ILLNESS / OUTBREAK SPECIMEN COLLECTION, PACKAGING, AND SHIPPING INSTRUCTIONS FOR COLORADO PUBLIC HEALTH AGENCIES

Instructions for Enteric and Food Specimen Packaging and Shipping

Specimen packaging and shipping questions: (303) 692-3480

To order specimen collection supplies: (303) 692-3074

Online supply order form: <http://fs8.formsite.com/cohealth/form954776124/>

Courier service and CDPHE lab account/requisition form information: (303) 692-3086

Courier map, schedule, and brochure: <http://www.cdphe.state.co.us/lr/services/CourierServices.htm>

SPECIMEN TRANSPORT:

The CDPHE Laboratory Services Division offers a courier service to predetermined locations throughout the state to transport specimens of public health importance. If a specific location is not on the courier service schedule, special pickups can be arranged. In addition, some local public health agencies and hospitals maintain a courier service that regularly delivers to the CDPHE lab. Courier service is the preferred method of delivering specimens to the lab; however, if specimens are going to be shipped using the United States Postal Service (USPS) or other shipping company, please follow the steps below to correctly package and ship specimens.

PACKAGING SPECIMENS:

- ❑ Ensure the specimen vials/containers do not leak by inverting and checking for moisture and leaks around the cap. ***SPECIMENS THAT LEAK DURING TRANSIT CANNOT BE TESTED!***
- ❑ Packaging instructions based on type of collection:
 - Amies swab tubes and O & P vials: Ensure all specimen containers are labeled with the patient's name, date of birth, sample type, and collection date. Place the tubes/vials into a cylindrical shipping container or biohazard bag with an absorbent cloth that is able to absorb all of the liquid in the containers and able to pad them so they do not rattle against one another. Tighten the cylinder lid or close the biohazard bag securely. Place the cylinder or bag into the outer shipping box along with an itemized list of contents, the CDPHE laboratory requisition form(s), and packing material.
 - Bulk stool specimens: Place each specimen container into a biohazard bag, and place the lab requisition form in the side pocket of the biohazard bag. Place the biohazard bag into the insulated shipping container with a cold pack, an itemized list of contents, and packing material. Place the insulated container into an outer shipping box.
 - Food specimens: Please contact the CDPHE Environmental Microbiology Lab (303-692-3490) for instructions on how to package and ship these specimens.
- ❑ If shipping via the USPS or other shipping company:
 - Seal the outer box with packing tape and attach a biohazard sticker and shipping label.
 - Provide a legible return address.
 - Label the box "Diagnostic Specimen UN3373".

SHIPPING INSTRUCTIONS:

(for USPS or other shipping companies)

Specimens must be received at the CDPHE laboratory as soon as possible after collection. Ship by the most rapid means possible to one of the following addresses. Please note that the CDPHE lab is closed on weekends and holidays.

If using a shipping company that requires a street address:

Colorado Dept of Public Health and Environment
Specimen Receiving – Laboratory Services Division
8100 Lowry Blvd.
Denver, CO 80230-6928

If using USPS:

Colorado Dept of Public Health and Environment
Specimen Receiving – Laboratory Services Division
PO Box 17123
Denver, CO 80217

Enteric Bacterial Pathogens from Stool (Swabs in Amies Transport Media)

Prior to sending specimens to the laboratory, please contact the CDPHE Communicable Disease Epidemiology Program to obtain testing approval and an outbreak code: (303) 692-2700

**Refer to page 1 of these guidelines for instructions on proper packaging and shipping.
Contact the CDPHE Laboratory Services Division with any packing/shipping questions: (303) 692-3480**

The bacterial pathogen stool collector contains Amies transport media that preserves stool specimens and rectal swabs for culture of: *Salmonella*, *Shigella*, shiga toxin producing *E. coli* (STEC), *Campylobacter*, *Yersinia*, *Vibrio*, and other bacterial species. Stool specimens and/or rectal swabs should be collected as soon as possible after the onset of illness. **Stool specimens are preferred over rectal swabs.**

In outbreak situations when the etiology is unknown, the public health agency should collect both swabs and bulk stool so appropriate laboratory tests can be completed for bacterial and viral agents.

STOOL SPECIMEN COLLECTION (preferred):

- 1) Wash hands.
- 2) If necessary, urinate into the toilet and flush.
- 3) Collect stool:
 - If using newspaper or plastic wrap to collect stool: Place two pages of newspaper or one sheet of plastic wrap across the toilet seat. Make a slight depression in the center of the newspaper or plastic wrap. Pass stool onto the newspaper or plastic wrap.
 - If using a hat-shaped plastic stool catching device: Place the hat over the toilet seat towards the back of the toilet. Pass stool into the hat.
 - Persons in diapers: Stool can be collected directly from the diaper as soon as possible after the stool is passed.
- 4) Remove the clear cap from the top of the tube that contains the transport media. Discard the clear cap.
- 5) Label the transport media tube with the patient's name, sample type (stool), and collection date.
- 6) Insert the swab into the collected stool. Completely coat the swab with stool.
- 7) Insert the swab into the transport media in the tube. The swab has a cap attached to it that should fit onto the tube. Close the tube tightly.
- 8) Remaining stool should be flushed down the toilet. Discard the newspaper or plastic wrap or hat into the trash (do not flush).
- 9) Wash hands again.

RECTAL SWABS:

- 1) Wash hands.
- 2) Remove the clear cap from the top of the tube that contains the transport media. Discard the clear cap.
- 3) Label the transport media tube with the patient's name, sample type (rectal swab), and collection date.
- 4) Insert the swab 1 to 1.5 inches into the rectum and gently rotate.
- 5) Insert the swab into the transport media in the tube. The swab has a cap attached to it that should fit onto the tube. Close the tube tightly.
- 6) Wash hands again.

IMPORTANT

SAMPLES THAT ARE UNLABELED, LEAKING, OR LACKING A CDPHE LAB REQUISITION FORM WILL NOT BE TESTED.

- Ensure the tube is labeled with the patient's name, sample type (stool) and collection date.
- Complete a CDPHE lab requisition form #270 for each specimen. If the specimen is part of an outbreak, note "OUTBREAK" and the designated outbreak code in the comments/history section. ***Please complete a lab requisition form for each specimen.***
- Specimens can be refrigerated until shipped. **DO NOT FREEZE.**
- Specimens for bacterial culture must be received at the lab within 72 hours after collection.

Viral or Toxin Analysis from Stool/Vomit (Bulk Stool)

Prior to sending specimens to the laboratory, please contact the CDPHE Communicable Disease Epidemiology Program to obtain testing approval and an outbreak code: (303) 692-2700

**Refer to page 1 of these guidelines for instructions on proper packaging and shipping.
Contact the CDPHE Laboratory Services Division with any packing/shipping questions: (303) 692-3480**

Bulk stool can be tested for the following viral agents or toxins: norovirus, *Staphylococcus aureus* toxin, *Bacillus cereus* toxin, and *Clostridium perfringens* toxin. Specimens should be collected as soon as possible after the onset of illness. In some circumstances, vomit may be tested if stool is not available. **Stool specimens are preferred over vomit specimens.**

In outbreak situations when the etiology is unknown, the public health agency should collect both swabs and bulk stool so appropriate laboratory tests can be completed for bacterial and viral agents.

STOOL SPECIMEN COLLECTION

(preferred):

Stool can be passed directly into the specimen container if possible (only 3 to 4 teaspoons is needed). Stool can also be collected in the following manner:

- 1) Wash hands.
- 2) Urinate into toilet and flush.
- 3) Collect stool:
 - If using newspaper or plastic wrap to collect stool: Place two pages of newspaper or one sheet of plastic wrap across the toilet seat. Make a slight depression in the center of the newspaper or plastic wrap. Pass stool onto the newspaper or plastic wrap.
 - If using a hat-shaped plastic stool catching device: Place the hat over the toilet seat towards the back of the toilet. Pass stool into the hat.
 - Persons in diapers: Stool can be collected directly from the diaper as soon as possible after the stool is passed.
- 4) Use the plastic spoon to transfer 3 to 4 teaspoons of stool into the specimen container.
- 5) Throw the plastic spoon away. Discard the newspaper or plastic wrap or hat into the trash (do not flush).
- 6) Place the lid securely on the container.
- 7) Wash hands again.

VOMIT SPECIMEN COLLECTION:

Vomit can be collected directly into the specimen container (only 3 to 4 teaspoons is needed). Vomit can also be collected in the manner described in the stool specimen collection instructions, or the plastic spoon can be used to transfer vomit from a different container into the specimen container.

IMPORTANT

SAMPLES THAT ARE UNLABELED, LEAKING, OR LACKING A CDPHE LAB REQUISITION FORM WILL NOT BE TESTED.

- Fill out the container label (patient's name, sample type, collection date) and affix it to the container.
- Place the container in the zip-top biohazard bag and seal the bag.
- Complete the CDPHE lab requisition form #270 for each specimen. If the specimen is part of an outbreak, note "OUTBREAK" and the designated outbreak code in the comments/history section. ***Please complete a lab requisition form for each specimen.***
- Fold and place the completed lab requisition form in the side pocket of the zip-top biohazard bag.
- Specimens can be refrigerated until shipped. **DO NOT FREEZE.**
- Specimens must be received at the lab within 72 hours after collection.

Enteric Ova and Parasites from Stool

Prior to sending specimens to the laboratory, please contact the CDPHE Communicable Disease Epidemiology Program to obtain testing approval and an outbreak code: (303) 692-2700

**Refer to page 1 of these guidelines for instructions on proper packaging and shipping.
Contact the CDPHE Laboratory Services Division with any packing/shipping questions: (303) 692-3480**

The ova and parasite (O & P) collectors contain two vials of chemicals (10% formalin and polyvinyl alcohol fixative) that preserve stool specimens for analysis of enteric parasites including: *Giardia*, *Cryptosporidium*, *Cyclospora*, and microsporidia. Stool specimens should be collected as soon as possible after the onset of illness.

STOOL SPECIMEN COLLECTION:

- 1) Wash hands.
- 2) Urinate into toilet and flush.
- 3) Collect stool:
 - If using newspaper or plastic wrap to collect stool: Place two pages of newspaper or one sheet of plastic wrap across the toilet seat. Make a slight depression in the center of the newspaper or plastic wrap. Pass stool onto the newspaper or plastic wrap.
 - If using a hat-shaped plastic stool catching device: Place the hat over the toilet seat towards the back of the toilet. Pass stool into the hat.
 - Persons in diapers: Stool can be collected directly from the diaper as soon as possible after the stool is passed.
- 4) Carefully open each vial.
- 5) Fill one vial at a time with stool. Use the spoons attached to the vial caps to place a small amount of stool into each vial. Fill the vial with stool until the liquid in the vial reaches the red fill line marked on the label. Do not fill the vials to the top.
- 6) Replace the spoon/cap onto the same vial that it came from and screw the caps on the vials tightly.
- 7) Shake the vials vigorously until the stool is well mixed with the liquid.
- 8) Discard the newspaper or plastic wrap or hat into the trash (do not flush).
- 9) Wash hands again.

CAUTION:

Vials contain poison -- do not ingest!

*****IMPORTANT*****

SAMPLES THAT ARE UNLABELED, LEAKING, OR LACKING A CDPHE LAB REQUISITION FORM WILL NOT BE TESTED.

- ❑ Mark the patient's name, sample type (stool), and collection time and date on each vial.
- ❑ Complete the CDPHE lab requisition form #270 for each specimen. If the specimen is part of an outbreak, note "OUTBREAK" and the designated outbreak code in the comments/history section. ***Please complete a lab requisition form for each specimen.***
- ❑ Keep specimens at room temperature. DO NOT REFRIGERATE OR FREEZE.

Food Samples

Prior to sending specimens to the laboratory, please contact the CDPHE Communicable Disease Epidemiology Program to obtain testing approval and an outbreak code: (303) 692-2700

**Refer to page 1 of these guidelines for instructions on proper packaging and shipping.
Contact the CDPHE Laboratory Services Division with any packing/shipping questions: (303) 692-3480**

Food items suspected of causing an outbreak can be tested for bacterial agents and toxins. In order to have food tested, the local public health agency must contact the CDPHE Communicable Disease Epidemiology Program for approval. Food is generally tested only when the pathogen causing the outbreak is known. When in doubt, agencies should collect food and hold onto it until additional epidemiological information is obtained.

Food samples should be collected as soon as possible after the onset of illness and should be as fresh as possible. If canned or packaged food is suspected of causing an illness, collect opened and unopened samples if possible. A sample should be stored and shipped at the same temperature at which it was collected, unless the product is perishable, in which case it should be kept refrigerated after collection. Samples collected in a frozen state should be kept frozen.

SOLID FOOD SAMPLES:

- 1) When collecting food samples, aseptic technique should be used to prevent contamination of the sample.
- 2) Wash hands. Use sterile plastic gloves if available.
- 3) Use sterile utensils to collect the sample, such as sterile spoons, tongue depressors, or swabs. If sterile utensils are not available, sanitize an appropriate utensil (like a spoon, scoop, tongs, or spatula) with an alcohol wipe or a sanitizer such as a 200 ppm bleach solution or a 400 ppm quaternary ammonia solution.
- 4) Collect at least 200 grams (1/3 to 1/2 pound) of food. If possible, keep the food in its original packaging or send the original packing with the sample.
- 5) Place the food in a sterile zip-top or whirlpak bag, or sterile container. Be careful not to touch or handle the inside of the bag or container.
- 6) Tightly seal the bag or container to prevent leakage.

LIQUID SAMPLES:

Collect liquid samples in the manner described for solid food samples, except do not use zip-top or whirlpak bags. Use sterile sample containers with tight fitting lids.

IMPORTANT

SAMPLES THAT ARE UNLABELED, LEAKING, OR LACKING A CDPHE LAB REQUISITION FORM WILL NOT BE TESTED.

- ❑ Mark the collection time and date and the type of food collected on the sample bag or container.
- ❑ Collect as much information about the food product as possible, such as the date(s) it was prepared/served, how it was prepared, the quantity prepared, bar code/lot/manufacturer/establishment numbers, where it was purchased, etc. This information will aid in the traceback investigation.
- ❑ Complete the CDPHE lab requisition form #250 (NOTE: do not use a #270 form which are for human specimens only). If the specimens are part of an outbreak, note "OUTBREAK" and the designated outbreak code in the comments/history section. *Please complete a lab requisition form for each sample.*
- ❑ Samples should be stored and shipped at the same temperature at which it was collected, unless the product is perishable, in which case it should be kept refrigerated. Samples collected in a frozen state should be kept frozen.

Stool Sample Collection Instructions

(Public Health can provide these instructions to persons providing stool samples)

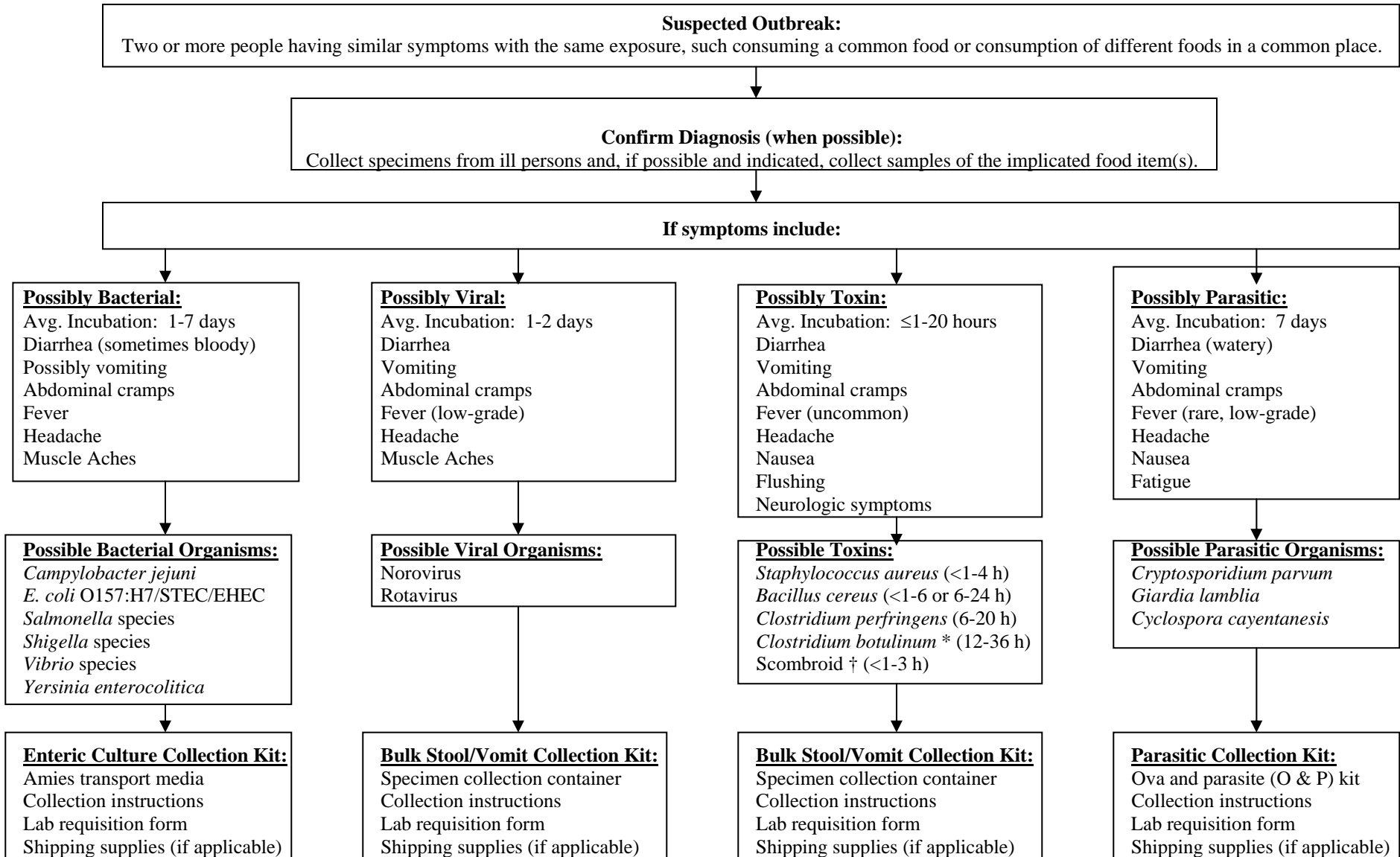
Please follow the instructions below when collecting a stool sample. Once the sample is collected, please contact your local public health agency:

Public Health Contact Name: _____ Phone #: _____

- 1) Wash hands.
- 2) If necessary, urinate into the toilet and flush.
- 3) Collect stool.
 - Using a specimen collection container: If you have been provided with a specimen collection container, you can pass stool directly into the container (if possible). Only 3 to 4 teaspoons of stool is needed for analysis.
 - Using newspaper or plastic wrap to collect stool: Place two pages of newspaper or one sheet of plastic wrap across the toilet seat. Make a slight depression in the center of the newspaper or plastic wrap. Pass stool onto the newspaper or plastic wrap.
 - Using a hat-shaped plastic stool catching device: Place the hat over the toilet seat towards the back of the toilet. Pass stool into the hat.
 - Persons in diapers: Stool can be collected directly from the diaper as soon as possible after the stool is passed.
- 4) **If you have been instructed to provide BULK STOOL:**
 - If you were able to pass stool directly into the specimen collection container, place the lid securely on the container. Label the container with the name of the person who provided the stool sample and the collection date.
 - If you were unable to pass stool directly into the specimen collection container and collected stool in a different manner:
 - Use a disposable spoon to transfer 3 to 4 teaspoons of stool into the specimen container.
 - Throw the spoon away.
 - Remaining stool should be flushed down the toilet.
 - If newspaper, plastic wrap, or a hat-shaped plastic stool catching device was used to collect stool, discard it into the trash (do not flush).
 - Place the lid securely on the specimen container.
 - Label the container with the name of the person who provided the stool sample and the collection date.
- 5) **If you have been instructed to provide a SWAB:**
 - Remove the clear cap from the top of the tube that contains the gel (transport media). Discard the clear cap.
 - Insert the swab into the collected stool. Completely coat the swab with stool.
 - Insert the swab into the gel (transport media) in the tube. The swab has a cap attached to it that should fit onto the tube. Close the tube tightly.
 - Remaining stool should be flushed down the toilet.
 - If newspaper, plastic wrap, or a hat-shaped plastic stool catching device was used to collect stool, discard it into the trash (do not flush).
 - Label the tube with the name of the person who provided the stool sample and the collection date.
- 6) Wash hands again.
- 7) Place the tube or container into a Ziploc bag or other type of bag that can be sealed or tightly closed.
- 8) Refrigerate (DO NOT FREEZE) the sample.
- 9) Contact your local public health agency at the number noted above.

SPECIMEN COLLECTION IN AN ENTERIC ILLNESS OUTBREAK

Please report all suspected outbreaks to CDPHE within 24 hours: (303) 692-2700 [after-hours: (303) 370-9395]



NOTE: Outbreaks of unknown etiology may require use of more than one type of specimen collection kit.

* In suspected cases of botulism, collect stool, serum, and the implicated food and call (303) 692-2700 immediately (or (303) 370-9395 after hours).

† In suspected cases of scombroid fish poisoning, fish tissue must be examined for histamine at the FDA (stool and/or vomit cannot be tested); CDPHE does not perform this testing.