

# **Fecal Waste Collection: A Laboratory Procedure**

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## **Stool Collection for Clinical Testing/Diagnosis**

**Principle:** In laboratory settings, a stool specimen is a sample of a patient's fecal waste released through excretion from the digestive system. It is an essential laboratory procedure that can determine the presence of abnormalities in feces including blood, mucus, fat, bacteria, microbes, parasites, and other foreign inhabitants. The findings of this clinical procedure allow physicians to diagnose patients for possible health conditions including parasitic growth, ulcers, and cancer. In hospitals today, it is a prerequisite prior to acquiring a finalized patient diagnosis.

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## **Specimen Requirements**

### **Collection:**

- It is of utmost importance to have the client/patient informed of the stool collection process; ensure that the client's privacy is protected as they undergo the procedure.

### **Labeling:**

- Take time to double-check the patient's identity and information prior to testing. Ensure that the patient's name is directly labeled into the specimen container along with their room number, the date, and time of collection of the specimen.

### **Rejection:**

Immediately reject the testing for stool specimen if:

- Test is not issued by a physician.
- The specimen container is either mislabeled or unlabeled with patient information.
- Specimen sample had already gone through prolonged stasis.

**Storage:**

- Stool specimens must be warm when analyzed, therefore it must be delivered to the laboratory once procured. Otherwise, they may be placed in an appropriate storage area until they are ready to pick up.

**Transport:**

- Close the specimen container tightly to ensure no leaks or splashes may happen as the sample is transported. Carefully place it in a transport container and wait for it to get transported.

**Submission to Central Labs:**

- Personnel must wear PPE upon specimen transport; specimens must be delivered quickly to the laboratory to avoid sample contamination and delay (within 18 hours).
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**Reagents or Media, Supplies, Equipment**

When collecting a stool specimen, first gather the supplies you'll need, including:

- Gloves
- Paper Towels
- A Specimen Container
- A Collection Device
- Toilet Tissue
- A Tongue Depressor
- A Biohazard Transport Bag

**Storage Requirements:**

Keep the specimen sample at room temperature until it is brought to the laboratory for smearing. Prolonged delays will affect the test results.

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**Quality Control**

**Identity control materials to use:**

- Reference materials such as stool samples from healthy individuals (normal/reference values) may be utilized for referral and synthesis of feces.

**Preparation:**

- All materials and supplies must be sterile. The stool sample must be without the presence of any other body fluid (e.g. urine).

**Frequency:**

- The frequency of feces collection varies for each clinical laboratory.
- It may be done periodically by batches, or even daily, depending on the volume of tests the laboratory allows.
- It may also be done routinely if a patient exhibits symptoms of gastrointestinal complications.

**Expected Results:**

- Negative results for presence of pathogenic organisms such as bacteria, ova, and parasites.
- No presence of blood.

**Corrective Actions:**

- Revalidation of the test results must be performed if significant error levels are identified.
- Recollection of specimens may also be performed if the first sample was compromised (e.g. placed in storage for too long, mixed with foreign substances/contaminants).

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## Step-by-step instructions

**FIGURE I. Collecting the stool specimen**

1. Put on clean gloves. Open the flap of the test slide. Using a tongue depressor, take a small portion of stool and apply a thin smear on the test paper in the first box, or box A, of the slide.
2. Using a different tongue depressor, take a stool specimen from a different part of the stool. Apply a thin smear on the second box, or box B.
3. Close the slide cover and turn it to the other side.
4. Open the cardboard flap and apply two drops of the developing solution that comes with the test kit on boxes A and B.
5. Wait 10–60 seconds as specified by the manufacturer. Document the color changes.
  - A blue color indicates a positive test for occult blood in the stool.

6. Dispose of the test packet safely. Wrap the tongue depressors in paper towels or toilet tissue and dispose of them. Empty the rest of the stool into the toilet. Wash your hands. Finally, make sure to clean and return the equipment to the right place.

*NOTE: You may be asked to test the stool for occult blood, where “occult” means that there’s no visible evidence of bleeding. This can be done using an **occult blood test**.*

## **FIGURE II. Performing an occult blood test**

1. Apply a smear to test paper.
  2. Turn the slide to the other side and apply the developing solution.
  3. Wait for results.
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## **Reporting Results**

### **Reference Intervals**

- Normal findings posit intestinal flora.
- Testing negative for any growth of *Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, or other enteric pathogen.

### **Abnormal Results**

- Testing positive for bacteria, viruses, parasites, and gastrointestinal diseases.

### **Reporting Format**

- Results must be formatted in a standardized and professional format with the aid of the Laboratory Information System (LIS).
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## **Procedure Notes**

### **Special precautions**

- Laboratory technicians must observe proper usage of PPE and must keep track of the sample stasis. Samples present better findings if delivered upon procurement.

### **Possible Sources of Error**

- Stool samples may have been incorporated with an outside substance such as urine and other contaminants.
- Samples may have been handled poorly (e.g. no PPE, left in storage for too long).

### **Answer to common problems**

- Laboratory rules including wearing proper PPE must be adhered to.
  - Specimens must be delivered right away to the clinical laboratory to ensure specimen viability.
  - Cross contamination between bodily excretions must be avoided.
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### **Limitations**

- Procedure might lack the ability to detect the presence of other bacteria, and viruses, considering that it does not employ the use of standard laboratory equipment.
  - Accuracy in this specimen collection is compromised.
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### **Troubleshooting or Backup Plan**

- Tests may be rerun if the latter results vary drastically with the reference values.
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### **References:**

- [1] *Collecting a stool specimen: Clinical skills notes*. (n.d.). Osmosis. Retrieved October 7, 2024, from [https://www.osmosis.org/learn/Collecting\\_a\\_stool\\_specimen:\\_Clinical\\_skills\\_notes](https://www.osmosis.org/learn/Collecting_a_stool_specimen:_Clinical_skills_notes)
- [2] Famia, B. P. D. M. M. F. (n.d.). *Stool Culture: reference range, interpretation, collection and panels*. <https://emedicine.medscape.com/article/2107038-overview?form=fpf#showall>
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### **Will Take Effect On**

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**Signature of Laboratory Director**