



TITLE: POCT Occult Blood in Stool Procedure	Doc #: 19350
Section: \\Management System\PLM\Point of Care Testing\Occult Blood\	Version: 1.0 Current
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Purpose This procedure provides instructions for the detection of occult blood in stools using the Hemoccult slide method.

Materials

Reagents
Hemoccult II slide and developer

Reagents preparation: None

Reagents stability and storage: Stable until expiry date at room temperature in original packaging. Store in a dry place. Protect from heat and light.

Supplies
Specimen Bags
Applicator stick (provided in kit)

Equipment
None

Sample

Sample type	Amount required	Transport and Storage	Stability
Fecal specimen on Hemoccult slide as a thin smear		Room temperature Slides are kept for 3 days before being processed.	Until listed expiry date OR 14 days after sample application at room temperature

Patients should follow the *Instruction for Collection of Stool Occult Blood*.

Limitations: Hemoccult slides are best developed no sooner than 3 days after sample application.

Slides containing samples may be stored up to 14 days at room temperature before



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developing.

Sample Retention: None

Special Safety Precautions

The developer should be protected from heat and light and kept tightly capped when not in use. It is flammable and subject to evaporation.

The developer is an irritant. Avoid contact with eyes and skin. Should contact occur, rinse promptly with water and consult a physician.

“Routine Practices,” as directed by Health Canada, must be considered as the level of care provided for all patients. Use Health Canada Guidelines for “Routine Practices” to avoid exposure to blood, body fluids and contaminated surfaces. All patient samples, as well as they contact, are to be considered biohazardous and therefore capable of transmitting infection or cross contamination.

Quality Control

Control	Level	Stability	Frequency
On-slide Performance Monitor feature	Positive and Negative	Until expiry date at room temperature	With each slide prior to interpreting/recording result

Control preparation: None

Note: The function and stability of the slides and developer is tested using the on-slide Performance Monitor feature. The positive (+) and negative (-) Performance Monitor areas are located under the sample windows on the developing side of the slides.

In the unlikely event that the Performance Monitor areas do not react as expected after applying the developer, the test results should be regarded as **INVALID**. Should this occur, check expiry date of slide and repeat patient sample and Performance Monitor feature using new slide.

Procedure

1. Applying fecal sample to slide

Step	Action
1.1	Using applicator provided, collect small fecal sample from inside the centre of the whole sample.



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	<p>Note:</p> <ul style="list-style-type: none"> • Discard visually bloody samples • Whole sample should only be collected in a plain container with no additives.
1.2	Apply a thin smear on the slide covering Box A.
1.3	Reuse applicator to obtain a second sample from a different part of the whole stool sample.
1.4	Apply a thin smear on the slide covering Box B.
1.5	Close cover flap.
1.6	Dispose of applicator according to safety procedure.
1.7	Properly label slide with patient’s name and health card number or medical record number.
1.8	Place the current day of the week on specimen bag and process within the appropriate time frame.
1.9	Sample must remain on slide for at least 3 days but no longer than 14 days before developing.

2. Developing Hemoccult II slides

Step	Action
2.1	Verify patient information on occult blood slide matches patient information on chart.
2.2	Apply a stool occult blood label to patient’s chart.
2.3	In well-ventilated area, open back of slide and apply 2 drops of Hemoccult developer to guaiac paper directly over each smear.
2.4	Apply 1 drop of Hemoccult developer between the positive and negative Performance Monitor areas.
2.5	Read Performance Monitor feature within 10 seconds.
2.6	Read sample results within 60 seconds.
2.7	Record test results on stool occult blood label.
2.8	Dispose of specimen and supplies used for analysis according to safety procedure.

Result Interpretation	<p>Performance Monitor Result:</p> <ul style="list-style-type: none"> • If the slide and developer are functional, a blue colour will appear in the positive Performance Monitor area and no blue will appear in the negative Performance Monitor area. • Neither the intensity nor the shade of blue from the Positive Performance area
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should be used as a reference for the appearance of positive test results.

Sample Results:

- Any trace of blue on or at the edge of the smear is positive for occult blood.
- A light blue discolouration may be noticed on the guaiac test paper. This discolouration does not affect the accuracy or performance of the test when it is developed and interpreted according to the recommended procedure. When developer is added directly over the fecal smear on a discoloured slide the blue background migrates outward. A blue ring forms at the edge of the wetted area, leaving the guaiac paper around the fecal smear off-white in colour. Any blue on or at the edge of the smear is positive for occult blood. Proper storage of Hemoccult slides will help prevent blue discolouration.
- Some specimens have a high bile content which causes the feces to appear green. A distinct green colour (no blue), appearing on or at the edge of the smear within 60 seconds after adding Hemoccult developer, should be interpreted as negative for occult blood. A blue-green colour should be interpreted as positive for occult blood.

Expected Values

Occult blood is expected to be negative.

Limitations

The following can cause **false-positive** test results:

- Red meat (beef, lamb and liver)
- Aspirin (greater than 325 mg/day) and other non-steroidal anti-inflammatory drugs such as ibuprofen, indomethacin and naproxen
- Corticosteroids, phenylbutazone, reserpine, anticoagulants, antimetabolites and cancer chemotherapeutic drugs
- Alcohol in excess
- Application of antiseptic preparation containing iodine

The following can cause **false-negative** test results:

- Ascorbic acid (vitamin C) in excess of 250 mg/day (100% of recommended daily allowance of vitamin C for an adult is 60 mg/day)
- Excessive amounts of vitamin C enriched foods (citrus fruits and juices)
- Iron supplements which contain quantities of vitamin C in excess of 250 mg/day.

Dietary iron supplements will not produce false-positive results with hemoccult tests.

Acetaminophen is not expected to affect test results.



Procedural Notes

- The Hemoccult test is not recommended for gastric specimens.
 - This test requires colour differentiation and should not be performed by individuals that have colour blindness.
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Principle

The Hemoccult test is based on the oxidation of guaiac paper by hydrogen peroxide to a blue-coloured compound. The heme portion of hemoglobin, if present in the fecal specimen, has peroxidase activity that catalyzes the oxidation of alpha guaiaconic acid (active component of the guaiac paper) by hydrogen peroxide (active component of the developer) to form a highly conjugated blue quinone compound. The test is performed at room temperature.

Clinical Utility

The Hemoccult test is a rapid, convenient and qualitative method for detecting fecal occult blood which may be indicative of gastrointestinal disease. It is not a test for colorectal cancer or any other specific diseases.

The Hemoccult test is recommended for professional use as a diagnostic aid during routine physical examinations, for hospital patients to monitor for gastrointestinal bleeding in patients with iron deficiency anemia or recuperating from surgery, peptic ulcer, ulcerative colitis and other conditions, and in screening programs for colorectal cancer. Roughage in the diet can increase test accuracy by helping uncover “silent” lesions which bleed intermittently.

Serial fecal specimen analysis is recommended when screening asymptomatic patients.

Reference

Beckman Coulter Hemoccult II product instruction.
