Fecal Occult Blood Detection (HEMOCCULT® Test)

* READ POLICY PRIOR TO STARTING TUTORIAL
Before Testing a Patient

 Dramatically:

ORIENT YOURSELF TO YOUR WORKING AREA

- Locate testing supplies:
  - Hemoccult® Test Cards
  - Hemoccult® Developer
  - Aplicator
  - Gloves
  - Daily Temperature Log
  - IDA page for your testing location.
Qualified Personnel

- Testing personnel are required to take the Initial Orientation and Training, the Initial Competency Exam, and a second Competency Exam within the first year.

- Competency Exams are then required annually thereafter.
Staff who have difficulties with blue color discrimination must demonstrate their ability to interpret the test.

(You may arrange to take a color discrimination exam by contacting the POCT Service Team.)
Hemoccult® Test

- Hemoccult ® Test is considered **Waived** in complexity by the FDA.

- **Purpose**: Rapid, convenient, qualitative detection of fecal occult blood as an indicator of gastrointestinal disease in ambulatory or inpatient care settings.

- Screening tool for colorectal cancer or other gastrointestinal diseases in asymptomatic patients serial analysis is recommended as bleeding may be intermittent.

![Guaiac Resin + Heme + H₂O₂ → Blue Color]
Hemoccult® Test

- Test is composed of guaiac impregnated paper enclosed in a cardboard frame which permits sample application on one side, and development and interpretation on the reverse side.

- When a fecal specimen containing occult blood is applied to the test paper, contact is made between hemoglobin and guaiac.

- A chemical reaction will occur upon addition of the developer solution, resulting in a blue discoloration of the paper within 60 seconds.
Hemoccult® Test Card

- Store test cards at room temperature (15 - 30º C).
- Test card should be protected from heat, light, and volatile chemicals, such as ammonia, iodine and bleach.
- Do not refrigerate or freeze.
- Test Card are stable until expiration date.
Keep bottle tightly capped when not in use.

Protect from heat, as developer is flammable and subject to evaporation.

Products are stable until their expiration date. They must not be used past that date.
Specimen

- The Hemoccult® test requires only a small fecal specimen.
- The specimen is applied as a thin smear to the guaiac paper.
- Stability: Sample is stable for 14 days once it has been placed on the Hemoccult® Card.
Specimen Labeling

- The test card must be labeled with the patient’s full name, date of birth, and Medical Record Number when:
  - testing is performed away from the patient
  - more than one test is performed at the same time
  - the test card is submitted to the Clinical Laboratory for testing
  - test cards are given to the patient for home use and subsequent mailing to the Clinical Laboratory for testing
Preparation For Testing

❖ For optimal use of Hemoccult® slides in the home setting, it is recommended that patients follow certain diet and drug guidelines:

❖ Starting at least 7 days prior to and continuing through the sample collection period patients should adhere to a well balanced diet containing fiber and avoid aspirin and other nonsteroidal anti-inflammatory (NSAID) drugs.

❖ For 3 days prior to and during the collection period Vitamin C and red meats should be avoided.
Patient Testing

Specimen Handling

- Follow Universal Precautions when handling specimens. Gloves should be worn while obtaining and testing the specimen. Gloves must not be contaminated with urine, vaginal discharge, or other body fluids that may contain blood.
Patient Testing

Procedure:
- Using two patient identifiers (full name and date of birth), verify patient identification, and explain procedure to patient and/or family.
- Check expiration dates of developer and test card.
- If testing is not performed immediately by the person collecting the sample, label the Hemoccult® test card with patient identification: full name, date of birth, and Medical Record Number.
Patient Testing

- Wear gloves. Wear a mask and protective eyewear whenever the potential for a splash exposure exists.

- To perform test, open front flap.

- Using the gloved finger or applicator, apply a very thin smear of stool specimen to Box A and Box B taken from 2 **different sites** of the stool specimen. Close cover flap.
Patient Testing

- Wait **3-5 minutes before developing** to allow adequate time for sample to penetrate the test paper.

- Open the perforated window on the back of the slide.

- **Apply 2 drops** of Hemoccult® developer to the back of Boxes A and B.
Patient Testing

- **Read results** **within** 60 seconds.
  
  *(The reading time is important, because the color reaction may fade after 2-4 minutes.)*

- Any trace of blue color within or on the outer rim of the specimen is positive for occult blood.

- Quality Control is integral to the validity of the card and must be tested every time a patient test is developed.
Quality Control Test

- **Apply 1 drop** of Hemoccult® developer between the positive and negative Quality Control areas on the reverse side of the slide.

- **Read results within 10 seconds.**

- **Positive QC area** should turn blue, but the **Negative QC area** should not have any trace of blue.
Quality Control Test

- Any blue originating from the positive QC area should be ignored when reading the patient test area results.

- If QC fails, do not report patient results. Discard the test card and repeat the test on a new slide if there is still stool available for testing.
Record patient results as either positive or negative in the patient’s medical record only if the QC monitors on the card yield expected results.

(i.e., positive control shows positive result = blue color and negative control shows negative result = no color.)
Limitations

- Results obtained with Hemoccult® tests cannot be considered conclusive evidence of the presence or absence of gastrointestinal bleeding or pathology. False negative results may be obtained, since most bleeding occurs intermittently. Hemoccult® tests are designed as a preliminary screen and are not intended to replace other diagnostic procedures such as proctosigmoidoscopy, barium enema or X-ray studies. Hemoccult® will detect only hemoglobin released upon hemolysis of the red cell.

- The Hemoccult® test should not be used to test gastric specimens.
**Limitations**

◊ **INTERFERING SUBSTANCES**

- Substances that can cause **false-positive results**:
  - Red meat (beef, lamb, liver)
  - Aspirin (>325 mg/day) & other NSAID drugs
  - Corticosteroids, phenylbutazone, reserpine, anticoagulants, antimetabolites, chemotherapeutics
  - Alcohol in excess
  - Antiseptic preparations containing iodine
  - Peroxidases in fruits and vegetables

**NOTE**: Dietary iron supplements and acetaminophen are not expected to affect test results.
Limitations

Additional substances that can cause false-negative results:

- Ascorbic acid (Vitamin C) > 250 mg / day (including iron supplements containing >250 mg / day vitamin C)

- Excessive amounts of vitamin C rich foods (citrus fruits and juices)

MSDS – Located on the SFGH-POCT.org website under “Fecal Occult blood”
For Further Questions or Information
Contact POCT Services

SFGH-POCT.org