

**PROCEDURE: OCCULT BLOOD**

**ISSUE DATE:** October 2001

**REVISION DATE:** September 2010

**REVIEWED DATE:** April 2018

**PRINCIPLE:**

Seracult Slides contain a specially prepared guaiac-impregnated paper. When the stool specimen containing occult blood is applied to the test paper, the hemoglobin comes in contact with the guaiac. Application of Seracult Developer (a stabilized hydrogen peroxide and denatured alcohol solution) creates a guaiac/peroxidase-like reaction, which turns the test paper blue if occult blood is present. This reaction requires that the blood cells be hemolyzed. When blood is present, hemolysis is made possible by substances in the stool - primarily water and salts.

**CLINICAL SIGNIFICANCE:**

The Fecal Occult Blood test is recommended for use as a diagnostic aide during routine physical examination to monitor for 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.

Appropriately, trained personnel shall perform this procedure. The trained personnel will be required to demonstrate on line competency.

**EQUIPMENT:**

- Seracult Slides: Seracult slides and developer are to be stored at room temperature, (15-30C) and are stable until the expiration date printed on the box or bottle. Slides should be protected from heat, sunlight, florescent light and ultra-violet radiation.
- Seracult Developer: Aqueous solution of hydrogen peroxide and ethanol and should be kept away from heat and light and the bottle tightly capped when not in use.

*Do not use Seracult slides or developer after expiration date!*

**DO NOT STORE SERACULT DEVELOPER IN PATIENT'S ROOM.**

- Gloves
- Wood Applicator sticks

**SPECIMEN:**

Fresh stool specimen

**Patient Preparation**

If possible, the patient should be placed on a red meat-free, high residue diet to avoid the possibility of a false-positive reaction and to help uncover silent lesions, which may bleed only intermittently. This special diet should be started two days before testing and continued through the testing period. The patient should inform the physician if any of the dietary recommendations cause discomfort. The patient should always consult the

physician before interrupting or discontinuing any prescription medication.

An alternative to this procedure is to omit the special diet for initial tests and to impose it on patients whose stools yield positive results and are to be retested.

Special Diet: This diet, if employed, should be started two days prior to and continued through the test period.

Consume:

- Generous amounts of cooked and uncooked vegetables such as lettuce, corn and spinach.
- Plenty of fruits, such as plums, grapes and apples.
- Moderate amounts of bran cereal, peanuts and popcorn
- Tuna fish, roasted chicken, and turkey

Do not consume:

- Rare and lightly cooked red meats.
- Cauliflower, horseradish, red radishes, turnips, broccoli and cantaloupe.
- Aspirin and medications which may cause gastrointestinal irritation.
- Vitamin C in excess of 250 mg/day and iron-rich supplements.

**CALIBRATION:**

None required

**QUALITY CONTROL:**

**Performance Control**

Each Seracult slide has a **Performance Control Area** to be tested after the patient specimen. Apply one drop of Seracult developer to this area. A blue color is a verification of correct product performance. A lack of blue color indicates that the slide test is not performing to product specifications and the test result may be invalid. The testing should be repeated. Before recollection, check expiration date of the Seracult slide and developer. If recollected test and control area perform in the same manner, call the Core lab and ask for Point of Care.

**External Control**

External Positive and Negative controls must be run on every new lot of Seracult slides and seracult developer. The laboratory will provide a positive control consisting of a 2 – 5 % red cell suspension. Saline is to be used for the negative control. All results are to be recorded on the Quality Control form. Monthly seracult slide lots are checked by a positive and negative control. Lots are sequestered.

**Positive** (Red Cell Suspension) **Blue color** in the Specimen Test Area

**Negative** (Saline)

**No presence of blue** color in the Specimen Test Area

**PROCEDURE:**

**1. Preparation of slide**

- a Collect a small specimen of stool on one end of applicator stick. Apply a very thin smear to one window.
- b From another part of the stool, collect another small specimen using the same applicator as before and apply to the other window.
- c Close front flap of slide. Slides may be prepared and developed immediately or once prepared, they may be stored for up to 8 days before being developed. Keep prepared slides away from heat and light.

**2. Development of slide**

- a Open perforated cover on back of slide.
- b Apply two drops of developer solution to each smear in the Specimen Test Area.
- c Read results after 30 seconds.
- d **Any trace of blue color is positive for occult blood. Color begins to fade after 2-4 minutes.**
- e Develop the performance control **ONLY AFTER SPECIMEN TESTS HAVE BEEN COMPLETED AND INTERPRETED.**
- f Apply only one drop of developer solution to the Performance Control Area.
- g The performance control test yields a blue color (within 30-60 seconds) when the Seracult reagents and developer are reacting according to product specifications.

**RESULTS:**

Results must be obtained visually **30 - 60 seconds** after application of the developer solution. **All patient results must be documented in the electronic medical record. By resulting patient values you are attesting that the Quality Control was performed and met product specifications.**

<b>POSITIVE</b>	<b><u>ANY</u> trace of blue color in the Specimen Test Area</b>
<b>NEGATIVE</b>	<b>No presence of blue color in the Specimen Test Area</b>

Since any developed blue color may fade after 2-4 minutes, it is imperative that the developed slide is read within the recommended time period.

*Note:* Because this test is visually read and requires color differentiation it should not be interpreted by color impaired personnel.

Record patient test result. By resulting patient values you are attesting that the Quality Control was performed and met product specifications.

**LIMITATIONS OF THE PROCEDURE:**

Interfering substances:

- Vitamin C in excess of 250 mg/day (False negative).
- Oral iron preparations (False positive).

- Certain oral medications may cause gastrointestinal irritations and bleeding. Aspirin, indomethacin, phenylbutazone, and corticosteroid and reserpine should, with physician consent, be discontinued for two days prior to and during the testing period.

Patients experiencing hemorrhoidal bleeding, having a menstrual period, or bleeding from the nose, gums, etc. should delay testing for at least 48 hours from the time that all such bleeding has stopped.

To increase the chances of detecting intermittent gastrointestinal bleeding, it is recommended that stool samples be collected from three consecutive bowel movements and that two smears be made from two different areas of each bowel movement.

**REFERENCES:**

1. Package Insert Seracult Propper Mfg. Co., Inc. Long Island City, N.Y. 11101, January 1991



Donna Walck Point of Care Coordinator

Written By:

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Technical Supervisor

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Annual Review: Medical Director/Designee

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Location of hard copy location(s): Core Lab Office  
See Test Methods / Test Locations (POC.1.0002.0)

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Date Archived: \_\_\_\_\_