Procedure   
Dignity Health Central Coast Service Area

**SUBJECT**: Gastroccult Blood and pH

**ORIGIN**: Urinalysis

**NUMBER**: 7500.U.25

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| --- | --- | --- |
| **Applies to:** | | |
| Santa Maria Campus,  Marian Regional Medical Center | Arroyo Grande Campus,  Marian Regional Medical Center | French Hospital Medical Center |
| St. John’s Pleasant Valley Hospital | St. John’s Regional Medical Center | |

# Purpose:

Gastroccult is a rapid screening test for detecting the presence of occult blood and determining pH of gastric samples. The identification of occult blood can be useful in the early detection of upper gastrointestinal bleeding, while the pH may be used to evaluate for antacid therapy. Standard fecal occult blood tests lose sensitivity at low pH and are not suitable for use with gastric samples.

# Clinical complexity: Waived

# Principle:

The Gastroccult test is based on the oxidation of guaiac by hydrogen peroxide to a blue-colored compound. When a gastric specimen is applied, the heme portion of hemoglobin, if present in the sample, has peroxidase activity which catalyzes the oxidation of alpha guaiaconic acid (active component of the guaiac paper) by hydrogen peroxidase (active component of the developer) which turns the test paper blue if blood is present.

The pH test is based on acid-base balance principle in which certain dyes change color with changes in hydrogen ion concentration. This test is specially designed to use with gastric samples.

# Specimen Collection:

A gastric aspirate obtained by nasogastric intubation or vomitus. Samples for blood testing may be stored in a clean sealed container for 24 hours at room temperature or 5 days at 2-8ºC before testing.

# Materials:

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| --- | --- |
| **Reagents / Media**   * Gastroccult Developer – stored 15-30ºC   (Protect from heat and keep tightly capped)  **NOTE:** Any lot number of developer may be used with any lot number of slides as long as both are within expiration date and are “color matched.” | **Supplies / Materials**   * Gastroccult Slides-stored 15-30ºC   (protect from heat and light)   * Applicator sticks * Plastic pipettes |

## All slide boxes and Developer bottles are to be initialed and dated when opened.

# Procedure:

## Check that the specimen is properly identified.

## Apply one drop of gastric sample to pH Test Area and one drop to Gastroccult Test Area.

## Determine pH by visual comparison of pH test area to pH color comparators within 30 seconds after sample application.

## **NOTE:** Presence of a brownish-yellow color is also indicative of pH 7.

## Apply two (2) drops of Gastroccult Developer directly over the sample in the Gastroccult Test Area.

## **NOTE:** Highly colored samples that appear as blue or green should only be resulted as positive if additional blue is formed after Gastroccult Developer is added.

## Read occult results within 60 seconds.

# Quality Control:

### **Gastroccult Blood**-The function and stability of the guaiac paper and developer can be tested using the on-slide Performance Monitors feature located to the right of the Gastroccult Test Area. Internal QC must be developed with each patient test.

#### After patient test area has been developed, read and interpreted, perform Gastroccult QC by adding one (1) drop of Gastroccult Developer between the positive and negative Performance Monitors areas. Interpret within 10 seconds and no longer than 60 seconds.

###### The **positive** Performance Monitors area contains a hemoglobin-derived catalyst which will turn blue.

###### The **negative** Performance Monitors area contains no such catalyst and should not turn blue after applying developer.

### **pH**-The quality control of the pH Test Area must be tested initially when opening a new box of slides.

#### Open two (2) Gastroccult slides. Label one slide as Level 1 and the second slide as Level 2.

#### Apply one drop of Alta Urine QC level 1 to the pH Test Area of the first slide labeled Level 1, then apply one drop of Nerl Water to the pH Test Area of the second slide.

#### Within 30 seconds, visually compare the pH Test Area to the pH color chart comparator.

##### L1 must be between 5-7 and L2 must be between 6-7 pH

### The Performance Monitors feature provides assurance that the guaiac paper and developer are functional. In the event that the Performance Monitors areas do not react as expected after applying developer, the test results should be regarded as invalid. The sample should then be retested on a new slide.

### Document results of Gastroccult QC (positive/negative) and the actual number value of the pH QC results on the pH QC log.

# Interpretation of Results:

## Occult Blood

### Negative Results-no detectable blue in the Gastroccult Test Area

### Positive Results-any trace of blue color in the T Area should be interpreted as a positive result.

### Report and document patient results only if Performance Monitors perform as expected

# Limitation of Procedure:

## Gastroccult test is a preliminary screening aid and not intended to replace other procedures such as gastroscopic examination or X-ray studies for the diagnosis and management of gastric conditions.

## The Gastroccult test is not recommended for use with fecal samples.

## Undercooked meat; raw vegetables and fruits have peroxidase activity which can produce a false positive test result. Thus, a positive result does not always indicate the presence of human blood.

# References:

## Package Insert: Beckman Hemacult® Gastrooccult. 2015