RESOURCE AND PATIENT MANAGEMENT SYSTEM

Point-of-Care Testing

Example Point-of-Care Testing Policy

March 2011

Office of Information Technology
Division of Information Resource Management
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Preface

This document contains an example of a Point-of-Care Testing Policy developed by the Mashpee Service Unit of the Indian Health Service (IHS), located in Mashpee, Massachusetts.

The original document has been reformatted to IHS Office of Information Technology (OIT) style standards and made Section 508-compliant for posting on OIT's publicly-accessible FTP site.

1.0 General Testing Policy

1.1 Purpose

The purpose of this policy is to establish guidelines for Point-of-Care (POC) Testing and to ensure that manufacturer's guidelines, quality control, and competency testing policy and procedures are followed according to accrediting agencies to ensure quality patient care.

1.2 Statement of Policy

The POC General Policy outlines the requirements to be routinely followed by all testing personnel.

1.3 Point-of-Care Oversight

The POC Program Oversight is under the direction of the Medical Provider MD for the Indian Health Service and the Mashpee Service Unit (MSU).

The MSU Registered Nurse or designee provides day-to-day oversight and POC Program Operational functions. The POC Coordinator:

- In association with the lead Nurse supports the POC Quality Performance Program
- Compiles monthly reports and forwards them to the Clinic's Administrator
- Generates quarterly reports are and provides them to the Director of Performance Improvement who presents findings to the Chairman of the governing body on a quarterly basis.

1.4 Color-Blindness Testing

Personnel who are involved in testing of patient or quality control samples will be evaluated for color-blindness. Some ancillary test results are visually read and color-based.

Differentiation should not be interpreted by those who are color-blind or visually impaired, until complete testing has been done to determine degree of impairment.

1.5 Training

The Mashpee Service Unit POC Program is designed to work in association with the Clinical Providers, Nursing Personnel, and ancillary staff to provide a standard of care across the MSU Outpatient System.

The POC program has been developed to ensure policies and procedures and equipment used are approved by the Point of Care Coordinator prior to implementing. Training protocols and competency requirements are completed prior to the testing personnel performing tests. Quality Control records and proficiency results are evaluated to determine compliance.

The POC Coordinator or a trained designee shall train testing personnel for POC testing. Upon completion of training, the individual shall possess the following skills and knowledge:

- Skills required for proper specimen collection
- Patient preparation skills
- Labeling and proper handling of reagents to include date received, date in use and date of expiration
- Skills required for implementing procedures
- Skills required for performing each test method and for proper use
- A working knowledge of reagent stability and storage
- Skills required to implement the quality control Policies and Procedures
- An awareness of the factors that influence test results
- Skills required to assess and verify the validity of patient test results through the evaluation of quality control sample values prior to reporting patient test results.

1.6 Training Records

The lead Nurse of the clinic shall maintain the training records. Testing Personnel shall not perform testing until competency can be determined. Competency will be determined annually. Competency may be determined, but not limited by the following:

- The individual can follow the procedure for specimen handling and processing, test analysis reporting and maintaining records of patient results.
- The individual can adhere to procedural guidelines for quality control, calibration, and maintenance.

- The individual can follow the established corrective action policies and procedures whenever test systems are not within the established acceptable levels of performance.
- The individual is capable of identifying problems that may adversely affect test performance or reporting of test results and they shall correct the problems or immediately notify the Nurse Manager or Director of Nursing.
- The individual can document all corrective actions taken when test systems deviate from established performance specifications.
- Completion of written competency test with a passing grade of 80%.

1.7 Supplies

All supplies shall be procured through the purchasing contract established by MSU Purchasing Department.

1.8 Quality Control

The lead Nurse or a trained designee shall review all quality control records and evaluate any discrepancies with quality control performance. All reagents shall be labeled with date received, date opened and date expired. Any discrepancies with quality control shall be corrected before implementation for patient use. As a rule QC should be performed monthly and with each new lot and shipment of reagents for each waived testing procedure.

Review of all POC practices shall be on a routine basis by the lead Nurse or trained designee. All documentation of quality controls shall be maintained in the clinic for a minimum of two years.

1.8.1 Immunochemical Fecal Occult Blood

Quality control shall be accomplished by utilizing the “Performance Control Area” (C) on the test strip area during each patient testing (T).

Quality controls are performed once on each new lot and shipment and documented on Quality Control sheet in each clinic.

1.8.2 Whole Blood Glucose

Quality control shall be performed and documented according to the established procedure at least once every 24 hours of patient testing. Protect reagent from heat, humidity and freezing temperatures.

The quality control will be documented on Quality Control sheet in each clinic or is maintained electronically.

1.8.3 Urispec 11-Way Urine Dipstick Test

Nursing staff shall perform and document the results of two levels of quality controls with every new lot number and shipment.

The quality control shall be documented on Quality Control sheet in each clinic.

1.8.4 Urine Pregnancy, Qualitative

Nursing staff shall perform and document the results of quality control each new lot and shipment with external positive and negative patient controls. Internal Control (C) should be recorded with each test.

The quality control shall be documented on Quality Control sheet in each clinic.

1.8.5 Hemoglobin A1C

Quality control shall be performed and documented according to the established procedure for each new lot and shipment of reagents. Protect reagent from heat, humidity and freezing temperatures.

The quality control shall be documented on Quality Control sheet in each clinic.

1.8.6 Urine Albumin to Creatinine Ratio

Quality control shall be performed and documented according to the established procedure for each new lot and shipment of reagents. Protect reagent from heat, humidity, and freezing temperatures.

The quality control shall be documented on Quality Control sheet in each clinic.

1.8.7 Rapid Strep Group A, Rapid Flu, and Rapid RSV

Quality control shall be performed and documented for each new lot number and shipment.

The quality control shall be documented on Quality Control sheet in each clinic.

1.8.8 Alere INRatio2

The Alere INRatio®2 has calibration functions integrated into the meter and comes with QC test strips, so you never have to run quality control tests with liquid quality controls. Whenever a new Lot or Shipment of reagent strips are opened the QC strips included in the package should be run. The internal and external quality control check is documented on the Quality Control sheet in each clinic.

1.8.9 Urine Drug Screen

There are several factors that need to be recorded whenever a UDS is performed to ensure the integrity of the specimen. These should be recorded on the special UDS Control sheet found in the laboratory.

1.8.10 Urine Microscopic

Performed by Clinical Providers only; proficiency testing is not required.

1.8.11 Wet Prep

Performed by Clinical Providers only; proficiency testing is not required.

1.8.12 KOH

Performed by Clinical Providers only; proficiency testing is not required.

1.8.13 Safety:

All products or objects that come into contact with human blood or body fluids, even after cleaning, should be handled with universal precautions (capable of transmitting viral or bacterial diseases).

The user should follow the recommendations for prevention of transmission of blood and body fluid diseases in the health care setting as recommended for potentially infectious human blood specimens. Gloves shall be worn during collection and testing. All specimens and reagents shall be disposed of in a biohazard waste receptacle. Standard blood and body fluid precautions should be used in handling all specimens and biohazard waste.

Mashpee Service Unit Employees shall adhere to the General Requirements for Personnel and Laboratory Safety guidelines

1.8.14 Performance Improvement:

The lead Nurse or designee shall review the quality control (QC) and maintenance records on a regular basis, checking for completion of records and QC trends.

Any problems ascertained from the review of the QC records (maintenance not done, QC not within acceptable limits without corrective action, expired kits) shall be submitted to the lead Nurse.

2.0 Color-Blindness Testing Policy

2.1 Statement of Purpose:

To establish a procedure for the testing of individuals who may have color impairment.

2.2 Principle of Procedure:

Personnel who are involved in testing of patient samples shall be evaluated for color-blindness. Some ancillary test results are visually read and color differentiation should not be interpreted by those who are color-blind or visually impaired, until complete testing has been done to determine degree of impairment.

2.3 Procedure:

The Director of Nursing or Point of Care Coordinator or designee shall conduct testing during the new employee Orientation.

The Concise Edition of Ishihara's Test for Color-Blindness shall be utilized for initial evaluation of employees.

The Nurse Manager for each clinic shall further evaluate the employee who requires additional information prior to participation in ancillary testing and determine if the employee is able to perform bedside testing procedures.

The plates are designed to be positioned correctly in a room that is lit adequately by daylight. The introduction of direct sunlight or the use of electric light may produce some discrepancy in the results because of an alteration in the appearance of shades of color. When it is convenient only to use electric light, it should be adjusted as far as possible to resemble the effect of natural daylight. The plates are held 75 cm. (arm's length) from the subject and tilted so that the plane of the paper is at right angles to the line of vision. The numerals, which are seen on plates, are stated, and each answer should be given without more than three seconds delay. Plate number 11 is traceable.

It is not necessary in all cases to use the whole series of plates. Plates 12, 13 and 14 may be omitted if the test is designed merely to separate those with color vision deficiency from those with normal color appreciation.

An assessment of the readings of plates 1 to 11 determines the normality or defectiveness of color vision. If ten or more plates are read normal, the color vision is regarded as normal, if only seven or less than seven plates read normal, the color vision is regarded as deficient. In reference to plate 9, only those who read the numeral 2 and read it easier than those on plate 8 are recorded as abnormal.

It is rare to find a person whose recording of normal answer is nine or eight plates. An assessment of such a case requires the use of other color vision tests.

Appendix A: Ishihara's Test for Color-Blindness

PLATE #	RESPONSE/ANSWER	CORRECT RESPONSE
PLATE 1		
PLATE 2		
PLATE 3		
PLATE 4		
PLATE 5		
PLATE 6		
PLATE 7		
PLATE 8		
PLATE 9		
PLATE 10		
PLATE 11		

NAME:_____ DATE:_____

DEPARTMENT:_____ SS#:_____

ADMINISTERED BY:_____ SCORE:_____

COMMENTS:

PASS or FAIL

Appendix B: Extent of Testing for Patient Care

Test	**Diagnosis**	**Treatment**	**Screening with Follow-up** (Using confirmation test or patient assessment)	**Screening without Follow-up**
Urinalysis (Visual Dipstick with specific gravity)			X	
Urinalysis, Microscopic		X		
Urine Pregnancy, Qualitative			X	
Occult Fecal Blood			X	
Whole Blood Glucose		X	X	
Rapid Strep Group A		X		
Wet Prep		X		
KOH		X		
Urine Drug Screen			X	
Whole Blood A1C		X		
Micro- Albumin to Creatine Ratio			X	
Alere INRatio		X		
Rapid Flu A/B		X		

Appendix C: Normal Ranges for Tests

Test	Normal Reference Range
Urinalysis, (Visual Dipstick):	
Color	Yellow
Clarity	Clear
Leukocytes	Negative
Urobilinogen	0.1 – 1.0 EU per dl (Normal)
Protein	Negative
Nitrite	Negative
PH	4.5-7.0
Blood	Negative
Specific Gravity	1.005-1.030
Ketone	Negative
Bilirubin	Negative
Glucose (mg per dl)	Negative
Urine Microscopic:	
WBC	< 5/HPF
RBC	< 3/HPF
Casts	None/LPF
Crystals	None
Yeast	None
Epithelial Cells	0 – 3/HPF
Trichomonas	None
Bacteria	None
Urine Pregnancy, Qualitative	Negative
Occult, Fecal Blood	Negative
Whole Blood Glucose (Fasting non-diabetic)	65-110mg per dl
Whole Blood Glucose (Random)	70-120mg per dl
Whole Blood Glucose (OB only)	<95 mg per dl
Rapid Beta Strep	Negative
Influenza Rapid	Negative
Wet Mount:	
WBC	Rare/hpf
RBC	Rare/hpf
EPI	Rare/hpf

Test	Normal Reference Range
Other	Negative
KOH	Negative
Whole Blood HbA1C	4.2% - 6.5%
Microalbumin:	
Albumin	<20 mg per dl Normal
Creatinine	100-30 mg per dl
Albumin to Creatinine Ratio	<30 mg per dl
PT/INR:	Expected values for patients taking oral anticoagulants depend on the patient's specific condition, anticoagulant therapy and the target values established by the physician.

SUBJECT: Point Of Care Testing (POC) normal ranges
PURPOSE: Provide information for clinical decision-making.
STAFF GOVERNED BY THIS PROCEDURE: Laboratory Staff
DISTRIBUTION: Nursing, Medical, and Laboratory Staff

ANNUAL PROCEDURE REVIEW
DATE ADOPTED: March 1, 2011 – REVIEWED AND REVISED: February 14, 2011

YEAR	LAB SUPERVISOR	DATE	LAB DIRECTOR	DATE
2011				
2012				
2013				

Test	Method	Normal Range	Comments
Glucose	Accu-Chek Advantage	65 – 105 mg/dl	For values <50 and >500, send patient to lab for confirmation
KOH	Microscopic Exam with 10% KOH	No yeast or fungal elements observed	
Wet Prep	Microscopic Exam	Negative for yeast, trichomonas, clue cells,WBC,bacteria	
Occult Blood	Seracult Slides	Negative	

Appendix D: Laboratory Requisitions

Both Random Laboratory Testing and Urinalysis Laboratory Testing are now available through EMR. Paper copies of the Sample Requisitions are shown as follows:

MASHPEE SERVICE UNIT Mashpee, MA Point-of-Care Random Laboratory Testing Order/Report Form	Patient Name: Medical Record Number: DOB:
Date Collected:	Time: Collector I.D.:
Physician:	Location:
Time Testing Completed/Reported:	

Test Name	**CPT Code**	**Results**	**Adult Normal Reference Range**
Urine HCG - Screen	81025QW		Negative
Occult-Fecal Blood	82270QW		Negative
Whole Blood Glucose (Fasting, non-diabetic)	82948		65 □110 mg/dl
Whole Blood Glucose (Random)	82948		70 □120 mg/dl
Rapid Beta Strep (Group A)	87880QW		Negative
Influenza Rapid A/B	87276QW		Negative
Alere INRatio®2	99363		
Wet Mount	87210QW		(scan on low, report on high)
WBC			WBC 2 □4/phf
RBC			RBC 0 □3/phf
EPI			Epi 5 □15/phf
Other			Negative
KOH	87210QW		Negative
Urine A/C Ratio			<30

Appendix E: Fingerstick Blood Collection

SUBJECT: Fingerstick Blood Collection
PURPOSE: Adequate and Consistent Specimen Collection
STAFF GOVERNED BY THIS PROCEDURE: Laboratory Staff
DISTRIBUTION: Lab, Nursing, and Medical Staff

ANNUAL PROCEDURE REVIEW
DATE ADOPTED: March 1, 2011 – REVIEWED AND REVISED: February 14, 2011

YEAR	LAB SUPERVISOR	DATE	LAB DIRECTOR	DATE
2011				
2012				
2013				

E.1 Equipment Needed

- Appropriate Reagent Cartridges for test to be performed
- 70% alcohol wipes
- Two gauze pads
- Lancet
- Bandaid

E.2 Procedure

1. Identify the patient according to the "Specimen Collection" Procedure. Usually this procedure is most commonly performed on pediatric patients and these patients should be reassured with words well chosen to fit the particular situation.
2. Using universal precautions pick a site for collection dependent on the patient's age and other factors. For infants, the plantar surface of the great toe or heel should be utilized. The palmar surface of the ring or middle finger should be used on older children and adults.
3. Clean the site with 70% alcohol, let dry or wipe dry with gauze.
4. Make the puncture 2-3 mm deep.
5. Wipe the first drop of blood with gauze since it contains tissue contamination.
6. Holding the capillary tube in a horizontal position, apply gentle pressure on the collection site to obtain the needed blood sample. Do not get bubbles in the reagent cartridge.

7. When sampling is complete, apply a band-aid to the site.

8. Thank the patient, label specimens properly, and take samples to the appropriate areas of the laboratory for processing.

> See Specimen Collection procedures for more information concerning proper labeling, specimen quality, patient identification, minimization of blood draw volumes, etc.

E.3 References

"Clinical Diagnosis and Management by Laboratory Methods" Todd, Sanford, Davidsohn, 1979

Appendix F: Fecal Occult Blood Testing

SUBJECT: Fecal Occult blood, POC testing
PURPOSE: Procedure for Point of Care (POC)
STAFF GOVERNED BY THIS PROCEDURE: Nursing and Medical Staffs
DISTRIBUTION: Nursing and Medical Staffs

ANNUAL PROCEDURE REVIEW
DATE ADOPTED: March 1, 2011 – REVIEWED AND REVISED: February 14, 2011

YEAR	LAB SUPERVISOR	DATE	LAB DIRECTOR	DATE
2011				
2012				
2013				

F.1 Test Principle

The Occult Blood Test is a rapid screening test used to detect blood in stool. It is used to aid in the diagnosis of certain disorders where there is bleeding into the gastrointestinal tract. Generally, the bleeding is so slight that there is no change in the macroscopic appearance of the stool sample.

A small amount of stool is placed on the slide, which consists of guaiac impregnated paper. The developer is added, and hemoglobin, if present, is converted to a guaiacone structure, which produced a blue dye in 30 to 60 seconds.

F.2 Specimen Requirements

- Fresh stool sample
- Sample may be tested immediately after application or up to eight days after sample application to the test slide.
- Do not test other sample types using the Seracult Slide Kit. The kit is specific for stool samples.

F.3 Reagents

- Seracult Slides
  - Are stable at room temperature (15 to 30 degrees Celsius) until expiration date on the slide
  - Do not refrigerate.
  - Protect from heat, sunlight, fluorescent light and ultra-violet radiation.
  - Slide cards contain filter paper impregnated with natural guaiac resin.
- Seracult Developer

  - Is stable at room temperature (15 to 30 degrees Celsius) until expiration date on the bottle.
  - Do not refrigerate or freeze.
  - Protect from heat and light.
  - The developer is a stabilized mixture of hydrogen peroxide and ethanol.
  - The developer is flammable – keep away from open flame.
  - The developer is an irritant – avoid contact with eyes and skin.
- The lot number on the slide and the lot number on the developer do not need to match nor do they need to originate in the same kit. However, both must be used before the expiration date on either.
- Record the lot number and expiration date of the slide and the lot number and the expiration date of the developer on the log sheet with each patient test.

F.4 Limitations/Precautions

- Bleeding from gastrointestinal lesions may be intermittent. To increase the probability of detection, three bowel movements should be tested.
- Patients experiencing hemorrhoidal bleeding, menstrual period, or bleeding from the nose of gums should delay testing for up to 48 hours after bleeding has stopped.
- Do not use rectal suppositories or medications before sample collection.
- The following food items and medications may cause false positives and should be discontinued at least two days prior to testing and during the testing process:
  - Red meat
  - Iron supplements
  - Alcoholic drinks
  - Cauliflower, turnips, broccoli
  - Horseradish, radishes
  - Cantaloupe
- Certain oral medications may cause gastrointestinal irritation and bleeding. They should be discontinued two days prior to testing and during the testing process:
  - Aspirin
  - Indomethacin
  - Phenylbutazone
  - Corticosteroid
  - Reserpine
- Ascorbic acid, in excess of 250 mg/day, may cause false negatives and should be stopped for two days before testing and throughout the testing process.

- The interfering food items and medications should be stopped only with consent of the provider. If they are not and cannot be discontinued, these items should be documented.
- The slide should not be rehydrated before applying the developer. This could result in false positives.

F.5 Calibration

None required.

F.6 Quality Control

- Each slide contains a built-in control (Performance Control Area), which ensures the reagents are working and the test procedure is functioning properly. This test should be run on each slide according to the instructions on the back of the card.
- After applying two drops to each of the two patient test areas, apply a drop of developer to the Performance Control Area and read the results at 30 seconds. (Apply the drop to the left of the area, so that the blue will run away from the patient samples.)
- The Performance Control Area should turn blue (and run or migrate) if the slide and developer are working properly.
- If the Performance Control Area does not turn blue, do not report patient testing. The slide or bottle reagents are not working correctly. Repeat the test.
- If the Performance Control Quality Control fails again, try a new lot of slides and a new lot of developer. Contact the laboratory for an investigation into the problem.
- Record all Quality Control values with each patient test using the Occult Blood POC log sheet. Fill in all areas.

F.7 Procedure

1. Open the cover on the front of the slide. Using a wooden applicator stick, apply a small amount of stool sample to one test area. Apply a second small amount of stool sample to the second test area.
2. The stool applied to the test areas should be from different parts of the stool sample.
3. The sample should be applied to each test area as a thin smear.
4. Close the cover; label the slide with the patient's name and one other piece of identification (chart number or date of birth). Two pieces of ID shall be present.

5. Turn the slide over and open the window on the back.
6. Apply two drops of developer on each patient test area and one drop of developer on the Performance Control Area. Be sure that the blue from the Performance Control Area does not run into the patient test areas.
7. Read the Performance Area at 30 seconds and the patient test areas between 30 to 60 seconds. Do not read slide past 60 seconds as the results may be invalid.
8. The Performance Control Area shall be tested each time a patient test is performed.

F.8 Calculations

None required

F.9 Reference Intervals/Range

Negative

F.10 Interpretation of Results

- Any trace of blue in the patient area is positive for occult blood. The blue usually "runs" or follows the flow the reagent drop as it flows out from where it was applied to the slide.
- Do not report patient test results if the Performance Control Area does not turn blue. The patient test shall be repeated. (See Quality Control area in this procedure.)
- Record that patient results on the log sheet using patient name and one other form of patient identification (chart number or date of birth). Two pieces of ID must be present.

F.11 Limitations

The Seracult test is designed to detect the hemoglobin fraction of occult fecal blood in human stool specimens. Human fecal matter normally contains enough water and salts to induce hemolysis and release hemoglobin into the stool. This hemolysis and release of hemoglobin is an essential prerequisite to the proper performance of the Seracult test. Blood that is insufficiently hemolyzed, such as from hemorrhoids or a finger stick, may not yield a positive result. Samples other than human fecal matter or stool cannot be used with Seracult.

The Seracult test is intended for use as a diagnostic aid to the physician during routine physical examinations. It is specifically designed to determine the presence or absence of gastrointestinal bleeds. Results obtained cannot be considered conclusive evidence for the presence or absence of any pathology.

F.12 Forms Used

Occult Blood Worksheet (POC) – addendum to this procedure

F.13 References

Seracult Slide Kit package insert, Propper Manufacturing Co, Inc. 1985 (revised January 1991).

Robert Hlavacek, Corporate Director for Propper Manufacturing. E-mail, May 7, 2007

Oregon Health and Science University Hospitals and Clinics Point of Care procedure, reviewed September 2006.

Appendix G: Wet Prep

SUBJECT: Wet Prep (direct wet preparation).
PURPOSE: Procedural Instruction for Direct Observation of Vaginal Discharge for Point of Care Testing.
STAFF GOVERNED BY THIS PROCEDURE: Medical and Lab Staff
DISTRIBUTION: Medical and Lab Staff

G.1 Principle

Trichomonas, Yeast, White Blood Cells, Clue Cells, and Bacteria can be observed directly from the Wet Prep. Wet preparations of vaginal secretions are often examined to diagnose causes of vaginal or urethral discharge. The nature of the discharge, its pH and odor, and the presence or absence of characteristic organisms in wet preparations are key to the evaluation. Trichomonas vaginalis, clue cells, and yeast are often associated with genital tract infections. Yeast should be observed with the addition of KOH, for the presence of budding or pseudohyphae forms. KOH will dissolve tissue cells and keratinized material, making fungal material more visible.

G.2 Specimen Requirements

- Vaginal secretion.
- For vaginal secretion or urethral discharge:
  - Collect the specimen using a cotton-tipped swab.
  - Place swab in sterile tube containing 0.5 mL normal sterile saline.
  - Test specimen immediately.

G.3 Limitations

- Small quantities of yeast and hyphae may be missed in the wet mount.
- Wet mount examination for Trichomonas may detect only 50-70% of positive specimens.
- Experience is required since background artifacts can be confused with diagnostic features.
- KOH preparations are presumptive and should not be substituted for culture and further identification

G.4 Reference Range

None observed.

G.5 Alert Values

N/A

G.6 Test Accuracy and Reliability Verification

Providers per site shall participate in annual testing provided through the laboratory.

G.7 Quality Control

The following quality control checks shall be done and documented each day of testing:

- A sample of saline from the source used to make the wet prep shall be placed on a slide, cover slipped, and screened for contamination by foreign elements (i.e. cellular).
- Expected result: No foreign elements seen.

G.8 Procedure

1. Perform a wet mount and a KOH preparation on each specimen.
2. Gently swirl the vaginal secretion or urethral discharge swab in the saline to suspend specimen into saline.
3. Place a drop of saline suspended specimen or urine on one end of a slide and place a coverslip over preparation.
4. Place a drop of saline suspended specimen or urine on the other end of the slide and add a drop of 10% KOH. Place a coverslip over the KOH preparation.
5. Examine the wet mount and the KOH preparation using a microscope under low power (10X) for:
    - Motile Trichomonas
    - Clue Cells
    - Yeast with or without Hyphae
6. Change the magnification to high power (400x) to verify elements seen on low power.
7. Trichomonas are slightly larger than a white blood cell and motile with flagella and an undulating membrane.

8. Clue Cells are squamous epithelial cells appearing stippled or granulated due to bacteria adherence to the epithelial cell surface. Squamous epithelial cells will disintegrate and the attached bacteria will stream off in a KOH preparation.

9. Yeast are oval and sometimes round cells which may be mistaken for red blood cells. A KOH wet preparation will differentiate red blood cells from yeast. Red blood cells will be disrupted while yeast will remain intact. Hyphae will vary considerably in length and width and may be found interwoven among epithelial cells.

G.9 Results Reporting

1. Quantitate elements seen using the following criteria:

   - Yeast: Not present. Present. Note: Report if yeast is budding or has hyphae.
   - Clue Cells: None observed, Few, 1+, 2+, 3+, 4+
   - Trichomonas: Not present, Present.
   - Bacteria: None observed, Few, 1+, 2+, 3+, 4+
   - WBC: None observed, Few, 1+, 2+, 3+, 4+
   - Few= 1-5 /HPF, 1+= 6-10 /HPF, 2+= 11-30 /HPF, 3+= 31-50 /HPF, 4+=>50/HPF

2. Record results in patients medical record.

G.10 Reagents:

- Sterile glass microscope slides and cover slips.
- Sterile swab.
- 0.9% normal saline.
- 10% KOH solution.

G.11 Forms Used

Wet Prep Worksheet (POC) – addendum to this procedure

G.12 References

Robert, H.: Manual of Clinical Microbiology, 7th Edition, ASM Press, pp. 1346, 1675, 1999.

Bailey and Scott's Diagnostic Microbiology, 7th Edition, 1986.

Henry, J B: Clinical Diagnosis and Management by Laboratory Methods, 19th ed., W.B. Saunders Company, Philadelphia, 1996.

http://www.ohsu.edu/pathology/POC/competencyforms/prowiavedindex.htm

WET PREP WORKSHEET

Month/Year: _____

Saline Lot # in Use: _____ Exp. Date: _____

Saline Lot # in Use: _____ Exp. Date: _____

Date	Name	Chart #	Observations	Quality Control: *Foreign Elements Seen? Yes or No	Provider/Tech

*QC OK IF NO FOREIGN ELEMENTS SEEN. MUST INDICATE WITH YES OR NO IN QC COLUMN.IF YES THEN QC IS OUT. DO NOT REPORT RESULTS AND INDICATE ON REVERSE WHAT CORRECTIVE ACTION WAS TAKEN. DATE AND INITIAL AFTER DOCUMENTING CORRECTIVE ACTION. PROBLEMS OR QUESTIONS: CONTACT LABORATORY.