WELLSPAN Ephrata Community Hospital	**MANUAL: LABORATORY SERVICES MANUAL**		
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POLICY ADMINISTRATOR: Laboratory Administrative Director **POLICY SPONSOR:** Laboratory Medical Director	**ORIGINAL DATE: 10/1999** **LAST REVISION DATE: 12/16/15**		**REVIEW CYCLE:** Annually

WellSpan Ephrata Community Hospital

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SERVICE POLICIES

The Department of Pathology and Laboratory Services provides clinical laboratory services 24 hours per day, seven days a week to the medical staff of WellSpan Ephrata Community Hospital and the Northern Lancaster County community.

Emergency services for outpatients, outside of routine hours, can be arranged by calling the laboratory and notifying the technologist on duty.

WELLSPAN EPHRATA MEDICAL LABORATORY

EML is a division of the WellSpan Ephrata Community Hospital Department of Pathology and Laboratory Services. It maintains ten blood collection centers for the convenience of patients. The ten centers offer minimal waiting time, friendly, professional staff and free blood pressure and weight screenings. All laboratory testing is performed at the hospital based laboratory and its reference laboratories.

WellSpan Reading Road Health Center
446 N. Reading Road
Ephrata, PA 17522
Tel. (717) 738-6336
Fax. (717) 738-6343
Hours: Mon-Fri 6 a.m.- 7 p.m.
Saturday 7 a.m.-12 p.m.

WellSpan Adamstown Health Center
30 W. Swartsville Rd
Reinholds, PA. 17569-9641
Tel. (717) 484-0526
Fax. (717) 335-0959
Hours: Mon-Fri 7 a.m.- 4:00 p.m
Saturday 7 a.m.- 11 a.m.

WellSpan Rothsville Health Center
2320 Rothsville Road Suite 104
Lititz, PA 17543
Tel. (717) 627-7444
Fax (717) 627-7445
Hours: Tues-Thurs 7 a.m.- 12 p.m.

WellSpan Garden Spot Health Center
435 S. Kinzer Ave Suite 5
New Holland, PA 17557
Tel. (717) 355-5374
Fax (717) 355-5375
Hours: Mon-Fri 7 a.m.- 3:00 p.m.

WellSpan Crossroads Health Center
4131-B Oregon Pike
Ephrata, Pa. 17522
Tel. (717) 859-9921
Fax (717) 859-8781
Hours: Mon-Fri 7 a.m.-5:00 p.m.
Saturday 7 a.m.- 11:00 a.m.

WellSpan Meadowbrook Health Center
337 West Main Street, Ste. 400
Leola, PA
Tel. (717) 656-7707
Fax (717) 656-7747
Hours: Mon- Fri 7 a.m. – 3:00 p.m
Saturday 7 a.m. – 11 a.m.

Cornerstone Collection Center
6 West Newport Road
Lititz, PA 17543
Tel. (717) 625-4761
Fax (717) 625-1441
Hours: Mon – Fri 7 a.m. – 12 p.m.

Georgetown Diagnostics Center
1135 Georgestown Road
Christiana, PA
Tel. (717) 806-3793
Fax. (717) 806-3794
Hours: Mon-Fri 7 a.m- 3:00 p.m.

Granite Run Collection Center
268 Granite Run Drive
Lancaster, Pa. 17
Tel. (717) 738-5635
Fax (717) 721-5982
Hours: Mon – Fri 7 a.m. – 3:00 p.m.

LAB COURIER SERVICE

A courier service is maintained to provide for transport of specimens and reports to and from physician offices. Hours of operation are:

Monday - Thursday	7:30 a.m. to 9:00 p.m.
Friday	7:30 a.m. to 5:30 p.m.
Saturday	9:00 a.m. to 12:00 a.m.

Courier service is not offered on Sundays or holidays. Information regarding courier services may be obtained by calling the Supervisor of Materials Management at 717-721-5912.

STAT SPECIMEN TRANSPORT

Stats from the EML locations:

- **The only EML location with expedited STAT courier pickup for accelerated testing will be the Reading Road Health Center. With all other EML locations, specimens will be picked up with routine courier runs and be processed as STAT once they arrive at the laboratory.**

STATS from provider offices:

- **Refer patients to the Reading Road Health Center for STAT testing.**
- **STAT specimens from the provider offices will not be picked up STAT. They will be picked up with routine courier runs and will be processed as STAT once they arrive at the laboratory.**

TESTS REQUIRING SCHEDULING

The following tests must be scheduled with the Department of Pathology and Laboratory services. This can be done by calling the laboratory during routine outpatient hours.

Glucose tolerance
Lactose Tolerance
Sperm Analysis
Frozen Section (tissue)
Therapeutic Phlebotomies
Fine needle aspirates (if assistance from laboratory staff is needed)
Autologous blood donations
Directed blood donations
Homocysteine Challenge Test

SPECIMEN COLLECTION AND TESTING PRIORITIES

The Department of Pathology and Laboratory Services uses the following guidelines to evaluate performance in collecting specimens and reporting test results:

PRIORITY	COLLECTION	RESULT REPORT
Timed	At requested time ± 15 minutes	4 hrs. from specimen collection
Routine	Daily Rounds at 0500, 0700, 0900, 1100, 1300, 1600, 1800, 2000 and 2359	4 hrs. from specimen collection
STAT/URGENT	Within 15 minutes of order placement.	1 hour of order placement

COLLECTION ROUNDS

Laboratory will make scheduled collection rounds as listed in the table below.

TIME	INCLUDES	
0000	0000 - 0459	Any orders that are specified to be collected from 0000 up to 0459 . This will include any orders placed after the last collection batch was processed by lab with a collection time before this group.
0500	0500 0659	This will be the morning collection rounds for all the fasting, A.M. orders. It will include any orders for "Today" that have crossed to the lab with a collection time

		between 0500 and 0659. Any sample not collected in this group will be processed with the next collection batch.
0700	0700 - 0859	Any orders that are specified to be collected from 0700 - 0859. This will include any orders placed after the last collection batch was processed by lab with a collection time before this group. Any sample not collected in this group will automatically be placed into the “POOL” and will be processed with the next collection batch.
0900	0900 - 1059	Any orders that are specified to be collected from 0900 - 1059. This will include any orders placed after the last collection batch was processed by lab with a collection time before this group. Any sample not collected in this group will automatically be placed into the “POOL” and will be processed with the next collection batch.
1100	1100 - 1259	Any orders that are specified to be collected from 1100 -1259. This will include any orders placed after the last collection batch was processed by lab with a collection time before this group. Any sample not collected in this group will automatically be placed into the “POOL” and will be processed with the next collection batch.
1300	1300 - 1559	Any orders that are specified to be collected from 1300 -1559This will include any orders placed after the last collection batch was processed by lab with a collection time before this group. Any sample not collected in this group will automatically be placed into the “POOL” and will be processed with the next collection batch.
1600	1600 - 1759	Any orders that are specified to be collected from 1600 -1759. This will include any orders placed after the last collection batch was processed by lab with a collection time before this group. Any sample not collected in this group will automatically be placed into the “POOL” and will be processed with the next collection batch.
1800	1800 - 1959	Any orders that are specified to be collected from 1800 -1959. This will include any orders placed after the last collection batch was processed by lab with a collection time before this group. Any sample not collected in this group will automatically be placed into the “POOL” and will be processed with the next collection batch.
2000	2000 - 2359	Any orders that are specified to be collected from 2000 -2359. This will include any orders placed after the last collection batch was processed by lab with a collection time before this group. Any sample not collected in this group will automatically be placed into the “POOL” and will be processed with the next collection batch.
TIMED	Specific collection requested	This allows the user to specify when to collect the order. I.E. Drug peaks/troughs which are time specific to the drug administration time.

STAT Priority		These will be collected when the lab receives the order.
URGENT		These will be collected when the lab receives the order. This priority is reserved for use in the EMD.
POOL		Any order that is for "today" but a collection time was not specified falls to this group. When each of the collection batches listed above are processed, these orders pull into that group.

If a lab employee anticipates an appreciable delay in responding to a collection and/or test request, the employee will communicate that information to the charge nurse at the ordering location and, in the absence of on-site lab management staff, to the nursing supervisor. The call should provide the ordering location with anticipated effects of the delay, including tests affected and estimated time involved. In turn, the ordering location can provide valuable information to help triage test orders and identify critically needed results.

QUALITY ASSURANCE

The Department of Pathology and Laboratory Services considers quality assurance an integral part of our laboratory analysis. The intent of the quality assurance program is to provide a level of confidence that satisfies customers with the accuracy and timeliness of test results. To this end the laboratory participates in proficiency programs provided by the following organizations:

American Society of Clinical Pathologists (ASCP)
College of American Pathologists (CAP)
Commonwealth of Pennsylvania
American Proficiency Institute (API)
Wisconsin State Laboratory of Hygiene Proficiency Testing (WSLH)

The Department is inspected and accredited by the following organizations:

College of American Pathologists (CAP #13037-01)
Commonwealth of Pennsylvania (Permit #000164)
Department of Health and Human Services (CLIA #39D0012006)

Copies of current certificates can be found in the appendix of this manual.

REPORTING PROCEDURES

Inpatient test results are printed and distributed as follows:

1. Critical Values - Called to the ordering physician, or designee, as soon as the test result is verified.

Outpatient test results are printed and distributed as follows:

1. LAB/MICRO/BBK Summary reports are printed Monday through Friday at: 0700, 0800,1000,1130,1300,1500,1700,1900; Saturday 0700, 0800, 1000, 1200, 1300,1700; Sunday 1700 for Microbiology only
2. Pathology reports print Monday through Friday at: 0700,0900,1100,1300,1500,1700
3. Protimes are faxed hourly Monday through Saturday.
4. Physicians are encouraged to use the autofax method of report delivery. Other options include:
   a. Reports are sent via US Mail (Mon.-Fri.)
   b. Reports are hand delivered to laboratory courier service clients (Mon-Fri)
5. All critical values are called directly to the ordering physician or designee.

REPEAT DETERMINATIONS

Tests will be repeated at no charge whenever reported results do not, in the opinion of the ordering physician, fit the clinical picture of the patient. A brief explanation as to the nature of the request is beneficial in performing repeat tests.

RETENTION OF PATIENT SPECIMENS

After completion of testing, patient specimens are stored for the following periods of time:

Blood and body fluids	3 days
Cultures	Significant isolates- 7 days after report
Surgical specimens	14 days following final report

CRITICAL VALUE REPORTING SYSTEM

The following laboratory test results indicate life-threatening situations. When a technologist results, verifies, a critical value, it is their immediate responsibility to notify either the provider who ordered the test or the unit nursing staff or designee providing care to the patient. If the ordering provider is unavailable, the provider-on-call for the ordering provider will be notified. Notification of the critical value will be documented

in the laboratory report. The technologist must have the receiver read back the results given and the technologist must verify that the receiver stated the result correctly.

CHEMISTRY

ANALYTE	RESULT
Alcohol	>350 mg/dL
Bilirubin, Neonatal	≥20.0 mg/dL
Calcium	≥12 and ≤ 6 mg/dL
CO2	≥40 and ≤15 mmol/L
CO2, Newborn	≥ 27 and ≤ 17 mmol/L
Creatinine	≥5.0 mg/dL on initial report
Creatinine, Newborn	≥ 1.5 on initial report
Glucose	≥450 and ≤50 mg/dL
Glucose, Newborn	≥180 and <40 mg/dL
Magnesium (OB)	>7.0 mg/dL
Phosphorus	≤1.5 mg/dL
Potassium (<1 YR)	>6.0 and ≤ 2.9 mmol/L
Potassium	>6.0 and ≤ 2.9 mmol/L
Sodium	≥160 and ≤120 mmol/L
Troponin I	≥ 0.50 ng/mL
Urea Nitrogen	≥100 mg/dL on initial report

<u>THERAPEUTIC DRUGS</u>

DRUG	RESULT
Carbamazepine	≥15.0 ug/mL
Digoxin	≥2.5 ng/mL
Gentamicin (Trough and Random)	≥ 2.1 ug/mL
Peak	≥10.0 ug/mL
Lithium	≥2.0 ug/mL
Phenobarbital	≥50.0 ug/mL
Phenytoin	≥30.0 ug/mL
Salicylate	≥41.0 ug/mL
Theophylline	≥25.0 ug/mL
Valproic Acid	≥200 ug/mL
Vancomycin (Trough and Random)	≥20.0 ug/mL
Vancomycin Peak	≥40.0 ug/mL

HEMATOLOGY	RESULT
WBC	≥ 30,000 and ≤ 2,000 /uL
WBC, Newborn	≥ 30,000 and ≤ 5,000 /uL
Hemoglobin	≤ 7 g/dL
Hemoglobin, Newborn	≤ 11.9 g/dL
Hematocrit	≤ 21%
Hematocrit, Newborn	≤ 34.9 %
Platelet Count	≤ 30,000 /uL
Platelet Count, Newborn	≤ 124,000 /uL
Malaria or other blood parasites	Present

COAGULATION	RESULT
PTT	≥ 101.5 seconds
INR	≥ 4.0

SEROLOGY	
"Pre Op" Pregnancy Test	Positive

URINALYSIS

Glucose, Newborn	Positive
Ketone, Newborn	Positive

BLOOD BANK (in-house patients only)

Antibody Screen	Positive (with exception of anti-D due to Rhig)

MICROBIOLOGY

All Positive Blood Cultures
All Positive CSF gram stains/findings
All Positive AFB cultures/smears
New VRE, MRSA, ESBL and carbapenemase-producing isolates
Penicillin-resistant *Streptococcus pneumoniae*
E. coli O157-H7 isolates
Shigella, Salmonella, Camplylobacter isolates
Positive *C. difficile* antigen/toxin screens
Positive *C. difficile* toxin B gene PCR assays
Positive Shiga toxin screens

In-House Only:
Positive Group B Strep. screens/cultures from the FMU

REFERENCE RANGES
It is the responsibility of the staff member receiving the critical result by telephone or fax from the reference laboratory to notify the provider who ordered the test, provider on call or the unit nursing staff or designee providing care to the patient. Notification of the critical value will be documented in the LIS. The results are to be read back and verified.

INCIDENT REPORTS
All incidents regarding test results and reporting will be fully investigated by the Laboratory Administrative Director. The purpose of the investigation will be:

1. To determine the nature and validity of the incident
2. To determine the cause of the incident
3. To propose a solution to prevent future occurrences of a similar nature

The results of the investigation will be submitted to the Director of Pathology and Laboratory Services in written form. The Director will either approve the written report or return it to the Laboratory Administrative Director for further investigation or recommendations. Upon final approval a letter detailing the findings of the investigation will be forwarded to the complainant and the issue addressed at the following laboratory staff meeting.

TEST REQUESTS

The Department of Pathology and Laboratory Services performs tests at the request of licensed physicians and healthcare professionals in accordance with the regulations set forth in section 5.41 (a) of the Pennsylvania State Code for Clinical Laboratories. Requests to perform tests may be submitted in any of the following manners:

1. *Written*
    a. On patient chart and entered into the hospital information system by a Member of the WellSpan Ephrata Community Hospital Medical and/or Nursing staffs.

    b. On a laboratory (or physician) request form and presented to a member of the laboratory staff for entry into the lab information system.
    Note: Physicians requesting unknown and/or unrecognizable tests will be called and asked to verify their orders prior to specimen collection.

2. *Verbal*

Verbal orders CANNOT be accepted by non-physician laboratory personnel according to Pennsylvania Law.

A. Provider calls between the hours of 0900-1600 Monday thru Friday:
   1. The provider calls directly to the laboratory or EML:
      The provider is required to fax over the order prior to patient specimen collection.

B. Provider calls between the hours of 1600-0900 Monday thru Friday:
   1. The provider calls directly to the laboratory:
      Direct the provider to contact the house-nursing supervisor. They are to be transferred to the operator who will page the house-nursing supervisor for them. The house-nursing supervisor will take the verbal order.
   2. The provider calls one of the WellSpan Ephrata Medical Laboratories:
      Have the provider call the main hospital number: 733-0311 and the operator will page the house-nursing supervisor for them. The house-nursing supervisor will take the verbal order.

C. Provider calls anytime on the weekend or a holiday:
   1. The provider calls directly to the laboratory:
      Direct the provider to contact the house-nursing supervisor. They are to be transferred to the operator who will page the house-nursing supervisor for them. The house-nursing supervisor will take the verbal order.

3. *Electronic*

Test requests may be faxed directly to the Department of Pathology or any of its affiliated collection centers. Physicians and physician office staff with authorization and direct access to the hospital information system from remote sites may place orders in the hospital information system.

REQUEST FORMS

All outpatient specimens referred to the Department of Pathology must be accompanied by a laboratory request form with pertinent demographic and insurance information legibly printed. Directions for completing the request form are listed below and correspond to the sample form on the next page.

Section A - Patient Demographic Information
Bold print indicates information that must be provided before testing can be performed:

Line 1 **Patient's Name** (last, first)

Sex
Social Security Number

Line 2 **Patient's Date of Birth**
Name of Ordering Physician
Names of physicians to receive copies of the test results (optional)
Date/Time specimen was collected

Line 3 **Patient's diagnosis (either ICD9 or narrative)**
Method of payment - check the box corresponding to who should be billed

Line 4 Special instructions for laboratory (optional)
Testing priority/Report options - check boxes as necessary

Section B - Patient and/or Insurance Billing

Line 1- Patient's Name (last, first)
Telephone number
Diagnosis

Line 2 - Patient's Address

Lines 3&4 Name of individual responsible for patient bill, if other than patient. In the case of children, for example, this may be a parent or guardian. Include the responsible party's telephone number and address.

Line 5 If the bill is to be submitted to a third party payer, provide the relevant information that will permit proper request for payment. Requests for lab services provided to Medicare or Medical Assistance (ACCESS) patients must be submitted by the laboratory performing the test. For patients covered by private insurers, provide the following information:

A. Name of individual who subscribes to the insurance
B. Mark the box describing the relationship between the subscriber and patient
C. Subscriber's Social Security Number
D. Name and address of the insurance company
E. Policy and group number of subscriber's coverage
F. Name and address of subscriber's employer.

In lieu of completing this section, a copy of both sides of the subscriber's insurance card may be submitted.

Line 6 The signature of the patient or responsible party is required.

Forms required by HMOs, and/or approval numbers, should be attached to the lab request form and submitted to the laboratory.

Tests listed on the request form are preceded by a line, providing space for a diagnosis (ICD9) code that demonstrates the medical necessity for the test, and a box that can be checked to indicate the test procedure(s) being ordered. Tests not listed on the request form can be ordered by writing the name of the desired test in the "Additional Procedures" section and indicating the test code (found in this manual) and appropriate diagnosis code.

MEDICAL NECESSITY

When ordering tests for which Medicare reimbursement will be sought, physicians or authorized individuals should only order tests that are medically necessary for the diagnosis and treatment of a patient, rather than for screening purposes. The Office of the Inspector General takes the position that a physician who orders medically unnecessary testing may be subject to civil penalties.

Medicare carriers have been instructed by the Office of the Inspector General to implement policies that ensure the medical necessity of certain services rendered to

Medicare beneficiaries. These are called National Coverage Decisions (NCDs). Each carrier has the authority to choose those procedures for which NCDs are created.

Many of the procedures subject to NCDs are for clinical laboratory testing. These tests are often referred to as Limited Coverage Tests. Once an NCD is in place for a test, the carrier requires medical necessity documentation in order to determine coverage. A carrier will deny payment for a limited coverage test when it is submitted without specific diagnosis information which supports the medical necessity for the testing. Documentation of the medical necessity for laboratory tests is reported to the carrier with a code from the International Classification of Diseases (ICD-9). ICD-9 manuals are available from various publishers.

Whenever you order a test that is subject to an NCD, an ICD-9 code is required in the test request form. The ICD-9 code should indicate the medical necessity that you, in your judgment, believe is appropriate for the test. Please provide the ICD-9 code that most accurately describes the patient's condition. Do not choose a code

merely to secure claim payment. The ICD-9 code you provide the laboratory must appear in the patient's medical record in order to support the necessity of the testing in the event of post-payment review.

ADVANCED BENEFICIARY NOTICE

In the event that a test is determined by a Medicare carrier to be medically unnecessary, the laboratory may only bill the patient if an Advanced Beneficiary Notice (ABN) has been completed and signed by the patient prior to the time that the specimen is collected.

Medicare's medical necessity requirements for coverage may not always be consistent with the reasons why you believe a test is appropriate. Nevertheless, when you have a reason to believe that Medicare may consider a test medically unnecessary, the patient should be asked to sign a completed ABN. A new, original ABN must be completed and signed each time such conditions exist. An ABN may not be requested solely on the basis that a test being ordered is subject to NCDs.

The ABN ensures that the patient understands that he/she will be responsible to pay for any services marked on the form that Medicare does not cover for one of the following reasons:

* The test is subject to an NCD and the diagnosis for which the test is ordered is not considered to be indicative of medical necessity by Medicare

* The test is ordered more frequently than Medicare considers medically necessary

* The test is for research or investigational use only and is not approved by the Food and Drug Administration

Please be sure the patient reads, understands, and signs the ABN prior to the specimen being collected. The form must be dated and the date should correspond to the date on which the specimen is collected. If the patient is unable to sign, the form should be marked with an "X" and the patient's guardian, guarantor, or other responsible party should sign the form.

SPECIMEN COLLECTION

Awareness of the type of patient to be drawn is essential for the success of the venipuncture and the safety of the phlebotomist.

The following age-specific guidelines must be followed:

Neonate (1-28 days):
1. Explains the test procedure to the parents
2. Identifies the appropriate equipment for performing the venipuncture
3. Does not leave the infant unattended
4. Handles the infant appropriately
5. Demonstrates knowledge of appropriate venipuncture sampling
6. Demonstrates knowledge of appropriate venipuncture sites

Pediatric (28 days-12 years):
1. Explains actions to the patient prior to performing the venipuncture
2. Shows all equipment to the patient
3. Uses simple directions, one at a time
4. Speaks in a calm, clear voice. Maintains eye contact
5. Provides a safe environment. Does not leave patient unattended
6. Knows when to ask for assistance in restraining the patient for safety purposes
7. Demonstrates knowledge of venipuncture sampling
8. Demonstrates knowledge of venipuncture sites

Adolescent (13-17 years):
1. Explains the procedure to the patient. Encourages the patient to ask questions about fears of the procedure
2. Identifies appropriate equipment
3. Provides a safe, private environment for the patient
4. Knows when to ask for assistance in restraining the patient for safety purposes
5. Demonstrates knowledge of venipuncture sampling
6. Demonstrates knowledge of venipuncture sites

Adult (18-69 years):
1. Explains the procedure to the patient. Encourages the patient to ask questions about fears of the procedure
2. Identifies appropriate equipment
3. Provides a safe, private environment for the patient
4. Knows when to ask for assistance in restraining the patient for safety purposes
5. Demonstrates knowledge of venipuncture sampling
6. Demonstrates knowledge of venipuncture sites

Geriatric (70+ years):
1. Explains the procedure to the patient if the patient is cognitive
2. Explains the procedure to a family member if necessary
3. Identifies appropriate equipment

4. Provides a safe, private environment for the patient.
5. Speaks distinctly, faces the patient. Uses a normal tone of voice
6. Demonstrates respect for the patient by addressing them with their name.
7. Slows down procedure if necessary
8. Knows when to ask for assistance in restraining the patient for safety purposes
9. Demonstrates knowledge of venipuncture sampling
10. Demonstrates knowledge of venipuncture sites

Difficult Patients:
1. For patients who refuse to have their blood drawn, report the patient's objections to the patient's nurse or physician. Let them explain the procedure to the patient and why the tests are needed.
2. Ask for assistance in restraining the patient if the patient can not hold still, exhibits agitated behavior or can not maintain proper positioning due to still joints.

Patients in Restraints:
1. DO NOT remove restraints from the patients. Ask the patients nurse for assistance.

Isolation Patients:
1. Identify the type of patient isolation.
2. Adhere to the isolation guidelines

Semi-conscious or Comatose Patients:
1.Take special care in performing a venipuncture on these types of patients. Anticipate sudden and jerky movements when introducing the needle.
2. Ask for assistance.

Standard Precautions should be observed when collecting blood specimens. Proper specimen handling techniques should be followed to minimize risk to the laboratory staff, and protective clothing, gloves and face protection should be worn when handling specimens.

The following steps must be taken as part of obtaining an adequate blood specimen.
DO NOT DRAW BLOOD FROM THE PATIENTS' ARM IF A PINK BAND IS PRESENT ON THE WRIST. USE THE OTHER ARM.

PATIENT IS IDENTIFIED USING THE FOLLOWING 2 IDENTIFIERS: PATIENT NAME AND BIRTHDATE.

1. *Proper hand hygiene before contact with patient by either washing hands or using the instant hand sanitizer.*

2. *Identify the patient*: The phlebotomist must ensure that the blood specimen is being drawn from the person designated on the request form. Ask the patient to state his full name, including the spelling of an unusual name and his or her date of birth..

2. *Reassure the patient*: Gain the patient's confidence and assure him that although the venipuncture may be slightly painful, it will be of short duration.

3. *Position the patient*:
   Seated- the patient should be seated comfortably in a chair, his arm positioned slightly downward on an armrest and extended so as to form a straight line from shoulder to wrist.
   Recumbent- With the patient resting comfortably on his back, extend his arm so as to form a straight line from shoulder to wrist. A pillow placed under the arm may help.
4. *Supplies*:
   Evacuated tubes or syringe
   Latex-free tournique
   Alcohol prep pad
   Sterile gauze pad (2x2) or cotton ball
   Needle (21g, or 22g
   Safety Needle Device
   Gloves (non-latex, powder free) - should be worn for all venipunctures and changed between patients.
   Sharps Container
   Coflex (outpatient only) or paper tape
   Ice (if needed)
   Syringe (if indicated)

5. *Selecting venipuncture site*:
   For most venipunctures on adults, veins located in the arm are used. The median cubital vein (central) is the one used most because it is large, close to the skin, and the least painful for the patient. At times the cephalic or basilic veins (to the side of the arm) may be used. Generally these veins tend to bruise and roll more easily.

   The veins on the back of the hand are an acceptable site for venipuncture, but do

not use wrist veins due to their proximity to nerves.

Factors in site selection:

a. Extensive scarring- Healed burn areas should be avoided

b. Mastectomy- Due to lymphostasis, specimens taken from the side on which a mastectomy has been performed may not be truly representative specimens.

c. Hematoma- Specimens collected from a hematoma area may cause erroneous test results.

d. IV- Avoid collecting from an arm with an IV due to contamination of the sample with IV solution. If no other site is available, turn the IV off and wait at least 2 minutes before collecting the specimen. When completed, turn the IV back on.

6. *Suggested procedures for "difficult veins"*

The following types of patient may have poor veins, making a successful venipuncture difficult:

-oncology patients, especially those receiving IV chemotherapy
-leukemia patients, who have had frequent blood tests
-patients with constant IV therapy
-obese patients
-babies and young children
-cardiac patients

The following techniques may prove useful in these cases:

a. Look for a blood drawing site on the arms, hands, ankles, and feet
b. Learn to trust the sense of touch. Think of four things when feeling for a vein: bounce, direction of vein, size of needle, and depth.
c. Have the patient form a fist to help make veins more prominent. Avoid "pumping" as it may affect some test values.
d. Massage the arm from wrist to elbow.
e. Apply heat to the vein site.
f. Lower the arm over the side of chair or bed.

7. *Applying the tourniquet*

The tourniquet has a tendency to pinch the skin, and should be applied about 4 inches above the venipuncture site. Since it restricts blood flow, it should never

be left on the arm for more than 2 minutes. For patients unable to make a fist, a second tourniquet can be applied below the venipuncture site.

8. *Cleansing the venipuncture area*

The following antiseptics are to be used with the following blood collections:

a. Routine venipuncture: Alcohol Pad
b. Alcohol Specimen: SEPP PVP Iodine
c. Blood Culture: Alcohol Pad and ChloraPrep® One-Step Frepp® Applicator

Routine venipuncture/alcohol specimen collection specifics:
The antiseptic is moved in a circular motion from the center of the venipuncture site outward. The area is allowed to dry to prevent hemolysis of the blood specimen and to avoid a burning sensation to the patient during the venipuncture. If the skin is touched after cleansing, the procedure must be repeated.

Blood culture collection specifics:

- Prepare the site initially with an alcohol prep pad, allowing the site to fully dry before proceeding to the next step.
- Adults: Scrub area around the venipuncture site vigorously using back and forth motion with the ChloraPrep® One-Step Frepp® Applicator.
- Infants less than 2 months of age: Scrub venipuncture site with second alcohol pad as ChloraPrep® applicator cannot be used on these patients
- Scrubbing of the site should last a minimum of 30 seconds
- Allow to air dry for approximately 30 additional seconds. Do not blot or wipe away. The drying action will complete the disinfection process.
- If speaking to the patient/provider/visitor during the disinfection process, look directly at that person; collector's mouth should not be over or close to the area being cleaned.
- If the skin is touched after cleansing, the procedure must be repeated.

9. *Inspecting the needle*

The appropriate needle is threaded into the holder or syringe until secure. When ready for use, the needle should be uncovered and inspected for small burrs, hooks, or particles that might interfere with the venipuncture.

Evacuated tubes should be collected in the following sequence:

a. Blood Cultures
b. Light blue (LB) - contain sodium citrate

c. Red (R) - no additive
d. Dark blue (DB) - no additive
e. Yellow (SS) - contain clot activator and inert serum separator gel
f. Green (GN) - contain sodium or lithium heparin
g. Lavender (L) - contain EDTA
h. Pink (P) – contain EDTA
i. Grey (GY) - contain sodium fluoride
j. Quantiferon TB Gold Blood Collection Tubes in the following order:
- Nil (Grey Top)
- TB Antigen (Red Top)
- Mitogen Control (Purple Top)
- Refer to Venipuncture Procedure-SC01 for special handling requirements. (Can be found on intranet under Laboratory Procedures-Specimen Collection)

10. *Venipuncture*

Grasp the patient's arm firmly, using the thumb to draw the skin taut and anchor the vein. Enter the vein with the bevel of the needle upwards. Some resistance is encountered, but once the point of the needle passes through the vein wall, a release is felt. One hand should grasp the needle adapter while the other pushes the evacuated tube onto the butt end of the needle, activating blood flow. The tube should be filled until the vacuum is exhausted and blood flow ceases, thus ensuring the correct blood to anticoagulant ratio. Pull the tube off the needle, and the shutoff sleeve will cover the point, stopping the flow of blood until the next tube can be inserted. ***After drawing each tube, those with additives must be gently inverted 8-10 times to ensure adequate mixing and those without additives must be gently inverted 5 times to ensure adequate mixing of clot activator throughout the specimen.***

NOTE: An Angel Wing Blood Transfer Device with Male adapter should be used when collecting blood cultures using a butterfly needle. Refer to M15 Blood Culture Collection for further instructions.

11. *Release the tourniquet*

After the blood is drawn, the tourniquet is released, allowing blood circulation to return to normal and reducing the amount of bleeding at the venipuncture site. Fold the gauze pad or cotton ball in half and hold it over the needle. Gently remove the needle and hold the pad over the venipuncture site. The patient may continue to apply pressure himself or bend the arm at the elbow to hold the gauze in place. If, after 3 minutes, the patient continues to bleed, pressure must continue

to be applied until blood flow stops. Patients on anticoagulant therapy will often need more time to stop bleeding.

The gauze pad should be folded in fourths and paper tape used to affix it to the arm as a pressure bandage. When using Coflex as the bandage on outpatients, instruct the patient to remove the bandage after approximately 15 minutes.

12. *Needle disposal*

Needles must not be recapped. Needles should be disposed of by positioning the orange safety lock on a stable surface and by pushing the needle downward lock it into place in the orange safety lock. Once in place, throw the entire device into a sharps container.

13. *Filling appropriate tubes from syringes*

If evacuated tubes are filled from a syringe, stoppers should not be removed. The diaphragm of the rubber stopper on the appropriate tube must be punctured and the correct amount of blood allowed to flow slowly into the tube. Blood should never be forced into a tube.

14. *Labeling of specimens:*

THE SPECIMEN MUST BE LABELED IN THE PRESENCE OF THE PATIENT AT THE PATIENT'S BEDSIDE.

All specimens except Blood Bank specimens, must be labeled with the following:

a. Patient's name
b. Patient date of birth.
c. Date and time of collection
d. Initials of phlebotomist
e. Unique ID# (Account Number / Medical Record Number) when available

All Blood Bank specimens must be labeled with the following:

a. Patient's name
b. Patient's date of birth
c. Date and time of collection
d. Initials of phlebotomist and 2nd healthcare professional identifying the patient
e. Unique ID# (Medical Record Number)
f. Blood Bank unique armband number

VACUTAINER COLLECTION TUBES

The color codes used throughout this manual are based upon the color of the stoppers (tops) of the blood collection tubes. The associated preservatives and anticoagulants have been added during manufacturing and are measured to provide the appropriate concentration when the tubes are filled with blood. The vacuum contained in the tube will continue to draw blood until the tube has been filled to the proper volume. It is important to fill all tubes until the vacuum is exhausted and to mix all tubes containing additives 8 to 10 times and those without additives 5 times immediately upon collection.

VACUTAINER BLOOD COLLECTION

Color Code	Stopper Color	Additive
LB	Light Blue	Sodium Citrate (3.2%)
DB	Dark Blue	None
R	Red	None (clot activator)
SS	Gold	Gel and clot activator
GN	Green	Sodium Heparin
GN-Li	Green	Lithium Heparin
GN-Li (PST)	Light Green	Lithium Heparin
L	Lavender	EDTA (K_2)
P	Pink	EDTA (K_2)
DB EDTA	Dark Blue	EDTA (Na_2)
GY	Gray	Sodium Fluoride
Y	Yellow	Acid Citrate Dextrose

Do not submit frozen specimens in glass tubes. Submit frozen specimens in plastic containers only.

SPECIMEN ACCEPTANCE

It is the policy of the WellSpan Ephrata Community Hospital Department of Pathology and Laboratory Services to accept only those specimens, which have been labeled appropriately. The Department of Pathology and Laboratory Services will accept only those specimens which have BOTH the patient full name (first and last) and birthdate documented on them. All specimens not meeting this requirement will be discarded. The only exceptions are those specimens, which are deemed irreplaceable by the Laboratory Medical Director.

Specimen Acceptance Criteria:

1. The specimen must be properly labeled (patient full name and birthdate) at the patient's bedside, accompanied by a physician order or a completed requisition (See #14 Labeling of Specimens)

2. Nicknames are not permitted.
3. The specimen must be collected in the correct container; blood specimens must be collected in the correct tube based on the tests ordered.
4. Specimens other than blood, must be labeled with specimen type, such as urine, body fluid, stool, etc.
5. Specimen handling/preparation requirements must be followed.
6. The specimen must be received in a timely manner.

Specimen Rejection Criteria: (for further instructions refer to "SPECIMEN ACCEPTANCE" procedure SC07)

1. *Specimen misidentification*
2. *Specimen unidentified*
3. *Specimen labeling discrepancies (see #14 Labeling of Specimens)*
4. *Specimen unaccompanied by adequate requisition information*
5. *Insufficient volume of blood collected*
6. *Specimen collected in wrong collection tube* (improper additive)
7. *Specimen handling/preparation requirements not adhered to.* See "Specimen Requirement and Specimen Rejection List"
8. *Clotted specimen submitted for cell count*
9. *Hemolysis*- can be caused by venipuncture, dirty tubes, freezing, or discharge of blood from a syringe into vacutainer through a small gauge needle. The following tests are known to be affected by hemolysis and will not be analyzed:

Ammonia	Neonatal Bilirubin
BNP	TROPI
CKMB	Vitamin B12
Folate	

These tests will be rejected and specimens will need to be redrawn**.**

10. *Repeated freezing and thawing of a specimen*
11. *Insufficient amount of specimen*
12. *Lipemic specimen*
13. *Specimens from patients who are not fasting for those tests where fasting is necessary*

Other Specimen Acceptance Situations:

1. Specimen received in a container/bag with contaminated outside surface
2. Specimens delayed in transport to the laboratory.

Specimens rejected as unsuitable for testing must be recollected.

Specimen Labeling Requirements:
General Labeling Requirements:

THE SPECIMEN MUST BE LABELED IN THE PRESENCE OF THE PATIENT AT THE PATIENT'S BEDSIDE.

All specimens except Blood Bank specimens, must be labeled with the following:

a. Patient's name
b. Patient date of birth.
c. Date and time of collection
d. Initials of phlebotomist
e. Unique ID# (Account Number / Medical Record Number) when available

All Blood Bank specimens must be labeled with the following:

g. Patient's name
h. Patient's date of birth
i. Date and time of venipuncture
j. Initials of phlebotomist and 2nd healthcare professional identifying the patient
k. Unique ID# (Medical Record Number)
l. Blood Bank unique armband number

ROUTINE URINE COLLECTION

1. Identify patient using 2 patient identifiers: patient name and birthdate.
2. Give patient urine collection container labeled with patient name and birthdate. This is accomplished by placing an aliquot label on the specimen container or handwriting the information on the specimen container in front of the patient.

3. Give the patient an instruction sheet for obtaining a clean catch urine specimen.
4. Patient proceeds to the bathroom and follows the directions for collecting the specimen.
    - Place the lid of the sterile cup on the sink in an upright position.
    - Open the three disposable wipes and place these next to the lid.
    - Remove your clothing as you would to urinate.
    - Sit as far back on the toilet as possible.
    - Clean yourself with the 3 cleaning wipes
    - After cleaning, start to urinate into the toilet.
    - Stop after urinating a small amount into the toilet

- Next urinate into the sterile cup provided
- The cup should not be in contact with the body, hold it a few inches away
- After obtaining the urine specimen, finish urinating in the toilet. Place the lid on the cup and wash your hands.
- Give the specimen to the staff

5. Place the container in the location instructed.
6. Advise the secretary that you have finished the collection.
7. Specimen is labeled with standard barcode label.
8. Deliver the specimen to the laboratory as soon as possible. If there is a delay, refrigerate the specimen until it can be delivered to the lab.

NOTE: If collection is for a culture and sensitivity, refer to "General Statement of Policy for Microbiology" section for specific instructions. If collection is for cytology testing, refer to "General Statement of Policy for Surgical Pathology, Hematopathology and Cytology" section for specific instructions.

24 HOUR URINE COLLECTION

1. Label the 24-hour collection container with the patient's full name and date of birth. (Preservative may be required- consult the specific test requested for necessary preservative and contact the Laboratory if needed)
   NOTE: If a preservative is needed, label the collection container with the appropriate sticker designating the preservative used and necessary precautions.
2. Instruct the patient to collect the specimen in the following manner:
   At the hour you select to start the 24-hour period, urinate and discard.
   From that time on, collect all urine passed in a clean container.
   After each collection, transfer the urine to the bottle provided.
   Try to pass the last urine just when the 24 hour period is ended and include this specimen.
   Label the container with the start time/date and the end time/date.

IF THE BOTTLE DOES NOT CONTAIN PRESERVATIVE, IT MUST BE REFRIGERATED

SEMEN ANALYSIS

1. Call the Laboratory at 738-6415 to schedule an appointment. Specimens are received Monday-Friday 8 a.m.-11 a.m.
2. Provide the patient with a clean glass or sterile plastic container.
3. Instruct the patient to collect the specimen in the following manner:

- Abstain from sexual relations for three (3) days prior to collection.
- Collect the specimen in the morning. The most satisfactory method is by masturbation directly into the container. It is important that ALL of the specimen be collected, loss of a portion will give a misleading analysis.
- Place the lid on the container.
- Write full name, date of birth, date and the time of collection on the outside of the container.

- Keep the specimen at body temperature and bring the specimen directly to the Laboratory. (The specimen can be kept warm in a pocket or underneath the arm; do not agitate the specimen in anyway; and don't delay longer than one (1) hour delivering the specimen to the Laboratory.)

POST VASECTOMY SPERM COUNT

A sperm count is usually checked monthly beginning two (2) months after vasectomy. It is recommended that two sequential counts show no sperm before considering the patient sterile.

1. Provide the patient with a clean glass or plastic container.
2. Instruct the patient to collect the specimen in the following manner.
    a. Abstain from sexual relations for two (2) days prior to collection.
    b. Collect the specimen in the morning. The most satisfactory method is by masturbation directly into the container. The entire specimen should be collected.
    c. Place the lid on the container.
    d. Write full name, date of birth, date and the time of collection on the outside of the container.
    e. If the specimen can not be delivered to the Laboratory within one (1) hour, it should be refrigerated. It must be delivered to the Laboratory (or one of the EML sites) within 14 hours of collection.

GENERAL STATEMENT OF POLICY FOR SURGICAL PATHOLOGY HEMATOPATHOLOGY AND CYTOLOGY

The degree of specimen complexity and the number of tissue blocks to be examined is determined by the pathologist at the time of gross and microscopic examination. The need for special stains is also at the discretion of the pathologist. If specific restrictions are desired by the client these must be given in writing on the Surgical Pathology or Cytology request form.

SURGICAL-PATHOLOGY
SUBMISSION OF SPECIMENS TO THE LABORATORY

PRINCIPLE: To ensure proper handling, identification, and interpretation of all tissues, exudates and non-tissue specimens submitted for pathologic examination.

DEFINITION: Specimen- A single specimen consists of all that tissue or material removed from a single anatomic site or that tissue that the submitting physician wants to be examined and diagnosed as a separate entity. Bilateral body parts must be submitted as separate specimens if they are separately removed from the body. (For example, left and right vasa deferentia, fallopian tubes, or testes. Fallopian tubes removed, as parts of a hysterectomy specimen are not individually submitted.) When there is any potential at all for malignancy, such specimens must be separated and labeled in such a way that the physician will be able to confidently identify at site of the lesion.

PROCEDURE:

Routine specimens:

A. Labeling*:* Each specimen must be submitted in a container labeled on its side with:
   1. Patient's full name and date of birth.
   2. Specimen type or location (for example, appendix, skin-left cheek, etc). The specimen designation should allow accurate placement of the tissue removed in case the ultimate diagnosis calls for site specific therapy.
   3. Specimen collection date/time.
   4. In those cases where multiple specimens are submitted from a single patient, each container should be numbered or lettered sequentially corresponding to the numbers or letters assigned on the request form. (For example, container #A, left tonsil; container # B, right tonsil.)

B. Containers:

Specimen containers should completely enclose the specimens and allow space for the addition of adequate fixative. They should provide a leak-proof seal to prevent spills of body fluids or fixative.

C. Fixative:

Specimens should be immersed in 10% formalin or other appropriate fixatives. Formalin should be added at a ratio of three parts formalin to one part tissue. Additional formalin should be added to excessively bloody specimens.

D. Request Forms:
Each specimen must be submitted with a completed Surgical Pathology/Cytology test request form. The specimen description on the request form should match the description on the specimen container.

E. Deliver to the Laboratory:
1. During normal working hours, specimens can be picked up by the Laboratory Courier Service or delivered directly by the submitter to the laboratory.
2. After normal working hours, the specimens and request forms should be brought into the laboratory and placed in the area marked for specimen delivery on the counter just inside the lab entrance.

Fresh Specimens for Immediate Examination or Processing.
These cases include tissues for "frozen sections" for intraoperative gross examination by the pathologist and other specimens that call for special handling.

A. Labeling: As # A above.

B. Containers: As # B above. If cultures are to be taken from the tissue, the specimen container should be sterile and, if possible, submitted in a separate container from the specimen submitted for pathological examination.

C. Fixative: These specimens are to be unfixed. To prevent drying and autolysis, all specimens should be placed on saline-dampened gauze (not dripping wet), and enclosed in the specimen container.

D. Request Forms: As # D above. "Frozen sections" or other special instructions are best written on the request form, especially if the surgeon has not communicated directly with the pathologist prior to the procedure.

Delivery to the Laboratory: The **Laboratory requires advance notice if fresh tissue is to be submitted**. Without such advance notice, the pathologist may not be available when needed and the specimen could deteriorate. Fresh tissues must be delivered to the laboratory without delay. The form and specimen must be handed directly to a secretary or to the histology technician, indicating what the specimen is and for what reason it is being submitted. Fresh tissues must not be left unattended in the laboratory. Routine working hours are 7:00 a.m. - 3:30 p.m., Monday - Friday, unless prior arrangements have been made with the pathologist.

CYTOLOGY
SUBMISSION OF SPECIMENS TO THE LABORATORY

To ensure proper handling, identification and interpretation of specimens, attention must be paid to the details below. Provision of accurate clinical information is essential to the correct interpretation of all specimens. Space is provided on the cytology request form for a brief history. Physicians are encouraged to speak directly with the pathologist about complex cases.

I. Genital tract. (Cervical/Vaginal "Pap smears", vaginal smears for hormone index).

A. Use standard techniques for obtaining samples. Smear evenly on glass slides with the frosted end up.

B. Immediately fix each smear with a coating of cytology fixative. Spray fixative keeping the nozzle about six inches from the slide. Failure to fix smears promptly leads to air drying artifacts, which can make cells uninterpretable.

C. Allow the fixative to dry 5-7 minutes.

D. Inscribe the patient's full name on each slide with a diamond point pen or write with a No. 2 pencil on the frosted end. Place slides in a slide holder which will prevent rubbing of the smear surfaces.

Label the slide holder with the patient's full name and birth date.

II. Genital Tract (Thin Prep Specimens):

A. Plastic Spatula
1. Obtain an adequate sample from the ectocervix using the plastic spatula
2. Promptly rinse the spatula into the Preservcyt solution vial by swirling the spatula vigorously in the vial 10 times. Discard the spatula. Any delay in completing this rinse step will cause loss of cells adherent to the collection device.
3. Tighten the cap so that the torque line on the cap passed the torque line on the vial.
4. Record the patient's full name and date of birth on the vial and all patient information and medical history on the Cytology Requisition Form
5. Place the vial and requisition form in a specimen bag for transport to the

laboratory.

B. Cytobrush
   1. Obtain an adequate sampling from the endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottom-most fibers are exposed. Slowly rotate ¼ or ½ turn in one direction. Do not over rotate.
   2. Promptly rinse the brush in Preservcyt solution 10 times by swirling the brush vigorously to release material. Discard the brush. Any delay in completing this rinse step will cause loss of cells adherent to the collection device.
   3. Tighten the cap so that the torque line on the cap passed the torque line on the vial
   4. Record the patient's full name and date of birth on the vial and all patient information and medical history on the Cytology Requisition Form
   5. Place the vial and requisition form in a specimen bag for transport to the laboratory

C. Broom (used in place of cytobrush)

Obtain an adequate sampling from the cervix using a broom-like device. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction 5 times.

Promptly rinse the broom into the Preservcyt solution vial by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart. As a final step, swirl the broom vigorously to further release the material.

Discard the broom. Any delay in completing this rinse step will cause loss of cells adherent to the collection device.

Tighten the cap so that the torque line on the cap passed the torque line on the vial

Record the patient's full name and date of birth on the vial and all patient information and medical history on the Cytology Requisition Form

Place the vial and requisition form in a specimen bag for transport to the laboratory.

III. Tzank prep for Herpes Simplex

If possible, it is best to touch the frosted side of a clean glass slide directly to a freshly unrooted vesicle with fixation and labeling as described in I. B-E above.

Inaccessible lesions such as oral lesions can be scraped with a wooden tongue

blade and smeared as for genital tract smears (I.) above.

IV. Nipple discharge

A. After gently expressing discharge, touch the frosted side of clean glass slides directly to the nipple.
B. Don't smear, but quickly touch the nipple repeatedly along the length of the slide and fix immediately as in I. above.
C. Submit at least two slides, if possible. Label with patient's full name and birthdate.

V. Breast cyst fluid

A. If any more than 0.2 ml. of fluid is aspirated, it can be refrigerated in the recapped syringe for a few hours, but it must be received in the laboratory for processing within 5-6 hours of collection. In this case, label the syringe with the patient's full name and date of birth.
B. For smaller volumes, make smears by placing several drops of specimen on a glass slide. Invert a second slide directly over it. Slide the two apart and immediately fix as described in I. above.

VI. Fine Needle Aspiration

A. Collect specimens and make smears according to standard technique

B. **Immediately** fix all slides as described in section I. above.

Note: Fine needle aspiration of superficial organs can be performed by the Pathologist.

Please schedule through the laboratory office.

VII. Sputum

A. The first morning expectorate is best. Three successive days of sampling are recommended.
B. Collect the sputum directly into containers provided by the laboratory. These contain sufficient fixative for up to an equal volume of sputum
C. Label the containers with the patient's full name and date of birth.
D. If fixative is not available, collect in a standard specimen cup and refrigerate

the specimen as soon as it is collected. Deliver to the laboratory without delay.

VIII. Bronchial Aspirates and Washings, Tracheal Aspirates

A. Use standard technique for fluid collection and collect aspirate or washings in a 250 cc screw-top container or leukie trap.
B. Label the container with the patient full name, date of birth and time of collection.
C. Deliver to the laboratory without delay.

IX. Bronchial Brushings

A. Pre-label frosted end of slides with patient name using a #2 pencil.
B. Use standard techniques for obtaining the specimen samples and smear on pre-labeled glass slides.
C. Immediately fix the slide by placing them in a coplin jar of 95% alcohol.
D. Label outside of coplin jar with patient full name, date of birth and time of collection.
E. Deliver to the laboratory.

X. Urine

A. Collect the first morning specimen.

B. Add the urine to the fixative in the containers provided by the laboratory. Up to an equal volume of urine may be collected.

C. Label the container with the patient's full name and date of birth.

D. If fixative is not available, collect in a standard specimen cup and refrigerate the specimen as soon as it is collected. Deliver to the laboratory without delay.

XI. Cerebrospinal Fluid

A. Use the standard technique for fluid collection and collect in a sterile container.

B. Label the container with the patient name, date of birth and time of collection.

C. Deliver to the laboratory without delay.

XII. Other Brushings, Fluids, Smears

A. Brushings and Smears
1. Pre-label frosted end of slides with patient name using a #2 pencil.
2. Collect the specimen and prepare the slides.
3. Immediately fix the slides by placing them in a coplin jar of 95% alcohol.
4. Or fix by using spray fixative as directed in I, B (genital tract instructions)
5. Label the coplin jar or slide holder with patient full name, date of birth and time of collection.
6. Deliver to the laboratory.

B. Other Fluids
1. Collect the specimen using standard technique.
2. Fix the specimen with an equal amount of saccomanno fluid.
3. Label the container with patient full name, date of birth and time of collection.
4. Deliver to the laboratory.

XIII. Body Fluids (Pleural, Pericardial, Ascitic, Peritoneal)

A. Use standard technique for obtaining fluid and collect in any type sterile container (vacuum bag, vacuum bottle, syringe, etc).
C. Label the container with the patient full name, date of birth and time of collection.
D. Deliver to the laboratory.

XIV. Gastric Specimens

A. Collection and Fixation of Brushings
1. Pre-label frosted end of slides with patients name using a #2 pencil.
2. Use standard technique for obtaining the specimen and smear on glass slides.
3. Immediately fix the slides by placing them in a coplin jar of 95% alcohol.
4. Label the coplin jar with the patient full name, date of birth and time of collection.
5. Deliver to the laboratory.

B. Collection and Fixation of Lavage or Other Gastric Fluid and Washings

1. Use standard technique for obtaining specimen in a 250 cc screw top container.
2. Immediately fix the specimen by adding and equal volume of 95% alcohol to the container.
3. Label the container with the patient full name, date of birth and time of collection. Deliver to the laboratory.

XV. Other Washings

A. Use standard technique for fluid collection using saline as the flushing fluid and collect specimen in a 250 cc screw top container.

B. Label the container with the patient full name, date of birth and time of collection.

C. Deliver to the laboratory.

XV. Brush From Brushings (Before or After Slides are Prepared)

A. Cut the brush off and place it in a container of saccomanno fixative.

B. Label the container with the patient full name, date of birth and time of collection.

C. Deliver to the laboratory.

HEMATOPATHOLOGY SERVICES

Bone marrow aspirate, stain and interpretation - includes cell block sections and review of the peripheral blood film.

Bone marrow biopsy, decalcification, processing, staining, and interpretation - includes staining and interpretation of corresponding marrow aspirate and review of peripheral blood film.

Iron stain of bone marrow aspirate, cell block section or biopsy - single charge for up to three (3) slides from a single case performed at the same time, e.g. aspirate, cell block, and biopsy.

Hematology consultation - Pathologist review of peripheral blood film and patient history, with written report.

Bone marrow biopsy and/or aspiration procedure, one site.

GENERAL STATEMENT OF POLICY FOR MICROBIOLOGY

Acquisition of a proper specimen for microbiological analysis is an important step in quality patient care. Consideration should be given to the following points before a specimen is submitted to the laboratory:

1. Collect specimens **before** antibiotic therapy is started.
2. Collect material from a site suspected organism will most likely be found.
3. Observe aseptic techniques in collection of all specimens.
4. Consider the stage of the disease process.
5. Instruct the patient clearly if he is to play a role in the collection process.
6. Use proper container and/or transport media.
7. Deliver the specimen promptly to the laboratory.
8. Provide the laboratory with sufficient information for proper processing.

Labeling of specimens:

1. Patient full name (first and last). Nicknames are not permitted.
2. Patient date of birth
3. Patient location when culture was taken
4. Culture site
5. Date and time of collection
6. Initials of the collector

Collection Times: the following are general guidelines for microbiological specimen collection:

1. Specimens should be collected in the AM and submitted to the laboratory promptly.
2. Early morning sputum and urine samples are optimal for recovery of acid fast bacteria, fungi and other pathogens.
3. Timing of blood cultures should be determined by the clinical condition of the patient.
4. The following specimens should be collected only after consultation with the Department of Pathology and Laboratory Services:
    a. virus cultures
    b. blood specimens for bacterial titers
    c. darkfield examinations

d. blood cultures for recovery of fungi and/or AFB
e. cultures for recovery of chlamydia, rickettsia, leptospira and other unusual organisms

URINE CULTURE COLLECTION

1. Identify patient using 2 patient identifiers: patient name and birthdate.
2. Give patient urine collection container labeled with patient name and birthdate. This is accomplished by placing an aliquot label on the specimen container or handwriting the information on the specimen container in front of the patient.
3. Give the patient an instruction sheet for obtaining a clean catch urine specimen.
4. Patient proceeds to the bathroom and follows the directions for collecting the specimen.
    - Place the lid of the sterile cup on the sink in an upright position.
    - Open the three disposable wipes and place these next to the lid.
    - Remove your clothing as you would to urinate.
    - Sit as far back on the toilet as possible.
    - Clean yourself with the 3 cleaning wipes
    - After cleaning, start to urinate into the toilet.
    - Stop after urinating a small amount into the toilet
    - Next urinate into the sterile cup provided
    - The cup should not be in contact with the body, hold it a few inches away
    - After obtaining the urine specimen, finish urinating in the toilet. Place the lid on the cup
    - Wash your hands
    - Give the specimen to the staff.
11. Place the container in the location instructed.
12. Advise the secretary that you have finished the collection.
13. Specimen is labeled with standard barcode label.
14. Deliver the specimen to the laboratory as soon as possible. If there is a delay, refrigerate the specimen until it can be delivered to the lab, or transfer into vacutainer C&S preservative urine transport tube.

SPUTUM COLLECTION

1. Supply the patient with a sterile specimen container.

2. Instruct the patient to collect the specimen in the following manner:
    a. If possible collect the specimen in the early morning to obtain overnight accumulation of secretions

b. Sit upright and cough deeply and expectorate directly into the container
c. Collect 5-10 cc of sputum
d. Place the cap on container

3. Label the container with patient full name, date of birth and time of collection.
4. Deliver the specimen to the laboratory as soon as possible.

STOOL SPECIMEN COLLECTION

1. Supply the patient with the appropriate containers for the test(s) ordered.
2. Instruct the patient to collect the specimen in the following manner:
   a. pass his or her bowels into a clean dry container (it is important that the stool be free of urine and has not been taken from the toilet)
   b. using the spoon in the container, transfer stool into the container to the **fill line** marked on the side of the container
   c. close the lid securely
   d. carefully mix any containers that have preservative
3. Label the container(s) with patient full name, date of birth and time of collection.
4. Deliver the specimen to the laboratory as soon as possible.

SKIN SCRAPING SPECIMENS FOR FUNGUS OR SCABIES

Note: Scrapings should only be collected by a physician or trained RN

1. Holding a petri dish below the affected are, scrape the skin with a knife blade so as to remove epithelial cells but not to cause excessive bleeding.
2. Label the petri dish with patient name, date of birth and time of collection. Secure the lid on the petri dish with tape.
3. Deliver the specimen to the laboratory as soon as possible.

STD PROBES FOR AMPLIFICATION (DNA) AND CULTURE

1. Amplification (DNA)
   a. *Chlamydia trachomatis:*
      - Female- endocervical swabs
      - Male- 10-50 ml of first catch urine (patient must **not** have urinated within the past two hours)
   b. *Neisseria gonorrohoeae:*
      - Female- endocervical swabs
      - Male- 10-50 ml of first catch urine (patient must **not** have urinated within the past two hours)
2. Culture
   a. *Chlamydia trachomatis:* Use VCT (pink) vials
   b. *Neisseria gonorrohoeae:* Use Transgrow media (chocolate agar)

GENERAL STATEMENT OF POLICY FOR BLOOD BANK

BLOOD BANK SPECIMEN

The collection of a properly labeled blood sample from the correct patient is critical to pre-transfusion testing. The person who draws the blood sample must positively identify the patient, properly label the blood sample tubes and armband the patient when required. For inpatient and emergency room patients a second person must also identify the patient at time of collection. Refer to page 16, SPECIMEN COLLECTION, #14 Labeling of Specimens, for instructions.

Blood Bank specimens consist of a pink top tube and expire 72 hours after time of collection.

NICU – Type and Crossmatch specimens for neonatal recipients require a specimen from infant and mother if available.

PLACING BLOOD BANK ORDERS

1. RED BLOOD CELLS AND AUTOLOGOUS BLOOD
   Order product type. Information system will determine if type and crossmatch needs to be ordered.

2. FFP, PLATELETS, CRYOPRECIPITATE
   Order product type in information system and **call the Blood Bank at ext. 6113** to alert them of the order. Information system will determine if type and screen needs to be ordered.

   NOTE: Platelets and Cryoprecipitate are not stored at Ephrata Community Hospital. Orders for these products will require extra time for shipping from the supplier.

3. STAT order turn around time is 75 minutes if no atypical antibodies are identified. If atypical antibodies are identified the Blood Bank Technologist will alert the ordering location of a delay.

NOTE: If additional units of any of the above products are needed, and the Patient's Type and Crossmatch or Type and Screen specimen are

Less than 72 hours old, place the order for the product in the information system. Call Blood Bank at ext. 6113 to alert them of the order.

NOTE: Occasionally, if the patient has a recent history of a clinically significant antibody, an alert will show when registering the patient. The alert states "Patient has clinically significant antibodies. If transfusion is anticipated, allow additional time for testing. Pre-admission testing for surgical procedures, consider type and screen.". This should be brought to the physicians' attention.

C. DISPENSING BLOOD FROM THE BLOOD BANK

The following must be presented when picking up a blood product from the Blood Bank:

1. Patient name, medical record number.
2. Blood Bank Armband Number taken directly from the patients red armband.
3. Copy of the Consent for Transfusion form signed by the patient or an authorized individual.

D. RETURNING BLOOD TO THE BLOOD BANK

A blood product may be returned to the Blood Bank with the following conditions:

1. Unit must not have been out of Blood Bank for more than 30 minutes.
2. Red cell components have been maintained continuously between 1°C and 10°C.
3. The container closure has not been penetrated or entered in any manner.
4. At least one sealed segment of integral donor tubing has remained attached to the container.

E. SPECIAL CIRCUMSTANCES

Occasionally, a patient will have special requirements for blood transfusion. These requirements may be based on clinical status, antibody findings or physician/pathologist recommendations.

1. **Irradiation** –this would be at the request of the physician and requires extra time due to the unit being sent to another facility to be processed.
2. **Washing** – this would be at the request of the physician and requires extra time due to the unit being sent to another facility to be processed. "Freshly packed" (<7 days old) units may also be

considered if the washing is requested due to an increased potassium level.

3. **Bloodwarmer** – this is usually recommended by the pathologist in response to the patients demonstrating a cold auto-antibody in the Blood Bank work-up. Bloodwarmers are stored and maintained by the O.R.
4. **In-Vivo Crossmatch** – Occasionally compatible blood cannot be found for a patient, in these cases an In-vivo crossmatch may be required by the pathologist. This consists of starting the units of blood slowly, after ten minutes the unit is stopped and a blood sample is drawn. The sample is sent to the laboratory to check for hemolysis. If no hemolysis is noted, the transfusion may continue.

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