

AVERA SACRED HEART HOSPITAL
YANKTON, SOUTH DAKOTA

POLICY: Specimen Collection		Page #: 1 of 63	Policy #: Lab
DEVELOPED/REVISED BY: Claudette Ankeny	DATE: 4-08	Previous Reviews/Revisions: 3/06, 4-06, 10-06, 1-07, 4-08, 2-10, 4-11, 5-11	
DISTRIBUTION: IntraNet	Current Review/ Revision Date: 2-2012		
APPROVED BY: Richard D. Strom, MD			

Table of Contents

General Information	page
Mission Statement and Services	
Mission Statement	4
Professional Staff	4
Client Services	5
Logistics	5
Supplies	5
Consultation Services	6
Policy Information, Billing and Compliance	
Billing Overview	7
Client Billing	7
Medicare/Medicaid Billing	7
Patient Billing	8
Third Party Billing	8
Compliance and Medical Necessity	8
Medical Necessity and Diagnosis Codes	9
Use of Advanced Beneficiary Notices or Waiver of Liability	10
Panel Utilization	10
Screening Tests	11
Non-covered Services	11
CPT Coding	11
Policy Information, Patient-Testing	
Test Requesting (overview)	12
Obtaining Orders	13
Verbal Phone Orders "Read Back" Policy	13
Lab Orders that Need Clarification	13
Inpatients, Outpatients, Outreach	13
Test Add-ons	13
Result Reporting	14
Verbal Phone Results "Read Back" Policy	14
Inpatients	14
Outpatients	14
Out Reach	14
Test Turn-Around-Time (TAT) Guidelines	15
Blood Products and Components Availability	15
Critical Value Reporting	16
Test Cancellations	16
Specialized Reporting Requests	17
Confidentiality of Results	17
Professional Courtesy Testing	17
Referral of Testing to Other Laboratories	17
Release of Patient Information	18
Repeat Testing	18

Specimen Collection and Handling Guidelines	
Blood and Body Fluids General Laboratory Testing	19
Fasting Specimens	19
Serum or Plasma	19
Whole Blood	19
CSF	19
Venipuncture Collection Guidelines	20
Blood Drawn from Lines	21
Blood Drawn from Arms with Intravenous Fluids	21
Precautions	21
Drawing Order For Vacuum Tube Collection System	22
Vacuum Tube System Reminders	22
Capillary Collection Guidelines	22
Patient Identification /Verification	23
Specimen Labeling Guidelines	23
Blood Bank Specimen Labeling Requirements	23
Trauma Lab Protocol	23
Specimens Collected for other Labs	24
Paternity Testing Collections	24
Urine Drug Screen for Outpatient Request	24
Non-Medical Blood Alcohol upon Individual Request	24
Specimen Storage and Transport Guidelines	25
Unacceptable Specimen Guidelines	26
General Criteria for Unacceptable Specimens	26
Specimen Redraw Protocol	26
Unlabeled/Mislabeled Specimens	26
Flowcharts unacceptable specimens	27-29
Therapeutic Drug Monitoring	30
Urinalysis and Urine Culture	30-31
24-Hour Urine Collection Instructions	32
Coagulation Special Instructions	33
Platelet-Poor Plasma Preparation	33
Avera Labnet Sioux Falls Service Center: Coagulation	
Consultation Study- Special Collection Instructions	34
AmniSure ROM (Rupture Of [fetal] Membrane) Test	34
Fetal Fibronectin Collection, Guidelines	35-36
Pre-Glucose Tolerance Test Carbohydrate Diet	37
Fecal Specimens for Occult Blood	37
Lactose Intolerance Breath Test	38-40
Microbiology Collection Guidelines &Special Instructions	
Culture Collection Basics	41
Reflex Testing General Guidelines	41
Microbiology Routine Culture Collection Guidelines	42
Acid-Fast Bacilli Culture and/or Smear	42
Anaerobe Culture	43
Blood Culture	45
Chlamydia Culture	46
Eye Culture	46
Ear Culture	46
Fungus Culture	46
Genital Culture	47
Miscellaneous Culture	
(Wound, Body Fluid, Aspirates, etc.)	47
Sputum Culture	47
Stool Culture	47
Throat/Nose Culture	47
Urine Culture	48
Vaginal Pathogens DNA Direct Probe	48
Vaginal Work-up	48
Wound Culture	48

Parasitology

Pin Worm Cellophane Tape Collection General Instructions	49
Ova & Parasite Extensive Panel General Instructions	49
Patient Ova & Parasite Collection Instructions	50

Virology Collection Guidelines & Special Instructions

Suitable Collection Sites for Viral Culture	51
Unacceptable Specimens for Viral Culture	51
Site Specific General Guidelines	52
Oral-pharyngeal Specimens	52
Nasopharyngeal aspirates	52
Stool or Rectal Specimens	52
Urine	52
Spinal Fluid or Other Body Fluids	52
Vesicular Fluid and Lesions	53
Eye Exudates	53
Sputum	53
Skin or Mucous Lesions	53
Biopsy of Autopsy Tissue	53
Blood - Buffy Coat	53
Practical Medical Virology: A Guide to Specimen Collection & Testing	54-55

Anatomic Pathology

Routine surgical pathology specimens from the operating room and emergency department	56
Frozen Sections	56
Cytopathology	56
Surgical pathology specimens obtained from units other than the operating room suite	57
Specimen identification and requisition	57
Disposal of limbs	58
Disposal of fetuses	58
Autopsies	58
Pap smear preparation	59
ThinPrep Pap Test System	59

Appendix

Laboratory panels	60-61
24 Hour urine collection instructions	62
Physician alert values	63
Additional test request form	64
Verbal order verification form	64
Fax results order form	64
Mislabeled specimen/requisition authorization form	64

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Mission Statement and Services

Mission Statement:

Our locally owned and operated *Avera LabNet* Service Centers located in Aberdeen, Mitchell, Sioux Falls and Yankton offer comprehensive laboratory outreach services to physicians, hospitals, clinics, nursing homes and other providers requiring laboratory services in our five state region.

Our Service Centers are equipped with state-of-the-art methodologies and equipment to provide testing in all major clinical specialties. Test offerings are further enhanced through direct, quality relationships with nationally recognized laboratories specializing in esoteric laboratory testing.

Integrated, personalized, and caring services are the outstanding features of our *Avera Laboratory Network*. We acknowledge the importance of providing integrated services in our five state region but our services continue to emphasize our belief that each of our customers and the patients they serve, have needs that are unique and require individually structured services. Therefore, we strive at all times to personally customize our services to meet the needs of the customers we serve.

Professional Staff:

Avera Sacred Heart Hospital Laboratory is quality driven by board certified pathologists. Collectively our pathologists represent over 50+ years of experience in all specialties of clinical pathology, cytology, and anatomic pathology. Our pathologists serve as active clinical consultants and are available 24 hours a day for consultation on concerns related to appropriate test utilization, test result interpretive assistance or any concerns that may occur in the course of patient management.

In addition, our laboratory takes pride in our dedicated 24+ clinical laboratory professionals which include directors, managers, consultants, technical staff and customer support staff whose combined education, experience and expertise assure quality through all pre-analytical, analytical, and post-analytical phases of laboratory and customer support services.

Client Services:

Avera LabNet's Client Service Representatives and Account Representatives take pride in serving our customers needs in a caring and effective manner.

Our Client Service Departments specialize in handling all client needs relating to:

- Specimen requirements
- Test result inquiries
- Test availability assistance
- Client communication needs
- Specialized reporting requirements
- Courier and supply assistance
- Testing change assistance
- Billing inquiries

We take pride in our Extended Client Service Coverage which is available 7 days a week, 24 hours a day to handle all our customers immediate assistance requests relating to direct testing information, specimen requirements and result inquiries.

Logistics:

Avera LabNet Service Centers provide regional courier services at no charge to our service areas in Iowa, Minnesota, Nebraska, North Dakota and South Dakota. Postal service and specialized contracted courier service may be utilized in areas outside of our direct service region.

Supplies:

Supplies required to assure proper specimen collection, preparation, ordering and transportation to Avera Laboratory Network (ALN) Service Centers are supplied at no charge. Supplies are provided only for those tests referred to ALN.

Supplies may be obtained by filling out a "Supply Requisition Form" to your ALN Service Center's Client Service Department. Supplies that may be ordered at no charge include, but are not limited to:

- Specimen transport bags, containers and pour-over tubes
- Specialty collection kits and tubes
- Vacutainer tubes for testing being sent to ALN
- Vacutainer needles and holders for sites that do not operate a CLIA licensed laboratory
- Centrifuges for sites that do not operate a CLIA licensed laboratory
- Requisitions and information forms
- Computer hardware/printers as needed to utilize secure online test requisitioning and result reporting if criteria is met

Consultation Services:

Experienced consultants are available for administrative and/or technical consultative services. Services offered are structured to meet the individual client's needs at the frequency defined by the individual client and may include, but may not be limited to:

- Review and recommendation on laboratory policies/procedures
- Review and recommendation on quality processes and process improvement strategies
- Performance of instrument validations and/or review of preventive maintenance programs
- Continuing education
- Review and recommendation on regulatory guidelines and accreditation standards
- Assistance in general laboratory management accountabilities in the areas of purchasing, capital equipment, and personnel

Consultation services are charged for on an hourly fee for service basis and require a signed agreement outlining client-requested services and frequency guidelines.

Policy Information Billing and Compliance:

Billing Overview:

Avera LabNet Service Centers are established to perform various types of billing services. It is the responsibility of requesting facility to designate the appropriate type of billing required for the services rendered and to provide correct and complete billing information based on the type of billing to be performed. In the event, that the method of billing is not marked on the requisition or if incomplete billing information is provided, the client will be billed for the services requested.

Client Billing:

Itemized monthly statements will be issued. Terms of payment are net 30 days. If an invoice is in question, please contact your Service Center's Client Service Department who may direct you to our appropriate Business Office personnel for assistance.

Clinic/Physician: *Avera LabNet* Service Centers are required to bill all tests performed on-site on Medicare and Medicaid patients. All other patient types may at the direction of the client be billed to their account.

Hospitals: Hospital clients are required to request Client Billing for all of their inpatient and outpatient laboratory services.

Medicare/Medicaid Billing:

Avera LabNet Service Centers will bill Medicare and Medicaid programs directly in accordance with all appropriate regulations. It is the responsibility of the submitting client to determine appropriate primary and secondary coverage specifics as required by federal law. All required test requisition information must be supplied at the time the test request is received. Required information includes but may not be limited to:

- Patient's specific demographic information (full legal name, sex, DOB)
- Patient's complete address
- Medicare (or Medicaid) number(s)
- Diagnosis information (ICD-9 Codes)
- Requesting physician's complete name (or last name, first initial)
- Physician UPIN identification number if not previously on file at providing laboratory

In the event that incomplete information is given at the time of the test request, test processing, resulting and reporting may be held until the client has been contacted for the complete information required by federally funded programs.

General Information

Patient Billing:

Avera LabNet Service Centers will bill a clinic's or physician's patient directly if complete billing information is provided on the test requisition at the time the specimen is submitted. If you request that we bill the patient directly, please advise the patient to expect a bill from our laboratory. Required information includes:

- Patient's specific demographic information (full legal name, sex, DOB)
- Patient's complete address
- Patient's current phone number, including area code
- Guarantor's complete information (full name, address, phone number, relationship to patient)
- Requesting physician's complete name (or last name, first initial)

Third Party Billing:

Avera LabNet Service Centers will bill third party payers directly upon request. Complete billing information must be provided on the test requisition at the time that the specimen is submitted. Required information includes:

- Patient specific demographic information (full legal name, sex, DOB)
- Patient's complete address
- Policy holder's/Guarantor's complete information (full name, address, phone number, relationship to patient)
- Insurance company complete information (name, address, policy and group number)
- Diagnosis information (ICD-9 Codes)

Compliance and Medical Necessity:

Avera LabNet Service Centers have adopted and implemented comprehensive Compliance Programs that enforce internal controls that promote adherence to applicable federal and state law and the program requirements of federal, state and private health plans. Through these formal programs, we are showing our commitment to the compliance process. We also remind all clients that they too are responsible by law to enforce and abide by rules and regulations relating to compliance regulations.

Medical Necessity and Diagnosis Codes:

- The Medicare program will only pay for tests that meet Medicare coverage criteria and are reasonable and necessary to treat or diagnose an individual patient.
- Organ or disease related panels would only be paid in whole when all components are medically necessary.
- Medicare generally does not cover routine screening tests unless covered under approved screening program criteria.
- It is the responsibility of the laboratory and the ordering physician or other authorized individual to ensure that claims being submitted for payment to federally funded programs occur only when services are covered, reasonable and necessary. Non-covered services must be identified as non-covered services through appropriate mechanisms.
- It is the responsibility of the treating physician, authorized person on the physician's staff or other authorized individual to order tests by law, to maintain in the patient record all required documentation to support the medical necessity of the service the laboratory has provided and billed to a federal or private health care program.
- It is the responsibility of the treating physician, authorized person on the physician's staff or other authorized individual to order tests by law, to provide at the time of the test request, all specific diagnostic information documenting the medical necessity of the tests requested. ICD-9 coding is the preferred format of providing diagnosis information. In the event that written diagnosis information is given, it must be in such format as to allow for direct conversion to an approved ICD-9 code. Inappropriate diagnostic information includes the use of abbreviations or truncated terminology. In the event, that written diagnosis information cannot be coded, the appropriate individual will be contacted for diagnosis clarification.

Use of Advanced Beneficiary Notices or Waiver of Liability:

An ABN need only be obtained for laboratory testing that Medicare may deny as “not reasonable and necessary” upon submission of the claim. This includes testing for which Medicare has a Local Medical Review Policy (LMRP) that defines when the testing is determined by policy to be medically necessary.

When testing ordered is to be referred to a laboratory provider that will not see the patient or have the opportunity to obtain the ABN, the responsibility of obtaining the ABN form in correct format is the responsibility of the referring entity. The completed ABN form must be submitted at the same time that the test is requested and the specimen is sent into the laboratory for testing.

Criteria for an appropriately obtained and documented ABN includes:

- The ABN must be in writing, using approved notice language.
- The laboratory providing services must retain a copy of the ABN. Blanket waivers are not acceptable.
- The ABN must be signed and dated by the beneficiary (or a person acting on the beneficiary’s behalf) prior to the service being provided.
- The ABN must cite the specific service (testing) for which payment is likely to be denied.
- The ABN must cite the physician’s specific reason(s) for believing Medicare payment will be denied. (The notice is not an acceptable waiver if it is no more than a statement to the effect that there is a possibility that Medicare may not pay for the service.)

Panel Utilization:

- Physician’s and other authorized individuals are encouraged, whenever possible, to order individual tests specific to their patient’s clinical needs. Panel ordering is not encouraged.
- Only AMA approved organ and disease specific panels will be offered.
- Physicians and authorized individuals are reminded that the Office of the Inspector General (OIG) takes the position that an individual who knowingly causes a false claim to be submitted may be subject to sanctions or remedies available under federal law.

Screening Tests:

An ABN should be obtained for payable screening tests if the service may be denied due to frequency limitations.

Routine screening services are services not covered by Medicare and do not require an ABN. ICD-9 code V82.9 (special screening of other conditions, unspecified condition) should be used to bill routine, non-covered screening tests performed in the absence of a specific sign, symptom, or complaint.

Non-covered Services:

An ABN is not needed for non-covered services under Medicare due to “statutory exclusion”. As a courtesy, please inform your patient that the services are not covered by Medicare. The following service does not require an ABN as it is specifically excluded from the limitation of liability provision: Routine physician checkups (including lab tests furnished as part of the routine physical examination).

CPT Coding:

CPT coding references published by *Avera LabNet* are provided only as guidance to assist you in billing. The CPT codes listed reflect our interpretation of CPT coding requirements only and are subject to change any time. *Avera LabNet* assumes no responsibility for billing errors due to reliance on the CPT codes we publish. It is your responsibility to verify the accuracy of the codes provided and to assign values to each code based on the guidelines for your facility.

For further reference on CPT coding, please consult the CPT Coding Manual published by the American Medical Association, and if you have any questions regarding the use of the code, please contact your local Medicare carrier.

Policy Information Patient Testing:

Test Requesting (overview):

Test requests may only be made by authorized individuals and may only be in written or system driven electronic format. Test requisitions preprinted with customer identification information will be provided at no charge to expedite written test requests.

Each specimen referred to our Service Centers must be accompanied by a completed test requisition form (written or electronically generated) that contains all required patient demographic, billing information, compliance information, and test order information. It is the responsibility of the requesting provider to complete all required information. In the event that incomplete required information is supplied, specimen testing and reporting may be held until the customer has been contacted for the information.

For ancillary departments of Avera Sacred Heart Hospital, refer to the Order Entry Module to complete this task.

Telephone or verbal test requests will be accepted but do require that written authorization protocol be followed.

Obtaining Orders:

Verbal Phone Orders "Read Back" Policy:

When orders are given over the phone, the orders will be asked to be repeated back to the person from the laboratory, which will include patient's name and orders. This "read back" will be documented in the comments area with the initials of the person reading the orders and the initials of the person receiving the order.

Lab Orders that Need Clarification:

Every attempt will be made to accurately place a written or verbal order in Meditech. If clarification or further interpretation is needed, the unit, doctor or submitting client will be contacted for the information needed. The name of the person contacted to clarify the order will be documented in Meditech.

Inpatients

- Inpatients assigned to a bed location will have orders written on the patient's chart. These orders will be entered into the computer by the nursing staff. These orders create computer-generated labels, which the laboratory staff takes with them to draw the specimen.

Outpatients:

- Outpatients with a hospital location (ex. ED, SDS, etc.), will have orders written on the patient's chart. These orders will be entered into the computer by the nursing staff. These orders create computer-generated labels, which the laboratory staff takes with them to draw the specimen.
- Outpatients that come to the laboratory to be drawn will either come with an order from their physician, orders will be sent or faxed before the patient arrives at the laboratory or the orders will be phoned to the laboratory by the physician or the physician's nurse. These verbal orders will be verified by "read-back" of the results by the person receiving the orders. (See "Read Back" policy above) When orders are taken over the phone, the laboratory will make three documented attempts of getting a written order from the physician.

Out Reach:

- Out reach orders will be made available to the laboratory on a requisition that has been provided to the out reach client by the laboratory. This requisition will accompany the specimen to the laboratory.
- If an out reach client requires a test to be added on to a specimen that is already at the laboratory, the laboratory will fax an "Add Test" request form to the out reach client who will sign and fax it back to the laboratory.

Test Add-ons:

The Client Service Departments can arrange to do additional testing on specimens previously submitted for testing providing the following conditions apply:

- Sufficient volume is available
- Original specimen type is acceptable for additional testing requested
- Specimen stability guidelines have not been exceeded
- Additional testing requested does not require documentation that is not available and is required by federally funded programs (i.e. covered by Local Medical Review Policy)
- "Add Test" form has been received. (see appendix)

Result Reporting:

Verbal Phone Results "Read Back" Policy:

When results are given over the phone verbally, the results will be asked to be repeated back to the person from the laboratory, which will include patient's name and the results. This "read back" will be documented in the comments area with the initials of the person receiving the result and the initials of the person reading the results

Inpatients:

- Inpatients assigned to a bed location will have results reported as soon as they are verified. Critical results are called to the nursing station for the bed location and the nurse will follow-up with the physician who ordered the test. (See "Read Back" policy above)
- Inpatients assigned to a temporary location will have results reported as soon as they are verified to both the temporary location and their bed location. Critical results will be called to the temporary location. (See "Read Back" policy above)
- Inpatients with a discharge status in the Meditech system, will have the result report printed in medical records and in the attending physician's fax number or printer. Results that meet our critical criteria are also called to the physician's office. (See "Read Back" policy above)

Outpatients:

- Outpatients with a hospital location (ex. ED, SDS, etc.), will have the results printed at their location upon verification of the test result.
- Outpatients that have been discharge in the Meditech system will have the result report printed in medical records and at the attending physician's fax number or printer. In the event that there is not a physician listed besides the ED physician, the results will be forwarded to the ED department for patient follow-up. Results that meet our critical criteria are also called to the physician's office. (See "Read Back" policy above)

Out Reach:

- Outreach testing will have results printed/faxed to the client's location automatically after verification on a schedule of 2-4 times per day.
- Critical results will be called ASAP. If the outreach client is closed the result will be called the following morning that the client is open for business. (See "Read Back" policy above)
- Clients may request our laboratory to forward test results to another healthcare provider. Avera Sacred Heart requires a contact person, the business name and address, a telephone number and a secured fax number to send results to. This is necessary to have on file for HIPPA compliance.

Test Turn-Around-Time (TAT) Guidelines:

Reporting TAT's vary in the type of reporting chosen to specifically meet the individual needs of the customer. Mailed or hand-delivered reports may slightly increase the result TAT as compared to electronic or direct reporting mechanisms. The individual test listing section of this *User's Guide* will give general guidelines as to when the analytical procedure is performed and then reporting will occur shortly thereafter. If testing results are needed and have not been final reported to the ordering customer, results may be obtained by calling your Service Center's Client Service Department.

Reporting of results should occur within the following time frames. If the results cannot be reported within this time, the appropriate floor/unit should be notified of the delay and estimated result time:

- STATS... < 1 hour
- ASAP... same day
- Routine... if delayed >24 hours
- Testing that requires > 6 hours to perform or specimens that are sent to reference labs, do not fall under these restrictions.

Blood Products and Components at Avera Sacred Heart Hospital

ASHH has a contractual agreement with the Siouxland Community Blood Bank in Sioux City, IA. The Siouxland Community Blood Bank provides an inventory of blood products at ASHH to supply 95% of the transfusion needs at ASHH. Siouxland Community Blood Bank is available to process and deliver blood products 24/7, 365 days a year.

Avera Sacred Heart Hospital Laboratory keeps the following products on site:

Leukoreduced Packed Red Cells

O positive
O negative
A positive
A negative
B (neg or pos)

Fresh Frozen Plasma

type O
type A
type AB

Platelets

Cryoprecipitate

Special request blood products require additional time to test or modify the blood product. Blood products considered special requests would include, but not limited to phenotyping, CMV negative, irradiated, single donor platelets, etc. If the blood product is currently in Siouxland Blood Bank's regional inventory, the product can be available at ASHH in less than 24 hrs. If the product needs to be harvested from a donor or shipped from another blood bank's special reserve, the process may take up to 72 hrs before it is available at ASHH.

Critical Value Reporting:

When critical values are obtained during the testing process, Client Service or Technical personnel will call results to the appropriate care provider. If the patient has been dismissed, the result will be called to the physician or designee. In the event that critical values are obtained during hours or days when a client facility is not open or the physician cannot be reached, the result will be called to the pathologist on call and a phone call will be placed to the client facility during the next available business day.

Critical values are also “flagged” on the test report, so in the event that reports are directly transmitted to facilities via faxes, printers, or electronic systems, it is the responsibility of the receiving facility to closely review the reports being received for critical values.

Test Cancellations:

Avera LabNet Service Centers will accept requests for test cancellation received from the originating client prior to the testing being completed. The client will not be charged for the testing cancelled. The specific information relating to the test cancellation will be documented appropriately. Requests for test cancellation received after testing is completed cannot be honored; the test will be reported and the client will be charged appropriately.

Verbal orders for laboratory tests are permitted by *Avera LabNet* Service Centers only if the ordering physician or authorized individual agrees to complete written authorization for the test request within an acceptable time frame.

Specialized Reporting Requests:

To serve our customers individualized needs specialized reporting requests will be honored. **It is the responsibility of the customer to clearly document on each test request complete instructions for the specialized reporting requested such as “call results to” or “copy results to”.**

Instructions must clearly identify the reporting specifics required and must include complete:

- Name of facility, physician, or authorized individual to receive the report
- Fax or phone number; or
- Address, if results are to be mailed

Confidentiality of Results:

Avera LabNet Service Centers strive to maintain the confidentiality of all patient information. To ensure the appropriate release of patient results in response to a telephone inquiry, one of the following may be required:

- Specimen identification number
- Client identification number
- Name the person placing the verbal request and the phone number the results may be called to

Direct result transmission to a client’s facility via fax, printer, or electronic system is considered to be a confidential transmission. Clients are requested to enforce appropriate confidentiality requirements on the receiving end.

Professional Courtesy Testing:

Federal and state regulations prohibit offering, “professional courtesy testing”; therefore, we cannot honor requests for this service.

Referral of Testing to Other Laboratories:

Testing that is not completed within our *Avera LabNet* Service Centers is referred out to approved reputable, licensed reference laboratories. These laboratories are carefully selected on the quality and service that they provide. If a client requests that testing be sent out to another laboratory when the testing is either performed on site or is routinely sent to our approved reference laboratory, our Service Center will charge an additional processing to cover special handling to the facility requesting the special referral.

Release of Patient Information:

Testing results will only be released to authorized individuals. Patient results will automatically be reported to the ordering physician or authorized individual via the reporting mechanism established with the originating client facility. If patient results need to be reported to a secondary referring physician and/or facility, a written order must be received indicating where results are to be reported. The primary ordering physician and/or facility will not release patient results to a secondary referring physician or facility without prior authorization.

Results will only be released to a patient when a written order to release information is on file from the ordering physician or authorized individual. Patients may also request release of their testing results by completing the appropriate "Medical Release Statement".

Repeat Testing:

Repeat testing determinations are performed routinely as part of *Avera LabNet's* Service Centers ongoing quality assurance programs. This type of repeat testing is performed prior to the testing results being verified and reported.

If there are any questions relating to the validity of a result with respect to clinical findings, *Avera LabNet* Service Centers will be happy to repeat the assay at no additional charge. Please contact your Service Center's Client Service Department and request that testing be repeated. You may also be asked to provide documentation as to why you wish to have the testing repeated.

Blood and Body Fluids General Laboratory Testing

The accuracy of any laboratory test result is dependent upon the integrity of the specimen on which it is performed. This section gives guidelines to follow for collecting and transporting blood and body fluids. Specific test requirements are found in the Alphabetical Test Listing in the ALN Service Guide or the Quick reference guide following this manual. Please feel free to call your *Avera LabNet* service center with any questions.

Fasting Specimens:

An overnight (12-16 hour) fast is required for most fasting specimens. If individual tests require specific fasting requirements, the requirements will be outlined in the Collection Notes Section of the individual test listing.

Serum or Plasma:

Draw blood into tube appropriate for the test(s) required. The amount of blood should be 2.5 times the volume of serum/plasma required for testing. Allow the tube to fill properly. Tubes with anticoagulant need to be inverted 8-10 times to avoid clot formation. Do not shake. Centrifuge the specimen and separate the serum/plasma as soon as possible (< 1 hour from time of collection) into a plastic transport tube, being careful not to transfer any cells. Samples for potassium measurement should not be centrifuged more than once because results will be falsely increased. Carefully tighten transport cap. On the transport tube clearly identify the specimen as serum or plasma (and anticoagulant when used). Rare testing may require different timing from collection to sample separation. Special requirements will be clearly identified in the individual test listings under Collection Notes.

Platelet-Poor Plasma: Refer to Coagulation Special Instructions Section

Platelet-Rich Plasma: Refer to "Stypven - Collection Note Section" in alphabetical test listing, ALN Manual.

Whole Blood:

Draw blood using correct anticoagulant tube appropriate for the test(s) required. Allow the tube to fill completely and invert 8-10 times to facilitate mixing with anticoagulant and avoid clot formation. Submit original collection tube, completely labeled, for testing.

CSF:

Transfer CSF to leak proof plastic vial for transport. Conventional CSF screw cap collection tubes generally leak and are not recommended. If multiple specimens are being submitted for different types of testing, be sure to label specimen transport tubes with the original specimen container number (tube #1, tube #2, etc.). Use tube 1 for chemistry, tube 2 for microbiology, tube 3 for hematology, and tube 4 for other testing.

Specimen transport of CSF within the physical plant at Avera Sacred Heart Hospital will be accepted as long these specimen tubes are transported in an upright position.

Venipuncture Collection Guidelines:

- It is the policy of Avera Sacred Heart Laboratory to protect employees from exposure to blood borne pathogens through Universal Precautions and compliance with the OSHA Blood borne Pathogen Standard Section 1910.1030 (Safety Management Manual: Universal Precautions).
- Assemble all supplies necessary for the venipuncture
- Properly identify the patient (See Patient Identification/Verification, this section)
- Apply tourniquet around arm, 3-4 inches above the preselected venipuncture site.
- Cleanse site with alcohol or approved site preparation solution (certain procedures will require that alcohol not be used in cleansing the site)
- Allow cleansed area to air dry to prevent burning sensation or hemolysis of specimen
- Grasp patient's arm firmly, placing thumb 1-2 inches below the chosen site to draw the skin tight (this technique will also assist in anchoring the vein for access)
- Perform venipuncture with needle bevel side up.
- Collect specimen(s) utilizing a vacuum tube system or syringe method. (See: Drawing Order For Vacuum Tube Collection System, this section) Utilize safety features of blood collecting devices.
- When using vacuum tube system for collecting the specimens, assure that all tubes containing anticoagulant are filled to required volumes (exhaustion of vacuum) and are mixed 8-10 times by gentle inversion immediately after collection. DO NOT SHAKE specimens
- If the collection of citrated specimen is performed in a manner that includes tubing with dead space, be sure to use two citrate collection tubes. One to take up the dead space and result in a partial fill and a second tube to collect a full and properly anticoagulated specimen.
- Release tourniquet as soon as possible after venous access is successful.
- Remove needle from site, apply direct pressure with cotton ball or gauze.
- Ensure hemostasis is complete before patient is bandaged. This requires pressure to the puncture to be released and a visual observation of a duration that ensures the detection of subcutaneous bleeding.
- Band-Aids may be applied to patients 3 years and older.
- After safety features have been activated with the vacuum tube collection set, discard without disassembly.
- After safety features have been activated for a needle attached to a syringe, remove and discard the needle and replace it with a safety-transfer device to fill the tubes.
- Label all specimens according to protocol prior to leaving the drawing area
- Blood letting devices are to be stored and disposed of in a manner that conforms to the Infection Control Manual; Standard Precautions. (Public Folders; Section VIII)
- Tourniquets will be discarded after use. Tourniquets may be used repeatedly for the same patient if kept by the bedside until dismissal.
- Should an adverse reaction such as weakness, sweating, dizziness, nausea, vomiting, or fainting occur: Remove tourniquet and withdraw the needle from the arm at the first sign of an adverse reaction during the phlebotomy.
 - If nausea or vomiting occurs, make the participant as comfortable as possible, instruct them to breathe slowly and deeply, apply a cold compress to their forehead, turn their head to side and get a bucket or emesis bag for a receptacle. Offer the participant a glass of water.
 - If a participant becomes faint or dizzy have them lie down or sit down with their head between their knees. If fainting occurs, place the participant on his/her back and raise their feet above the level of their head, loosen tight clothing, apply a cold compress to their forehead and check their pulse.
 - If bleeding persists from the venipuncture site, raise their arm and apply pressure.
 - Alert the Lab Manager or Lab Director and call ED in case of emergency.

Specimen Collection and Handling Guidelines

Blood Drawn from Lines:

Blood drawn from lines may be used for laboratory testing except for coagulation studies. The first 5 mL of blood withdrawn from a line should be discarded prior to placing blood for testing into tubes.

- If in extenuating circumstances and blood can not be obtained for coagulation studies from a venipuncture, a line may be used: the first 20 ml of blood must be discarded.

Blood Drawn from Arms with Intravenous Fluids

When an intravenous fluid (including transfused blood products) is being administered in a patient's arm, blood should not be drawn from that arm if at all possible. Test results from this blood may be erroneous and thus misleading to the physician. If the opposite arm is not available, you may draw from below the IV site. In this case have the nurse turn off the IV for 2 minutes before drawing the blood sample.

Satisfactory specimens may be drawn above the IV site only if other alternatives are not possible. The following procedure should be followed.

- Ask the responsible caregiver for the intravenous infusion to turn off the IV for at least five minutes before venipuncture. Care should be taken to ensure that the flow has been completely discontinued.
- Perform the venipuncture.
- Document that the venipuncture was performed above an infusion site and that the infusion was temporarily stopped.

Precautions

- If after 2 unsuccessful attempts at the venipuncture, request another laboratory staff member to assess the success probability and attempt if confident of a successful blood draw. A third attempt may be tried if no other staff is available. If at that time there is no success, notify the physician of the situation.
- In general, blood should not be drawn for laboratory testing during blood infusion. If testing must be done, blood should be drawn from the arm opposite where the blood is being administered.
- Never draw on the side of a mastectomy or from the feet unless you have a doctor's order.
- If patients ask for the test results of previous work, direct the question to the patient's physician. Laboratory personnel are not allowed to give out this type of information.
- Beware of the combative patient, ask for help.
- If the patient refuses to have blood drawn, DO NOT ATTEMPT TO DRAW IT. In a voluntary hospital this could result in assault and battery charges. Inform the nurse in charge and document on report or cancellation memo in computer. A new requisition will be required from the nursing service personnel if the patient changes his/her mind.

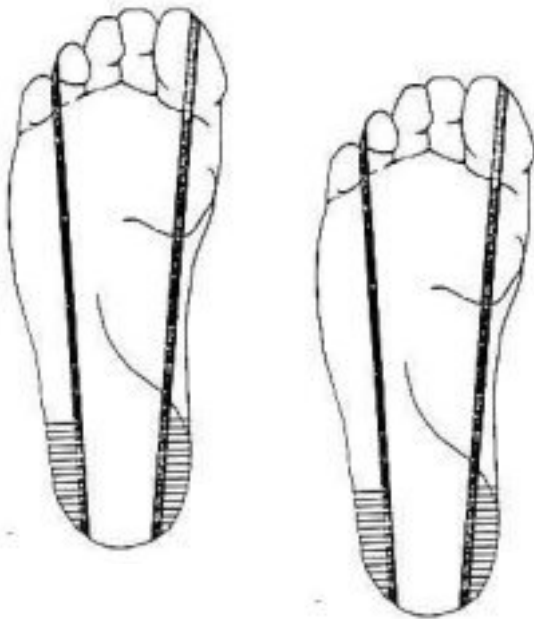
Drawing Order For Vacuum Tube Collection System:

- Culture tubes or culture vials
- Sodium-citrate tubes (light blue top)
- Serum tubes with or without clot activator, with or without gel separator (SST) (red, gold, speckled-stopper)
- Heparin tubes with or without gel (green)
- EDTA tubes (lavender)
- Glycolytic inhibitor (gray)

The same order of draw should be followed when transferring blood specimens from a syringe to multiple blood-collection tubes. (NCCLS, document H3, Procedure for the collection of Blood Specimens for Diagnostic Testing by Venipuncture Dec. 2003)

Vacuum Tube System Reminders

- Use vacuum tubes that are within their expiration date and that have been stored per their manufacturer's instructions.
- Tubes with powdered anticoagulants should be tapped near the stopper to dislodge any anticoagulant that may be between the stopper and the tube wall.
- All tubes with liquid anticoagulants should be filled to the exhaustion of the vacuum to ensure proper ratio of anticoagulant to blood.



Capillary Collection Guidelines

- When it is necessary to use capillary blood for a test procedure, all reports should contain the phrase "heelstick" or "fingerstick" in the comments section.
- A single skin puncture using a tenderfoot (for heelstick) and tenderlett (for fingerstick) is sufficient for the collection of about 0.1 ml of blood in about 90% of patients.
- The typical amount of serum or plasma available from this volume blood is about 30 to 40 ul, assuming a hematocrit of 50%.
- Following skin puncture, apply pressure until bleeding has stopped. Band-Aids may be applied to all heelsticks and also to fingersticks of patients 3 years and older.
- Figure 1. Heel of neonate showing preferred site for skin puncture. (After Siimenfeid et al: Lancet h230. 1979)

Specimen Collection and Handling Guidelines

Patient Identification /Verification

- When obtaining a specimen from a patient with wristband identification, compare name and account number on their wristband with name and account number with the order in hand.
- All in-patients and outpatients will be identified with wristband identification. Ask the patient to verbally verify his/her identity, whenever possible, at the time of specimen collection.
- Exceptions (patients without wristband identification):
 - Employee drug screen clients (identify with a photo ID or employer representative)
 - Paternity test clients (identify with a photo ID)
 - Health screen clients.
 - Patients with recurrent account (identify by asking patient name and birth date)

Specimen Labeling Guidelines

Label all primary specimens collection tubes with:

- Patient's name and one other identifier at the time of collection. Submitted slides may be labeled with a single identifier, but two identifiers are preferred. Examples of other acceptable identifiers include but are not limited to: date of birth, hospital number, or requisition number. Label tubes from the patient's wrist band.
- Collection date/time
- Phlebotomist name or initials.
- Sample type should be indicated on the tube.
- Proper identification of the patient and subsequent samples must begin when the specimen is collected. The identifying link; two patient identifiers and sample type, must be maintained pre-analytically, analytically, and post-analytically.
- Transport specimen to lab following the guidelines outlined in the Infection Control Policy Manual; Section X- Handling Specimen in Transport to Lab, Accidents and Spills. For use of the pneumatic tube system in transporting specimens, see Section VIII-37 of the Infection Control Policy Manual.

Sample aliquots:

- In such case that additional testing is requested, an aliquot specimen may be used if analyte integrity has been maintained and the aliquot sample has been labeled with two identifiers and sample type.

Blood Bank Specimen Labeling Requirements

Mandatory blood bank specimen labeling requirements are required. EDTA specimen must be hand labeled with the following information:

- patient's full name
- date and time specimen was collected
- initials of person that drew the blood
- hospital number and blood bank armband wristband # if available.

If there is no blood type documented in the patient history at ASHH, a second person must verify the identity of the patient with the sample tube. This second person will take the tube to the bedside and compare the identifying information on the tube to the identifying information on the patient's wristband. This second person also needs to initial the tube of blood.

Trauma Lab Protocol

The ED physician or ED nurse will direct the Communications operator to activate the trauma team and level of activation (i.e. Trauma Team RED or Trauma Team YELLOW). The operator will audio page overhead (i.e. "Trauma Team Red") three times with ETA if applicable. Lab personnel will respond by going to the Emergency Department.

Lab Tech:

- Timely completion of lab testing and communicates abnormal labs directly to trauma nurse.
- Coordinates Blood Bank for O Negative units, type and crossmatch process and type specific blood.
- Lab draws as needed if blood is not obtained during IV access.
- See page 61 for tests included in trauma lab panel.

Specimen Collection and Handling Guidelines

Samples collected for other labs

Procedure for tests not done at our facility and results not received by our facility:

- When drawing patients that come in with kits or orders for tests to be done at another lab:
 - Order VP
 - Process fee CHG.PROCESS
 - Misc test (on order line put the test name and where it is going)
- If drawing for a possible transplant match, no charges are to be made.

Paternity Testing

Use kits provided by the investigating agency: Lab Corp, Identity Genetics, Inc., and Orchid Cellmark-Dayton

Follow all instructions included in the kit

- Client information
- Collection of samples
- Client authorization form, including provided affidavits, court orders etc.
- Sealing and providing all requested chain of custody documentation
- Ship by service included in kit

If payment is enclosed with the kit for the collection, use UNKnown as client when putting into the computer. Otherwise list the investigating agency as the client.

CCCOLP is entered for the test code.

Urine drug screen for outpatient request:

Example: Parent requesting drug test for child

- Pay before testing done: cash or check, \$55.00
- See On Site Drug Testing Manual in drawing room. Kits are in lower cabinet below forms
- Give customer the top copy with result sticker in place. If positive you do not need to send for confirmation.
- In computer: client is unknown, charge CCCOL and CCCOL5

Procedures for drug testing for employers on their employees can be found in the Information Manual for Urine and Alcohol Collection located in the drawing room.

Non-medical blood alcohol upon individual request

- Collect fee of \$70.00 cash or check. Use lab receipt book located in drawer by the pneumatic tube system. Include requester's address and phone number.
- Use state alcohol collection kit and collect sample according to blood alcohol procedures. Fill out form as shown in appendix.
- Keep yellow copies of the receipt and state request forms.
- Send to state with ASHH lab courier.
- Results: State will send ASHH lab the results, we will send them to the individual requesting testing.

Specimen Storage and Transport Guidelines

Individual test listing will specify correct specimen storage and transport temperatures required.

Specimens should be refrigerated until courier pick up or mailing unless otherwise specified in the test listing. Specimens requiring refrigeration during transport should be sent with chilled "cool packs".

Certain tests will list temperature requirement as "Frozen (< -20C); Refrigerate LIMITED TIME ONLY - See Notes". This type of storage requirement will allow for storage and transport of specimen at refrigerated temperature ONLY if transport/storage of specimen will not exceed a certain time frame. If there is any possibility that time frame from specimen collection to time prepared specimen is received by the Service Center for testing will exceed time limits, please freeze specimen. Contact your Service Center with any questions relating to frozen specimen integrity.

Specimens which require freezing should be frozen ASAP in a PLASTIC TRANSPORT TUBE [unless Collection Note Section includes different instructions], allowing room for expansion during freezing. Transport with frozen cool packs in a insulated container may be adequate provided the specimen will be delivered to the Service Center within 4 hours. Otherwise, dry ice should be used in transport.

Send a separate specimen for each test requiring a frozen sample. This will prevent compromising the specimen by thawing and refreezing of the sample if testing is performed on different days or at different locations.

All specimens must be placed in a sealed leak proof biohazard transport bag prior to transporting with courier.

Unacceptable Specimen Guidelines

General Criteria for Unacceptable Specimens

Specimens may be rejected for many reasons including the following:

- Hemolysis
- Lipemia
- Insufficient quantity
- Improper preservative
- Unlabeled specimen
- Mislabeled specimen
- Improper specimen collection

Individual test listings will outline certain biological criteria that will determine a sample to not be suitable for testing. You will be notified of specimen rejection ASAP. No specimen will be discarded due to rejection until the ordering physician or client has been notified. If recollection of the specimen is impossible or would compromise patient care, it may be possible in some cases to provide a result

WITH THE FULL UNDERSTANDING OF THE PHYSICIAN that, the validity of the results may be questionable.

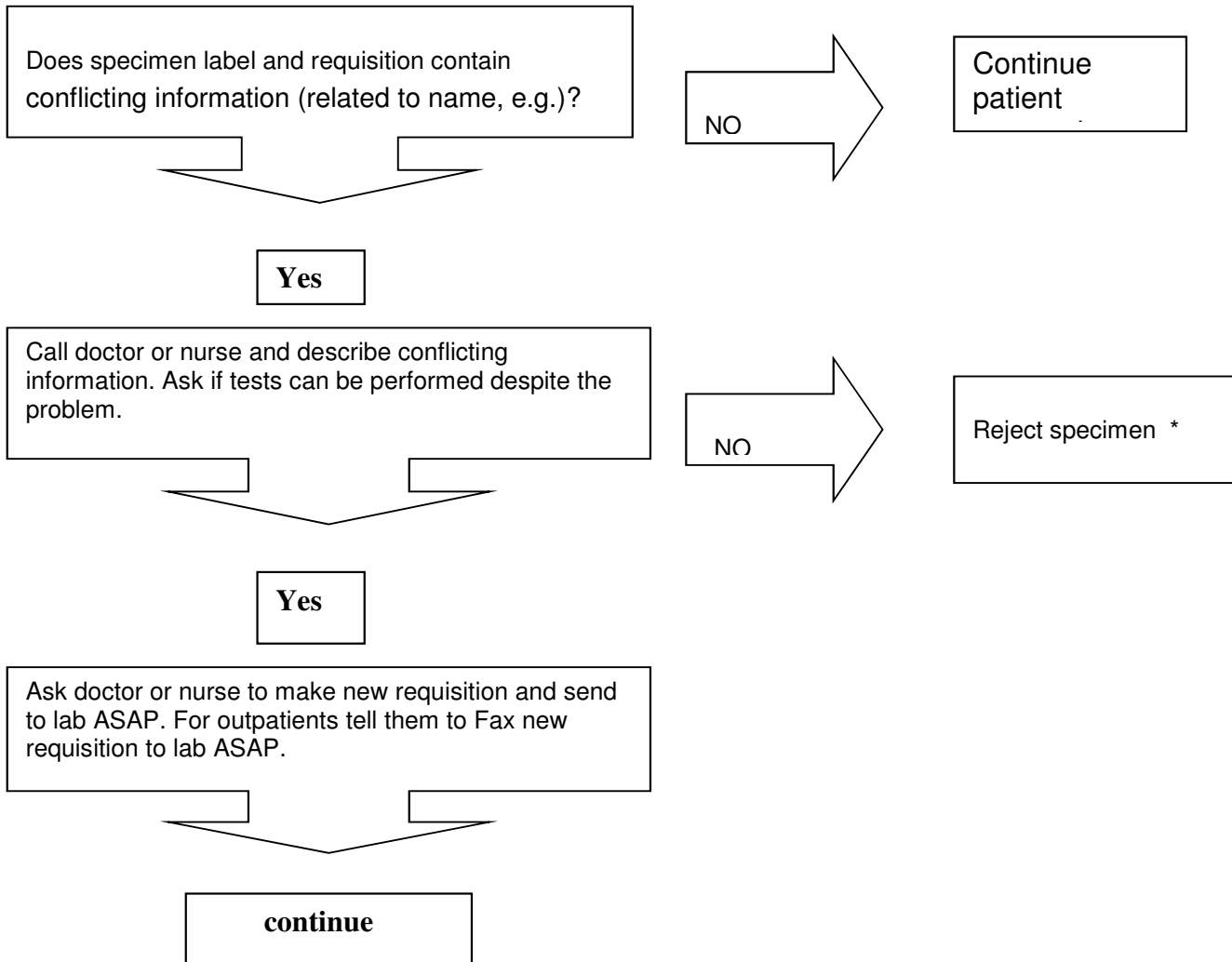
Specimen redraw protocol:

1. Call the appropriate nursing unit, to inform the patient's nurse that a redraw or recollection is indicated.
 - Document this dialog as a specimen comment on the requisition. Comment "**QSPEC**"
 - Identifying other specimens drawn at the same time that may have been affected during the initial drawing process and communicating to all testing staff the need for a redraw.
 - Ordering facility or clinician may decide that testing should be performed on the submitted specimen, results must be reported with a disclaimer as to the quality of the result obtained. Use comment "**QSUB**" to document request.
2. Recollection of specimen: All samples should be recollected
 - Specimen comment, "**QRCI**", indicates that the sample was recollected
 - Collection Date and Time should reflect the recollected event.
 - Testing already verified from other departments should be rechecked on new specimen. Corrected report should be issued when indicated.
3. Rejected Specimen log:
Document all rejected specimens on the log, indicate if the sample has been recollected or cancelled.
4. Enter Specimen Marker RC on the requisition in Meditech.
 - Desktop/Specimen/Edit: Select Markers
 - Enter specimen number
 - Enter RC marker

Unlabeled/Mislabeled Specimens

Avera Sacred Heart Laboratory will make every attempt to correctly identify specimens. However, when we find an improperly labeled specimen, we will follow the flow charts on the following pages to determine if the specimen should be recollected.

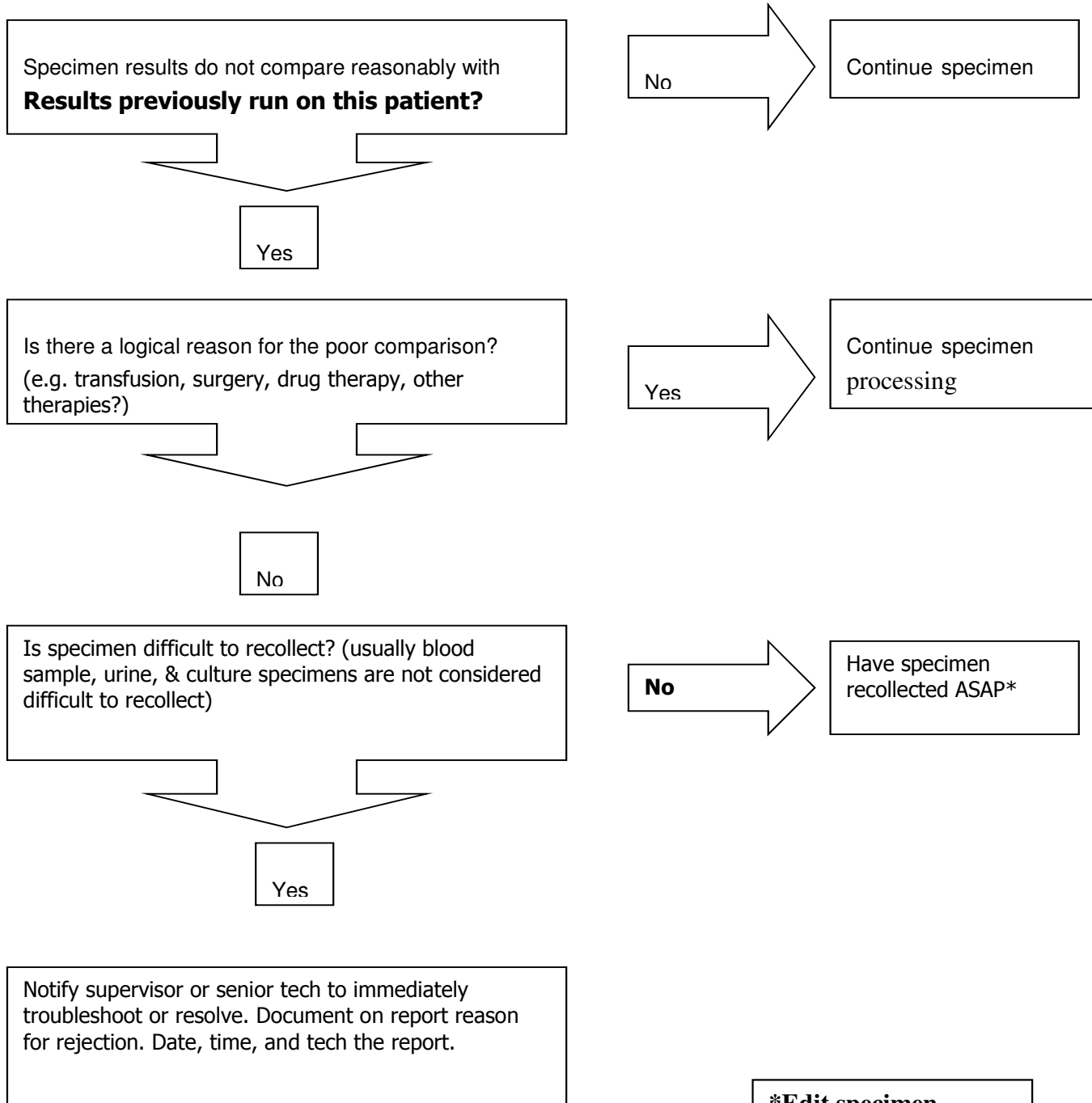
Specimen/Requisition Information Mismatch Flowchart



Append comments to all orders as follows:
--**Conflicting information.**
--**New requisition to be sent by doctor or nurse.**
--**Your initials, date, and time**

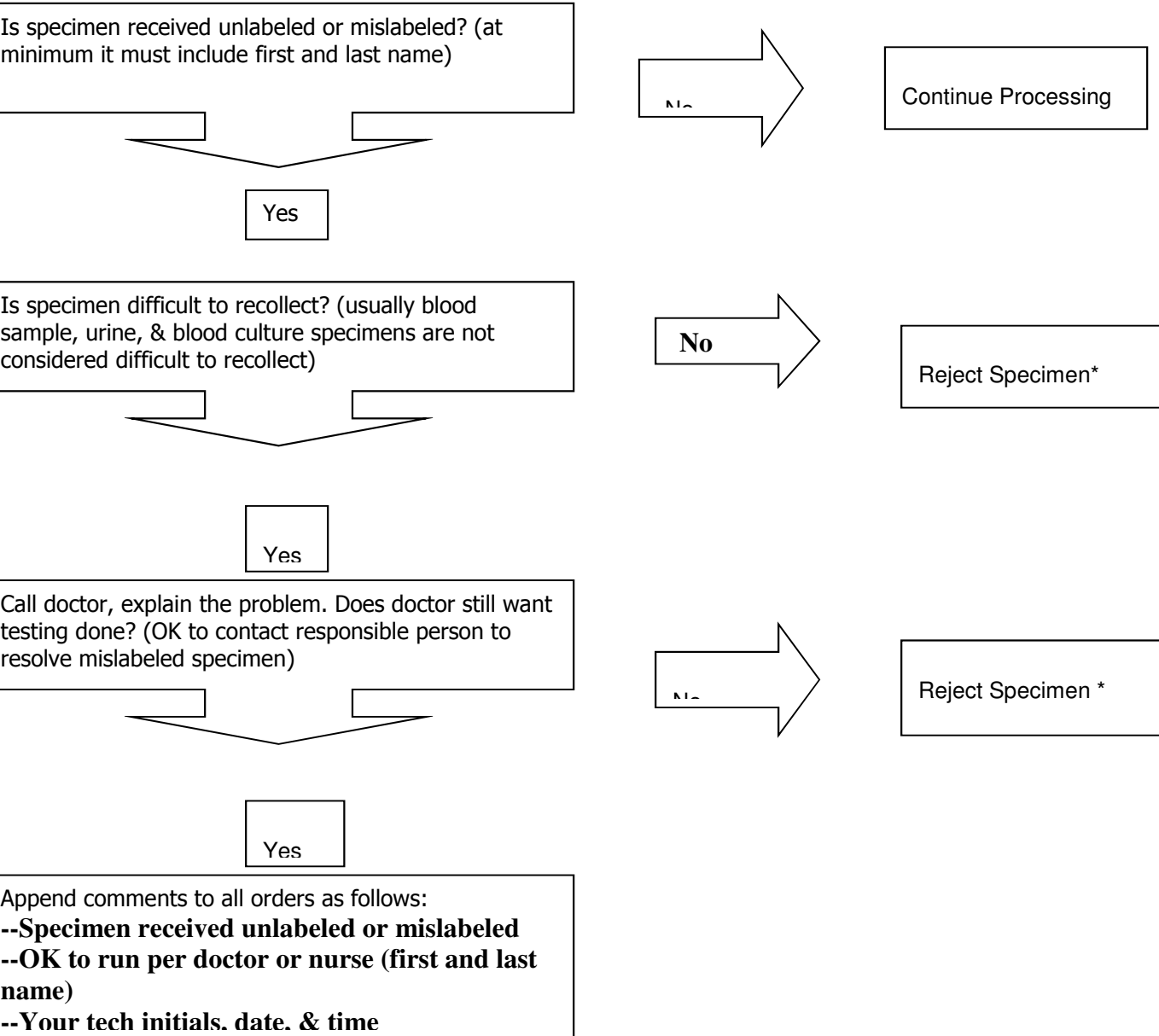
* Cancel

Unsatisfactory Specimen Flowchart
Delta Check Failures



***Edit specimen collection time and add comment. If specimen is to be recollected outside the hospital cancel and reorder.**

Unlabeled/Mislabeled Specimen Flowchart



***Cancel Charges**

Specimen Collection and Handling Guidelines

Therapeutic Drug Monitoring

Specimen collection and storage on a gel barrier heparin tube can decrease the concentration of certain drugs in the specimen. Depending on the specimen volume and the storage time, the decreases may be clinically significant. We do not recommend the use of a heparin separator gel tubes for collection of therapeutic drug testing for assays that will not be tested promptly.

Peak, Trough and Random Levels: Reference ranges for certain therapeutic drugs are based on the time the specimens are drawn according to time guidelines around the time of the drug dose/infusion (Peak and Trough Levels). If a drug level is offered as a "Peak or Trough" level, it is recommended to follow the specimen timed drawing guidelines listed under the Collection Notes for the individual test. If the ordering physician does not specify which level to draw, contact the physician to confirm which level is clinically indicated. Random levels are recommended to only be used in cases of suspected toxicity or if the drug level required does not list specific peak and trough drawing guidelines.

Urinalysis and urine cultures

Ordering Guidelines:

- Order written as: UA or urinalysis – means UA (dipstick) without microscopic.
- Order written as: UA w/microscopic – means UA (dipstick) with microscopic
- Order written as: UA w/microscopic reflex to culture – means UA (dipstick) with microscopic + reflex to urine culture if any of the following criteria are met:
 - >=5WBC
 - moderate to many bacteria with few or less epi's
 - nitrite positive
 - leukocyte dipstick moderate to large

The last option prevents unnecessary culture expenses for the patient. The urine will only be cultured if any of those four criteria are met.

The moderate to many bacteria with few or less epi's prevents us from culturing urines that may be contaminated which would be indicated by more epi's.

Specimen Collection and Handling Guidelines

Urine Collection:

FEMALE

1. Wash and dry your hands.
2. Open urine collection container, placing the cap upside down so the inner surface does not touch the surface of the sink.
3. Open two packages of pre-moistened towelettes.
4. Sit on toilet.
5. With one hand, spread the outer folds of the urinary opening and keep separated until you have finished obtaining the specimen.
6. With the other hand, wipe the urinary opening from front to back with the towelette. Use the towelette only once and repeat with the second one.
7. Pass a small amount of urine into the toilet.
8. Continue to pass urine and fill the collection container about 1/2 full.
9. Place lid on the container tightly.
10. Wash and dry your hands.
11. Notify nurse that the specimen has been collected.

MALE

1. Wash and dry your hands.
2. Open urine collection container, placing the cap upside down so the inner surface does not touch the surface of the sink.
3. Open two packages of pre-moistened towelettes.
4. After retracting foreskin, cleanse glans with towelette.
5. Void forcibly, allowing initial stream of urine to escape.
6. Continue to pass urine and fill the collection container about 1/2 full.
7. Place lid on the container tightly.
8. Wash and dry your hands.
9. Notify nurse that the specimen has been collected

Urine Specimen Stability for Urinalysis:

- Specimens are best if examined immediately after collection. If the specimen cannot be examined immediately, it should be refrigerated for preservation. Allow urine specimen to return to room temperature before testing. If possible, all specimens should have the analysis completed within 2 hours of voiding. Deterioration of cellular elements and casts may begin after 2 hours. If over 4 hours has elapsed since collection, the specimen is not satisfactory for analysis and a fresh specimen should be requested.
- If an unacceptable specimen is received, note the reason for rejection in the computer and request a new, acceptable specimen from the patient. **Important:** Some urine specimens may have been collected during a critical procedure or by means of an invasive procedure; therefore, it is important to never dispose of an unacceptable specimen until the caregiver has been notified
- The urine preservative tube is good for 72 hours at room temperature.

Urine Specimen Stability for Cultures

- The sample must be refrigerated if it cannot be processed within one hour of collection. Bacterial counts of refrigerated urine remain constant for as long as 24 hours. Therefore, any urine older than 24 hours must be recollected, unless the urine culture preservative tube is used and then the urine is good for 48 hours at room temperature.

24 - Hour Urine Collection Instructions:

1. 24-hour collection containers and transfer tubes are available from Avera LabNet Service Centers. Refer to the Alphabetical Test Listing in the Avera Laboratory Network Guide for preservatives, storage, transport and special handling instructions. (www.averalabnet.com)`
2. Instruct the patient to empty their bladder and discard this urine. Note the time. This is the start time. Collect and save all urine for the next 24 hours. At the same time the following day empty the bladder and collect this urine. This is the end time.
3. Refrigerate urine during collection unless otherwise indicated under Collection Note Section.
4. When the specimen is received by your laboratory: Mix the specimen 15- 30 times. Measure the total volume by reading the measurements on the side of the 24 hour jug. Record the total volume and time collected on the Test Requisition Form. The total volume and collection time are required in the calculation of results. [If unable to measure the total volume accurately, the entire specimen may be submitted to the Service Center for testing.]
5. Aliquot specimens for transport in leak proof screw cap containers and closed tightly to avoid leakage.
6. Lab will save aliquot for 1 week.

Provide each patient with collection instructions. For convenience, you may copy "Patient 24-Hour Urine Collection Instructions" in appendix.

Coagulation Special Instructions:

Testing to evaluate the hemostatic mechanism is extremely sensitive to methods of sample collection and processing. Test results are a direct reflection of sample integrity. Specimens should be processed, and sent according to acceptable protocol.

Platelet-Poor Plasma Preparation – Double centrifugation Method

1. General Specimen Drawing Instructions:
 - a. Vacuum tubes must be filled to completion to ensure the proper 9:1 ratio of blood to anticoagulant is achieved.
 - b. When drawing specimen avoid contaminating sample with tissue thromboplastin or heparin as they may alter testing results:
 - Venipuncture must be clean, with no trauma
 - Hemolyzed specimens are not acceptable
 - If drawn through an indwelling catheter, the first 20 mL of blood must be discarded or used for other testing as appropriated.
 - If the collection of citrated specimen is performed in a manner that includes tubing with dead space, be sure to use two citrate collection tubes. One to take up the dead space and result in a partial fill and a second tube to collect a full and properly anticoagulated specimen.
 - c. Draw appropriate number of tubes to provide required volume of plasma for testing [required specimen volumes listed in "Alphabetical Test Listing".
 - d. Invert collection tubes gently 5-6 times to mix blood with anticoagulant. DO NOT SHAKE tubes. Process specimens immediately.
2. Centrifuge for 10-15 minutes at 3000 RPM.
3. With a plastic transfer pipette carefully remove plasma, place in a plastic tube and centrifuge again [10-15 minutes at 3000 RPM]. **Platelet-poor plasma must have a final platelet count of <10,000. Please validate centrifugation and time guidelines to your facility's equipment by completing a platelet count on a plasma specimen prepared with these guidelines. If platelet count is >10,000, adjust times, centrifuge rpm, or complete a third centrifugation step prior to submitting specimen for testing.**
4. With a plastic transfer pipette, transfer plasma to plastic transport tube being careful to avoid aspirating the buffy coat.
5. Each individual coagulation test ordered should be prepared and submitted as an individual specimen. DO NOT submit multiple test specimens in one tube. Coagulation Consultation Study testing also requires submission of "normal control specimens" – Refer to the following section on Coagulation Consultation Special Collection Instructions.
6. Label specimen. Include anticoagulant.
7. Freeze immediately at < - 40° C.
8. Specimen must remain frozen and be received within 24 hours. Specimens not received in the frozen state will be rejected for testing.
9. Ship on dry ice.

AVERA LABNET SIOUX FALLS SERVICE CENTER: COAGULATION CONSULTATION STUDY - SPECIAL COLLECTION INSTRUCTIONS

1. A "Coagulation Consultation Request Form" must be completely filled out and submitted with the specimen(s) and test requisition at the time of the test order.
2. A normal control sample must accompany the patient specimen and be handled exactly as outlined for patient samples. Testing is performed on the control sample and if the results are not considered to be normal, it implies that possibly some process involved in collection, processing, shipping, and/or handling may have been improperly performed and therefore the patient results may not be valid.
3. Patient and normal control must avoid warfarin (Coumadin) therapy for 2 weeks and heparin therapy for 2 days prior to collection of specimens for testing.
4. Follow all "Platelet-Poor Plasma" collection and preparation instructions previously outlined.
5. 2-4 5mL 3.2% Sodium Citrate tubes should be drawn on both the patient and the normal control depending the required number of individual plasma specimens for testing (5-8 1 mL aliquots frozen platelet-poor plasma specimens). Number of required 1.0 mL aliquots is outlined in the "Alphabetical Test Listing" for the specific type of Coagulation Consult ordered.

AmniSure ROM (Rupture Of [fetal] Membrane) Test

The AmniSure ROM (Rupture Of [fetal] Membranes) Test is a rapid, non-instrumented, qualitative immunochromatographic test for the in vitro detection of amniotic fluid in vaginal secretions of pregnant women. AmniSure detects PAMG-1 protein marker of the amniotic fluid in vaginal secretions.

Storage and Stability

- Store the kit in a dry place at room temperature or under refrigeration at 4 to 20°C (40 to 68°F). DO NOT FREEZE.
- When stored in the foil pouch at the recommended temperature, the test is stable until the "Use By" date on the foil pouch.
- AmniSure® test should be used within six (6) hours after removing from foil pouch.

Specimen Collection

- Open AmniSURE foil pouch and remove the plastic vial containing solvent solution. Take the solvent vial by its cap and shake well to make sure all liquid in the vial dropped on the bottom. Open the solvent vial and put it in a vertical position.
- Remove the sterile swab from its pack following instructions on the pack. The Dacron tip should not touch anything, prior to its insertion into vagina. Hold the swab in the middle of the stick and, while patient is lying flat on her back, carefully insert the Dacron tip of the swab into the vagina no more than 2-3 inches (5-7) cm deep. Withdraw the swab from the vagina **after 1 minute**.
- Place the Dacron tip into the vial and rinse the swab in the solvent by rotating for one minute.
- Remove and dispose of the swab.
- Place patient name on the vial and send the vial **and** the foil pouch containing the test strip to the lab immediately.
- **A false positive result may occur in the case of bleeding in a woman with a pathological pregnancy. It is not recommended to conduct the test when there is a discharge of blood. In this case, another sample without considerable discharge of blood should be taken and tested. The result may turn out false negative when the sample is taken 12 or more hours after a presumed fetal membrane rupture has occurred. If there is suspicion for such scenario, it is recommended to use other clinically available means of testing for ROM.**

Fetal Fibronectin Collection, Guidelines:

Proper specimen collection and handling is essential in providing high quality Fetal Fibronectin testing results. All individuals responsible for the collection of these specimens are requested to follow all precautions, warnings and instructions listed in the package insert of the specialized specimen collection kit. Send sample to Avera McKennan, Sioux Falls. If sample is ready to transport, and it is more than 2 hours before our courier goes to Sioux Falls, call a cab to have it taken to McKennan. Please alert McKennan that one is coming and order it Stat.

GENERAL SPECIMEN COLLECTION PRECAUTIONS AND WARNINGS:

Specimens for Fetal Fibronectin testing should be collected prior to collection of culture specimens.

1. Specimens should be obtained prior to digital cervical examination or vaginal probe ultrasound examination as manipulation of the cervix may cause the release of Fetal Fibronectin.
2. Specimens should not be collected if the patient has had sexual intercourse within 24 hours prior to the sampling time because semen and/or sperm present in the sample may increase the possibility of the test giving a false positive result.
3. Specimens will not be tested if the specimen transport tubes have leaked in transit.
4. Care must be taken not to contaminate the swab or cervicovaginal secretions with lubricants, soaps, or disinfectants [i.e. K-Y Jelly lubricant, Betadine disinfectant, Monistat cream, hexachlorophene]. These substances may interfere with absorption of the specimen by the Dacron collection swab or with the antibody-antigen reaction of the test analysis.
5. Fetal Fibronectin tests are not intended for use in the management of patients with moderate or gross vaginal bleeding. The presence of vaginal bleeding judged by the caregiver to be moderate or gross in amount may contribute to difficulty in interpreting the analytical result. [Continued Next Page]
6. Rupture of membranes should be ruled out prior to specimen collection since Fetal Fibronectin is found in both amniotic fluid and the fetal membranes.
7. Specimens should not be obtained from patients with suspected or known placental abruption, placental previa, or patients with cancers of the reproductive tract.
8. There is insufficient information characterizing the association of Fetal Fibronectin expression to delivery in asymptomatic women with HIV/AIDS.
9. Collected specimens should always be stored and transported in temperatures < 25 C. Refrigerated (2-8° C) temperatures are preferred.
10. Use only one Specimen Collection Device per patient sample and DO NOT use collection kits past their expiration date.

FETAL FIBRONECTIN GENERAL COLLECTION INSTRUCTIONS:

1. Always use special collection kits specific for Fetal Fibronectin testing and follow Specimen Collection Kit specific instructions.
2. Collection from Symptomatic Women: During sterile speculum exam, prior to any examination or manipulation of the cervix or vaginal tract, lightly rotate the collection kit swab across the posterior fornix of the vagina for approximately 10 seconds to absorb cervicovaginal secretions. Subsequent attempts to saturate the swab may invalidate the test.
3. Collection from Asymptomatic Women: During sterile speculum exam, prior to any examination or manipulation of the cervix or vaginal tract, lightly rotate the collection kit swab across either the posterior fornix of the vagina or the ectocervical region of the external cervical for approximately 10 seconds to absorb cervicovaginal secretions. Subsequent attempts to saturate the swab may invalidate the test.
4. Remove swab and immerse Dacron tip in buffer. Break the shaft [at the score] even with the top of the transport tube.
5. Align the shaft with the hole inside the tube cap and push down tightly over the shaft, sealing the tube. WARNING – the shaft must be aligned to avoid leakage of the specimen.

Specimen Collection and Handling Guidelines

6. Specimens must be stored at refrigerated temperatures and have testing completed within 3 days of collection. Do not collect specimens after routine courier pickups on Fridays or prior to extended holiday weekend

FETAL FIBRONECTIN INDETERMINATE TEST RESULTS – CAUSES AND ACTIONS:

On rare occasions, the testing of a fetal fibronectin specimen will result in an “indeterminate or Invalid” reading on the instrument used for testing. In this instance, the method is unable to Determine if the specimen is positive or negative for fetal fibronectin.

Possible reasons for “invalid/indeterminate” results include the following:

1. Atypically high concentration of fibronectin due to a presence of amniotic fluid. (The assay is intended to be used on women with intact fetal membranes.)
2. Interfering substances (may include soaps and lubricants) are present in the specimen.
3. Sample matrix abnormality.

Summary of actions taken when “invalid/indeterminate” results occur:

- Result will be reported as indeterminate and will be called to you by our Service Center.
- Specimen will be referred out for further testing that will result in a positive or negative determination. This result will be reported and called to you as soon as available.
- If the quantity of the remaining specimen is not sufficient for the referred testing, you will be contacted and requested to collect another specimen. If requested to collect another specimen, you must wait 24 hours after the original collection (or since the most recent digital exam) to recollect or the test results will be inaccurate.

Pre-Glucose Tolerance Test Carbohydrate Diet:

For certain types of Glucose Tolerance Tests, a carbohydrate-enriched diet is required for 3 days prior to Glucose Tolerance Test collection. At a minimum, a 150-gram carbohydrate diet is required. The amount of carbohydrates consumed during this time frame may always be more than the minimum required amount.

Remind the patient that no food or liquid, except water, should be consumed after 10:00 pm, prior to the morning of the test.

Example 300-Gram Carbohydrate Diet:

Breakfast: Fruit (1 banana, 1 orange, 1/2 grapefruit or 1/2 c. juice)
Cereal (1/2 cup)
Bread (1 slice)
Milk (1/2 cup)
Sugar (2 teaspoonfuls)

Lunch: Meat, cheese or egg (amount desired)
Bread (2 slices) -or- Spaghetti, macaroni, rice (1 cup cooked) -or-
Noodles (1 cup cooked)
Dessert (fruit, cake, pie or cookies)
Milk (1 cup)
** Meat, tomatoes, vegetables, etc. may be added as desired

Dinner: Potato (1 medium)
Vegetable (at least 1/2 cup)
Bread (1 slice)
Meat (as desired)
Milk (1 cup)
Dessert (tapioca or rice pudding, fruit)

Snacks: Are permitted in any quantity or type

Fecal Specimen for Occult Blood

The Hemoccult test requires only a small fecal specimen. The specimen is applied to the quaiac paper of the Hemoccult slide as a **THIN SMEAR** using the applicator stick provided. To increase the probability of detecting occult blood, separate samples should be taken from two different sections of each fecal specimen.

Preparing the Test

- Flush twice before sample collection from toilet or use collection hat or obtain sample from commode or bedpan. Using applicator provided, collect small fecal sample.
- Apply a thin smear covering Box A.
- Reuse applicator to obtain second sample from a different part of stool. Apply a thin smear covering Box B.
- Close cover flap. Dispose of applicator in waste container.
- Label slide with patient information and send to laboratory

Specimen Collection and Handling Guidelines

Policy/Procedure/Test Name Lactose Intolerance Breathe test				Page 1 of 1	
Developed/Revised By D. Heilman, C. Ankeny		Date 1-3-2007		Previous Reviews/Revisions 1-07	
Distribution: Laboratory		Current Review/Revision Date 3-9-2010			
Approved by: Richard Strom MD		Review/Revised	Review/Revised	Review/Revised	Review/Revised

Principle:

Lactose intolerance results when the lactose enzyme, produced in the small intestine, is lacking or inadequate to process lactose (milk sugar) in the body. Unprocessed lactose goes to the colon, where bacteria break down the sugar. The gases produced by this fermentation can create discomfort, gas, cramps, bloating, and diarrhea. ARUP laboratories provide the test kit for this breath test assay. Send specimens directly to Genova Laboratories for testing.

Material Required:

- Lactose Intolerance Breath test kit: (on outreach shelves, obtain from ARUP laboratory)
- Toothbrush (obtain from Nursing unit, place in kit when received)
- 8 ounces drinking water

Procedure:

Patient Preparations: Provide patient with the Patient instructions and Dietary Recommendations. (Copy included with this procedure).

Testing procedure is outlined in the instructions provided with the test kit.

Meditech order: Other test (OD)

ARUP order: Register Patient in the 2000 system

Order: Misc Ambient Test: Breath Lactose Intolerance Test

Cost: \$156.00

CPT: 91065

Requisition: Genova Diagnostics form provided in the test kit. Complete form and send kit directly to Genova Diagnostics for testing.

Results:

Report and billing will come back thru ARUP.

Turn around time expected within 14 calendar days or less from the date samples are received.

Reference:

Lactose Intolerance Breath test kit. Genova Diagnostics, www.GDX.net. 2006.

Specimen Collection and Handling Guidelines

Copies of this page of patient instructions and the following page of dietary recommendations can be sent home with the patient prior to testing

Lactose Intolerance Breath Test:

Lactose intolerance results when the lactase enzyme, produced in the small intestine, is lacking or inadequate to process lactose (milk sugar) in the body. Unprocessed lactose goes to the colon, where bacteria break down the sugar. The gases produced by this fermentation can create discomfort, gas, cramps, bloating and diarrhea. Your doctor has ordered a breathe test to evaluate the function of the lactase enzyme in your digestive system.

Patient instructions:

2 days before the test:

- Stop eating high-fiber and lactose-containing foods for a full 36 hours before specimen collection. This usually means starting with the dinner meal 2 nights before doing the test. See the list of allowed/non-allowed foods.
- Stop taking any fiber supplements, such as Metamucil or Fibercon.
- Avoid aspirin during this time.

The evening before the test:

- Eat a light dinner: Refer to the allowed foods list, concentrating on the A list.
- Stop eating and drinking anything other than water at least 12 hours before the specimen collection.

The day of testing at Avera Sacred Heart Hospital Laboratory:

- Do not drink anything for the first hour of collection. After the first hour you may drink water only. Continue fasting until you complete the entire test.
- Do not smoke, use toothpaste, nap, or exercise vigorously for at least 30 minutes before or during the test.
- Remain at the Hospital laboratory until all samples have been collected.

Specimen Collection and Handling Guidelines

Dietary Recommendations for Lactose Intolerance testing:

Allowed Foods

A List: no restriction, unless otherwise directed by your physician.

- All meat and poultry
- Shellfish
- Fish
- Eggs
- Aged cheeses (parmesan, romano and asiago)
- Bean sprouts, alfalfa sprouts, celery, cucumber, endive, Boston lettuce, iceberg lettuce, leaf lettuce, green peppers, red peppers, yellow peppers, chili peppers, radishes.
- Fruit and vegetable juices
- Sherbet (make sure does not include cream)
- Margarine (no butter)
- Salad and cooking oil
- Alcohol beverages
- Coffee, tea, soda
- Condiments (ketchup, mustard, pickle relish, soy sauce)

B list: allowed foods, but to be eaten sparingly

- White bread and white crackers (soda or saltine), or other products made from white flour other than pasta.
- Highly refined cereals (corn flakes, puffed rice, cheerios, rice krispies, cream of wheat)
- White or instant rice
- Tofu
- Rice or soy milk
- Popcorn (no butter, but oil or margarine okay)
- Avocado, mushrooms, olives, onion, parsley, asparagus, beets, cabbage, cauliflower, cilantro, yellow squash
- Cantaloupe, honeydew melon, pineapple, grapefruit, grapes, melons, shinned peaches, plums, or apricots, skinned tomatoes, grapes, watermelon
- Fruit jellies
- Sugar

Foods to Avoid; *Starting with the dinner meal 2 nights before the collection date*

- All bean and legumes (baked beans, kidney beans, split peas, dried lima, garbanzos, pinto beans, black beans, lentils)
- Soybeans and all soy products, other than tofu, soy milk, miso and soy sauce
- Whole wheat and other whole-grain or high-fiber cereal products, including rye, oats, buckwheat and stone-ground cornmeal. (Bread, pastas, pizzas, pancakes and muffins made with these whole-grain flours)
- Corn and products made from cornmeal, other than corn flakes
- Basmati rice, wild or brown rice (unpolished)
- Pasta products
- Green peas, lima beans, broccoli, yams, white and sweet potatoes, green beans, pole beans, broad beans, dark green leafy vegetables (spinach, beet greens, kale, collards, swiss chard, and turnip greens), Brussels sprouts, carrots, artichoke (whole or hearts), winter squash (butternut, acorn spaghetti), zucchini, okra, eggplant seaweed
- Dried fruits (figs, apricots, dates, raisins, prunes), raspberries, blackberries, strawberries, cherries, bananas, coconut, kiwi, oranges, tangerines, apples, pears
- Nuts and seeds
- Dairy products, except for aged cheeses (see list A)

Instructions:

Microbiological procedures used are those recommended by the American Society for Microbiology, American Society of Clinical Pathologists, College of American Pathologists, and National Committee for Clinical Laboratory Standards.

For the collection and evaluation of microbiology specimens, it is necessary to understand that any given body site develops its own "usual/normal" flora. When collecting cultures from sites, special care must be taken to bypass contaminating flora. Examples of such sites are skin, upper respiratory tract, intestinal tract, female genital area, and open draining wounds. Submit aspirated material whenever possible.

Culture Collection Basics:

- Collect the specimen at optimal times and prior to antimicrobial therapy, if possible.
- Collect sufficient quantity.
- Use proper collection containers and transport media. Always assure that transport containers are leak proof.
- If required, prepare site to assure uncontaminated collection. Submit aspirated material whenever possible.
- Indicate source and collection time information on the requisition and/or specimen.
- Minimize transport time. The survival of bacteria in a transport medium depends on many factors. These include the types of bacteria, duration on transport medium. BBL Culture Swab devices maintain viability of many microorganisms for 24-48 hours. For fastidious bacteria, such as *Neisseria gonorrhoeae* and *Streptococcus pneumoniae*, swab specimens should be plated directly onto culture medium or transported immediately to the laboratory and cultured within 24 hours.

Reflex Testing General Guidelines:

Certain microbiology procedures require reflex testing to be completed to provide appropriate information to the ordering physician to allow for result interpretation and therapy intervention decisions to be made.

Reflex Testing Guidelines are identified under each test in the "Alphabetical Test Listing". Reflex testing completed will be individually billed.

Examples of reflex testing on potential pathogenic cultures include, but may not be limited to:

- Bacterial Identification(s)
- Susceptibility Testing(s)
- Monoclonal Testing(s)

It is the responsibility of the ordering physician to specifically order "reflex testing is not to be completed" if at the time of the test request reflex testing is not clinically indicated.

If reflex testing is not required due to culture results or if the physician has specifically requested, testing will not be completed or billed.

Microbiology Routine Culture Collection Guidelines:

Acid-Fast Bacilli Culture and/or Smear:

Acceptable Specimen Guidelines:

- **Pulmonary specimens:**

1. Spontaneously produced sputum - specimen of choice; collect approximately 5-10 mL of a first morning expectorated specimen; collect in sterile container
 - To raise sputum, patient must be instructed to take a deep breath, hold it momentarily, and then cough deeply and vigorously
2. Induced sputum - should be collected by appropriate personnel following facility procedures; collect in sterile container
3. Bronchoscopy, bronchial washings, lavages, brushings, etc. - should be collected by appropriate personnel following facility procedures; collect approximately 5-10 mL if possible; collect in sterile container
4. Transtracheal aspiration or laryngeal swabbing - should be collected by appropriate personnel following facility procedures; collect in sterile container

Note: A series of three specimens collected on three separate days is recommended.

(Acid-Fast Acceptable Specimens)

- **Gastric specimen:** Gastric lavage may be used to collect specimens from patients who have swallowed their sputum during the night; specimen should be collected before patient arises in the morning; in sterile collection container collect 20-25 mL of gastric contents; series of three specimens collected on three separate days is recommended
- **Urine specimen:** Specimen should be collected as outlined in Urine Culture; early morning specimen is preferred; collect 50 mL of urine and submit in sterile collection container; series of three specimens collected on three separate days is recommended
- **Cerebrospinal fluid specimen:** Specimen volume for testing is critical to assure isolation of the AFB; 10 mL of CSF is recommended; collect in sterile container
- **Fecal specimen:** Feces are not routinely cultured for AFB unless being ordered on an HIV positive patient suspected of having Mycobacterium avium infection; collect approximately 50 grams of stool specimen in a clean, leak proof container
- **Blood specimen:** Call Service Center Microbiology Department for specific collection instructions and appropriate collection tubes
- **Tissue, Pus, Exudate specimen:**
 1. Pus or Exudate: may collect utilizing culture swab system; specimen may also be collected on small pieces of sterile bandage material place in sterile leak proof container
 2. Tissue biopsy: send in sterile leak proof container with a small amount of sterile saline added to prevent drying
- **Other body fluids specimens:** Specimens such as pleural, pericardial, and joint fluid may be tested; collect in sterile container such as a syringe; cap syringe appropriately - do not submit with needle attached

General AFB Collection Reminders:

1. Collect in a sterile, leak proof container. [Exception - fecal specimen, see previous section]
2. A series of three specimens collected on three separate days is recommended for urine, gastric, and sputum specimens.
3. Transport specimen within 24 hours.
4. If specimen will not be transported immediately, refrigerate specimen.
5. Ship whole blood at ambient temperature.

Anaerobe Culture:

- Refer to "Alphabetical Test Listing" for acceptable and unacceptable specimen collection sites
- Anaerobic bacteria are fastidious in nature, therefore special precautions and techniques should be used in the collection and transport of specimens.
- Contamination with normal site flora must be minimized during specimen collection.

Acceptable Anaerobe Culture Sources/Sites:

1. Any closed abscess not of bowel origin [Aspiration by needle and syringe; surgically obtained tissue]
2. Urine [Suprapubic needle aspiration of the bladder]
3. Pulmonary [Percutaneous transtracheal aspiration of lower respiratory secretions – protected bronchial brush catheter is of questionable utility due to possible anaerobic contamination]
4. Female Genital Tract [Peritoneal fluid by culdocentesis; Endometrium via protected catheter]
5. Soft tissue, bone and joint [Percutaneous needle aspiration –after prior surface decontamination, preferably an uninvolved surface; surgically obtained tissue]
6. Sinus tract and deep wound [Aspiration by needle or plastic intravenous type catheter threaded into infected site – after prior surface decontamination]
7. Blood and other normally sterile body fluids other than urine [Anaerobic bottle for blood; syringe or anaerobic transport tube for other fluids]

Unacceptable Anaerobe Culture Sources/Sites:

1. Abscesses of bowel origin including appendiceal and perirectal abscesses
2. Feces, rectal swabs and colostomy discharge [when clinically indicated, these types of specimens may be used for the diagnosis of botulism and for intestinal disease caused by *Clostridium difficile* and *Clostridium perfringens*]
3. Gastric specimens
4. Superficial skin lesions, skin ulcers and pilonidal sinus
5. Abdominal wounds contaminated with feces [eg. open fistulas] and exudative wounds not properly collected [must exclude skin contamination]
6. Surgical drain sites
7. Voided or catheterized urine and Foley catheter tips
8. Vaginal or cervical specimens including lochia
9. Prostatic or seminal fluid
10. Throat and nasopharyngeal swabs and oral secretions
11. Sputum and bronchoscopic specimens
12. Gingival swabs

Specimen Collection and Handling Guidelines: Microbiology

Anaerobe Collection Guidelines:

Needle or Catheter Aspiration Collection:

1. Aspirated material is preferred.
2. Aspirate material with a long needle or intravenous-type catheter into a sterile syringe. Remove needle or catheter, tightly cap syringe, and submit for testing. DO NOT transport syringe with needle attached.
3. Soft tissue infections may be cultured by injection of 1-2 mL sterile saline into the infected site and then aspirate saline/tissue fluid with syringe system.
4. Portion of aspirated material may also be transferred to anaerobic swab collection system and handled as outlined under "Swab Collection".
5. Aspiration Method Reference:

<u>Source</u>	<u>Method</u>
Lower Respiratory Secretions	Percutaneous trans-tracheal aspiration
Closed Abscess or Body Fluid	Aspiration by needle and syringe.
Swab method may also be used if	material is scanty in amount
Urine	Suprapubic aspiration
Sinus tract, uterine cavity, deep wound, etc.	Decontaminate site with Betadine; Syringe aspiration using plastic intravenous type catheter threaded into infected site
Endometrial Technique	Through a speculum, a catheter is Introduced into the cervical os and a swab extended through the catheter into the endometrial cavity
Pelvic Inflammatory Disease	Swab vagina with betadine and aspirate through posterior vaginal wall (culdocentesis)

Swab Collection:

1. Only use approved anaerobe culturette swabs. Swabs can be obtained by contacting your Service Center. Swabs should only be used to collect scanty material. Aspiration specimens are preferred when amount of specimen allows for aspiration.
2. Collect as much specimen as possible so that culturette tip is completely saturated. Place swab immediately into culturette container. Follow all culturette collection instructions on package.

Specimen General Reminders:

- Label specimen and transport as soon as possible
- When transport delay is unavoidable, specimen should be held at room temperature
- Specimen collected for anaerobic culture are also suitable for aerobic, AFB, and fungal cultures. Make sure that quantity of specimen collected is adequate for all testing requested

Specimen Collection and Handling Guidelines: Microbiology

Blood Culture:

Ship filled blood culture bottles at ambient temperature.

REAGENTS

1. Aerobic bottle-BacT/ALERT SA (30mls of media in each bottle) Blue flip-top and label color.
2. Anaerobic bottle-BacT/ALERT SN (40mls of media in each bottle) Purple flip-top and label color.
3. Pediatric draws-BacT/ALERT PF (20mls of media in each bottle) Supports pediatric draws. Yellow flip-top and label color.
4. ChloroPrep One-Step Frepp Applicators (on children less than 2 months of age, do not use ChloroPrep, use Iodophor PVP pad, or iodine pad)
5. Blood drawing apparatus, disposable gloves, appropriate biohazard waste containers for materials potentially contaminated with infectious agents.

Follow all "exposure control" guidelines required by your facility [i.e. gloves, lab coat, proper sharps disposal, etc.]

PROCEDURE FOR COLLECTION

Specimen collection is extremely important in obtaining blood cultures. Proper skin disinfection is essential to reduce the incidence of contamination. Universal Precautions must be followed.

1. Inspect the bottle surface, the media and the sensor on the bottom of the bottle. Ensure that the broth is clear and the sensor is intact and is a blu-green color. Do not use the bottle if the sensor is yellow.
2. Blood culture bottles must be at room temperature before being inoculated. Remove the plastic flip-top from the blood culture bottle(s). The septum is not sterile and must be disinfected with 70% isopropanol or iodine. Allow to dry for 1 minute before inoculation.
3. Following palpation, the venipuncture site should be cleansed. Scrub the venipuncture site with ChloroPrep for 30 seconds. Allow the site to air dry before the blood culture is drawn. This will allow maximum effectiveness of the disinfectant. Do not touch the prepared venipuncture site. **(Very important: Do not use ChloroPrep on children less than 2 months of age because of the potential for excessive skin irritation and increased drug absorption. On these children use Iodophor PVP prep pad, iodine pad. Apply iodine and let dry)**
4. Sample may be collected by needle and syringe or by direct draw with blood collection set.
Needle and syringe
 - a. Draw appropriate amount.
 - b. Directly inoculate the bottles, using the syringe markings as a guide for correct volume.**Direct draw with blood collection set**
 - a. Use the BacT/Alert blood collection adapter cap and insert.
 - b. Connect the adapter cap to the luer connector of the butterfly collection set.
 - c. Perform venipuncture. When the needle is in the vein, secure it with tape or hold it in place.
 - d. Place adapter cap on the aerobic BacT/Alert culture bottle septum and press down to penetrate and obtain blood flow. Hold the adapter cap down on the bottle.
 - e. Using the fill indicator lines on the label, obtain the specified amount of blood. Move the adapter cap from the aerobic bottle to the anaerobic bottle and continue to fill.
 - f. If additional blood is required for other tests, place the adapter insert into the adapter cap and snap into place. This makes the cap compatible with vacuum collection tubes. After blood collection is complete, remove the adapter cap from the culture bottle and then remove the needle from the patient's vein.

Obtain patient sample volume as indicated:

Specimen Volumes: (there are no designated minimum volumes)

Adult	Up to 10 ml blood or normally sterile body fluid (SBF) (optimum 10ml for each bottle)
Pediatric	Up to 4 ml blood (up to 4 years old)

If only enough blood has been drawn to fill one bottle, inoculate an aerobic bottle. Do not over fill bottles, as this may cause false positive readings. To avoid contamination of the blood culture sample, inoculate blood culture bottles first. Then fill additional blood collection tubes.

Specimen Collection and Handling Guidelines: Microbiology

Chlamydia Culture:

- Acceptable specimen sources: Cervical, urethral, rectal, or eye swab. Also acceptable for newborns: nasopharyngeal aspirate/washing/swab.
- Use a sterile swab from a culturette collection swab. After collection, insert the swab into the culturette holder.
- Transport at ambient temperature immediately to the lab, if the specimen cannot be sent to the lab immediately place in universal transport media (UTM) immediately. Transport media and specimen at 2-8°C.

Chlamydia by Amplified detection:

- Endocervical or urethral swabs collected using the Aptima GenProbe Collection Kit, these may be obtained by contacting the Client Service Department. Take special care to follow instructions on kit packaging to collect specimen.
- Urine- Patient should not void 1 hr. prior to specimen collection. Patient must collect the first 20-30 mls of urine in a plastic, preservative-free collection cup.
- Urine specimen must be transferred to Aptima GenProbe **Urine** Specimen Collection Kit within 24 hours of collection. Aptima GenProbe **Urine** Specimen Collection Kits may be obtained by contacting the Client Service Department. Ship at ambient temperature.

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Check outdate on Aptima Gen-Probe Collection Kit before use.

Eye Culture:

- Acceptable specimen sources: conjunctiva, cornea, eyelid margin, aqueous or vitreous. Specify "right" or "left" eye.
- Use a sterile swab from a culturette collection swab. After collection, insert the swab into the culturette holder.
- Ship at ambient temperature within 24 hours of collection.

Ear Culture:

- Acceptable specimen sources: fluid obtained by tympanocentesis, scrapings from external ear.
- Transport aspirated material or material collected by needle and syringe in a sterile tube. Send scrapings in a sterile screw cap tube.
- If eardrum has ruptured and fluid is draining, cleanse the external ear canal and use a small swab to collect material. After collection insert the swab into the culturette holder.
- Ship at ambient temperature within 24 hours.

Fungus Culture:

- Specimens from a sterile body (fluids – min 5ml, tissues, etc.) in a sterile leakproof container – ambient.
- Specimens from a non-sterile site (respiratory, GI tract, etc.) in a sterile leakproof container – refrigerated.

Specimen Collection and Handling Guidelines: Microbiology

Genital Culture:

- Collect vaginal, cervical or urethral specimen using a swab from a culturette collection swab.
- After collection, insert the swab into culturette holder.
- Identify collection site on test requisition.
- Ship at ambient temperature within 24 hours.

For GC culture only, submit inoculated a Modified Thayer-Martin plate or swab at room temperature.

Miscellaneous Culture (Wound, Body Fluid, Aspirates, etc.):

- Acceptable specimen sources: deep wounds, abscesses, aspirates, CSF and other body fluids or sites.
- Collect specimen using the swab from a culturette collection swab, by aspiration (depending on specimen source) or by placing collected fluid specimen in a sterile leak proof container.
- Swab Specimen: After collection, insert the swab into culturette holder.
- Ship specimen at ambient temperature preferably within 24 hours.

Neisseria Gonorrhea by Amplified detection:

- Endocervical or urethral swabs collected using the Aptima GenProbe Collection Kit, these may be obtained by contacting the Client Service Department. Take special care to follow instructions on kit packaging to collect specimen.
- Urine- Patient should not void 1 hr. prior to specimen collection. Patient must collect the first 20-30 mls of urine in a plastic, preservative-free collection cup.
- Urine specimen must be transferred to Aptima GenProbe **Urine** Specimen Collection Kit within 24 hours of collection. Aptima GenProbe **Urine** Specimen Collection Kits may be obtained by contacting the Client Service Department. Ship at ambient temperature.

Check outdate on Aptima Gen-Probe Collection Kit before use.

Sputum Culture:

- Patient should gargle and rinse mouth with water prior to collection.
- Collect 5-10 ml early morning sputum in a sterile, leak proof container. Specimen collected using deep cough technique is preferred.
- Specimen submitted for testing should not appear to be only "clear saliva". Specimen must contain "thick, purulent like" material.
- Transport specimen as soon as possible at 2-8°C.

Stool Culture:

- Specimen of choice: fresh stool collected as soon after onset of symptoms as possible (3-5 days).
- Collect 1-2 grams fresh stool in a clean, dry container. Do not let urine or water from the toilet touch the specimen. Place specimen in Modified Cary Blair transport media. Transport at room temperature within 96 hours.
- Send fresh specimens to lab within 2 hours.
- Only one culture per 24 hours is recommended.

Throat/Nose Culture:

- Rub posterior of the tonsils, soft palate and back wall of the lower pharynx or swab nares with a sterile collection swab.
- After collection, insert the swab into a culturette holder.
- Ship specimen at ambient temperature within 24 hours.

Specimen Collection and Handling Guidelines: Microbiology

Urine Culture:

- Preferred specimens include: first morning specimen collected as a clean-catch midstream specimen or catheterized specimen. All non-catheterized specimens must be collected as clean-catch midstream specimens.
- Patient instruction on correct procedure to follow for obtaining a midstream collection is very important. Example collection instructions on next page may be copied and used for patient education as needed.
- Transport as soon as possible. Refrigerate immediately following collection and send the same day. Or transfer an aliquot to a urine culture transport kit and transport within 24-48 hours.
- Ship refrigerated 24 hours or urine transport media ambient 48 hours.

Vaginal Pathogens DNA Direct Probe

- Collect vaginal fluid with the BD Affirm VP111 Collection Kit
- Specimen collected with this kit is stable for 3 days room temp or refrigerated.
- Collection kit is available at Client Services.
- Tests for Candida species, Gardnerella vaginalis, and Trichomonas vaginalis

Vaginal Work-up

- Collect 2 swabs from vaginal drainage, send to lab immediately.
- Tests include wet mounts for fungal elements, sniff test, clue cells, motile elements, white blood cells.

Wound Culture

- Use a sterile swab from a culturette collection swab. After collection, insert the swab into the culturette holder.
- Ship at ambient temperature.
- Indicate culture source on requisition.

Specimen Collection and Handling Guidelines: Parasitology

Pin Worm Cellophane Tape Collection General Instructions:

- Specimens are best obtained a few hours after the patient has retired, or the first thing in the morning before a bowel movement or bath. If the patient is a child still in diapers, the specimen should be collected between 10:00 p.m. and midnight [child should have not just defecated prior to collection].
- To assure recovery of parasitic elements that may be passed intermittently and in fluctuating numbers, it is recommended to collect three specimens on different days [multiple specimens should not be collected on the same day]. The number of specimens to be tested must be defined by the ordering physician.
- Supply the patient with the appropriate amount of wooden tongue depressors, glass slides, and clear cellophane tape to collect the required number of specimens.
- General instructions for collection should include:
 1. Attach cellophane tape to the wooden tongue depressor with the sticky side out. Approximately 2-3 inches of sticky surface should be sufficient.
 2. Hold the tongue depressor in one hand. With the other hand, separate the patient's buttocks.
 3. Firmly press the tape collection area to all the skin directly around the anus.
 4. Remind the person collecting the specimen that the eggs are not visible to the naked eye.
 5. Remove the tape from the tongue depressor avoiding contact with the sticky tape area as much as possible.
 6. Spread the tape, sticky side down, on the microscope slide provided. Smooth the tape down with a cotton ball or tissue.
 7. Remind the person collecting the specimen, to wash their hands, including under the nails, after collecting the specimen.
 8. If multiple specimens are being collected, specimens may be kept until the last specimen is collected and then all returned to the laboratory at the same time.
 9. Instruct the person collecting the specimen to label each slide collected with the patient's full name and date of collection.

Ova & Parasite Extensive Panel General Instructions:

- Patient instruction on correct procedure to follow for obtaining specimen utilizing the appropriate ova & parasite collection system is very important. Package inserts or collection instructions below next page may be copied and used for patient instruction as needed.
- The patient should be cautioned against the use of antacids, barium, bismuth, antidiarrheal medication, or oily laxatives prior to collection of the specimen.
- The patient should be reminded that the specimens collect should not come into contact with urine or toilet water.
- To assure recovery of parasitic elements that may be passed intermittently and in fluctuating numbers, it is recommended to collect three specimens on different days [multiple specimens should not be collected on the same day]. The number of specimens to be tested must be defined by the ordering physician.

Specimen Collection and Handling Guidelines: Parasitology

Patient Ova & Parasite Collection Instructions:

IMPORTANT:

Please Read All Instructions Before Specimen Collection Is Completed

You have been given a collection kit, which will help you conveniently collect a stool specimen for testing that your physician has ordered. All directions must be closely followed to assure the best possible specimen for testing. The kit you have been given may include multiple containers. Please be sure that you have put some of your specimen in all the tubes. If you are instructed to collect multiple specimens on different days, you will be given the appropriate number of collection kits for the days required.

CAUTION:

- Solutions in the collection containers are poisonous. DO NOT DRINK. Keep them out of the reach of children.
 - Antidote If Swallowed: Dilute by drinking 2-4 glasses of water. Immediately contact an emergency facility, poison information center or a physician to receive medical attention. Save the collection container; label information will be helpful for determining appropriate medical treatment.
- If any liquid from the collection containers gets on your skin or in your eyes, flush with plenty of water. If irritation develops, consult your physician.

Collection Instructions:

1. The stool should be passed into a clean, DRY container. Use a bedpan or place a large plastic bag into a wastebasket to catch the specimen. A clean margarine tub, clean wide-mouthed jar or clean milk carton with the top cut off can also be used.
2. Do not urinate in the container. The stool specimen must not come into contact with urine or toilet water. Do not pass the specimen directly into the collection kit containers.
3. After the stool is collected, open the kit container. Using the collection spoon built into the lid of the container place small scoopfuls of the stool from areas which appear bloody, slimy or watery into the container. If the stool is formed [hard], please try to sample small amounts from each end and the middle. Continue to add specimen level reaches the "fill to here" line or indicator. DO NOT contaminate the outside of the collection container with the stool sample.
4. Mix the stool sample with the liquid in the container with the spoon. Twist the cap tightly closed and shake the container vigorously until the content is well mixed.
5. Repeat steps 3 and 4 until all kit containers have been filled with stool specimen. After all containers have been filled, the remaining stool specimen may be discarded.
6. Double check all caps to be sure they are tightly closed.
7. Fill in all information required on each container. Be sure to check the box on the container which describes the consistency of the specimen you collected. [Formed = distinct shape and hard; Soft = distinct shape but soft; Loose = no distinct shape, thick sludge-like; Watery = very loose, liquid-like]
8. Wash hands thoroughly after collection is complete.
9. Store collected specimens at room temperature and return them to the laboratory as soon as all required specimens have been collected.

Virology Collection Guidelines & Special Instructions:

Viral specimens should be collected early in the illness. Certain types of viral agents associated with different types of clinical syndromes are more easily isolated out of different types of specimens. The "Practical Medical Virology: Guide to Specimen Collection" chart included in this section is provided to help guide you and your ordering physician to proper specimen collections. This guide will also outline appropriate tests your physician may order [culture vs. direct staining techniques/DFA] to identify viral agents.

Transport CSF, nasopharyngeal washing aspirate, urine, stool, or tracheal aspirate in sterile, leak-proof container at 2-8°C. Eye swab, nasopharyngeal swab, throat swab, or tissue in universal transport media (UTM) at 2-8°C, 5ml whole blood or bone marrow (lavender EDTA) at 2-8°C. Viral Transport Media (UTM) may be obtained by contacting your Avera LabNet Service Center. In situations where no viral transport medium is available, the laboratory will accept specimens on moist swabs or in clean containers if they are kept cool. Because many viruses are labile, it is always best to collect the specimen just prior to transport to the Service Center.

NOTE: Culture site is required on request form for processing. Indicate the specific viruses or clinical syndromes testing is to be completed for. Transport specimens within 24 hours of collection.

Suitable Collection Sites for Viral Culture:

1. Oral-pharyngeal swabs (deep throat, not nasopharyngeal swabs)
2. Throat washings
3. Nasopharyngeal aspirates
4. Stool or rectal swabs
5. Spinal or other body fluids
6. Urine
7. Vesicular fluid
8. Eye exudate
9. Biopsy or autopsy tissue
10. EDTA anticoagulated whole blood
11. Sputum
12. Skin or mucous membrane lesions

Unacceptable Specimens for Viral Culture:

The following specimens will be rejected:

1. Swabs that have dried
2. Specimens in non-viral transport medium.
3. Calcium alginate swabs.
4. Wood swabs.

Site Specific General Guidelines:

Oral-pharyngeal Specimens:

- Deep throat swabs are collected by vigorously rubbing the tonsils and posterior nasal passages with a sterile swab.
- The swab is then placed in the Universal Transport Medium.
- Throat washing may be collected and placed in the Universal Transport Medium.
- Nasopharynx specimens may be obtained by inserting a flexible N-P wire collection swab into the posterior nasopharynx or by aspiration of the secretions with a one-ounce bulb. **-Note: Nasal aspirates yield better results due to the increase of cell volume collected.**

Nasopharyngeal aspirates:

- Collect nasopharyngeal aspirates with a suction catheter into a sterile container.
- A nasopharyngeal wash may be collected by placing 5 ml of sterile saline delivered into one nostril and aspirated to collect the wash. Repeat with the other nostril.
- Send the specimen in a sterile container at 2-8°C.
- If both culture and DFA are ordered, split specimen and handle as outlined.

Stool or Rectal Specimens:

- Collect 2-5 grams of stool in a clean container.
- A rectal swab is acceptable only if unable to collect a stool for viral culture. To collect, insert a moistened swab 2-3 cm into the anal orifice and rotate.
- Place specimen in sterile leak proof container. DO NOT freeze.

Urine:

- A voided urine should be collected in a sterile container .
- Send urine in the sterile container at 2-8°C.

Spinal Fluid or Other Body Fluids:

- Body fluids should be collected in appropriate sterile tubes.
- As soon as possible send specimen to the Service Center.
- If spinal fluid is to be submitted, collect at least 1 mL of CSF; 2-3 mL is preferred.

Vesicular Fluid and Lesions:

- Collect the specimen within 3 days of the eruption.
- Carefully wash the surface of vesicle with 70% ethanol.
- Aspirate the vesicle fluid with a tuberculin syringe.
- Place the aspirated fluid in universal transport medium.
- A vesicle may be opened up with a sterile blade and then the lesion rubbed with a swab. Place the swab in universal transport medium at 2-8°C.
- Swabs from vesicles may be placed in universal transport medium already containing vesicle fluid.

Eye Exudates:

- Eye exudates from the palpebral conjunctivae are collected on a sterile swab.
- Place the swab in universal transport medium at 2-8°C.

Sputum:

- Collect a deep cough sputum specimen in a sterile container.
- Place specimen in universal transport medium at 2-8°C.

Skin or Mucous Lesions:

- Vesicles or pox should be ruptured and the base of the underlying ulcer scraped with a sterile swab to obtain both cells and vesicle fluid.
- Place the swab in universal transport medium at 2-8°C.

Biopsy of Autopsy Tissue:

- If possible, collect tissue specimen aseptically.
- Place specimen in universal transport medium at 2-8°C. **Do not place tissue in formalin.**

Blood - Buffy Coat:

- 5 ml of blood collected in EDTA vacutainer tube.
- This specimen must reach the lab within 24 hour from collection and the laboratory should be called prior to transport of specimen.
- 1 ml of blood is suitable for pediatric specimens.

Practical Medical Virology: A Guide to Specimen Collection & Testing

Reference: USD-SM Clinical Research Virology Laboratory March 25,1998

<u>Clinical Syndrome</u>	<u>Viral Agent</u>	<u>Specimen</u>	<u>Test</u>
Respiratory			
Common Cold	Rhinovirus (common)	NS, TS	Culture
	Coronavirus	NS, TS	Culture
	RSV	NPA, NW	DFA
	Parainfluenza	NPA, NW, TS	DFA, Culture
	Influenza A, B	NPA, NW, TS	DFA, Culture
	Enterovirus (rare)	TS, Stool	Culture
	Adenovirus (rare)	NPA, NW, TS	DFA, Culture
Pharyngitis	Adenovirus (common)	NPA, NW, TS	DFA, Culture
	EBV		
	Enteroviruses	TS, Stool	Culture
	HSV	TS	Culture
	RSV	NPA, NW	DFA
	Measles	TS	Culture
	Influenza	NPA, NW, TS	DFA, Culture
Laryngitis	Parainfluenzas	NPA, NW, TS	DFA, Culture
	Influenza	NPA, NW, TS	DFA, Culture
	Parainfluenzas	NPA, NW, TS	DFA, Culture
	Rhinovirus	NS, TS	Culture
Croup	Adenovirus	NPA, NW, TS	DFA, Culture
	Parainfluenzas	NPA, NW, TS	DFA, Culture
	RSV	NPA, NW	DFA
	Influenza	NPA, NW, TS	DFA, Culture
Bronchitis	Adenovirus	NPA, NW, TS	DFA, Culture
	RSV (common)	NPA, NW	DFA
	Parainfluenzas	NPA, NW, TS	DFA, Culture
	Influenza	NPA, NW, TS	DFA, Culture
Bronchiolitis	Adenovirus (rare)	NPA, NW, TS	DFA, Culture
	Measles (rare)	TS	Culture
	RSV	NPA, NW	DFA
	Parainfluenza	NPA, NW, TS	DFA, Culture
Pertussislike	Influenza	NPA, NW, TS	DFA, Culture
	Adenovirus	NPA, NW, TS	DFA, Culture
	Influenza A & B	NPA, NW, TS	DFA, Culture
	RSV	NPA, NW	DFA
Pneumonia	Influenza	NPA, NW, TS, BAL	DFA, Culture
	Adenovirus	NPA, NW, TS BAL	DFA, Culture
	Parainfluenzas	NPA, NW, TS, BAL	DFA, Culture
	CMV	BAL, Lung tissue	Rapid Culture
Healthy Adult	VZV	BAL, Lung tissue	Culture
	Adenovirus	BAL, Lung tissue	DFA, Culture
	Influenza	BAL, Lung tissue	DFA, Culture
	HSV	BAL, Lung tissue	Culture
	RSV	BAL, Lung tissue	DFA
	Parainfluenzas	BAL, Lung tissue	DFA, Culture
Immunosuppressed			
Vesicular	HSV	Lesion swab	Culture, DFA
	VZV	Lesion swab	DFA, Culture
	Enterovirus	TS, Stool, Lesion swab	Culture
Exanthematous	Measles		
	Rubella		
	Adenovirus	TS, Stool	Culture
	Enterovirus	TS, Stool	Culture
	CMV	TS, Urine	Rapid Culture
Cutaneous/Mucous Membrane			
Ocular			
Conjunctivitis	Adenovirus	Conjunctival swab	Culture
	HSV	Conjunctival swab	Culture, DFA
	VZV	Conjunctival swab	Culture, DFA

Specimen Collection and Handling Guidelines: Virology

Keratitis	Adenovirus HSV VZV	Corneal scraping Corneal scrap, lesion Corneal scrap, lesion	Culture Culture, DFA Culture, DFA
Infectious Mono.	EBV CMV (heterophile neg.) HIV	TS, Urine, Blood	Rapid Culture
CNS			
Encephalitis	HSV VZV Togavirus (EEE, WEE, etc.) Adenovirus Mumps Influenza Enterovirus HIV	Brain biopsy CSF CSF, TS, Stool CSF, Urine TS, CSF TS, CSF, Stool	Culture Culture Culture Culture Culture Culture
Meningitis	Enterovirus HSV Mumps	CSF, TS, Stool CSF, lesion swab CSF, Urine	Culture Culture Culture
Progressive multifocal Leukoencephalopathy	Papovavirus (JC)		
Cardiovascular			
Myocarditis/Pericarditis	Enterovirus CMV Influenza	TS, Stool, Endocardial bx. TS, Urine, Endocardial bx. TS, Endocardial bx.	Culture Culture Culture
Digestive Tract			
Gastroenteritis	Rotavirus Adenovirus Norwalk Enterovirus Astrovirus Calicivirus CMV	Stool Stool Stool Stool Stool Stool Stool	EM EM, Culture EM EM, Culture EM EM Rapid Culture
Colitis	CMV	Stool	Rapid Culture
Proctitis	HSV	Lesion, rectal swab	Culture
Hepatitis	Hepatitis A Hepatitis B EBV CMV Adenovirus HSV		
		Liver bx. biopsy Liver bx. biopsy Liver bx. biopsy	Rapid Culture Culture Culture

Abbreviation Key:

BAL	bronchoalveolar lavage	Lg	lung tissue
CMV	cytomegalovirus	NPA	nasopharyngeal aspirate
CSF	cerebrospinal fluid	NS	nasal swab
Culture	viral culture	NW	nasal wash
DFA	immunofluorescent assays	Rapid Culture	Rapid CMV Culture
EBV	Epstein-Barr virus	RSV	respiratory syncytial virus
EEE	eastern equine encephalitis	TS	throat swab
EM	electron microscopy	VZV	varicella-zoster virus
HIV	human immunodeficiency virus	WEE	western equine encephalitis
HSV	herpes simplex virus		

Anatomic Pathology

1. Routine surgical pathology specimens from the operating room and emergency department.

- a. Policy Statement from Sacred Heart Hospital Medical Staff By-Laws Rules and Regulations indicating that:
"All tissues removed at the operation shall be sent to the hospital pathologist who shall make such examination as he may consider necessary to arrive at tissue diagnosis. His authenticated report shall be made a part of the patients medical record."
- b. The circulating nurse must label all specimens before being removed from the operating room.
- c. Fasten label to the side of the container. The labeled shall contain the name of the patient, the patient identification number, the nature of the specimen and the attending surgeon's name.
- d. All specimens are to be placed in 10% formalin unless otherwise indicated. 10% formalin is obtained from the Anatomic Pathology laboratory.
- e. All specimens will be brought to the laboratory by operating room or emergency department personnel, and the specimens shall be accompanied by an appropriately completed requisition signed by the attending surgeon.
- f. Amputated extremities are to be labeled and examined by the pathologists. A permit to incinerate the part must accompany the specimen and requisition provided the patient consents to the permit.
- g. Stones for gross description and/or chemical analysis shall be placed in a dry container or fastened to a slide in the instance of very small calculi and taken to the Anatomic Pathology laboratory.
- h. When a fresh specimen is desired, place it in a dry container, properly labeled, and deliver to the Anatomic Pathology laboratory.

2. Frozen Sections

- a. The specimen is placed in a dry container, which is properly labeled on the side and taken to the laboratory accompanied by a requisition which contains the patient's name; hospital identification number; age; attending surgeon's name; patient's sex; and the nature of the specimen.
- b. Frozen sections shall be scheduled the day before the surgery in so far as possible by indicating it on the operating schedule circulated to the laboratory or by a phone call to the pathologist.
- c. Frozen section examination of each block of tissue to be examined takes about 15 minutes to prepare and examine.
- d. When the pathologist completes the frozen section examination, he will speak to the surgeon via the direct audio system between the laboratory and the various operating rooms or phone to communicate the pathologist's opinion. Also laboratory personnel will submit a written report of the frozen section examination to the attending surgeon a few minutes later.

3. Cytopathology

- a. Bronchial washings and brushings
 - Collect the material in bronchial washing bottles.
 - Label properly including identification of the specimen.
 - The operating room personnel will deliver the specimen(s) to the Anatomic Pathology laboratory.
- b. Sputum Specimens
 - Collect sputum in special containers partially filled with fixative obtained from the laboratory.

Specimen Collection and Handling Guidelines: Anatomic Pathology

- Induced sputum provides the most satisfactory specimens for cytological examination inasmuch as the object is to examine material from the lower respiratory tract.
- The container shall be properly labeled on the side.
- Each specimen shall be accompanied by the appropriate requisition; the same as used for surgical pathology specimens.
- The specimen shall be brought to the Anatomic Pathology laboratory by nursing service personnel or messenger.

c. Gyn Pap smears

- The attending physician or surgeon prepares the smears immediately as the specimen is obtained.
- The smears, preferably one well-prepared smear per patient, is immediately placed in a jar of fixative consisting of 95% ethyl alcohol, or spray fixative. The slide folder or jar and fixative are obtained from the laboratory.
- The jar or container is properly labeled on the side and brought to the laboratory by nursing service personnel together with an appropriate requisition e.g. surgical pathology requisition or miscellaneous clinical pathology requisition.

e. Body Fluid:

- Body fluids include pleural effusions; ascetic fluid; peritoneal washings; urine; and cerebrospinal fluid.
- They are collected in sterile containers.
- The specimens are properly labeled on the side of the container.
- The specimens are brought to the Anatomic Pathology laboratory by nursing service personnel, accompanied by a properly completed requisition, e.g. use the surgical pathology requisition.
- Since cytological specimens quickly deteriorate, prompt fixation is indicated. If that is not possible, the specimens shall be refrigerated. This is particularly important when specimens are brought to the laboratory at night or on weekends when the regular Histology technicians are not on duty.

4. Surgical pathology specimens obtained from units other than the operating room suite shall be placed in 10% formalin containers and submitted to the Anatomic Pathology laboratory, accompanied by a completed surgical pathology requisition. These specimens shall be properly labeled.

5. Specimen identification and requisition

- a. The computer-generated requisition must accompany pathology samples to the laboratory. The following information must be included on the requisition:
 - Patients Name
 - Age Sex
 - Room Number
 - Hospital Identification Number
 - Surgeon or Physician's Name
- b. Surgical Pathology Requisitions (form L-15), shall contain the following information:
 - Brief history; pertinent clinical data.
 - Pre-Operative diagnosis
 - Operative findings
 - Tissues submitted
 - Surgeon's or Physician's signature

Specimen Collection and Handling Guidelines: Anatomic Pathology

6. Disposal of limbs by the hospital is authorized in the operative permit. However, a special permit is also required consented to by the patient in writing.

7. Disposal of fetuses is governed by State of South Dakota statute, which indicates that fetuses more than 28 cm in length, weighing more than 500gm, and over 20 weeks in gestation shall have birth certificates prepared.

8. Autopsies

- a. It is the responsibility of the patient's physician to indicate the steps required to obtain postmortem examination permission; that is, to acquaint the patient's relatives with the reasons for doing an autopsy and to make certain that the next of kin understand in general terms the nature of the procedure involved.
- b. Because one physician is obtaining the permission while an entirely different physician - the pathologist - is legally responsible for doing the autopsy, this first step is extremely important.
- c. It is extremely important that the nurse in charge see that the entire permit for postmortem examination is completed.
- d. Authorization for Autopsy Protocol: See form NS-9, available at the nurse's station.
 - Body Release Form NS-8 is sent IMMEDIATELY to switchboard operator to be signed by the Undertaker on discharge of the body.
Only PCC or supervisor is authorized to make arrangements for autopsies.
 - Obtain consent for autopsy and witness.
 - Autopsy permit must include the following information:
 1. The name of the Undertaker for the deceased and the name of the Undertaker performing the arterial embalming.
 2. The exact time the body will be available for post mortem examination.
- e. Send the patient's record and autopsy permit IMMEDIATELY to the pathologist office and place it on the desk. DO NOT CALL THE PATHOLOGIST
- f. Additional information about Autopsy Requests and Performance
 - An autopsy is not an emergency or a "stat" procedure. It is unnecessary for anyone to call pathology or have the physicians or funeral directors call pathology.
 - We have nothing to do with the donation of organs or other body parts; we are not involved in the process or procedures. The autopsy does not need to be done prior to the donor harvest. Write this information (organ donor) on the autopsy permit along with the time and date the body will be available for the autopsy.
 - If the request for an autopsy is for medical-legal purpose as authorized by the Coroner, the deceased's body is be taken to the morgue prior to embalming and note this on the autopsy permit.
 - An autopsy does not need to be performed prior to the arterial embalming. Any tests that need to be done on body fluid, (blood, urine, etc.) should be collected by the attending/ER physician prior to the body's release for embalming.
 - When an autopsy is requested, the autopsy permit must be signed or authorized before the permit is brought to the laboratory. Bring the patient's chart, as is, and the autopsy permit to the laboratory and place them on one of the pathologist's desk.
 1. All autopsy authorization forms (NS-9), must include the following information: Signature of 1) nearest relative, 2) witness not related to deceased. 3) second witness if it is a telephone permit.
 2. The name of the funeral home for the deceased and/or the name of the funeral home performing the arterial embalming.
 3. If the body is taken to a funeral home, find out the exact time when the body will be available for post mortem examination and record on the autopsy permit. This time can be obtained from the funeral director when you notify them of the patient's death.

Specimen Collection and Handling Guidelines: Anatomic Pathology

9. Pap smear preparation: Fast Combined Vaginal-Pancervical Smear (Dr. John Frost Method)

- a. The Fast Smear combines a vaginal pool smear and a cervical scraping smear on one slide. It is the smear recommended for routine cancer detection.
- b. Fast Smear Technique:
 - Obtain mucus from posterior vaginal pool with spatula and place it as a thick drop upon one side of slide. Do not smear.
 - Obtain a pancervical specimen by scraping the endocervical canal, external os, and ectocervix with cervical end of spatula, scraping as high as can be reached and completely around the canal (360)*.
 - Mix on the slide all of the pancervical scraping material with the vaginal pool drop.
 - Hold slide over open bottle of fixative, smear drop with plastic cellular spreader or make two lengthwise light strokes of gloved 5th finger (glove or cot). Immediately place in fixative.
- c. Precautions:
 - One should carefully choose the cervical scraper to be of proper configuration for that particular cervix, with the longest thin endocervical tip it will take.
 - Plastic yields a better sample than wood, if its surface has been treated to make it hydrophilic.
 - Cotton-tipped applicators absorb water, producing cell distortion with retention by the cotton and loss to the sample.
- d. Comments:
 - The vaginal pool component provides an accurate hormonal evaluation, a judgment of radiation response, determination of sex, and a low rate of detection of lesions of the endometrium, salpinx and ovaries.
 - The pancervical component gives a high rate of detection of carcinoma of the cervix and its associated lesions.
 1. Mixing the pancervical scraping with the vaginal pool material allows the mucus of the latter to protect the pancervical material when it is spread on a slide before fixation.
 2. Preservation of material from inflamed cervixes, therefore, is better than with a simple cervical scrape smear.
- e. Materials Needed:
 - One cervical spatula (Ayre scraper) or cut tongue depressor.
 - One glass slide (one end frosted). Writing the patient's name on the frosted end with a lead pencil identifies the slide.
 - One speculum (without lubricant).
 - One bottle of fixative (95% ethyl alcohol) or cytology spray fixative.

10. ThinPrep Pap Test System

- a. ThinPrep supplies and collection information is available from Physicians Laboratory Cytology Department at 605-322-7223 or www.plpath.com

SACRED HEART HEALTH SERVICES REFERENCE LABORATORY PANELS

ARTHRITIS PANEL ART CPT 80072

uric acid ESR FANA RA

BASIC METABOLIC PANEL BMP CPT 80048

carbon dioxide chloride potassium sodium glucose creatinine BUN calcium

COMPREHENSIVE METABOLIC PANEL CMP CPT 80053

albumin total bilirubin calcium chloride creatinine glucose
alkaline phosphatase potassium total protein sodium CO2
aspartate amino transferase (AST/SGOT) BUN alanine amino transferase (ALT/GPT)

DIC PANEL DICP

PT/INR aPTT Fibrinogen D-Dimer Platelet

ELECTROLYTE PANEL LYES CPT 80051

carbon dioxide chloride potassium sodium

GENERAL HEALTH PANEL CPT 80050

CBC comprehensive metabolic panel TSH

HEPATIC FUNCTION PANEL LFP CPT 80076

albumin total bilirubin direct bilirubin alkaline phosphatase
total protein alanine amino transferase (ALT/SGPT)
aspartate amino transferase (AST/SGOT)

HEPATITIS PANEL, ACUTE HEPAP CPT 80074

HBsAg HBcAb (IgG&IgM) HAAb (IgG&IgM) HCAb

DR GUTNIK ELEVATED HEPATIC PANEL LFT-GNTK

PT TIBC ANA AMA A1A FERRITIN
CERULOPLASMIN AFP TM SMAB IGG AB/RFL
EBV IGG and IGM CMV IGG and IGM
HAV IGM and Total HCV Hep BsAg Hep B Core total
Hep B surface AB

LIPID PANEL LIPID CPT 80061

cholesterol high density cholesterol triglycerides

NURSERY PANEL 1

carbon dioxide chloride potassium sodium glucose creatinine BUN calcium_ albumin
phos total protein

NURSERY PANEL 2

carbon dioxide chloride potassium sodium glucose creatinine BUN calcium_ albumin
phos total protein trig
total bilirubin alk phos GGT

OBSTETRIC PANEL OBP CPT 80055

CBC HBsAg rubella Ab syphilis antibody screen ABO-Rh

RENAL FUNCTION PANEL RFP CPT 80069

Sodium potassium chloride carbon dioxide albumin calcium glucose
Phosphorous BUN creatinine

TRAUMA LABS

Draw: Blue, Red, Green, Lavender and Pink Band Patient with BB ID band

CBCD CMP AMY ETOH **VBG: Trauma Red** (run within 10 minutes of collection) PT/PTT
HCG- SERUM (Females only) UA Urine DRGS
Blood Bank:

Trauma Yellow: TS

Trauma Red: TC

Patient 24-Hour Urine Collection Instructions

IMPORTANT:

Please Read All Instructions Before Starting Collection Of Urine

The accurately timed urine collection, which you are about to make, is an important part of your examination. Decisions important to your health may depend on it.

The test that has been ordered on you is valid **ONLY** if the collection includes **ALL** urine that you pass in a 24-hour period. If for any reason some of the urine passed during the collection time is **NOT** put into the container for collection, the test will **NOT** be accurate and a new collection should be scheduled. Please contact your laboratory immediately if you will need to begin a new collection and will require a new collection container.

You will be supplied with one container. This container is capped. It may or may not contain some liquid. If liquid is present, do not discard. This liquid is a preservative that is necessary for the accuracy of the specific test your doctor has ordered. Do not allow the liquid to come in contact with your skin. If such accidentally happens, wash the involved area immediately with a large amount of water. If irritation occurs, contact your physician.

Be sure to keep the collection container closed and in a cool place, preferably refrigerated.

INSTRUCTIONS:

1. Start the 24-hour collection period at 7:00 am or when you get up in the morning. Empty your bladder at this time and discard this urine [do not put this specimen into the collection container].
2. Collect all urine that you pass for the next 24-hours, until 7:00 am or the specific time you began the collection.
3. At exactly 7:00 am or the specific time you began the urine collection, again empty your bladder and place this collected specimen in the container. This is the last specimen that should be added to the container.
4. Should you have a bowel movement during the 24-hour period, try to pass your urine prior to the bowel movement so as to avoid loss of the urine that may be passed at this time. Also do not allow any of the feces passed to contaminate the urine being collected.
5. As soon as collection is complete, return the specimen to the laboratory that testing has been ordered through.

Laboratory Name: _____ Location: _____

Patient Name: _____ Test Ordered: _____

To Be Filled In By Patient:

Date & Time Collection Began: _____

Date & Time Collection Ended: _____

Policy/Procedure/Test Name Physician alert values				Page 1 of 1
Developed/Revised By: Terri Mingo	Date 04/09	Previous Reviews/Revisions 3/02, 10/04, 11/04, 6/05, 9/05, 8/06, 10/06, 8/07, 9/07, 2/08, 11/08; 3/09;7/09		
Distribution: Laboratory	Current Review/Revision Date 1/4/2010			
Approved by: Richard Strom MD	Review/Revised	Review/Revised	Review/Revised	Review/Revised

Patient location:	Primary Contact	Secondary contact	Tertiary contact
In House Patient	Nursing Unit	Physician	Medical Director
Out Reach (during office hours)	Out Reach Center	Ordering Clinician	Medical Director
Out Reach (after office hours)	Ordering Clinician	Medical Director	
SHH Health Screen	Clinician (if listed)	Medical Director	

The tech performing the test will immediately notify a licensed staff member if any of the following values are obtained. The technologist will document on the LIS report that such a call was made including time, date and name of staff the verbal report was made. (Exception: The HUC in the Intensive Care Unit at SHH may receive the critical value notification.)

Hematology	Hematocrit -----Adult	< 20%	or	> 55%
	Under 2 months			> 70%
	Hemoglobin -----Adult:	< 6.0 gm/dl	or	> 18.0 gm/dl
	Under 6 years	< 9.0 gm/dl		
	Leukocyte Count -----New results	< 1,000/mm ³	or	> 50,000/mm ³
	Platelet Count -----New results	< 50,000/mm ³	or	> 1,000,000/mm ³

Coagulation	Prothrombin – INR -----	> 5.0
	Partial Thromboplastin Time -----	> 90 seconds
	HEP Anti Xa -----	>1.0 IU/ml

Chemistry	Glucose -----	< 30 mg/dl	or	> 500 mg/dl
	Calcium -----	< 6.0 mg/dl	or	> 13.0 mg/dl
	Magnesium -----	< 1.0 mg/dl	or	> 3.8 mg/dl
	Sodium -----	< 120 mmol/L	or	> 160 mmol/L
	Potassium -----	< 3.0 mmol/L	or	> 6.0 mmol/L
	Osmolality-----	< 250 mOsm/kg	or	> 323 mOsm/kg
	Bilirubin (total) -----	> 12 mg/dl		
	Carbon Monoxide-----	> 14 %		
	ETOH-----	> 250mg/dl		
	TNT (Troponin)-----	new positive troponin		> 0.02 ng/mL
	Drug screens-----	any positive result		

TDM:

Aceto ug/mL	Salic mg/dL	Li mmol/L	Dig ng/mL	Carb ug/mL	Phno ug/mL	Phny ug/mL	Theo ug/mL	Valp A ug/mL	Gent ug/mL	Tobra ug/mL	Vanc ug/mL	Amik ug/mL
≥ 150	> 30	≥ 2.0	≥ 3.0	≥ 18.0	≥ 55.0	≥ 25.0	≥ 20.0	≥ 140	Tr: ≥ 4.0	Tr: ≥4.0	Tr: > 20.0	Tr: > 10 Peak: > 35

Microbiology:	Blood Cultures ----- Presence of organism(s) on culture and/or gram stain
	Cerebrospinal Fluid----- Presence of organism(s) on culture and/or gram stain
	Joint Fluid ----- Presence of organism(s) on culture and/or gram stain
	Isolation of Salmonella, Shigella, Campylobacter or E. coli 0157:H7 organisms
	Methicillin resistant Staph aureus (MRSA) or Vancomycin Resistant Enterococcus (VRE)
	Acid Fast Bacillus or malaria positive smears
	Patient flagged as not being on an antibiotic or not on an antibiotic that is susceptible to the organism(s) isolated.
Serology:	Meningitis panel, Influenzae A or B, HIV-any positive results
Urinalysis:	Ketosis and/or sugars in urine of the newborn
Blood Bank:	Any abnormal antibody identification or problem type and screen or cross match. If compatible red cells cannot be obtained for a bleeding patient.
Corrected Reports:	Change in blood type, organism or any clinically significant anatomic pathology diagnosis. Any numerical value that has changed from a normal to abnormal result or from an abnormal to a normal result.



Avera Sacred Heart
501 Summit St.
Yankton, SD 57078
605-668-8169 or 1-866-256-2744
FAX 605-668-8168

Acct# _____

(For ASHH lab use only) Check the appropriate box

Additional Test Request

☐

Verbal Order Verification

☐

Fax Results Order

☐

Patient Name: _____

Date of Birth: _____ **SS #:** _____

Collection Date: _____

Ordering Physician: _____

Caller: _____

Date of call: _____

Test(s) Requested: _____ **Diagnosis:** _____

Fax Request:

Fax Results to: Name: _____ **Fax number:** _____

Federal Regulations state: The laboratory must perform tests only at the written or electronic request of an authorized person. Oral requests for laboratory tests are permitted only if the laboratory subsequently obtains written authorization

Mislabeled Specimen/Requisition Authorization

☐

Testing requested to be performed under (name): _____

Requisition labeled as _____ **Client** _____

Specimen labeled as: _____ **Client contact:** _____

Specimen date: _____ **ASL Rep:** _____

Comments: _____

Client please sign and return by fax to 1-605-668-8168.

Signature _____ Date _____