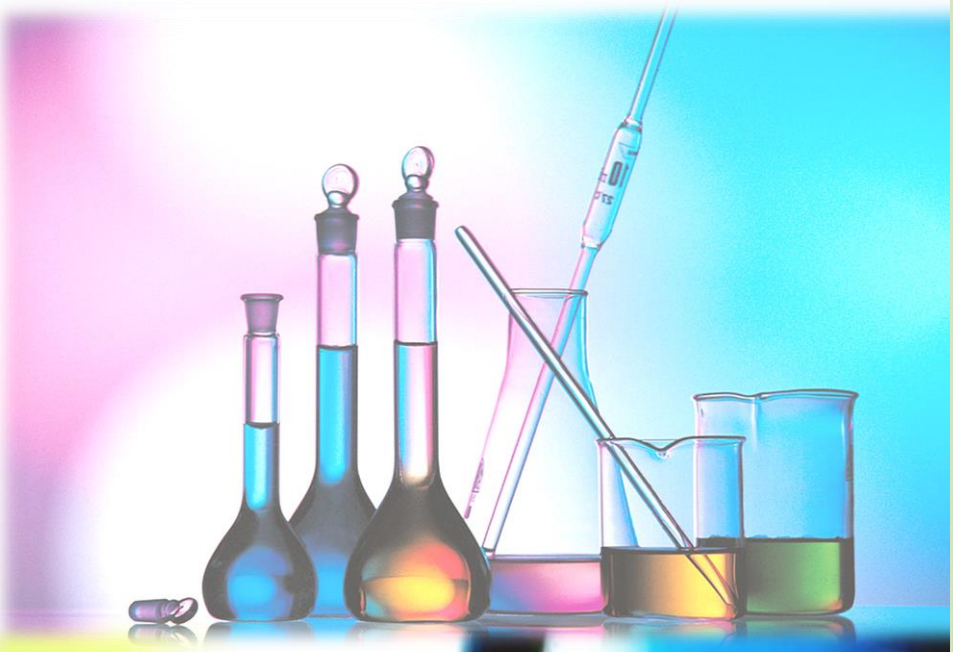
مستشفى دانة الإمارات
Danat Al Emarat Hospital
WOMEN & CHILDREN النساء والأطفال

DIRECTORY OF SERVICES



Laboratory Department

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Mangrove Village, Abu Dhabi Gate City, Abu Dhabi
Tel No.+971 2 6149999

TABLE OF CONTENTS

	Page
SECTION 1 – GENERAL INFORMATION	**3-5**
Introduction	3
How to Use this Manual	4
Special Instructions	4-5
Supervision	5
SECTION 2 – LABORATORY SERVICES	**5-9**
DAE Laboratory Hours of Operation	5
Specimen Collection/Submission/Rejection Policy	5
Guidelines for Drawing Blood from a Patient	6
Guidelines for Specimen collection from MERS-CoV/COVID 19	7
Preventing Hemolysis during Specimen Collection	7
Hemolysis and Specimen Handling	7-8
Emergency (STAT) Testing Procedures	8
Point of Care Testing	8
Reporting of Laboratory Results	8
Critical Values	8
Reference Laboratory	9
SECTION 3–REQUESTING LABORATORY TESTS	**09-10**
Requesting Laboratory Tests	9
Special Laboratory Tests	9
Verbal Orders	9
Testing Priorities	10
Continuity of Operations Plan	10
SECTION 4 – SPECIMEN COLLECTION, LABELING AND REJECTION CRITERIA	**10-14**
Specimen Labeling Criteria	10-11
Specimen Primary Container	11
Outpatient Specimen Collection	11
Blood Collection	12
Blood Volume	12
Patient Collected Specimens	12
Microbiology Specimens	12
Cytology/Surgical Specimens	12
General Rejection Criteria	12-13
No Electronic DAE Order or Request Form	13
Notification for Unacceptable Specimens	13-14
Microbiology Specimen Rejection Criteria	14
Cytology Specimen Rejection Criteria	14
Transporting Specimens from the DAE ward/clinics to the lab	14
SECTION 5 – TEST MENU	**16-43**
Alphabetic Listing of Tests	16-43
APPENDICES	**45-56**
Appendix A – Patient Instructions	45-54
Appendix B – Critical Values	55-56

SECTION 1: GENERAL INFORMATION

INTRODUCTION

Danat Al Emarat Women and Children Hospital (DAE) is the flagship of the integrated healthcare delivery system established by United Eastern Medical Services (UEMedical), Abu Dhabi's leading healthcare development and Investment Company. This healthcare network system also includes the HealthPlus Network of Specialty Centers and a chain of leading IVF centers, the Moorfields Eye Hospital Abu Dhabi and a number of retail pharmacies creating an integrated healthcare delivery system across Abu Dhabi and the UAE.

Danat Al Emarat Hospital, currently a 150-bed hospital sits on an area of 45,000 square meters. Its 5-story building is designed by HKS (USA), one of the top-ranking hospital designers and planners in the world. The hospital provides a full breadth of medical services to women and children – from high-risk pregnancy and general delivery, adult and pediatric intensive care units, surgical procedures to a 24-hour emergency department with the goal of providing a patient-centric experience in a serene environment to the residents of Abu Dhabi and across the United Arab Emirates.

By the end of 2020, Danat Al Emarat Hospital, with the construction of new building adjacent to the existing building, will have new bigger pharmacy and NICU, additional operating theaters and patient beds - increasing its total bed capacity to 225 beds.

Vision

To be a **national leader** for **excellence and innovation** in **woman and child** health care; continually **enhancing the patient experience** and **quality of services**.

Mission:

To **serve our community** by providing **highest health care standards** in a **state-of the art facility** through partnering with **world class medical expertise**.

Core Values:

- Competent
- Compassion
- Respect
- Commitment
- Collaboration
- Devotion
- Innovation
- Leadership

Danat Al Emarat Hospital is committed to the practice of ethical standards and conduct consistent with the principles expressed in the Hospital's Vision, and Mission Statements.

HOW TO USE THIS MANUAL

The Laboratory Department Directory of Services (DOS) of Danat Al Emarat Women and Children Hospital, has been prepared by the supervisory staff for the purpose of providing information, both general and specific, in dealing with a variety of laboratory procedures. These information includes patient identification and preparation, proper collection and labeling, important considerations during preparation, storage and submission of specimens, results turnaround time, handling of emergency requests and other technical coverage of the laboratory.

Section V of this manual lists all the procedures offered by the laboratory. If a test cannot be found in Section V, please call the laboratory (see contact number below) for more information.

Fasting specimens are recommended for some tests. It is always possible for us to run an analysis on a non-fasting (randomly collected) specimen; however, the majority of the reference range studies in Chemistry are performed on fasting specimens. We recommend that if at all possible, to submit samples for analysis on fasting state.

This manual lists many tests that are sent to a reference laboratory. In most cases the turnaround time for the more common tests is between 24 and 48 hours. This excludes weekends and holidays. Most other tests will take 3 to 5 days depending on the reference laboratory production schedule. Some tests may require a much more complicated procedures, especially tests that utilizes cell cultures (e.g. chromosome, lymphocyte studies, etc.), and may take weeks before a test result can be produced.
We have identified the minimum amount of specimen needed to perform the analysis. The volume along with the tube type to be used will allow you to adjust the amount of specimen that needs to be drawn. This is particularly important when collecting sample from pediatric patients or from patients that may have conditions that proves to have a challenging specimen collection (e.g. thin vein, burned patients, etc).

This manual has been designed to aid the hospital and medical staff in proper patient preparation and specimen collection. If problems arise concerning procedures or if there are any questions, please call the laboratory on the numbers provided on the supervision sub-section.

Abbreviations used

BHCG – Beta Human Chorionic Gonadotropin
CAP – College of American Pathologists
CPT – Current Procedural Terminology
DOS – Directory of Services
HAAD – Health Authority of Abu Dhabi
HCP – Healthcare Provider
DAE – Danat Al Emarat Women and Children Hospital
ISO – International Standardization for Organization
JCIA – Joint Commission International Accreditation
POC – Point of Care
POCT – Point of Care Testing
QC – Quality Control
RN – Registered Nurse
SOP – Standard Operating Procedure
SST – Serum Separating Tube
STAT – Short Turn Around Time
TRF – Test Requisition Form

SPECIAL INSTRUCTIONS

Some laboratory tests require correct timing, special patient preparation and additional steps/unusual procedures for sample collection in order to obtain laboratory results that can effectively aid physicians in the diagnosis, treatment and monitoring of patient conditions.

For serological testing, the most useful information is gained by the simultaneous submission of an acute and convalescent specimen. (Convalescent specimens are best collected one to two weeks after the acute specimen). Wherever possible, we strongly recommend to submit an acute and convalescent specimen. We know however, that this is difficult to accomplish when the patient does not return for the convalescent specimen or when the clinical situation requires an "immediate picture" of the patient's condition.

For other special patient instructions, see Appendix B.

SUPERVISION

The Laboratory Department is headed by **Dr. Shweta Uppal** and is composed of the following Laboratory Sections:

Biochemistry

Hematology/Coagulation

Microbiology

Serology

Immunology

Histopathology/Cytopathology

Phlebotomy
The Laboratory provides phlebotomists for DAE Hospital patients. These phlebotomists observe proper collection procedures on correctly identified patients in accordance with specimen requirements for the laboratory tests requested by the doctors.

Transfusion Medicine/Immunohaematology
The tests currently performed in this section are Blood Grouping, Antibody Screen, and Direct Antiglobulin Test (DAT), Cross-matching, Antibody Identification, Antibody Titer.

Point of Care Testing
The laboratory supervises diagnostic tests performed close to the site of patient care or outside the core or central laboratory by clinical personnel who are not primarily trained in clinical laboratory science. The laboratory ensures quality POCT through clinical validation of POC results, QC surveillance, POC devices surveillance and continuous education of clinical staff involved in POCT.

For any issues regarding specific lab sections, please call the designated laboratory staff listed below.

SECTION 2: LABORATORY SERVICES

DAE LABORATORY HOURS OF OPERATION

- DAE Laboratory: The laboratory is open 24 hours a day for 7 days a week. The DAE Laboratory Reception is responsible for receiving and allocating specimens to specific sections responsible for the analysis. They are also responsible in shipping samples to reference laboratories.
- DAE Phlebotomy**:** Phlebotomy services will be available from Saturday to Thursday (08:30 – 23:00).

Core Laboratory (Hematology, Clinical Chemistry, Serology and Immunology)
Blood Bank and Transfusion Medicine
Direct Landline 1: 0097126510151
Direct Landline 2: 0097126510150

SPECIMEN COLLECTION/SUBMISSION/REJECTION POLICY

The laboratory can only perform requested procedures on specimens that follow the proper collection protocol and meets the specimen acceptance criteria set by DAE laboratory. Referring departments or facilities must adhere to the protocol in order to maintain patient specimen integrity, help facilitate rapid turnaround time, eliminate errors attributable to pre-examination processes, ensure high quality of results that ultimately helps the physicians and their staff in providing accurate, definitive and informative diagnoses.

Specimens must:

1. Be labeled properly, with the patient name, location, date and time of collection, and initials of the person collecting the sample.

2. Be in the proper container required for the test.
3. Be drawn below an IV infusion line.
4. Be collected at the time of 0 day required for the test.
5. Be placed in an individual plastic specimen bag for transport.
6. Arrive in the laboratory within the specified time frame required for the specific tests ordered.
7. Be kept at the correct temperature to maintain specimen integrity.
8. Be free from clot when drawn in an anticoagulant tube.
9. Be collected and transported in the correct media for Microbiology and special test requests.

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GUIDELINES FOR DRAWING BLOOD FROM A PATIENT

1. Identify patient correctly:

   Ask the patient's full name and date of birth. Ask “What is your full name?” and “What is your date of birth?”. Some patients may have similar name and in some rare cases with similar date of birth. That is why it is imperative for the one collecting the sample to ask the patient his or her full name. Compare the information given to the information on the demographic sticker. If there are any discrepancies, do not draw the specimen(s) until these discrepancies are resolved.

2. Use the DAE barcoded sticker labels but do not pre-label the tubes. In case the sticker labels are not available, tubes with handwritten labels must have the patient’s full name, location, date and time of collection, and the initials of the person drawing the blood. Label the tubes after the blood is drawn and before leaving the patient’s side.

3. For multiple specimen collection, the following order of draw should be used:
   a. Blood Culture
   b. Light blue top (coagulation)
   c. Red top (serum)
   d. SST tubes
   e. Green top (heparin)
   f. Lavender top
   g. Gray top

Closure Color	Collection Tube	Mix by Inverting
BD Vacutainer® Blood Collection Tubes *(glass or plastic)*		
	• Blood Cultures - SPS	8 to 10 times
	• Citrate Tube*	3 to 4 times
or	• BD Vacutainer® SST™ Gel Separator Tube	5 times
	• Serum Tube *(glass or plastic)*	5 times (plastic) none (glass)
	• BD Vacutainer® Rapid Serum Tube (RST)	5 to 6 times
or	• BD Vacutainer® PST™ Gel Separator Tube With Heparin	8 to 10 times
	• Heparin Tube	8 to 10 times
or	• EDTA Tube	8 to 10 times
	• BD Vacutainer® PPT™ Separator Tube K_2EDTA with Gel	8 to 10 times
	• Fluoride (glucose) Tube	8 to 10 times

GUIDELINES FOR SPECIMEN COLLECTION FROM MERS-COV/COVID 19.

1. Appropriate PPE is highly essential, wear N95 mask and face shield/goggle above "standard precaution" to collect specimen.
2. Preferably collect sample in a negative pressure isolation room.
3. Appropriate Staff must be trained to handle the procedure.
4. Use only synthetic fiber swabs with plastic shafts available with VTM vial.
5. **Nasopharyngeal swab:** Insert a swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Remove carefully after few seconds & place swab immediately into VTM vials containing 2-3 ml of viral transport medium.
6. The specimen should be transported to the laboratory at 2 – 8 degree Celsius. Samples should reach the Molecular Department at Danat Al Emarat Hospital Laboratory as early as possible but not beyond 72 hrs.

Preventing hemolysis during Specimen Collection

(Adapted from Fisher Clinical Studies)

a. The use of 20-23 gauge needle is advisable for all routine blood collection, a smaller needle bore may result in an excess vacuum force, while a larger needle bore can cause shear stress in the blood cell walls.
b. The preferred site to perform venipuncture is the antecubital region of the arm; drawing from other sites—sometimes a necessity in the urgent care centres and intensive care units (neonatal and adults)—has been shown to result in a higher degree of hemolysis.
c. Warm up the puncture site; warming increases the blood flow and prevents the need to "milk" the site, a significant cause of hemolysis. This is particularly important for neonatal and paediatric patients.
d. Do not leave the tourniquet on for longer than one minute; prolonged tourniquet application time causes the interstitial fluid to leak into the tissue, promoting hemolysis.
e. Alcohol damages cell walls; allow the venipuncture site to completely air dry after cleaning it with alcohol.
f. Place the needle correctly in the vein; if the bevel of the needle is crowded by the inner wall of the vein, the partial occlusion exerts a dramatic shear force on the cells. This is typically indicated by too slow a blood flow.
g. When using a syringe, pull the plunger gently; pulling too quickly exerts excess pressure—well beyond that of a standardized evacuated tube—and will shear the cell walls.
h. Similarly, pushing hard on the syringe plunger while transferring blood to another tube exerts a destructive level of pressure, and can also cause loss of the sample if the stopper comes off.
i. Avoid drawing from catheters and lines; these are designed to deliver fluids to the patient, not drawn from the patient. Drawing blood samples from these systems involve shear forces and turbulence that makes hemolysis unavoidable.
j. Fill tubes to correct volume; under-filling of tubes containing anticoagulant results in a higher than recommended concentration of the additive, which promotes hemolysis. Use a smaller tube for difficult draws.

Hemolysis and Specimen Handling

(Adapted from Fisher Clinical Studies)

a. Mix additives with the specimens gently; vigorous mixing or shaking can break the cells.
b. For tubes with a clot activator, gently invert the specimen at recommended number of times (see below table) to ensure complete mixing, and allow the activator to work for a full 30 minutes with the tube in a vertical position.
c. For serum tubes without a clot activator, don't invert—just allow the sample to clot for 60 minutes with the tube in a vertical position.

d. Clotting time cannot be rushed; centrifugation of the sample too soon will result in hemolysis.
e. Don't centrifuge specimens at a higher speed or for longer than necessary.
f. Protect the specimens during shipping; exposure to inappropriate temperatures and significant jarring will cause hemolysis in transit.

EMERGENCY (STAT) TESTING PROCEDURES

The ordering physician or healthcare facility may order STAT test through the following manner:

1. Electronic – while ordering through Yasasii, the requesting doctor/facility must mark the request in the system as "STAT"
2. Manual – requesting facility must promptly send (minimizing delays as much as possible) the proper specimen along with DAE lab request marked "STAT" in red marker or pen to the laboratory.
3. Verbal – the requesting doctor/facility may call the lab to order a STAT test then enters and flags the request in the system as soon as possible, provided that the sample is sufficient, appropriate for the test and within the stability period.

- Amylase
- BHCG (quantitative)
- Bilirubin, Direct
- Bilirubin, Total
- Calcium
- Complete Blood Count
- Glucose
- Potassium
- Sodium
- Troponin T
- Blood Type
- Antibody Screening
- Crossmatch

Only STAT results that are critical will be called to the requesting doctor or the authorized laboratory staff in the requesting facility.

POINT OF CARE TESTING

Point of Care Testing is utilized at DAE to enhance patient care by providing limited laboratory testing capability at the patient bedside or in the clinic. POCT is under the Department of Pathology. College of American Pathologists will inspect and accredit the program. CAP accreditation standards must be met for a clinic to maintain POCT privileges. All users of the POCT, including phlebotomists, medical technologists, nurses, head nurses, and doctors are required to read and be familiar with the contents of POCT SOP.

REPORTING OF LABORATORY RESULTS

Laboratory Test Results: All laboratory results are recorded in the patient's electronic record in DAE. The electronic patient file is considered the official file and the Healthcare provider should use the DAE Yasassii Information System to view patient results.

CRITICAL VALUES

Critical Values are immediately reported telephonically directly to the requesting Physician. In the event the requesting Physician is not available (e.g. past duty hours, night shifts), the results will be reported to the on-call physician. A "read-back" will be performed by the individual receiving the results, to confirm that the critical test value was correctly communicated.

The notification information will be recorded by the DAE laboratory staff who notified the physician in the Critical/Panic Results Reporting Form and filed accordingly. The documentation will include, at minimum, the date, time to whom the critical value was given, and that the results were verified by read back.
The DAE Critical values are listed in Appendix B.

REFERENCE LABORATORY

The laboratory is obligated to utilize the designated reference laboratories for tests that are not performed in the DAE laboratory. Clinicians must submit all testing through the laboratory. Any arrangements made with commercial laboratories without the knowledge or approval of the Department of Pathology constitutes an unauthorized obligation for the hospital and the requesting physician will be held financially and administratively accountable.

The Head of Laboratory Services is responsible for selecting referral laboratories and reviews the quality of performance annually with the medical staff to ensure any concerns or needs are addressed. The HAAD, CAP, JCI or ISO accredits all reference laboratories utilized.

Sample Volume requirements of the referral laboratories must be observed. If there are concerns about the amount of blood that will be collected from a patient, contact the laboratory to determine if certain tests can be combined or a smaller aliquot of sample can be submitted.

Interpretation of genetic tests sent to referral lab will be performed by the referral lab genetic consultant.

SECTION 3: REQUESTING LABORATORY TESTS

REQUESTING LABORATORY TESTS

All ordering physicians and clients will utilize DAE Yasassii Information System to enter lab test requests except in the event of system failure.

Do not order tests annotated with a different laboratory or through a different network. If you encounter problems with ordering through DAE Yasassii Information System please contact the laboratory. Refer to Section 3.E. “Continuity of Operations” for information on how Pathology will function when the information system is down.

Handwritten lab request slips are accepted ONLY from healthcare providers that are not connected to DAE through the DAE Yasassii Information System. These providers must attach the manually filled out DAE Test Requisition Form and insert it in the side pocket of the biohazard bag containing the specimen.

The laboratory request MUST be legible and contain the following information:

1. Name of requesting facility
2. Contact details of the requesting facility (phone, fax number)
3. Patient’s full name
4. Patient’s date of birth
5. Full name and signature of the ordering doctor
6. Requested test(s)
7. Consent form, as needed
8. Clinical Information, as needed (e.g. menstrual history for cytopathology, gestational age for prenatal neural tube defect screening, preoperative diagnosis for surgical pathology and bleeding history for specialized coagulation assays)

SPECIAL LABORATORY TESTS

The following tests must be scheduled through the laboratory prior to collection:

1. Chromosome Analysis
2. Amniotic Fluid for LS/PG

VERBAL ORDERS

As stated previously, the DAE Yasassii Information System and the DAE TRF are the only means of obtaining orders for laboratory testing from any physician or client facility. Verbal orders are not authorized for any ordering physician or healthcare facility.

TESTING PRIORITIES

There are three categories of laboratory testing priorities: Routine, URGENT and STAT. All requests will be assumed to be routine unless specifically ordered as STAT. All laboratory testing is handled in as expeditious manner as possible.

Routine
Most routine tests are tested as soon as the specimen is received. Turn-around time for a routine test request is 24 hours or less, excluding specimens that are "batch tested" to reduce costs and improve efficiency (i.e. Parathyroid Hormone).

STAT
STAT requests are for true emergencies that involve loss of life, limb or eyesight. The turn-around time for a STAT procedure is one hour or less from specimen receipt. Results will be certified in DAE and available to the requesting clinician. All critical values will be called directly to the provider with read back verification. When multiple STAT requests are received testing is performed in the order specimens are received (unless a call for immediate priority is received from the ordering clinician).
Approved STAT lab test requests are for emergencies or urgent situations. Other tests not listed as STAT (see Section 2.D. Emergency Procedures) will only be performed urgently if approved by the Pathologist or Head of Laboratory Services.

CONTINUITY OF OPERATIONS PLAN

When DAE Yasassii Information System fails for any reasons, the following procedure will be followed by the laboratory and all departments or facilities that submit specimens

All specimens must be accompanied with a DAE manual Test Requisition Form which must indicate the following information:

1. Name of requesting facility
2. Patient's full name
3. Patient's date of birth
4. Full name and signature of the ordering doctor
5. Requested test(s)
6. Time and Date of Collection
7. Initials of the person who collected the specimen
8. Consent form, as needed
9. Clinical Information, as needed

All manually transcribed request forms must be legible and filled out completely to ensure timely and accurate specimen processing and testing. These forms are obtained through the DAE Laboratory Reception.

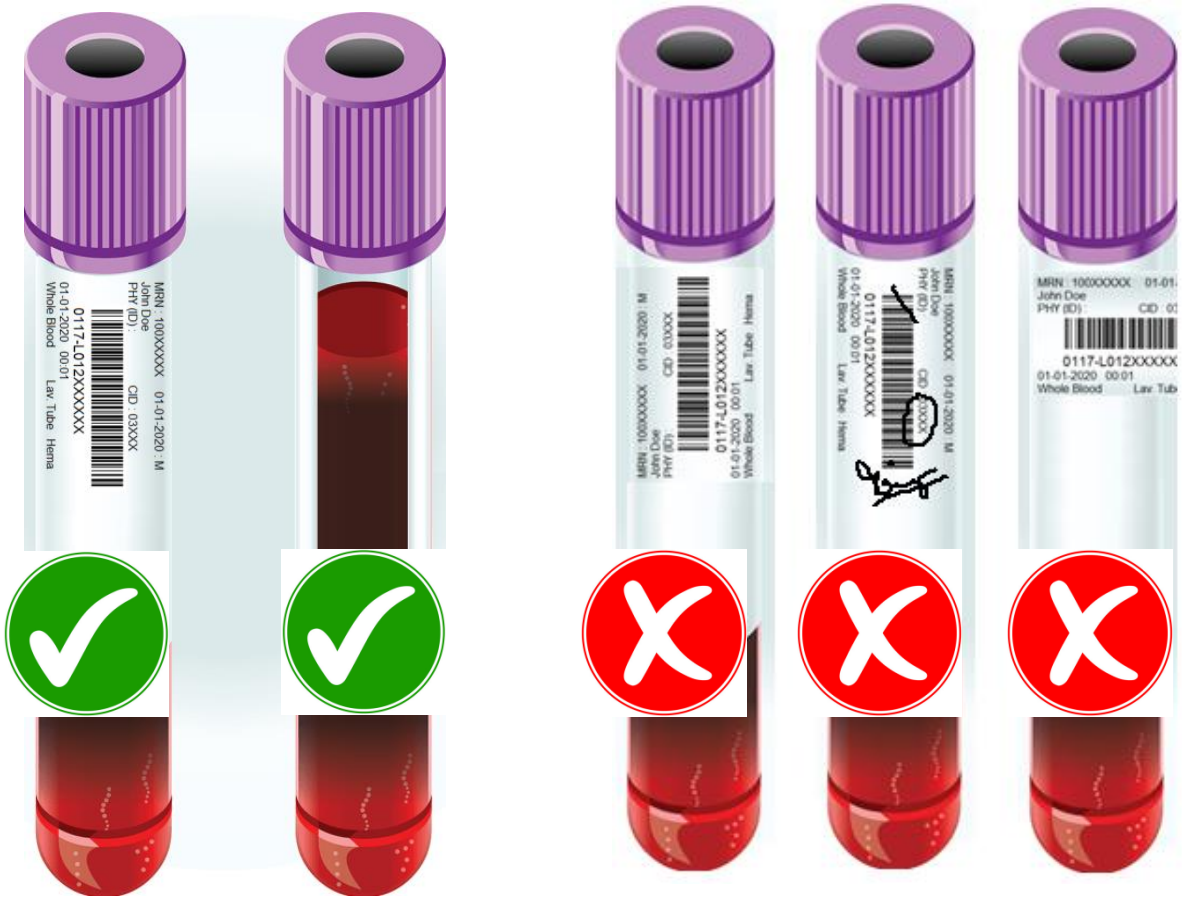
The laboratory will perform test(s) on specimens and telephonically report all critical values to the responsible clinician or attending nurse and will document notification and result read back. Laboratory personnel will email or fax a copy of all STAT results to the requesting clinic or facility.

SECTION 4: SPECIMEN COLLECTION, LABELING AND REJECTION CRITERIA & TRANSPORTATION

SPECIMEN LABELING CRITERIA

1. All primary specimen containers (i.e. blood tubes, urine cups, culturettes) must be labeled in front of the patient after patient identification procedures have been done.
2. Always make sure that the barcode label is placed properly and directly under the cap (Patient Name must be at the top portion), the long side should run vertically down the tube, **as straight as possible.**
3. Leave visible window to check blood volume.
4. Do not, in any way, tamper the barcode area with unnecessary scribbles, signatures or unimportant pen markings, as this may interfere with the barcode reading by the analyzer; consequently, increasing the turnaround time.
5. Any additional information (e.g. Initials, volume, site of collection, etc.) must be written on the clear area below the barcode.
6. At minimum, all labels will include:
    a. Patient's name

b. Patient's Date of Birth
c. Patient's Gender
d. Date and Time of Collection
e. Initials and Badge number of the person who collected the specimen



SPECIMEN PRIMARY CONTAINER

Container will be a leak-proof container with a secure closure. Care must be taken by the person collecting the specimen not to contaminate the outside of this container. Before being transported to the laboratory, the primary container must be placed into a secondary container that will contain the specimen if the primary container breaks or leaks in transit to the laboratory. Plastic bags labeled with the biohazard symbol and wording are available in the Blood Collection room(s).

Larger biohazard bags or plastic containers with a sealed lid and a biohazard label are suitable for transporting larger items. The laboratory will dispose of any specimens that arrive broken, leaking or otherwise contaminated via regulated medical waste (RMW). The requesting clinic will be notified that recollection of specimen is required. Gloves will NOT be worn when transporting specimens in a secondary container to the laboratory.

OUTPATIENT SPECIMEN COLLECTION

Persons requiring collection of laboratory specimens will present to the Outpatient Phlebotomy Room during normal duty hours. The parent or guardian of pediatric patients must present with a valid I.D. card. The Reception will check for existing doctors' orders and will assist those patients with a missing or pending lab order request.

BLOOD COLLECTION

Blood specimens will be collected in a manner that ensures proper testing and reduces the possibility of cross contamination and erroneous results. Depending on the method of blood collection, blood tubes are filled in a specific order.

Order of draw - Specimens collected using evacuated tubes with a tube holder, such as the Vacutainer system, will be filled in the following order of tube type:

1. Blood Cultures
2. Sodium Citrate (Light Blue)
3. Serum (Red)
4. SST (Gold)
5. RST (Orange)
6. Sodium or Lithium Heparin (Green)
7. PST (Light Green)
8. EDTA (Lavender)
9. Cross Match (Pink)
10. Sodium Flouride/NaEDTA (Grey)
11. Trace Element (Royal Blue)

BLOOD VOLUME

As part of a CAP accreditation standard, efforts have been made to minimize the volume of blood collected from patients. The DAE system is set up to combine all possible tests under one accession number. For example, a request for CBC, and Sickle Cell Screen will be combined under one accession number so only one specimen is collected to perform these tests.

PATIENT COLLECTED SPECIMENS

Patients with special sample collection requirements will report to the phlebotomy room during normal hours for instructions and/or containers. This includes 24-hour urine, semen and fecal samples.

MICROBIOLOGY SPECIMENS

The requesting clinician and/or attending nurse will collect all microbiology specimens. Specimens must be submitted to the laboratory immediately after collection to prevent loss of pathogenic organisms or overgrowth by contaminating organisms.

CYTOLOGY/SURGICAL SPECIMEN

Fluids such as pleural, peritoneal, CSF, urine and breast biopsies must be submitted ASAP.
Because of the importance of clinical information in the practice of surgical pathology and cytopathology, requisitions for such specimens should include pertinent clinical data, as well as pre-operative and/or post-operative diagnosis. Written instructions should be available for all applicable tissue and cytologic specimens, including biopsies, resections, PAP tests, sputum washings, brushings, body fluids, fine needle aspirations, etc.

GENERAL REJECTION CRITERIA

1. Lack of Positive ID. The DAE laboratory considers correct patient and specimen identification as the most important element to be considered in sample acceptance and requires that all laboratory requisitions (Laboratory worklist and TRF) and patient samples received by the laboratory have all the elements necessary for positive patient and sample identification. The laboratory rejects any specimen if any of the required essential information is missing from the Worklist, TRF or specimen label.
   1.1. Essential information on the request form. The DAE laboratory worklist and TRF contain the following information (see SOP on the Laboratory Ordering):
      1.1.1. Adequate patient identification (full name, MRN)
      1.1.2. Gender
      1.1.3. Date of birth

1.1.4. Ordering doctor
1.1.5. Tests requested
1.1.6. Time and date of specimen collection when appropriate
1.1.7. Source of specimen, when appropriate
1.1.8. Diagnosis/clinical history

1.2. Essential information on specimen containers and/or sticker labels. All patient samples contain the following pertinent information:
1.2.1. Patient's Full name
1.2.2. MRN
1.2.3. Date of birth
1.2.4. Date of Collection
1.2.5. Time of Collection
1.2.6. Collector's initials/ID code
1.2.7. Non-blood specimen require a source
1.2.8. Specimens received in aliquot tubes must indicate whether the kind of sample and also the tube type the sample was collected in. For example:Citrate – Plasma, EDTA – Plasma, SST- Serum

2. Discrepancy in Identification. The laboratory rejects any specimen wherein the sample and worklist/TRF information do not match, is missing or is unidentifiable. Discrepancies in identification include, but is not limited to, the following situations:
   2.1. Mismatch of the spelling of name
   2.2. Unlabeled samples
   2.3. Unreadable barcode
   2.4. Mislabeled samples
   2.5. Illegible labels
   2.6. Tampered labels
3. Inappropriate Specimen. Samples that are collected improperly or unsuitable for diagnostic testing due to wrong collection tube used are rejected. These samples include, but not limited to, the following:
   3.1. Improper use of preservative
   3.2. Under- or over-filled collection containers causing an inappropriate blood/anticoagulant ratio
   3.3. Collected in wrong anticoagulant
   3.4. Samples contaminated with another specimen
   3.5. Grossly hemolyzed samples
   3.6. Wrong sample type
4. Patient Preparation (Pre-examination requirements) not met.
   4.1. Failing to follow proper storage requirements
   4.2. Failing to follow proper collection procedures
   4.3. Specimen is of insufficient quality
   4.4. Specimen is from an unacceptable source
   4.5. Collection kit insert guidelines not met for specimens with special collection protocols
5. Inappropriate Volume. Specimens that do not meet the required minimum volume must be recollected. Minimum quantity for each laboratory test are indicated in the Specimen Collection Manual which is available in the blood collection rooms and provided to all client healthcare facilities. The volume requirements are also indicated in the Laboratory Dictionary of Tests in the HIS/LIS.
6. Specimen Age. Any sample that exceed the stability period and was not stored appropriately, prior to submission to the DAE laboratory accessioning section is to be rejected. Specimen are to be submitted to the lab in a timely manner, such as in the cases of the following:
   6.1. Urine within two hours of collection; kept at a temperature of 2-8^{0}C
   6.2. Semen within 30 minutes of collection; kept at 37^{0}C
   6.3. Formed/soft/mushy stool within 1 hour of collection; kept at a room temperature
   6.4. Watery/diarrheic/loose stool within 30 minutes of collection; kept at room temperature

NO ELECTRONIC DAE ORDER OR REQUEST FORM

The laboratory will make every reasonable effort to maintain the testing integrity of the specimen (e.g. centrifuge, refrigerate, etc.) and to contact the submitting provider or clinic. Irretrievable specimens, such as culturettes from wounds or anaerobic sources. Retrievable specimens are defined as routine blood specimens, throat cultures and urine (random and 24-hour) and will be discarded. Attempts to resolve these issues will be documented.

NOTIFICATION FOR UNACCEPTABLE SAMPLES

The following protocol will be utilized for notification when samples are considered unacceptable:

1. Irretrievable specimens (e.g. tissue, CSF, etc.) will be processed, if possible, and

the appropriate clinic notified of specimen condition and the lack of orders.
2. Samples with contaminated containers or incomplete information will not be accepted. Clinic personnel will be notified to for the recollection.
3. For lipemic, clotted or hemolyzed blood samples the laboratory will notify the clinician or the attending nurse. The nurse or doctor will contact the patient for recollection.
4. Sub-optimal microbiology cultures that are irreplaceable will be held for 48 hours before discarding. The clinician will be contacted as soon as possible after receipt. If the clinician requests, these specimens will be cultured and processed.
5. Specimens received without orders or information on who requested lab testing: these specimens will be held for the viable period of testing. For urine specimens and anticoagulated tubes this is 24 hours; serum specimens will be held for 7 days. The laboratory reception will make all attempts to find out the ordering clinic or doctor.

MICROBIOLOGY SPECIMEN REJECTION CRITERIA

1. All unlabelled specimens or samples with discrepancy between label and request.
2. Any improper sample or sample collected with improper preparation (e.g. Stools specimens not submitted in proper collection vial for test requested).
3. Specimens which have been contaminated or collected in an improper container (e.g. Specimens that have leaked inside the bag; Swabs contaminated with urine).
4. Improper handling of specimen between the time of collection and the time of receipt in the lab.
5. Sputum specimens that are determined to be primarily of salivary origin.
6. Specimens for culture that do not identify the source or body site.
7. Anaerobic cultures cannot be performed on the following specimens: gastric washings, sputum, throat, nasal, urine (except suprapubic), feces, ileostomy colostomy swabs, superficial skin, environment cultures, and vaginal/cervical swabs.
8. Specimens such as urine, sputum or sterile body fluids in unsterile containers.
9. Unpreserved stool specimens for culture and fecal analysis>2 hours old.

CYTOLOGY/HISTOPATHOLOGY SPECIMEN REJECTION CRITERIA

1. Any fluid/tissue submitted without a Cytology or Histopathology Request Form.
2. Any unlabeled/mislabeled specimen.

TRANSPORTING SPECIMENS FROM THE DAE WARD/CLINICS TO THE LABORATORY

1. All specimens to be sent from the ward/clinics should be placed in a biohazard specimen bag and sealed.
2. This bag is then placed in a specimen transport box and taken to the laboratory.
3. The specimen transport box should be of a hard material that can withstand cleaning with commercially prepared disinfectant.
4. If specimens are to be sent on ice to the laboratory then the procedure to follow is to place the specimen in a biohazard bag, seal it and then place this bag into another biohazard bag that contains the crushed ice (double bagging).

SECTION 5:

TEST MENU

Alphabetical Listing of Tests

Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
ACTH (Adrenocorticotropic Hormone)	82024	EDTA Plasma (pre-chilled tube – Place the empty tube on ice for at least 5 minutes before collection)	Frozen (Place the tube immediately on ice after collection and transport immediately to lab within 15 minutes)	1 mL	2 hours at 18-24°C 1 months at -20°C	8 hours	Every Wednesday /Sunday	COBAS 6000	ECLIA
Albumin (Serum)	82040	Serum/SST	Refrigerate	1mL	14 days at 18-24°C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	Colorimetric
*Albumin (Body fluids)	82042	Body fluids	Refrigerate	2mL	1 day at 18-24°C 7 days at 2-8°C 1 month at -20°C	4 hours	Daily	ABBOTT ALINITY C	Colorimetric
*Albumin (CSF)	82042	CSF	Refrigerate	1mL	14 day at 18-24°C 14 days at 2-8°C 14 at -20°C	4 hours	Daily	ABBOTT ALINITY C	Turbidimetric/Immuno turbidimetric
*Albumin Gradient, Serum-Ascites		Serum/peritonial fluid			Refer to individual test	4 hours	Daily	ABBOTT ALINITY C	Calculated
Alkaline phosphatase	84075	Serum/SST	Refrigerate	1mL	75 days at 18-24°C 7 days at 2-8°C 4 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Para-nitrophenyl Phosphate
Allergy Panel, Food	86003	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Tuesday	EUROIMMUN	Immunoblot
Allergy Panel, Inhalant	86005	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Tuesday	EUROIMMUN	Immunoblot
Alpha-fetoprotein (AFP) in Serum	82105	Serum/SST	Refrigerate	1mL	7 days at 2-8°C 3 months at -20°C	8 hours	Every Tuesday	ABBOTT ALINITY I	CMIA
ALT (Alanine Aminotransferase) / GPT (Glutamate pyruvate transaminase)	84460	Serum/SST	Refrigerate	1mL	3 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ENZYMATIC (NADH [WITHOUT P-5'-P])
AST (Asparate Aminotransferase) / GOT (Glutamate oxaloacetic transaminase)	84450	Serum/SST	Refrigerate	1mL	4 days at 18-24°C 7 days at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	ENZYMATIC (NADH [WITHOUT P-5'-P])

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Amikacin in Serum	80150	Serum/Red Top Tube	Refrigerate	1mL	8 hrs capped at 18-24°C 2 days capped at 2-8°C 1 month capped at -20°C	4 hours	Daily	ABBOTT ALINITY C	PARTICLE-ENHANCED TURBIDIMETRIC INHIBITION IMMUNOASSAY
Ammonia	82140	Non-Lipemi, Non-Hemolysed EDTA plasma (Vacutainer should be filled completely and kept tightly stoppered "closed" at all times)	Frozen (Place immediately on ice after collection and transport immediately to lab within 15 minutes)	2mL	3 weeks at -38 °C	4 hours	Daily	ABBOTT ALINITY C	GLUTAMATE DEHYDROGENASE
Amylase in Serum	82150	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ENZYMATIC (CNPG3 SUBSTRATE)
*Amylase (Body fluids)	82150	Body fluids	Refrigerate	2mL	14 days at 18-24°C 14 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	ENZYMATIC (CNPG3 SUBSTRATE)
Amylase Urine (Random)	82150	Random urine	Refrigerate	5mL	2 days at 18-24 °C 10 days at 2-8 °C	4 hours	Daily	ABBOTT ALINITY C	ENZYMATIC (CNPG3 SUBSTRATE)
Amylase Urine (24 hours)	82150	Plastic 24 hour urine container without preservative	Refrigerate	10 ml aliquot of 24 hours urine collection	2 days at 18-24 °C 10 days at 2-8 °C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (CNPG3 Substrate)
Androstenedione	82157	Serum/SST	Refrigerate	1mL	5 days at 18-24°C 14 days at 2-8°C 14 days at -20°C	4 hours	Daily	COBAS 6000	ECLIA
Anti-Cardiolipin IgG	86147	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Tuesday	EUROIMMUN	ELISA
Anti-Cardiolipin IgM	86147	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Tuesday	EUROIMMUN	ELISA
Anti-Gliadin IgA	83516	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA
Anti-Gliadin IgG	83516	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA
Anti-HSV-2 IgG	86696	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Anti-HSV-2 IgM	86696	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA
Anti- Mycoplasma pneumoniaeIgG	86738	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA
Anti- Mycoplasma pneumoniaeIgM	86738	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA
Anti-Phosphatidylserine IgG	86148	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Tuesday	EUROIMMUN	ELISA
Anti-Phosphatidylserine IgM	86148	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Tuesday	EUROIMMUN	ELISA
Anti-tissue Transglutaminase IgA	83516	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA
Anti-tissue Transglutaminase IgG	83516	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA
Anti Mullerian Hormone (AMH)	83520	Serum/SST	Frozen	1mL	3 days at 18-24°C 5 days at 2-8°C 6 months at -20°C	8 hours	Every Monday/ Thursday	COBAS 6000	ECLIA
Anti-Thyroid Peroxidase ABS (Anti TPO)	86376	Serum/SST	Frozen	1mL	3 days at 2-8°C 1 month at -20°C	8 hours	Every Wednesday/ Sunday	ABBOTT ALINITY I	CMIA
Anti-Thyroglobulin (Anti-Tg)	86800	Serum/SST	Frozen	1mL	3 days at 2-8°C 1 month at -20°C	8 hours	Every Wednesday/ Sunday	ABBOTT ALINITY I	CMIA
Anti TSH Receptor Antibodies	84443	Serum/SST	Frozen	1mL	3 days at 2-8°C 1 month at -20°C	8 hours	Every Wednesday/ Sunday	COBAS 6000	ECLIA
*Antithrombin III Activity	85300	Citrated plasma	Frozen	3mL	4 hours at 18-24°C 4 hours at 2-8°C 2 weeks at -20°C	4 hours	Every 15th and 30th the of the Month	ACL TOP CTS 350	Automated chromogenic assay
*APT Test	83033	Vomitus/Mucus/ Stool from neonates	Refrigerate	1mL	7 days at 2-8°C	4 hours	Whenever requested	Manual	Visual identification of Alkali denaturation of hemoglobin
Basophils	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
Beta-HCG, Free Quantitative	84704	Serum/SST	Frozen	1mL	8 hours at 18-24°C 7 days at 2-8°C 10 months at -20°C	8 hours	Every Monday/ Thursday	COBAS 6000	ECLIA
Beta-HCG,Quantitative	84702	Serum/SST	Refrigerate	1mL	3 days at 2-8°C 12 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Bicarbonate	82374	Serum/SST Collect anaerobically (used discard/ do not open tube)	Refrigerate	1mL	40 hours at 18-24°C 1 day at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	PEP CARBOXYLASE
Bilirubin (Direct)	82248	Serum/SST (Protect from light)	Refrigerate	1mL	2 days at 18-24°C 7 days at 2-8°C 6 months at -20°C	8 hours	Daily	ABBOTT ALINITY C	DIAZO REACTION
Bilirubin (Total) Serum	82247	Serum/SST (Protect from light) Pedia (collect amber colored microtainer)	Refrigerate	1mL	1 day at 18-24°C 7 days at 2-8°C 6 months at -20°C	8 hours	Daily	ABBOTT ALINITY C	DIAZONIUM SALT
Biopsy – Small	88302/ 88304	Tissue specimen (small container)	Room temperature	Tissue In 10 % buffered Formalin	Not Applicable	3-4 days	Daily	LEICA ASP 200S	Histopathology
Biopsy – Medium	88305	Tissue specimen (medium container)	Room temperature	Tissue In 10 % buffered Formalin	Not Applicable	3-4 days	Daily	LEICA ASP 200S	Histopathology
Biopsy – Large	88307/ 88309	Tissue specimen (large container)	Room temperature	Tissue In 10 % buffered Formalin	Not Applicable	7 days	Daily	LEICA ASP 200S	Histopathology
*Blood Film (Peripheral Smear)	85060	EDTA whole blood	Room temperature	3mL	24 hours at 18-24°C	24 hours	Daily	N/A	Stain – microscopy
Blood Culture Aerobic (Adult)	87040	Adult-8-10 ml blood in Bactec Aerobic & Anaerobic Bottles	Room temperature	Adult-8-10 ml blood	24 hours at 18-24°C	7 days	Daily	BD BACTEC FX AND BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Blood Culture Aerobic (Pediatric)	87040	Pedia- 1-3 ml blood in Bactec Peds Bottles	Room temperature	Pedia- 1-3 ml blood	24 hours at 18-24°C	7 days	Daily	BD BACTEC FX AND BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Body fluid Sterile (other than CSF) Culture and Sensitivity	87070	Body Fluid in Universal Sterile Container	Refrigerate	At least 1mL	24 hours at 18-24°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture&sensitivity Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
CA 125	86304	Serum/SST	Frozen	1mL	5 days at 2-8°C3 months at -20°C	8 hours	Every Friday	ABBOTT ALINITY I	CMIA
CA 19-9	86301	Serum/SST	Frozen	1mL	14 days at 2-8°C 3 months at -20°C	8 hours	Every Friday	ABBOTT ALINITY I	CMIA
Calcium in Serum	82310	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 8 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	ARSENAZO III
*iCa++ (Ionized Calcium)	82330	Serum/SST (Do not open tube after collection)	Refrigerate	1 mL	14 Days at 18-24 °C 7 Days at 2-8 °C	4 hours	Daily	Roche 9180	ISE, Indirect
Calcium Urine (Random)	82340	Random urine	Refrigerate	5mL	2 days at 18-24 °C 4 days at 2-8 °C 3 weeks at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	ARSENAZO III
Calcium Urine (24 hours)	82340	Plastic 24 hour urine container with 20-30 mL 6N HCL	Refrigerate	10 ml aliquot of 24 hours urine collection	2 days at 18-24 °C 4 days at 2-8 °C 3 weeks at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	ARSENAZO III
*Calcium/creatinine Ratio	82340; 82570	Plastic 24 hour urine container with 20-30 mL 6N HCL	Refrigerate	10 ml aliquot of 24 hours urine collection	2 days at 18-24 °C 4 days at 2-8 °C 3 weeks at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	See individual test
Calprotectin	83993	Stool in Universal Sterile Container	Refrigerate	At least 1 gram/mL	24 hours at 2-8°C	8 hours	Every Tuesday	EUROIMMUN	ELISA
COVID-19-PCR	87635	Nasopharyngeal Swab to be collected in VTM tube. Saliva to be collected in Saliva collector	Refrigerate	Nasopharyngeal Swab (1 mL) Saliva (2 mL)	≤ 48 hours at 2-8°C > 48 hours at -70°C	48 hours	Daily	ROTOR-GENE Q ANALYTIK JENA BIORAD CFX96	REAL TIME PCR
Rapid SARS CoV-2 (COVID-19) PCR- ID NOW	87635	Nasal sample in Dry Swab	Refrigerate	-	Room Temperature (18-24°C): up to two (2) hours. At 2 - 8°C: Up to 24 hours.	1 Hour	Daily	ABBOTT ID NOW	ISOTHERMAL NUCLEIC ACID AMPLIFICATION TECHNOLOGY

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مستشفى دانة الإمارات
Danat Al Emarat Hospital
WOMEN & CHILDREN النساء والأطفال

Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Cellophane Tape Prep	87172	Cellophane Tape Prep on Glass slide	Room temperature	-	At Lab within 2 hours, 24 hours at 18-24°C	24 hours	Daily	N/A	Microscopy
CBC / Complete Blood Count/FBC/Full Blood Count	85025	EDTA whole blood	Refrigerate	1mL	24 hours at 18-24°C 48 hours at 2-8°C	4 hours	Daily	ABBOTT ALINITY HQ	Flow Cytometry/Calculation /absorption spectrophotometry
CEA/Carcinogenic Embryonic Antigen	82378	Serum/SST	Frozen	1mL	7 days at 18-24°C 6 months at 2-8°C	8 hours	Every Friday	ABBOTT ALINITY I	CMIA
Cell Count in aspirate	89050/ 89051	Aspirate fluid	Refrigerate	0.5ml	1 hour at 18-24°C 1 hour at 2-8°C	1 hour	Daily	SYSMEX XN 1000I	Flow cytometry
*Cell Count in CSF	89051	CSF	Refrigerate	0.5mL	1 hour at 18-24°C 1 hour at 2-8°C	1 hour	Daily	SYSMEX XN 1000I	Flow cytometry
Cervical Cytology – Pap Smear – Liquid Based Cytology	88142 88141	Vaginal/Cervical Scrapings in ThinPrep vials	Room temperature	20 ml	42 Days from collection at 18-24°C	7 Days	Daily	THINPREP 5000	Cytology
Chlamydia Antigen	87320	Endo-Cervical/ Urethral Specimen in Dry Swab	Room temperature	-	24 hours at 18-24°C	8 hours	Daily	N/A	Immuno chromatography
Chloride in Serum	82435	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Chloride Urine (Random)	82435	Random urine	Refrigerate	5mL	2 days at 18-24 °C 4 days at 2-8 °C 3 weeks at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Chloride Urine (24 hours)	82435	Plastic 24 hour urine container without preservative	Refrigerate	10 ml aliquot of 24 hours urine collection	2 days at 18-24 °C 4 days at 2-8 °C 3 weeks at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Cholesterol LDL	83721	Serum/SST	Refrigerate	1mL	7 days at 2-8°C 12 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Measured, Liquid Selective Detergent
Cholesterol HDL	83718	Serum/SST	Refrigerate	1mL	3 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Accelerator Selective Detergent
LDL:HDL Ratio	83721 83718	Serum/SST	Refrigerate	1mL	3 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Calculated
Cholesterol:HDL Ratio	83721 83718	Serum/SST	Refrigerate	1mL	3 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Calculated

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Cholesterol Total	82465	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic
Cholesterol Total (Body Fluid)	82465	Body Fluid	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic
CK (Creatine kinase/CK-Total/CPK)	82550	Serum/SST	Refrigerate	1mL	2 days at 18-24°C 7 days at 2-8°C 1 month at -20°C	4 hours	Daily	ABBOTT ALINITY C	NAC (N-ACETYL-L-CYSTEINE)
C-Reactive Protein (CRP)	86140	Serum/SST	Refrigerate	1mL	11 days at 18-24°C 14 days at 2-8°C 36 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	TURBIDIMETRIC/ IMMUNOTURBIDIMETRIC
Creatinine Clearance	82575	1 mL serum + 24 hours urine (note total volume)	Refrigerate	1 ml serum, 10 ml aliquot of 24 hours urine collection	See individual test	1 day	Daily	ABBOTT ALINITY C	CALCULATED
Creatinine Serum	82565	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	ENZYMATIC
*Creatinine (Body Fluids)	82570	Body fluids	Refrigerate	2mL	7 days at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	ENZYMATIC
Creatinine Urine (Random)	82570	Random urine	Refrigerate	5mL	2 days at 18-24°C 6 days at 2-8°C 6 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	ENZYMATIC
Creatinine Urine (24 hours urine)	82570	Plastic 24 hour urine container without preservative	Refrigerate	10 ml aliquot of 24 hours urine collection	2 days at 18-24°C 6 days at 2-8°C 6 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	ENZYMATIC
Cortisol	82533	Serum/SST	Refrigerate	1mL	24 hours at 18-24°C 48 hours at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
C-Peptide	84681	Serum/SST	Refrigerate	1mL	24 hours at 18-24°C 48 hours at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
CSF Culture/Sensitivity	87070	CSF in Universal Sterile Container	Room temperature	At least 1 mL	24 hours at 18-24°C **DO NOT REFRIGERATE**	5 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Corneal transplant / ocular fluid/ Corneal donor fluid	87070	Corneal transplant / ocular fluid/ Corneal donor fluid in Universal Sterile Container	Room temperature	-	24 hours at 18-24°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Eye Swab	87070	Eye swab in Amie's transport medium	Room temperature	-	24 hours at 18-24°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Ear Swab	87070	Ear swab in Amie's transport medium	Room temperature	-	24 hours at 18-24°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture female Genital tract	87070	Genital swab in Amie's transport medium	Room temperature	-	24 hours at 18-24°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Bone/Bone Marrow Aspirate	87070	Bone; Bone marrow (0.2-0.3 ml in heparinized syringe)	Refrigerate	-	24 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Semen/Prostatic fluid	87070	Seminal/ Prostatic fluid in Universal Sterile Container	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Expectorated/Induced Sputum	87070	Early Morning Sputum in Universal Sterile Container	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Culture Respiratory Fluid/BAL/ Endotracheal Aspirate/Pleural	87071	Respiratory Fluid/BAL/ Endotracheal Aspirate/Pleural in Universal Sterile Container	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast))& Sensitivity (limited to bacteria)
Culture Pus/ Abscess/ Drain/ Discharge/ Bartholin Gland	87070	Preferably aspirated NOT Swab in Universal Sterile Container	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Stool	87045 87046	Stool in Universal Sterile Container	Refrigerate	-	24 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Throat Swab	87070	Throat swab in Amie's transport medium	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Catheter Tip	87070	Tip in Universal Sterile Container	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Nasal Swab	87070	Nasal swab in Amie's transport medium	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Tissue Biopsy	87070	Tissue in Universal Sterile Container	Refrigerate	-	24 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Urethral Swab	87070	Urethral Swab in Amie's transport medium	Room temperature	-	24 hours at 18-24°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)

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مستشفى دانة الإمارات
Danat Al Emarat Hospital
WOMEN & CHILDREN النساء والأطفال

Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Culture Vaginal/ High Vaginal	87070	Vaginal/ High Vaginal Swab in Amie's transport medium	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Wound/ulcer/lesion	87070	Wound swab in Amie's transport medium	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Fungal limited to Yeast	87101/ 87102/	Various specimen in Universal Sterile Container / Swab in Amie's transport media	Refrigerate	-	48 hours at 2-8°C	7 days to 6 weeks	Daily	BD PHOENIX 100	Culture Fungi (limited to yeast)& Sensitivity (limited to bacteria)
Culture Fungal Blood	87103	Adult-8-10 ml blood in Bactec Aerobic Bottle Pedia- 1-3 ml blood in Bactec Peds Bottle	Room temperature	Adult-8-10 ml blood Pedia- 1-3 ml blood	24 hours at 18-24°C	6 weeks	Daily	BD BACTEC FX AND BD PHOENIX 100	Culture Fungi (limited to yeast)
Culture Screening GBS	87081	Combined Vaginal/Rectal Specimen in Dry Swab	Room temperature	-	24 hours at 18-24°C	1-2 days	Daily	BD PHOENIX 100	Aerobic culture bacteria & Identification
Culture Screening MRSA	87081	Axilla/Groin/Nasal/Umbilical Swab / Swab in Amie's transport medium	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture bacteria & Identification
Culture Other Sites	87070	Various specimens in Universal Sterile container / Swab in Amie's transport medium	Refrigerate	-	48 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)& Sensitivity (limited to bacteria)
Cytology – Body Fluids	88104	Body fluids	Refrigerate	1-10 ml	At Lab within 48 hours of collection at 2-8°C	4 days	Daily	THINPREP 5000 & CYTOCENTRIFUGE	Cytology
Cytology – FNAC	88173	Puncture fluid	Room temperature -slides Refrigerate-fluid	Fixed Smear in 95% Ethanol / air dried smear and Fluid in Container with Fixative	At Lab within 48 hours of collection at 2-8°C	4 days	Daily	THINPREP 5000 & CYTOCENTRIFUGE	Cytology

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Adequacy evaluation for Fine Needle Aspiration	88172	Unstained smears	Room temperature -slides	Fixed Smear in 95%-96% Ethanol/Air dried smear	Need to be delivered to AP Dept as soon as possible (ASAP)	20 min	Working days with prior appointments	THINPREP 5000 & CYTOCENTRIFUGE	Cytology
Cytology – Sputum	88104	Sputum	Refrigerate	1-10 ml	At Lab within 48 hours of collection at 2-8°C	4 days	Daily	THINPREP 5000 & CYTOCENTRIFUGE	Cytology
Cytology – Urine	88104	Urine	Refrigerate	At least 1 mL	At Lab within 48 hours of collection at 2-8°C	4 days	Daily	THINPREP 5000 & CYTOCENTRIFUGE	Cytology
D-Dimer	85379	Citrated plasma	Refrigerate	1mL	4 hours at 18-24°C 1 day at 2-8°C	2 hours	Daily	ACL TOP 350 CTS	Immunoturbidimetry
DHEA-S	82627	Serum/SST	Refrigerate	1mL	8 days at 2-8°C	8 hours	Every Tuesday	ABBOTT ALINITY I	CMIA
Down Syndrome Risk/ 2nd Trimester Screening (Triple Test)	84702	Serum/SST	Frozen	3mL	See individual test	8 hours	Every Tuesday	COBAS 6000	Chemiluminescence
Down Syndrome Risk/ 1ST Trimester Screening (Double marker)	84163	Serum/SST	Frozen	3 ml	See individual test	8 hours	Every Monday/ Thursday	ARCHITECT I2000SR	ECLIA
EGFR	81050	Serum/SST	Refrigerate	1 mL	See individual test	4 hours	Daily	ABBOTT ALINITY C	Calculated
Eosinophils	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
ESR, Erythrocyte Sedimentation Rate	85652	K2 EDTA	Refrigerate	4mL	24 hours at 18-24°C 4 hours at 2-8°C	4 hours	Daily	VESMATIC CUBE 30	Westergren
Estradiol in Serum	82670	Serum/SST	Refrigerate	1mL	12 hours at 18-24°C 2 days at 2-8°C 6 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Factor V Leiden (APC Resistance V)	85220	Citrated Plasma	Frozen	1mL	4 hours at 18-24°C 4 hours at 2-8 °C 2 weeks at -20 °C	4 hours	Every 15th and 30th the of the Month	ACL TOP 350CTS	CLOT BASED
Ferritin	82728	Serum/SST	Refrigerate	1mL	24 hours at 18-24°C 7 days at 2-8°C 12 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Fibrinogen/Factor I	85366	Citrated plasma	Refrigerate	2mL	4 hours at 18-24°C 4 hours at 2-8°C 1 month at -20°C	4 hours	Daily	ACL TOP 350 CTS	Clot based

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Folate, Serum	82746	Serum/SST	Frozen	1mL	2 days at 2-8°C 30 days at -10°C or colder	4 hours	Daily	ABBOTT ALINITY I	CMIA
Free T3 (FT3)	84481	Serum/SST	Refrigerate	1mL	7 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Free T4(FT4)	84439	Serum/SST	Refrigerate	1mL	5 days at 18-24 °C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Frozen Section (Histopathology)	88331	Excised tissue sample without preservative (fresh)	Room temperature	Specimen without fixative (fresh)	Need to be delivered to AP Dept as soon as possible (ASAP)	20 minutes	Daily	LEICA CM1860 UV	Frozen section with histopathologic technique
Free Testosterone	84402	Serum/SST	Refrigerate	1mL	See individual test	4 hours	Daily	ABBOTT ALINITY I	CALCULATED
Follicle Stimulating Hormone (FSH)	83001	Serum/SST	Refrigerate	1mL	14 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
G6PD in Erythrocytes (Glucose-6-Phosphate Dehydrogenase) Quantitative	82955	EDTA whole Blood	Refrigerate	2mL	7 days at 2-8°C	8 hours	Every Wednesday/ Sunday	COBAS6000	KINETIC
Gamma Glutamyl Transferase (GGT)	82977	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	L-Gamma-glutamyl-3-carboxy-4-nitroanilide Substrate
Gentamicin	80170	Serum/Red Top Tube	Refrigerate	1mL	7 days capped at 2-8°C 14 days capped at -20°C	4 hours	Daily	ABBOTT ALINITY C	PARTICLE-ENHANCED TURBIDIMETRIC INHIBITION IMMUNOASSAY
*Glucose (Body Fluids)	82945	Body fluids	Refrigerate	2mL	14 days at 18-24°C 14 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (Hexokinase/G-6-PDH)
Glucose (CSF)	82945	CSF	Refrigerate	1mL	immediately	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (Hexokinase/G-6-PDH)
Glucose Fasting	82947	Plasma NaF	Refrigerate	1mL	3 days at 18-24°C 3 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (Hexokinase/G-6-PDH)
Glucose Random	82947	Plasma NaF	Refrigerate	1mL	3 days at 18-24°C 3 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (Hexokinase/G-6-PDH)

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Glucose Tolerance Test (2 hrs)	82951	Plasma NaF (per draw)	Refrigerate	1mL	3 days at 18-24°C 3 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (Hexokinase/G-6-PDH)
Glucose Tolerance Test (3 hrs)	82951	Plasma NaF (per draw)	Refrigerate	1mL	3 days at 18-24°C 3 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (Hexokinase/G-6-PDH)
Glucose Urine (Random)	82945	Random urine	Room temperature	5mL	3 days at 18-24 °C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (Hexokinase/G-6-PDH)
Glucose Urine (24 hours)	82945	Plastic 24 hour urine container with 5 mL glacial acetic acid	Room temperature	10 ml aliquot of 24 hours urine collection	3 days at 18-24 °C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic (Hexokinase/G-6-PDH)
Gram Stain	87205	Various specimen in Universal Sterile container / Swab in Amie's transport medium	Room temperature	-	24 hours at 18-24°C	24 hours	Daily	N/A	Microscopy
Hematocrit, HCT	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
Hemoglobin, HGB	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Absorption Spectrophotometry
*Hemoglobin Electrophoresis	83020	EDTA whole blood	Refrigerate	2mL	3 days at 18-24°C 7 days at 2-8°C	3 days	Every Sunday/ Tuesday/ Thursday	SEBIA CAPILLARY FLEX 2	Electrophoresis
HbA1c (Haemoglobin A1c)	83036	EDTA whole blood	Refrigerate	2mL	7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic
Helicobacter pylori IgG	83009	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Wednesday	EUROIMMUN	ELISA
Helicobacter pylori Ag (Stool)	87338	Stool in Universal Sterile container	Refrigerate	At least 1 gram	24 hours at 2-8°C	8 hours	Daily	N/A	Immuno chromatography
Hepatitis A Virus Ab, IgG	86709	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Every Tuesday	ABBOTT ALINITY I	CMIA
Hepatitis B Surface Antibody (HbsAb)	86706	Serum/SST	Refrigerate	1mL	14 days at 2-8°C up to 4 freeze/thaw cycle	8 hours	Every Tuesday	ABBOTT ALINITY I	CMIA

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Hepatitis B Surface Antigen (HBs Ag)	87340	Serum/SST	Refrigerate	1mL	≤ 24 hours at 18-24°C 6 days at 2-8°C up to 3 freeze/thaw cycle	4 hours	Daily	ABBOTT ALINITY I	CMIA
Hepatitis C Antibody (HCV Ab)	86803	Serum/SST	Refrigerate	1mL	7 days at 2-8°C up to 6 freeze/thaw cycle	4 hours	Daily	ABBOTT ALINITY I	CMIA
HIV 1 & 2 Antibodies	86703	Serum/SST	Refrigerate	1mL	≤ 3 days at 18-24°C 14 days at 2-8°C up to 6 freeze/thaw cycle	4 hours	Daily	ABBOTT ALINITY I	CMIA
HPV DNA PCR	87621	Standard dry cotton swab/dried brush from conventional pap smear in dry transportation vial or Thin Prep Vial if liquid based cytology is requested simultaneously	Room temperature	-	7 days at 18-24°C	2 days	Daily	CEPHEID GENE XPERT	Real-time PCR
HVS Microscopy	87206	Vaginal Swab in Amie's transport medium	Room temperature	-	24 hours at 18-24°C	24 hours	Daily	N/A	Microscopy/ Nugent scoring
IGF-1, Insulin like growth factor 1, Somatomedine C	84305	Serum/SST	Frozen	1mL	1 day at 18-24°C 2 days at 2-8°C 28 days at -25°C	8 hours	Every Tuesday	ABBOTT ALINITY I	CMIA
Insulin	83525	Serum/SST	Refrigerate	1mL	30 days at -10°C or colder			ABBOTT ALINITY I	CMIA
Immature Granulocytes, IG	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
Immunohistochemistry (IHC)	88342	Tissue/Paraffin Block		-		6-7 days			Immunohistochemistry

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Influenza A and B Antigen	87400	Nasal / Nasopharyngeal swab in Dry Swab or bronchial specimen, BAL in Universal Sterile container	Refrigerate	-	24 hours at 2-8°C	8 hours	Daily	N/A	Immunochromatography
Influenza A and B PCR	87502	Nasal / Nasopharyngeal swab in Universal Transport Medium (UTM) or bronchial specimen, BAL in Universal Sterile container	Refrigerate	-	3 days at 2-8°C	8 hours	Daily	CEPHEID GENE XPERT	Real-time PCR
Iron (Serum)	83540	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 21 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Ferene
KOH Smear Wet Mount	87210	Various Specimens in Universal Sterile container / Swab in Amie's transport medium	Room temperature	-	24 hours at 18-24°C	24 hours	Daily	N/A	Microscopy
Lactate (Blood)	83605	Plasma NaF (avoid the use of tourniquet and transport to lab immediately-within 15 minutes)	Refrigerate	1mL	8 hours at 18-24°C 14 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	Lactic Acid to Pyruvate
*Lactate (Body Fluids)	83605	Body fluids	Refrigerate	2mL	8 hours at 18-24 ˚C 14 days at 2-8 ˚C 1 month at -20 ˚C	4 hours	Daily	ABBOTT ALINITY C	Lactic Acid to Pyruvate

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*Lactate (CSF)	83605	CSF	Refrigerate	2mL	14 days at 18-24°C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	Lactic Acid to Pyruvate
Lactate Dehydrogenase (LDH) Serum	83625	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 4 days at 2-8°C 1.5 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	THIS METHOD USES THE IFCC RECOMMENDED FORWARD REACTION - LACTATE TO PYRUVATE
*Lactate Dehydrogenase (LDH) Body Fluids	83615	Body fluids	Refrigerate	2mL	14 days at 18-24°C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	THIS METHOD USES THE IFCC RECOMMENDED FORWARD REACTION - LACTATE TO PYRUVATE
Lactate Dehydrogenase (LDH) CSF	83625	CSF	Refrigerate	2mL	14 days at 18-24°C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	THIS METHOD USES THE IFCC RECOMMENDED FORWARD REACTION - LACTATE TO PYRUVATE
*LDH, pleural fluid/Serum LDH ratio		Pleural fluid/Serum	Refrigerate	2mL	14 days at 18-24°C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	Calculated
Lipase	83690	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 12 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Colorimetric
Liquid Base Cytology Non-Gyn (Thin Prep)	88106/ 88107	Fluid in Container with Fixative/Thin Prep Vail	Refrigerate	1-10	At Lab within 48 hours of collection at 2-8°C	1-2 days	Daily	Thinprep 5000 and Cytocentrifuge	Cytology
Liver Function Test	80076	Serum/SST	Refrigerate	3mL	See individual test	4 hours	Daily	ABBOTT ALINITY C	Refer to individual tests

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Lupus Anticoagulant Screening (DRVVT Screening)	85597	Citrate Plasma	Frozen	2mL	4 hours at 18-24°C 4 hours at 2-8°C 2 weeks at -20°C	24 hours	Every 15th and 30th the of the Month	ACL TOP 300 CTS	Clot based
Luteinizing Hormone (LH)	83002	Serum/SST	Refrigerate	1mL	14 days at 2-8°C 6 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Lymphocytes	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
Magnesium (Serum)	83735	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 12 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic
*Malaria Antigen	87899	EDTA whole blood	Refrigerate	1mL	24 hours at 18-24°C 3 days at 2-8°C	24 hours	Daily	N/A	Immunochromatography
*Malaria, Thick Smear/Thin Smear Microscopic Examination	87207	EDTA whole blood or direct blood smear	Room temperature	2mL	24 hours at 18-24°C 3 days at 2-8°C	24 hours	Daily	N/A	Microscopy
Mean Corpuscular Volume, MCV	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Flow cytometry
Mean Corpuscular Hemoglobin, MCH	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
Mean Corpuscular Hemoglobin Concentration, MCHC	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
Metabolic Panel (with Total Ca)	80048	Serum/SST	Refrigerate	3mL	See individual test	4 hours	Daily	COBAS 6000	Refer to individual tests
Microalbumin (Urine)	82043	Urine	Refrigerate	10mL	7 days at 18-24°C 30 days at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Turbidimetric/Immuno turbidimetric
Microalbumin/Creatinine Ratio	82043/ 82570	Urine	Refrigerate	10 mL	7 days at 18-24°C 7 days at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Calculated
Monocytes	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
% Monocuclear, Body Fluid	-	Body Fluid	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	SYSMEX XN 1000I	Flow Cytometry
% Mononuclear, CSF	-	CSF	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	SYSMEX XN 1000I	Flow Cytrometry

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*Mycoplasma ureaplasma Culture	87109	Urine, Semen, Gastric secretions in Universal Sterile container. Urethral and Endo Cervical/ Vaginal Swabs Specimen in Dry Swab	Refrigerate	Liquid samples at least 1 mL	24 hours at 2-8°C	2 days	Daily	N/A	Culture
Neisseria gonorrhea Culture Detection	87070	Swabs in Amie's transport medium or Secretions in Universal Sterile container	Room temperature	-	24 hours at 18-24°C	3-5 days	Daily	BD PHOENIX 100 AND BD BBL AUTO READER	Aerobic culture, Identification & Sensitivity
Neutrophils	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Calculation
Nucleated RBC, nRBC	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Flow Cytometry
Occult Blood Hb Determination (Stool)	87899	Stool in Universal Sterile container	Refrigerate	At least 1 gram/mL	24 hours at 2-8°C	8 hours	Daily	N/A	Immuno chromatography
PAPP-A	84163	Serum/SST	Frozen	1 mL	8 hours at 18-24°C 3 days at 2-8°C 3 months at -20°C	8 hours	Every Monday /Thursday	COBAS 6000	ECLIA
Partial Thromboplastin Time, PTT	85730	Citrated plasma	Refrigerate	1mL	4 hours at 18-24°C 2 weeks at -20°C	4 hours	Daily	ACL TOP 350 CTS	Clot based
Phosphorus Serum	84100	Serum/SST	Refrigerate	1mL	24 hours at 18-24°C 2 days at 2-8°C 12 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Phosphomolybdate
Platelets	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Flow Cytometry
Phosphorus Urine (Random)	84106	Random urine	Refrigerate	5mL	14 days at 2-8 °C	4 hours	Daily	ABBOTT ALINITY C	Phosphomolybdate
Phosphorus Urine (24 hours)	84106	Plastic 24 hour urine container without preservative-store cooled during collection	Refrigerate	10 ml aliquot of 24 hours urine collection	14 days at 2-8 °C	4 hours	Daily	ABBOTT ALINITY C	Phosphomolybdate
% Polymorphonuclear, Body Fluid	-	Body Fluid	Refrigerate	2mL	14 days at 18-24°C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	SYSMEX XN 1000I	Flow Cytometry

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% Polymorphonuclear, CSF	-	CSF	Refrigerate	2mL	14 days at 18-24°C 7 days at 2-8°C 14 days at -20°C	4 hours	Daily	SYSMEX XN 1000I	Flow Cytometry
Potassium Serum	84132	Serum/SST	Refrigerate	1mL	14 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Potassium Urine (Random)	84132	Random urine	Refrigerate	5mL	14 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Potassium Urine (24 hours)	84132	Plastic 24 hour urine container without preservative	Refrigerate	10 ml aliquot of 24 hours urine collection	14 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Pro BNP	83880	Serum/SST	Refrigerate	3mL	3 days at 18-24°C 6 days at 2-8°C 24 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Procalcitonin	84145	Serum/SST	Refrigerate	1mL	1 day at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Progesterone	84144	Serum/SST	Refrigerate	1mL	1 day at 18-24°C 5 days at 2-8°C 6 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
*17-OH Progesterone	83498	Serum/SST	Frozen	1mL	1 day at 2-8°C 14 days at -20 °C	8 hours	Every Monday	EUROIMMUN	ELISA
Prolactin	84146	Serum/SST	Refrigerate	1mL	14 days at 2-8°C 6 months at -20°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Protein C Activity	85303	Citrated plasma	Frozen	1mL	4 hours at 18-24°C 4 hours at 2-8°C 2 weeks at -20°C	4 hours	Every 15th and 30th the of the Month	ACL TOP 300 CTS	Chromogenic
Protein S Activity	85335	Citrated plasma	Frozen	1mL	4 hours at 18-24°C 4 hours at 2-8°C 2 weeks at -20°C	4 hours	Every 15th and 30th the of the Month	ACL TOP 300 CTS	Clot based
Prothrombin Time, PT & INR	85610	Citrated plasma	Refrigerate	1mL	4 hours at 18-24°C 2 weeks at -20°C	4 hours	Daily	ACL TOP 350 CTS	Clot based

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PTH (Parathyroid Hormone)	83970	EDTA Plasma	Frozen	1 mL	2 days at 18-24°C 3 days at 2-8°C 6 months at -20°	8 hours	Every Wednesday/ Sunday	ABBOTT ALINITY I	CMIA
RDW	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Flow Cytometry
Respiratory Syncytial Virus (RSV) Antigen	87807	Nasopharyngeal Aspirate In Universal Sterile container / Nasal Specimen in Dry Swab	Refrigerate	-	24 hours at 2-8°C	8 hours	Daily	N/A	Immuno chromatography
Respiratory Syncytial Virus (RSV) PCR	87798	Nasal / Nasopharyngeal swab in Universal Transport Medium (UTM) or bronchial specimen, BAL in Universal Sterile container	Refrigerate	-	3 days at 2-8°C	8 hours	Daily	CEPHEID GENE XPERT	Real-time PCR
RBC, Whole Blood	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Flow Cytometry
RBC, Body Fluid	-	Body Fluid	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	SYSMEX XN 1000I	Flow Cytometry
RBC, CSF	-	CSF	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	SYSMEX XN 1000I	Flow Cytometry
Rheumatoid Factor (RF)	86431	Serum/SST	Refrigerate	1mL	1 day at 18-24°C 8 days at 2-8°C 3 months at -20°C	4 hours	Daily	ABBOTT ALINITY C	Immunoturbidimetric
*Reticulocyte Count (Retic Count)	85045	EDTA whole blood	Refrigerate	1mL	24 hours at 18-24°C 48 hours 2-8°C	4 hours	Daily	ABBOTT ALINITY HQ	Flow Cytometry
Rotavirus –Adenovirus Stool Antigen Test	86759	Stool in Universal Sterile container	Refrigerate	At least 1 gram/mL	24 hours at 2-8°C	8 hours	Daily	N/A	Immuno chromatography
Rubella IgG	86762	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Rubella IgM	86762	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY I	CMIA

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Second Opinion / Referral Cases (Histopathology)	88321/88323	Processed or unprocessed tissue, slides, paraffin blocks, smears. Previous report/documentation.	Room temperature	Processed or unprocessed tissue, slides, paraffin blocks and/or fixed smears	Not Applicable	5-7 Days	Daily	LEICA ASP 200S	Histopathologic technique
Sex Hormone Binding Globulin (SHBG)	84270	Serum/SST	Refrigerate	1mL	3 days at 2-8°C 1 month at -20°C	4 hours	Daily	ABBOTT ALINITY I	ECLIA
Sickle Cell Screen	85660	EDTA whole blood	Refrigerate	2mL	7 days at 18-24°C 7 days at 2-8°C	8 hours	Daily	N/A	Solubility turbidity
Sodium in Serum	84295	Serum/SST	Refrigerate	1mL	14 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Sodium Urine (Random)	84295	Random urine	Refrigerate	5mL	14 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Sodium Urine (24 hours)	84295	Plastic 24 hour urine container without preservative	Refrigerate	10 ml aliquot of 24 hours urine collection	14 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY C	ION-SELECTIVE ELECTRODE DILUTED (INDIRECT)
Special Stains (Histopathology)	88312 88314 88313	Excised tissue samples preserved in 10% Neutral Buffered Formalin/Bouin's Solution. Slides/Paraffin blocks/Smears	Room temperature	Unstained slides/Paraffin block	Not Applicable	5-7 Days	Daily	N/A	As per special stain procedure
Stool Ova and Parasites-Concentrate and Permanent Smear	87177	Stool in Universal Sterile container	Room temperature	At least 1 gram/mL	24 hours at 18-24°C	24 hours	Daily	N/A	Concentration/microscopy
Stool Reducing Substances	84376	Stool in Universal Sterile container	Refrigerate	At least 1 gram/mL	48 hours at 2-8°C	24 hours	Daily	N/A	Benedict's copper reduction reaction
Stool Routine Microscopy	87209	Stool in Universal Sterile container	Room temperature	At least 1 gram/mL	24 hours at 18-24°C	24 hours	Daily	N/A	Microscopy
Strep B Rapid Antigen	87802	Combined Rectal/ Vaginal Specimen in Dry Swab	Room temperature	-	4 hours at 18-24°C 24 hours at 2-8°C	24 hours	Daily	N/A	Immunochromatography

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Syphilis (Qualitative)	86592	Serum/SST	Refrigerate	1mL	≤ 24 days at 18-24°C 7 days at 2-8°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
Testosterone, Total	84403	Serum/SST	Refrigerate	1 mL	8 hours at 18-24°C 7 days at 2-8°C 6 months at -20°	4 hours	Daily	ABBOTT ALINITY I	CMIA
Total Bile Acids	82239	Serum/SST	Frozen	1mL	24 hours at 18-24°C 7 days at 2-8°C 1 year at -20°C	4 hours	Daily	ABBOTT ALINITY C	Enzymatic Cycling Colorimetric
Total PSA	84153	Serum/SST	Refrigerate	1mL	24 hours at 2-8°C	4 hours	Daily	ABBOTT ALINITY I	CMIA
*Thrombin Time	85670	Citrated plasma	Frozen	3mL	4 hours at 18-24°C 4 hours at 2-8°C	4 hours	Every 2nd Saturday of the Month	ACL TOP 300 CTS	Clot based
*Thyroglobulin (Tg)	86800	Serum/SST	Frozen	1mL	2 days at 18-24°C 3 days at 2-8°C 1 months at -20°	8 hours	Daily	ALINITY I	CMIA
TIBC (Iron Binding Capacity Total)	83550	Serum/SST	Refrigerate	1mL	See individual test	4 hours	Daily	ABBOTT ALINITY C	Calculated
Total Protein (TP) in CSF	84157	CSF	Refrigerate	1mL	1 day at 18-24°C 6 days at 2-8°C 12 months at -20°	4 hours	Daily	ABBOTT ALINITY C	Benzethonium Chloride
Total Protein (TP) in Serum	84155	Serum/SST	Refrigerate	1mL	6 days at 18-24°C 14 days at 2-8°C 12 months at -20°	4 hours	Daily	ABBOTT ALINITY C	Biuret
Total Protein (TP) in Urine	84156	Random Urine	Refrigerate	5mL aliquot	1 day at 18-24°C 7 days at 2-8°C 1 months at -20°	4 hours	Daily	ABBOTT ALINITY C	Benzethonium Chloride
*Total Protein (Body Fluids)	84157	Body fluids	Refrigerate	2mL	14 days at 18-24°C 14 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	Biuret
Protein/Creatinine Ratio	82570 84156	Urine	Refrigerate	2mL	14 days at 18-24°C 14 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	Calculated

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
*Protein, Pleural fluid/Serum protein ratio	-	Pleural Fluid/Serum	Refrigerate	2mL	14 days at 18-24°C 14 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	Calculated
Transferrin Saturation	83540/ 83550	Serum/SST	Frozen	1mL	See individual test	8 hours	Every Tuesday	ABBOTT ALINITY C	Calculated
Triglycerides	84478	Serum/SST	Refrigerate	1mL	2 days at 18-24°C 10 days at 2-8°C 3 months at -20°	4 hours	Daily	ABBOTT ALINITY C	Glycerol Phosphate Oxidase
VLDL	83719	Serum/SST	Refrigerate	1mL	2 days at 18-24°C 10 days at 2-8°C 3 months at -20°	4 hours	Daily	ABBOTT ALINITY C	Calculated
*Triglycerides (Body Fluids)	84478	Body fluids	Refrigerate	2mL	1 day at 18-24°C 7 days at 2-8°C 1 month at -20°C	4 hours	Daily	ABBOTT ALINITY C	Glycerol Phosphate Oxidase
Troponin I	84484	Serum/SST, Plasma	Refrigerate	1mL	8 hours at 18-24°C 24 hours at 28°C	2 hours	Daily	ABBOTT ALINITY I	CMIA
TSH / Thyroid Stimulating Hormone	84443	Serum/SST	Refrigerate	1mL	7 days at 2-8°C 1 month at -20°	4 hours	Daily	ABBOTT ALINITY I	CMIA
UIBC (Unsaturated Iron Binding Capacity)	83550	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 14 days at 2-8°C 14 days at -20°C	4 hours	Daily	ABBOTT ALINITY C	Ferene
Urea Serum	84520	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 12 months at -20°	4 hours	Daily	ABBOTT ALINITY C	Calculation
Urea Nitrogen Serum	84520	Serum/SST	Refrigerate	1mL	7 days at 18-24°C 7 days at 2-8°C 12 months at -20°	4 hours	Daily	ABBOTT ALINITY C	Urease
Urea Urine (Random)	84520	Random urine	Refrigerate	5mL	2 days at 18-24 °C 7 days at 2-8 °C 1 month at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	Calculation

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Urea Nitrogen Urine (Random)	84520	Random urine	Refrigerate	5mL	2 days at 18-24 °C 7 days at 2-8 °C 1 month at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	Urease
Urea Urine (24 hours)	84520	Plastic 24 hour urine container without preservative	Refrigerate	10 ml aliquot of 24 hours urine collection	2 days at 18-24 °C 7 days at 2-8 °C 1 month at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	Calculation
Urea Nitrogen Urine (24 hours)	84520	Plastic 24 hour urine container without preservative	Refrigerate	10 ml aliquot of 24 hours urine collection	2 days at 18-24 °C 7 days at 2-8 °C 1 month at (-15)-(-25) °C	4 hours	Daily	ABBOTT ALINITY C	Urease
Uric Acid Serum	84550	Serum/SST	Refrigerate	1mL	3 days at 18-24°C 7 days at 2-8°C 6 months at -20°	4 hours	Daily	ABBOTT ALINITY C	Uricase
Uric Acid Urine (Random)	84550	Random urine	Refrigerate	5mL	4 days at 18-24 °C	4 hours	Daily	ABBOTT ALINITY C	Uricase
Uric Acid Urine (24 hours)	84550	Plastic 24 hour urine container without preservative- Do not refrigerate	Refrigerate	10 ml aliquot of 24 hours urine collection	4 days at 18-24 °C	4 hours	Daily	ABBOTT ALINITY C	Uricase
Urine Analysis (Automated)	81005	Urine in Universal Sterile container	Refrigerate	At least 4 mL	24 hours at 2-8°C	24 hours	Daily	IRICELL 2000	Light reflectance/ Refractive Index/ Light scatter technology/ Digital Flow Imaging
Urine Culture & Sensitivity	87088	Urine in Universal Sterile container	Refrigerate	At least 1 mL	24 hours at 2-8°C	2-4 days	Daily	BD PHOENIX 100	Aerobic culture Bacteria/fungi (limited to yeast)
Vancomycin	80202	Serum/Red Top Tube	Refrigerate	1mL	2 hours capped at 18-24°C 7 days capped at 2-8°C 14 days capped at -20°	4 hours	Daily	ABBOTT ALINITY C	Particle-enhanced turbidimetric inhibition immunoassay (PETINIA)

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Varicella Zoster Virus, IgG	86787	Serum/SST	Refrigerate	1mL	14 days at 2-8°C	8 hours	Daily	EUROIMMUN	ELISA
Vitamin B12	82607	Serum/SST	Refrigerate	1mL	3 days at 18-24°C 7 days at 2-8°C 14 days at -20°	4 hours	Daily	ABBOTT ALINITY I	CMIA
Vitamin D Total	82306	Serum/SST	Refrigerate	3mL	8 days at 18-24°C 4 days at 2-8°C 6 months at -20°	4 hours	Daily	ABBOTT ALINITY I	CMIA
VP III Candida	87480	Vaginal Specimen in Dry Swab	Refrigerate	-	24 hours at 2-8°C	8 hours	Daily	BD AFFIRM MICROPROBE	In situ Nucleic acid hybridization
VP III, Gardnerella	87510	Vaginal Specimen in Dry Swab	Refrigerate	-	24 hours at 2-8°C	8 hours	Daily	BD AFFIRM MICROPROBE	In situ Nucleic acid hybridization
VP III, Trichomonas	87660	Vaginal Specimen in Dry Swab	Refrigerate	-	24 hours at 2-8°C	8 hours	Daily	BD AFFIRM MICROPROBE	In situ Nucleic acid hybridization
WBC	85025	EDTA whole blood	Room temperature	1mL	24 hours at 18-24°C	4 hours	Daily	ABBOTT ALINITY HQ	Flow Cytometry
*Zinc	84630	Serum/SST	Frozen	1mL	7 days at 2-8°C 1 months at -20°	4 hours	Daily	ALINITY C	COLORIMETRIC
POINT OF CARE TESTING									
*Glucose by Glucometer	82962	Whole blood	-	0.6 uL	-	-	Daily	ACCU-Chek Inform II	Enzymatic, Glucose dehydrogenase
*Glucose by Glu/Ket Meter	82962	Whole blood	-	1.2 uL	-	-	Daily	ONE Touch StatStrip	Electrochemistry
*Ketone by Glu/Ket Meter	82010	Whole blood	-	0.8 uL	-	-	Daily	ONE Touch StatStrip	Electrochemistry
*Urine analysis without Microscopy	81003	Urine, collected within 2 hrs	-	2 ml	-	-	Daily	Urisys 1100	Reflectance photometry
*Rapid Strep A Antigen	87880	Throat swab	-	-	-	-	Daily	ABON kit	Qualitative lateral flow immunoassay
*Coagulation/Fibrinolysis assay, ROTEM Sigma	85396	Whole blood, Citrate	-	3.5 ml	4 hours	-	Daily	ROTEM Sigma	Thromboelastometry
*Blood Gas/Electrolytes/Metabolites		Whole blood, Lithium Heparin	-			-	Daily	Cobas b221	

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
* PCO2	82803 / 82805			4.0 ml vacutainer tube/ 200 uL Microcapillary sampler	30 minutes				Electrode ion-selective membrane (severinghouse principle)
* PO2									Electrode ion-selective membrane (clark measurement principle)
* pH									Electrode ion-selective galvanometric
* Na+ (Sodium)	84295								Ion selective potentiometry
*K+ (Potassium)	84132								Ion selective potentiometry
*Cl- (Chloride)	82435								Ion selective potentiometry
*Glucose	82947								MSS SENSOR ENZYME
*Lactate	83605								MSS SENSOR ENZYME
*Urea	84520								MSS SENSOR ENZYME
*Hct (Hematocrit)	85014								CONDUCTIVITY
*THb (Total Hemoglobin)	85018								Spectrophotometry
*O2Hb (Oxyhemoglobin)									Spectrophotometry
*COHb (Carboxyhemoglobin)	82375								Spectrophotometry
*MetHb	83050								Spectrophotometry
*Bilirubin	82247								Spectrophotometry
*HHb									Spectrophotometry

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
*iCa++ (Ionized)	82330	Whole blood, Lithium Heparin	2-8^{0}C (if sample cannot be measured in 15 min)	4.0 ml vacutainer tube or 200 uL Micro-capillary sampler	3 hours	4 hours	Daily	Cobas b221	Ion selective potentiometry
*Transcutaneous Bilirubin (TCB)	88720	-	-	-	-	-	Daily	Philips Bilichek	Transcutaneous Bilirubinometry using Bilichek
*Respiratory Syncytial Virus Antigen	87807	Nasopharyngeal/ Nasal Specimen in Dry Swab	-	-	-	-	Daily	RSV Nadal kit	Immuno-chromatography
*Influenza A and B Antigen	87804	Nasal specimen in Dry Swab	-	-	-	-	Daily	ABON kit	Immuno-chromatography
*Pregnancy Rapid test	81025	Urine	-	-	-	-	Daily	ABON kit	Immuno-chromatography
BLOOD TRANSFUSION SERVICES									
ABO Group (Blood Group & RH)	86900, 86901	EDTA whole Blood	Refrigerate	1mL	24 hours at 18-24°C 7 days at 2-8°C	4 hours	Daily	ORTHO VISION	Column Agglutination
*Antibody Elution	86860	EDTA whole Blood	Refrigerate	2 ml	24 hours at 18-24°C 7 days at 2-8°C	24 hours	Daily	N/A	Column agglutination
Antibody Identification	86870	EDTA Plasma	Refrigerate	5mL	24 hours at 18-24°C 7 days at 2-8°C	24 hours	Daily	ORTHO VISION	Column agglutination
Antibody Titration	86886	EDTA Plasma	Refrigerate	2 ml	72 hours	24 hours	Daily	ORTHO VISION	Column Agglutination
*Antigen Typing	86905	EDTA whole Blood	Refrigerate	2 ml	24 hours at 18-24°C 7 days at 2-8°C	24 hours	Daily	ORTHO VISION	Column agglutination
Crossmatching	86920	EDTA Plasma	Refrigerate	2 ml	24 hours at 18-24°C 72 hours at 2-8°C	2 hours	Daily	ORTHO VISION	Column agglutination
*Coombs Test Direct (Direct Antiglobulin Test)	86880	EDTA whole blood	Room temperature	2mL	24 hours at 18-24°C	4 hours	Daily	ORTHO VISION	Column agglutination
Coombs Test Indirect (Antibody Screen)	86850	EDTA Plasma	Refrigerate	2mL	24 hours at 18-24°C	4 hours	Daily	ORTHO VISION	Column agglutination

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Name of Test	CPT Code	Sample/Container Required	Storage	Specimen Volume	Specimen Stability	TAT	Testing Frequency	Analyzer	Methodology
Kleihauer Betke Test	85460	EDTA whole Blood	Refrigerate	5mL	24 hours at 18-24°C 2 days at 2-8°C	24 hours	Daily	N/A	Acid elution

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APPENDICES

APPENDIX A

PATIENT INSTRUCTIONS

***24 HOUR URINE COLLECTION

PATIENT'S PREPARATION:

For most tests (such as creatinine clearance or 24 hour urine protein), no special preparation is required. However, special tests for 24 hour urine collections (such as metanephrines or 5-HIAA) may require certain restrictions on diet or medications. In such cases, instructions will be given by your doctor or laboratory.

COLLECTION:

1. It is recommended to start the collection early in the morning. Take note of the Start Time and Date.
2. At the start of collection, completely empty your bladder by voiding into the toilet.
3. All urine passed during the next 24 hours must be collected into the bottle provided by the laboratory. You can pass urine into a clean dry jug or basin and pour immediately into the specimen bottle provided.
4. During the 24 hour period of collection, keep the specimen bottle refrigerated if the bottle does not contain any preservative.
5. At the end of 24 hours, empty your bladder by collecting any voided urine into the bottle.
6. Label the bottle with your Full Name, unique number (hospital MRN number), date of birth, start Time /date of collection and the Time/Date of finish.
7. If more than one 24 hour container is used per collection, mark the bottles as "Bottle #1", "Bottle #2", etc., according to the sequence of filling.

تجميع البول لمدة 24 ساعة

تحضير المريض

بالنسبة لمعظمالاختبارات (مثل تصفية الكرياتينينأو 24ساعةبروتينالبول)، لا يلزم إعدادخاص. ، (مثل فحوصاتهناك بعض الفحوصات التي عليها قيود على النظام الغذائي اوتتطلب تجنب الادوية)ويجب استشارة الطبيب او المختبر لاخذ التعليماتز metanephrines or 5-HIAA.

1.فمن المستحسن ان يبدا الجمعفي وقت مبكر منصباح اليوم. الرجاء تسجيل الوقت والتاريخ.

2.في بداية الجمع، قم بتفريغ المثانة تما مافي المرحاض.

3.يجب جمعكلالبول بعد ذللك خلالال 24 ساعة القادمةفي الوعاء الذي تم تزويده من المختبر.

4.خلال فترة24 ساعةمن بداية الجمع يجب الحفاظ على عينة البول مبردةإذاالوعاءلا تحتوي على أيمواد حافظة.

5. عند الانتهاء من تجميع البول لمدة 24 ساعة, افرغ المبولة في وعاء لتجميع البول

6.في نهاية24 ساعة،قم بتفريغ المثانة كاملا في الوعاء ودون اسمك الكامل ووقت وتاريخ بداية التجميع ووقت وتاريخ نهاية التجميع.|

7.إذا تم استخدامأكثر منحاوية واحدةعلى مدار 24 ساعةلكلمجموعة، قم بترقيم وعاء# 1"، "وعاء# 2"، وما إلى ذلك، وفقا لتسلسل ملء الاوعية.

****All specimens should be labeled with collector's ID (Badge#), time, and date of collection. This should be written on the accession sticker that is placed on the specimen.*

*****ORAL GLUCOSE TOLERANCE TEST (OGTT)**

PATIENT PREPARATION

1. Patients are asked to eat a balanced diet that contains at least 150 to 200 grams (g) of carbohydrate per day for 3 days before the test. Fruits, breads, cereals, grains, rice, crackers, and starchy vegetables such as potatoes, beans, and corn are good sources of carbohydrate.
2. Patients are not allowed to eat, drink, smoke, or exercise strenuously for at least 8 hours before your first blood sample is taken.
3. Patients must tell their doctors about all the prescription and nonprescription medicines they are taking.
4. Ask the time of their last meal.
5. Inform the patient about the duration of the test.
6. Take the fasting blood sample and label as a fasting blood sample.
7. Give the patient 75 grams oral glucose solution.
8. The patient must consume the glucose solution in 5 minutes.
9. Record time patient commenced the drink and the glucose load given.
10. Patient must remain seated at the centre for the duration of the test, unless under the supervision of their Medical Practitioner. No food or drink, except water, should be consumed during this time. If any food or drink taken, this must be recorded on the request form.
11. Collect blood sample 1 hour after start of glucose consumption using grey tube.
12. Label 1st hr and record time/date of collection.
13. Patient must remain seated at the centre for the duration of the test, unless under the supervision of their Medical Practitioner. No food or drink, except water, should be consumed during this time. If any food or drink taken, this must be recorded on the request form.
14. Collect blood sample 1 hour after the 1st hour sample was taken using grey tube, this will be the 2nd hour sample.
15. Label 2nd hr and record time/date of collection.
16. End of the procedure.

تحضير المريض لفحص تحمل الجلوكوز الفمي***

تحضير المريض

1. يطلب من المرضى تناول نظام غذائي متوازن يحتوي على ما لا يقل عن 150 إلى 200 غرام من الكربوهيدرات يومياً لمدة 3 أيام قبل الاختبار. تعد الفواكه والخبز والحبوب والأرز والبسكويت والخضروات النشوية مثل البطاطا والفاصوليا والذرة مصادر جيدة للكربوهيدرات.
2. لا يُسمح للمرضى بتناول الطعام أو الشراب أو التدخين أو ممارسة التمارين الرياضية لمدة 8 ساعات على الأقل قبل أخذ عينة الدم الأولى.
3. يجب على المرضى إخبار أطباؤهم عن جميع الأدوية التي تتطلب وصفة طبية والأدوية التي لا تتطلب وصفة طبية.
4. سجل وقت آخر وجبة.
5. بلغ المريض عن مدة الاختبار.
6. إسحب عينة الدم الأولى للصوم و أكتب عليها "عينه الدم للصوم ".
7. إعطاء المريض 75 غرام محلول الجلوكوز عن طريق الفم.
8. يجب على المريض أن يشرب محلول الجلوكوز في 5 دقائق.
9. سجل وقت شراب المريض لمحلول الجلكوز وقيمه تركيز محلول الجلوكز الذي اعطيت له.
10. يجب أن يظل المريض جالسًا في المركز طوال مدة الاختبار ، ما لم يكن تحت إشراف طبي. لا ينبغي استهلاك أي طعام أو شراب ، باستثناء الماء ، خلال وقت الأختبار. أذا تم استهلاك الطعام أو الشراب خلال الفحص ، فيجب تسجيل ذلك في استمارة طلبالفحص.
11. إسحب عينة الدم بعد ساعه واحده من اخذ محلول الجلوكوز باستخدام أنبوب سحب الدم الرمادي.
12. أكتب على العينه "الساعة الأولى" و قم بتسجيل الوقت و تاريخ سحب العينة.
13. يجبأنيظلالمريضجالسًافيالمركزطوالمدةالاختبار،مالميكنتحتإشرافطبي.
لاينبغياستهلاكأيطعامأوشراب،باستثناءالماء،خلالوقتالأختبار.
أذاتماستهلاكالطعامأوالشرابخلالالفحص،فيجبتسجيلذلكفياستمارةطلبالفحص.
14. إسحب عينه دم الساعه الثانيه بعد ساعه من أخذ عينة دم الساعة الأولى ، باستخدام أنبوب سحب الدم الرمادي.
15. إكتبعلىالعينه "الساعةالثانيه" وقمبتسجيلالوقتوتاريخسحبالعينة.
16. نهاية الإجراء.

****All specimens should be labeled with collector's ID (Badge#), time, and date of collection. This should be written on the accession sticker that is placed on the specimen.*

*****LIPID PROFILE (Total Cholesterol, Triglyceride, HDL and LDL)**

PATIENT'S PREPARATION:

1. Fasting for 12 hours is required.

*** فحص مستوى الدهون (إجمالي نسبة الكولسترول في الدم ، الدهون الثلاثيه ، البروتين الشحم منخفض الكثافة)

تحضير المريض:

الصيام لمدة 12 ساعة

*****FASTING BLOOD GLUCOSE**

PATIENT'S PREPARATION:

1. Fasting for 8-10 hours IS required.

*** فحص مستوى الجلكوز للصائم

تحضير المريض:

1. الصيام لمدة 8-10 ساعات

*****POST PRANDIAL BLOOD GLUCOSE**

PATIENT'S PREPARATION:

1. Blood collection must be done 2 hours after a full meal.

*** مستوى الجلكوز في الدم بعد الأكل

تحضير المريض:

1. جمع عينه الدم بعد وجبه متكاملة

*****CORTISOL (AM)**

PATIENT'S PREPARATION:

1. Blood sample should be collected between 6AM – 10AM.

*** مستوى كورتيزول (صباحا)

تحضير المريض:

1. يجب جمع عينة الدم بين الساعة 6 صباحا و 10 صباحا.

*****CORTISOL (PM)**

PATIENT'S PREPARATION:

1. Blood sample should be collected between 4PM – 8PM.

*** مستوى كورتيزول (مساء)

تحضير المريض:

1. يجب جمع عينة دم بين الساعة 4:00 مساء حتى 8:00مساء.

*****PROLACTIN**

PATIENT'S PREPARATION:

1. Patient should be rested for 30 minutes before blood collection.
2. No exercise/heavy exercise a day before the test.

*** البرولاكتين

تحضير المريض:

1. يجب أن يستريح المريض لمدة 30 دقيقة قبل سحب عينه الدم.
2. لا تمرين / لا تمرينات ثقيلة قبل الاختبار بيوم واحد.

*****COAGULATION**

1. The date, time and the dosage of the last drug should be written on TRF or on Yasasii.
2. Collect 1 Blue top tube to the patient
3. Label the sample with correct barcode sticker, sign it with your badge number and time of collection.

*** يجب كتابة رقم الموظف الخاص(الموجود على بطاقه الموظف) على جميع العينات التي تم سحب العينة. يجب كتابة هذا على ملصق التسجيل الذي يتم وضعه على العينة.

Patient's Instruction for Microbiology Collection

PATIENT INSTRUCTIONS	تعليمات المريض
General Considerations : ✓ Proper collection of urine specimens are important to avoid contamination or deterioration of constituents. ✓ Never collect urine from a bedpan or urinal. ✓ Thoroughly clean the urethral opening (and vaginal vestibule in females) prior to collection procedures to ensure that the specimen obtained is not contaminated with colonizing microorganisms in this area. ✓ Soap rather than disinfectant is recommended for cleaning the urethral area. If disinfectants are introduced into the urine during collection, they may be inhibitory to the growth of microorganisms. ✓ Preferably urine samples must be collected before starting the antibiotic medication	من المهم جدا تجميع عينات البول بطريقة صحيحة لتجنب تعرضها للتلوث. عدم تجميع عينات البول نهائيا من وعاء تبول بفراش المريض. يجب تنظيف إحليل أو مجرى البول عند فتحه بطريقة صحيحة لمنع تلوث المحتوى. • الصابون أفضل من المعقم لنظافة المنطقة البولية. استخدام المعقم قد يؤدي إلى نتيجة غير صحيحة من خلال منع نمو البكتيريا. • يجب جمع العينة مباشرة من الفتحة البولية للتأكد من عدم ثلوثها بالميكروبات من المنطقة المحيطة. • يفضل جمع عينات البول قبل البدء في تناول الدواء بالمضادات الحيوية
Collection Procedure : *Clean-Catch Urine Specimens / Mid-stream Urine Collection (Male):* - The person obtaining the urine sample should wash hands with soap and water, rinse, and dry. - Cleanse the penis, retract the foreskin (if not circumcised), and wash with soapy water. - Rinse the area well with water - Keeping the foreskin retracted allow a few milliliters of urine to pass. (Do not stop the flow of urine.) - Collect the midstream portion of urine in a sterile container. *Clean-Catch Urine Specimens / Mid-stream Urine Collection (Female):* - The person obtaining the urine sample should wash hands with soap and water, rinse and dry. - Cleanse the urethral opening and vaginal vestibule area with soapy water. - Rinse the area well with water or wet gauze wipes. - Hold the labia apart during voiding. - Allow a few milliliters of urine to pass. (Do not stop the flow of urine.) - Collect the midstream portion of urine in a sterile urine container.	كيفية جمع عينة البول: • يجب غسل اليدين بالصابون و الماء. • غسل منطقة فتحة البول بالماء و الصابون و تنشيفها. • ابدأ بأخذ عينة البول في منتصف عملية التبول و ليس بدايته. • يجمع البول في وعاء خاص معقم و يحكم غلقه.

***STOOL ANALYSIS/CULTURE:

In general, patient not need to do anything to prepare for this test.

In some cases, doctor may request that patient should stop takingcertain medications for up to two weeks before the test, sincethey can alter the results. These might include antacids, anti-diarrheadrugs, laxatives, antibiotics, and anti-parasitic medicines.

PROCEDURE:

1. For female patient, urinate first before collecting thestool to avoid mixing urine with stool sample.
2. Stool should be passed into a clean dry container.
   Either solid or liquid stool can be collected.
3. Have the patient save the stool specimen one of the following ways:
   a. Pass stool into a wide-mouth, leak proof container with atight fitting lid.
   b. Pass stool into a clean, dry bedpan and transfer the stoolinto a sterile leak proof container with a tight fitting lid.

   Note: If using wooden applicator stick to transfer stool,do not leave wooden stick in container. The stick absorbsmoisture and will cause the stool to become dried andunable to process.
   Dried stool specimens will be rejected.
4. Do not collect the sample from the toilet bowl.
5. Do not mix toilet paper, water or soap with the sample.
6. Close the container securely/firmly.
7. Submit the specimen to the lab with proper patient label within 1-2 hours of collection. In cases of delay, it should be kept at 2-8°C.
8. Swab specimens are not recommended for testing.
9. Do not collect from diapers.
10. Stool specimen from patients who have been hospitalized for more than 3 days should not be processed without prior consultation.

***** تحليل / تزريع البراز :**

بشكل عام ، لا يحتاج المريض إلى القيام بأي شيء للتحضير لهذا الاختبار. في بعض الحالات ، قد يطلب الطبيب أن يتوقف المريض عن تناول بعض الأدوية لمدة تصل إلى أسبوعين قبل الاختبار ، حيث يمكن أن يغير النتائج. قد تشمل هذه مضادات الحموضة ، أدوية مضادة للإسهال ، أدوية مسهلة ، مضادات حيوية ، وأدوية مضادة للطفيليات.

إجراء:

1. للمريض الأنثى ، التبول أولا قبل جمع البراز لتجنب خلط البول مع عينة البراز.
2. يجب تمرير البراز إلى وعاء جاف نظيف. يمكن جمع البراز الصلب أو السائل.
3. اطلب من المريض حفظ عينة البراز بطريقة من الطرق التالية:
   A. قم بوضع عينه البراز في وعاء مقاوم للتسرب ذو فوهة واسعة مع غطاء محكم.
   B. قم بوضع البراز من نونيه السرير ثم نقله إلى حاوية مانعة للتسرب معقمة مع غطاء مناسب ضيق.

ملاحظة: إذا كنت تستخدم عصاً خشبي لتنقل البراز ، لا تتركها في الحاوية لأن العصا تمتص الرطوبة وتؤدي إلى جفاف البراز وعدم قدرته على المعالجة. وسيتم رفض عينات البراز المجفف.

1. لا تجمع العينة من وعاء المرحاض.
2. لا تمزج ورق التواليت أو الماء أو الصابون مع العينة.
3. أغلق الحاوية بشكل آمن / ثابت.
4. إرسال العينة إلى المختبر مع تسمية المريض المناسبة في غضون 1-2 ساعة من جمع العينة . في حالات التأخير ، ينبغي أن تبقى في 2-8 درجة مئوية.
5. لا نوصي اخذ العينه عن طريق عصا المسحة.
6. لا تجمع العينات من الحفاضات.
7. يجب عدم فحص عينة البراز من المرضى الذين تم إدخالهم إلى المستشفى لأكثر من 3 أيام دون استشارة مسبقة.
8. لا ينصح بأخذ عينات المسحة للاختبار.
9. لا تجمع الينة من الحفاضات
10. لا ينبغي اجراء عينات البراز من المرضى الذين تم ادخالهم الى الستشفى لأكثر من 3 ايام دون استشارة طبية

****All specimens should be labeled with collector's ID (Badge#), time, and date of collection. This should be written on the accession sticker that is placed on the specimen.*

****All specimens should be labeled with collector's ID (Badge#), time, and date of collection. This should be written on the accession sticker that is placed on the specimen.*

*****OCCULT BLOOD IN STOOL**

PATIENT'S PREPARATION:

1. Urine and excessive dilution of samples with water from the toilet bowl can lead to false results.
2. Stool samples should not be taken during menstruation or 3 days before or after, in the case of bleeding caused by constipation, bleeding hemorrhoids, or in the case of rectal administration of certain medicines, as this could lead to false positive results.
3. No dietary restriction is necessary.
4. The storage of the stool before dilution is possible at +4°C or 8 hours at +18 to +25°C.

***** إختبار الدم الخفي في البراز**

تحضير المريض :

1. لا تسمح لعينة البراز بالاتصال بماء المرحاض أو البول حتى بعد جمععينة البراز حيث يمكن أن تؤدي إلى نتائج اختبار خاطئه.
2. لا ينبغي أن تؤخذ عينات البراز أثناء الحيض أو قبلهبثلاثة أيام أو بعد ذلك أو في حالة النزيف الناجم عن الإمساك ، أو نزيف البواسير ، أو في حالة تناول أدوية معينة عن طريق المستقيم ، لأن هذا قد يؤدي إلى نتائج خاطئة.
3. لا قيود غذائية ضرورية.
4. في حالة التأخر في إحضار العينه للمختبر يمكن يحفظها في البراد لمده 24 ساعة (2الى 4درجةمئوية) أو في درجه حراره الغرفة لمدة 8 ساعات (+18 إلى + 24 درجة مئوية).

****All specimens should be labeled with collector's ID (Badge#), time, and date of collection. This should be written on the accession sticker that is placed on the specimen.*

***UREA BREATH TEST

How to use FAN ^{13}C infrared analysers with Helikit ™ ^{13}C-urea for the detection of Helicobacter pylori infection

Mechanism:
Helicobacter pylori produces urease, an enzyme which cleaves urea to form carbon dioxide (CO_2) and ammonia (NH_3). The carbon dioxide formed is absorbed, dissolved in blood and excreted with breath. Due to the use of the natural stable isotope ^{13}C as a tracer the breakdown of the ingested ^{13}C-urea can be determined in breath by measuring $^{13}CO_2$ in breath.

Requirements:
- FAN ^{13}C infrared analyser (e.g. FANhp)
- FAN breath test bags
- FAN PP mouthpiece (straw)
- Helikit™ ^{13}C-urea pre-mixed powder cups 50mg or 75 mg

Warnings and Precautions:
1. Patients should have fasted for at least four (4) hours before this test, and should continue to fast during the thirty (30) min wait period.
2. The following groups on medications should be discontinued for the following time periods prior to using the Helikit ™, as they may interfere with the test results:
a) Proton Pump Inhibitors (H^+, K^+-ATPase Inhibitor) - 3 days
b) Histamine H_2 Receptor Antagonists - 1 day
c) Antibiotics - 4 weeks
d) Bismuth preparations - 2 weeks
3. Helikit™ test should be scheduled prior to barium tests if both are scheduled for the same day.
4. No other breath tests should be scheduled in the same time as the Helikit™.
5. If particulate matter is visible in the reconstituted ^{13}C-urea solution after thorough mixing, the solution should not be consumed.
If it is necessary to repeat the test, this must not be done before the next day.

Side effects:
No side effects are known.

Directions for use:
Step 1: Collect the first breath sample into one of the collection bags as follows:
Write Patient's ID, Date, Time and Remarks into the reserved areas printed on the bag, or affix your in-house customized label (e.g. bar code). Remove the screw cap from the bag and insert the mouthpiece (straw). Have the patient take a **normal** breath, hold it for 8 to 12 seconds, then **exhale** as much breath as possible through the straw into the bag.
Immediately replace the screw cap onto the bag.
Step 2: Prepare urea solution by adding room temperature drinking water to the "Fill to" line on the plastic container (about 75 ml). Replace lid on container and mix by shaking vigorously until completely dissolved. Have the patient slowly drink the solution. Start timing the patient once the solution has been consumed.
Step 3: Twenty to Thirty (20- 30) minutes after drinking the solution, collect the second breath sample from the patient into the second collection bag following the same directions as for the initial sample. Make sure by proper marking/labelling of the bags that the two samples can be differentiated clearly.
Step 4: Perform the analysis according to the FANhp™ analyser Instructions For Use.

FAN recommends a time interval of 20-30 min and a cut-off of 3,0 (with grey zone:2,5-3,5) for Helikit 50mg and 75mg.

When carrying out the test, please keep to the comments in chapter "Possible Sources of Error".

Possible Sources of Error:
- Incomplete dissolution of the substrate.
  Since too small an amount of the substrate is ingested in this case, test result can be false negative.
- Breath in the bag becomes contaminated with air from the oral cavity.
  In that case it may happen that the CO_2-concentration in the bag is too low as to be measured exactly and the test cannot be evaluated. In addition the test result may be falsified.
  It is therefore important that the air in the sample bags solely comes from the lungs.
  HINT: Pay attention to the patient adhere to the procedure described above. If necessary, practice it sometimes when taking sample 1.
- Exchanged bags.
  HINT: At first hand over the bag for sample 1 to the patient and the second one not before the person has taken up the test solution.

****All specimens should be labeled with collector's ID (Badge#), time, and date of collection. This should be written on the accession sticker that is placed on the specimen.*

***GENTAMICIN/ AMIKACIN/ VANCOMYCIN

1. The date, time and the dosage of the last drug should be written on TRF or on Yasasii.
2. Collect 1 Red top tube tube to the patient
3. Label the sample as (trough/peak) depending on the doctor's order.
4. Label the sample with correct barcode sticker, sign it with your badge number and time of collection.
5. Send the sample to the laboratory in basement 2.

*** The **trough level** is the lowest concentration in the patient's bloodstream, therefore, the specimen should be collected just prior to administration of the drug.
*** The **peak level** is the highest concentration of a drug in the patient's bloodstream.

Peak samples for **Gentamicin** should be drawn 45 to 60 after an IM injection, 30 minutes after the end of a 30-minute IV infusion, or immediately after a 60-minute IV infusion

Peak samples for **Amikacin** should be drawn 60 minutes after an IM injection, 30 minutes after the end of a 30-minute IV infusion, or immediately after a 60-minute IV infusion

Peak levels for **Vancomycin** should be drawn at 30 minutes are more variable and very dependent on consistent timing of collections. Differences of as little as 15 minutes in sampling time can result in a 10–15 µg/mL difference in measured vancomycin concentrations. It is important that consistency be maintained in the dosage interval and infusion period throughout the course of therapy for comparison of vancomycin concentrations to be valid. Peak levels collected at two hours are less variable.

GENTAMICIN / AMIKACIN / VANCOMYCIN ***

1. يجب كتابة التاريخ والوقت والجرعة من الدواء الأخير على أستماره طلب الفحص أو على Yasasii .
2. إسحب الدم في الأنبوب ذا الغطاء الأحمر.
3. صنف العينة على أنها (المنخفض/ الذروة) حسب طلب الطبيب.
4. ضع علامة على العينة باستخدام مُصنق الرمز الصحيح ، ثم قم بتوقيعه مع رقمك الوظيفي ووقت سحب العينه.
5. إرسال العينة إلى المختبر في الطابق السفلي الثاني.

*** مستوى المنخفض هو أدنى تركيز في مجرى الدم للمريض ، وبالتالي ، يجب جمع العينة فقط قبل إعطاء الدواء.
*** مستوى الذروة هو أعلى تركيز لدواء في مجرى الدم للمريض.

***DOUBLE MARKER (Free BHCG and PAPP-A) / TRIPLE MARKER TEST (Total BHCG, AFP and Unconjugated Estriol)

1. Make sure that Prenatal Screen Requisition is completely filled up.
2. Collect 1 SST tube to the patient
3. Label the sample with correct barcode sticker, sign it with your badge number and time of collection.
4. Send the sample together with the prenatal screen requisition to the laboratory in basement 2.

*** DOUBLE MARKER (Free BHCG and PAPP-A) / TRIPLE MARKER TEST (Total BHCG, AFP and Unconjugated Estriol)

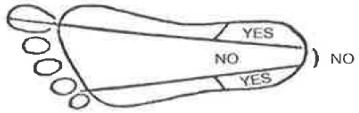
1. تأكد من أن المعلومات في أستماره طلب فحص ما قبل الولاده كاملة.
2. سحب أنبوب واحد SST من المريض
3. ضع علامة على العينة باستخدام مُصنق الرمز الصحيح ، ثم قم بتوقيعه مع رقم ك الوظيفي ووقت السحب.
4. أرسل العينة مع أستماره طلب فحص ما قبل الولاده إلى المختبر في الطابق السفلي الثاني.

****All specimens should be labeled with collector's ID (Badge#), time, and date of collection. This should be written on the accession sticker that is placed on the specimen.*

NEW BORN SCREENING

1) To prevent specimen contamination, do not touch any of the filter paper circles before or after collection.

2) Select puncture site and cleanse with 70% isopropanol. Usual puncture site is illustrated below:



3) To obtain sufficient flow of blood, the infant's heel should be punctured with a sterile lancet to a depth of 2.0 mm.

4) Wipe away first blood drop.

5) Apply surface of first filter paper circle to the next large drop of blood from puncture. Allow blood to fill and completely saturate the circle. Never use both the front and back of the paper to fill the circle.

6) Fill all required circles with blood.

7) Apply appropriate dressing to puncture.

8) Protect freshly collected specimens from contamination.

9) Dry specimens at room temperature for 3-4 hours in a horizontal position. Protective cover can be used to hold specimen while drying.

10) Cover with end-flap (if available) only after specimen is completely dry.

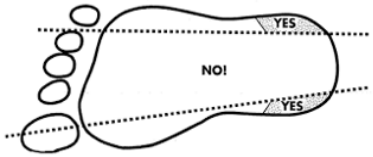
11) For additional specimen information, consult

12) Specimens will be rejected for testing if information is incomplete or blood specimen is unsatisfactory.

*** فحص حديثي الولاده

1) لتتجنب تلوث العينه،تجنب أن تلمس المنطقة داخل الدوائر على قسم ورق الترشيح قبل وبعد جمع العينة

2) أختر مكان سحب العينه و نظفة بواسطه الكحول (70%) ، مكان جمع العينه موضح في الاسفل:



3) للحصول على تدفق دم كافي. يشك كعب الرضيع بمشبك معقّم حتى عمق 2.0 مم.

4) امسح القطرة الأولى من الدم .

5) ضع سطح اول دائره من ورق الترشيح على اول نقطه دم كبيره. أسمح للدم أن يملأ و يشبع الدائره .

لا تستخدم مقدمه الورقه او اخرها لملأ الدائره ابدا.

6) إملأ الدوائر المطلوبة بالدم

7) قم بتغطيه مكان سحب العينه جيدا

8) إحمي العينات التي تم سحبها مؤخرا من التلوث

9) جفف العينه في درجة حراره الغرفه لمده تتراوح من من 3 -4 ساعات في وضع افقي. يمكن استخدام الغلاف الحامي.

10) غطي العينه بالغطاء الخلوي (لو وجد) بعد التأكد تماما من جفاف العينه

11) للمعلومات الإضافيه الرجاء الإستفسار.

12) سيتم رفض جميع العينات لو كانت المعلومات للفحص غير كافية أو عينه الدم ليست كافية.

Specimens should be transported after they are dry and no later than 24 hours after collection or following the instructions provided by the designated newborn screening laboratory. Delays in specimen transportation from the collection facility to the testing laboratory may compromise the integrity of the specimen and results and could critically impact the newborn.

****All specimens should be labeled with collector's ID (Badge#), time, and date of collection. This should be written on the accession sticker that is placed on the specimen.*

Appendix B

CRITICAL RESULTS

APPENDIX C

DAE-LABGEN-PM-F014B: CRITICAL VALUES

CHEMISTRY/SEROLOGY				
TEST	**AGE**	**LOWER LIMIT**	**UPPER LIMIT**	**UNITS**
Ammonia	< 1 year	-	≥ 100	umol/L
Ammonia	> 1 year	-	≥ 200	umol/L
Bilirubin Total	< 1 year	-	≥370.8	umol/L
BUN	ALL	-	≥100	mg/dL
UREA	ALL	-	≥214	mg/dL
Calcium Total	ALL	≤6.5	≥13.0	mg/dL
Chloride	ALL	≤80	≥120	mmol/L
Creatinine	1 day - 4 weeks	-	≥1.5	mg/dL
	5 weeks - 23 months	-	≥2.0	mg/dL
	2 years - 11 years	-	≥ 2.5	mg/dL
	12 years - 15 years	-	≥3.0	mg/dL
	more than 16 years	-	≥ 4.0	mg/dL
Glucose	less than 4 weeks	≤ 50	≥400	mg/dL
	4 weeks or more	≤ 50	≥400	mg/dL
Glucose CSF	ALL	≤ 40	-	mg/dL
Lactate	ALL	-	≥36	mg/dL
Magnesium	ALL	≤1.0	≥4.7	mg/dL
Phosphorus	ALL	≤1.0	≥8.9	mg/dL
Potassium	ALL	≤2.5	≥6.0	mmol/L
Sodium	ALL	≤120	≥160	mmol/L
HS Troponin I	5 days - 14 days	-	>936	pg/mL
HS Troponin I	15 days - < 3 months	-	>165	pg/mL
HS Troponin I	3 months - <19 years	-	≥ 10	pg/mL
HS Troponin I	>19 years Female	-	>15.6	pg/mL
HS Troponin I	>19 years Male	-	>34.2	pg/mL
HIV	ALL	-	Positive	-

HEMATOLOGY/COAGULATION/BLOOD BANK				
TEST	**AGE**	**LOWER LIMIT**	**UPPER LIMIT**	**UNITS**
Hematocrit	ALL	≤20	≥60	%
Hemoglobin	0-7 weeks	≤6	≥24	g/dL
	more than 7 weeks	≤6	≥20	g/dL
WBC	ALL	≤2	≥30	$x10^3$/uL
Platelets	ALL	≤40	≥1000	$x10^3$/uL
Fibrinogen	ALL	≤100	≥800	mg/dL
INR	ALL	-	≥3.0	ratio
PTT	ALL	-	≥70 *	sec
Kleihauer Betke Test	-	-	Positive	-

**if not on heparin treatment*

MICROBIOLOGY			
TEST	**AGE**	**SAMPLE**	**CRITICAL VALUE / CRITICAL RESULT**
Culture	ALL	Blood	Any Positive result
		CSF	Any Positive result
		Respiratory Specimens, Skin	MRSA, VRE, Positive TB smears
		Urine	MRSA, ESBL
		Urogenital Swabs	MRSA, VRE
	ALL	Stool	Salmonella and Shigella
	ALL	All	Positive gonococci

ANATOMICAL PATHOLOGY			
TEST	**AGE**	**SAMPLE**	**CRITICAL VALUE / CRITICAL RESULT**
Anatomical Pathology	-	-	Unexpected findings will be informed

(Any value lesser than the indicated lower limit and any value greater than the indicated upper limit is considered as critical.)

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Blood Bank Critical Results

1. Newly detected clinically significant antibodies.
2. Inability to find compatible blood units if patient has multiple/rare antibodies.
3. A difference of two dilutions or more from the previous titration of a clinically significant antibody.
4. Hemolytic transfusion identified after transfusion reaction work-up.