USERS HANDBOOK

Pathology Laboratory

Queen Elizabeth Hospital

Barbados

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Queen Elizabeth Hospital
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Rev: 01

Issued under the Authority of :

Dr. Stephen Jones

Signature: _____ Date: June 19 2023
Head of Pathology

Effective Date: December 20 2012

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The management and staff of The Queen Elizabeth Hospital Pathology Laboratory is fully committed to providing diagnostic and consultative laboratory services of the highest quality. It is the objective of the laboratory to carry out tests with the highest professional standards and to consistently meet the requirements and expectations of our clients.

General Information

Postal Address:

Pathology Laboratory
Queen Elizabeth Hospital
Martindale's Road
St. Michael BB11155
Barbados

Tel. Nos. (246) 436-6450
(246) 260-0036

Location of the Pathology Laboratory

The Pathology Laboratory is located on the ground floor of the Queen Elizabeth Hospital, between the Accounts Department and the Staff Clinic.

Population Served

The Queen Elizabeth Hospital is a government led hospital providing laboratory services to in and out patients, polyclinics, private practitioners and other health facilities and laboratories throughout the region.

General Information cont'd

Key Personnel

Contact Information

Tel No 4366450

Position	**Extension**
Head of Pathology	6406
Consultant Haematologist	Outpatient Clinic/ QEH operator
Consultant Microbiologist	6251
Consultant Pathologists	QEH operator
Chief Laboratory Technologist	6193
Laboratory Quality Assurance Officer	6107
Laboratory Histology Clerks	6223/6262
Reception / Billing /Specimen Referral - Clerical Officer	6122
Senior Cytotechnologist	6224
Senior Laboratory Technologist –Clinical Chemistry	6128
Senior Laboratory Technologist-Haematology/Blood Bank	6151
Senior Laboratory Technologist-Histopathology	6240
Senior Laboratory Technologist-Microbiology / Serology	6368/6719

General Information cont'd

Operational Hours

The Pathology Laboratory offers routine services between the hours of 08:15hrs and 16:30hrs. Monday to Friday, and emergency services for Blood Bank, Haematology, Clinical Chemistry and Microbiology between the hours of 16:30hrs and 08:15hrs Monday to Friday and all day on weekends and public holidays. Refer to Appendix 3: List of Tests Offered after routine hours.

Requesting The Laboratory Services

Verbal Requests

Verbal requests for laboratory services are **not** permitted, except in the case where a written request was previously received and the clinician is requesting the addition of tests. Such requests must be followed by a written request form within 1 hr or stability of sample, whichever is shorter are granted provided that:

i The allowable time for addition has not expired (discipline specific)

ii It is the correct sample type

iii The volume is adequate

iv The sample is still stable.

Requesting The Laboratory Services cont'd

Urgent Requests

Urgent requests are those needed for ***immediate*** management of the patient and should not be abused. Unwarranted urgent requests will result in delayed testing for genuine urgent cases.

All requests, including urgent ones **must** contain the clinical details in order to facilitate prioritization. Failure to comply may result in delayed testing.

It is the clinician's responsibility to identify the request as urgent.

During routine operating hours, the receiving clerical officer must be informed of all urgent requests when delivering the specimens to the reception area.

Desperate Request for Blood

Request for uncross-matched blood must be preceded by a call and an emergency release form completed by the attending physician(s). This form is available from the Blood Bank Department.

Request for frozen sections

For scheduled surgery the Histopathology Department must be informed twenty-four (24) hours prior to performing the operation.

For emergency frozen section, the Consultant Anatomical Pathologist must be informed immediately.

Requesting The Laboratory Services cont'd

Private Patients Service

Private patients are required to pay for their tests prior to having the blood drawn or tested.

Specimens received from private physicians must be paid for before analysis can take place.

Please refer to **EX-QEH-PLF-001** for a full listing of our laboratory fees.

NB: When specimens are referred to overseas laboratories, the exchange rate for the day is used to calculate the local fees. This rate is obtained from Queen Elizabeth Hospital accounts department.

Completing the Requisition Form

1. All information on the request form must be legible to facilitate processing.
2. Request form must contain two (2) forms of identification–
   i. Name of the patient; **Surname** first, then the First name or code
   ii. National ID number or The Queen Elizabeth Hospital's registration number followed by HOSP in the case of locals, or passport # followed by PPN or social security number followed by SSN in the case of visitors. E.g. 12345 HOSP or 1234 PPN or 1234 SSN.

   NB: Date of Birth alone will **not** be accepted by the lab as a unique identifier.
3. All areas of the requisition form **MUST BE COMPLETED,** as this is important in results interpretation, as well as to determine specimen treatment e.g. if further testing is required after preliminary results are obtained.
4. Doctors name **must be printed** and a signature affixed.

Requesting The Laboratory Services cont'd

Completing the Requisition Form cont'd

5. Carbon copies must be legible.

6. Therapeutic drug assays must contain time of last dose and the time of specimen collection to facilitate correct interpretation.

7. Only approved laboratory requisition forms will be accepted in the laboratory for specimen processing. (no pieces of paper or other diagnostic services forms e.g Xray, shall be accepted)

   A separate request form **must** be submitted for each sub-department. (See Appendix 1)

Specimen Labelling

ALL SPECIMENS MUST CONTAIN 2 UNIQUE IDENTIFIERS.

The following information must be clearly written on the specimen container with indelible ink, and must be identical to that on the requisition form.

i. Name (or code) of the patient-SURNAME first and then the First name legibly written.

ii. National Identification Number or The Queen Elizabeth Hospital's registration number followed by HOSP for locals or Social Security followed SSN or Passport Number followed by PPN for visitors.

   NB: Date of Birth will **not** be accepted as unique identifier

iii. Ward /Location

iv. Date and time the specimen was taken. Non-compliance will result in the rejection of, or delay in the processing of some specimens.

v. Initials of the Phlebotomist/person collecting the specimen.

Requesting The Laboratory Services cont'd

Important Notes

i. In the case of Microbiology, Histology and Cytology specimens, the Specimens must also state the Nature or Type of specimen (e.g. urine, fluid) or Anatomical site of Specimen (e.g. left breast).

ii. Bone, brain or thyroid specimens for histopathology examination must be accompanied by all radiology and imaging reports.

iii. Vacuette tubes must be filled to the required mark to maintain blood to anticoagulant ratio, thus eliminating test interference from excess anticoagulant/blood ratio.

iv. If more than one test uses the same tube type and are analysed in the same sub-department (e.g. TSH and PSA), then take one tube filled to the required mark, unless otherwise specified.

v. Take a separate sample for each sub-department. {e.g. HbA1c and FBC; ANA and RA Latex}

vi. Adhere to any special requirements listed.

vii. Contact laboratory for information on tests not listed.

Rejection Criteria

Specimens Not Acceptable

The following specimens will be rejected:-

i. Specimens received without accompanying requisition form.

ii. Specimens not labelled.

iii. Specimens with two different names or written over.

iv. Specimens with labels not identical to that on requisitions.

v. Specimens with only one identifier.

vi. Specimens for crossmatch not bearing the phlebotomist's signature/initials.

vii. Specimens requesting timed-sensitive tests e.g. Iron, PTT not labelled with date and time of collection.

viii. Specimens not correctly stored or transported.

ix. Specimens for Histology, Microbiology and Cytology not stating the anatomical site / type.

x. Specimens with needles attached.

xi. Leaking or cracked specimens

xii. Specimens containing clots for:-

a. Blood Gasses
b. Coagulation studies
c. Cross match
d. DCT
e. FBC
f. Blood Group
g. Cell counts on fluids

Rejection criteria cont'd

Requisition form not acceptable

The following requisition forms will not be used and a new one must be submitted before analysis of specimens can take place.

i. Forms visibly contaminated with body fluid.

ii. Forms with specimens taped onto or wrapped in them.

iii. Illegible writing or illegible carbon copies.

iv. Forms not properly or completely filled out.

v. Pieces of paper used as request forms.

vi. X-ray or other departments' request forms.

Specimen Containers - where to get them.

Internal customers

All hospital wards and clinics may obtain their vacutainer blood tubes from procurement and all other specimen containers from the Pathology Laboratory, Mondays, Wednesdays and Fridays between the hours of 09:00hrs. and 12:00 hrs only. 24hr urine collection bottles are obtained Monday – Friday 8:30am - 4:00pm.

Written request for these supplies must be submitted to the laboratory on the Queen Elizabeth Hospital Supplies Request Form.

External customers

All external customers are responsible for procuring their supplies.

Phlebotomy Service

The phlebotomy service for private patients and Queen Elizabeth Hospital Out Patients is available Monday to Friday, 08:30 hrs to 16:00 hrs.

Persons utilising this service must bring a form of identification with them.

Courier Service

Monday to Friday

09:00hrs and 12:00 hrs: specimens are collected from the wards.

All other areas are responsible for bringing their specimens to the laboratory.

Transporting Specimens to the Laboratory

All Specimens must be separated from the requisition forms to avoid contamination of the forms and spillage when detaching. Any specimens received attached directly to the requisition will result in the form and /or specimen being rejected. E.g., specimens Taped to/wrapped in forms etc.

Transporting Within The Hospital.

All specimen types must each be transported in biohazard bags or racks.

- DO NOT PLACE THE REQUEST FORM(S) IN THE SAME COMPARTMENT AS THE SPECIMEN
- DO NOT PLACE DIFFERENT SPECIMEN TYPES IN THE SAME BAG (E.G.: BLOOD AND URINE).

Transporting Specimens to the Laboratory cont'd

Transporting across the island

In addition to the criteria above:

i Specimen container should be watertight and leak proof.

ii Specimen tubes must be tightly capped and should be placed in a rack to maintain them in an upright position.

iii The specimen racks and bags should be enclosed in a large, sealed plastic bag that contains sufficient absorbent material for specimens.

iv Specimen containers and racks should be placed in a sturdy, leak-proof plastic or metal transport boxes with secure, tight fitting covers and should contain ice packs.

v Container should be lined with absorbent material in case of spillage.

vi The transport box must be secured in the transport vehicle.

vii Transport vehicles should contain a biological spill kit (gloves, disinfectant, absorbent material, plastic bags).

viii Request forms must be separated from specimens to avoid contamination.

ix Samples must not be left in the vehicle in the heat or sunlight. This results in haemolysis of blood and degradation of some analytes.

x All specimens must be left at laboratory reception area to be accessioned except for Blood Gases.

xi Batches of specimens from the polyclinics, district hospitals and other laboratories must be accompanied by a request form or recorded on the Queen Elizabeth Hospital Pathology Laboratory chain of custody log FRM-QAL-026.

Transporting Specimens to the Laboratory cont'd

Transporting Specimens to Overseas Laboratory

Packaging of referral specimens for shipment to overseas laboratories is done by our designated staff according to established procedures. Please contact our reception area for further information.

Accessing Results

All results are available online via Schuynet: **https://schuylab.qeh.gov.bb**

Permission for access must be grated via the QEH IT Department.

Clinicians are encouraged to use the web page portal as physical access to the terminals in the laboratory is not allowed. This is due to the requirement to reduce laboratory traffic and the continuous use of the terminals in the laboratory for specimen processing.

Printed Results

i Printed reports, for some external locations, may be accessed from boxes located in the laboratory (8:15hrs to 16:30hrs Monday to Friday).

ii Reports are sent to the polyclinics, public laboratories, and district hospitals via their courier.

iii Printed results for private patients and other external clients are mailed to the clinician or private laboratory or placed in the consultant box situated at the hospital.

iv Histopathology outpatients' reports must be signed for when collected from the laboratory.

Results via Telephone

To ensure confidentiality of patient's information, results will not be given over the telephone to persons calling from cellular phones or private residents as the identification of the caller cannot be verified. Such calls may ~~must~~ be routed through the telephone operator, who must inform the technologist "Dr xxxxxxx is on the line"

Results to Private Practitioners

Printed reports are mailed to private doctors' offices or placed in their boxes in the staff entrance lobby.

Results for patients seen at The Queen Elizabeth Hospital or other public clinics shall not be given to private practitioners by the laboratory technologist or clerical staff. These practitioners must contact the requesting department or The Head of Pathology for these results. A fee is attached to obtaining a copy of these results.

Arrangements for interpretation and advice

For interpretation of and consultation on laboratory examination results please contact the Laboratory Medical Consultants of the specific area of interest. These persons may be contacted during routine working hours at the extensions listed on page 7 or through The Queen Elizabeth Hospital Telephone Operator.

Storing Specimens Overnight

All blood specimens should reach the Laboratory on the same day of collection. Please refer to the specific test in Appendix 1 for storage time as some specimens must reach the laboratory immediately.

24 hrs urines are accepted in the laboratory between 08:15hrs and 15:00 hrs. It is recommended that the 24 hrs- urine collection be started before 12:00 hrs to ensure they reach the laboratory by the specified time. All urine collections should be refrigerated if they are not delivered the same day.

Please refer to Appendix 1 for additional special handling instructions.

Time Sensitive Assays

The following analytes are labile and polyclinics and private patients requiring these assays should be sent to the Queen Elizabeth Hospital Phlebotomy Department to have the specimen taken.

i. Ammonia
ii. Blood gases
iii. C- Peptide
iv. Cortisol
v. Lactate Acid
vi. PT / PTT
vii. Semen Analysis –collect container and instructions from laboratory.
viii. Iron Studies – Iron, TIBC
ix. Gastric washings for TB.

Transfusion Reaction Procedures

When a transfusion reaction is suspected, the following steps must be taken:

a. Collect two (2) transfusion reaction investigation forms from Blood Bank, fill out in duplicate.
b. Complete all relevant fields. (Also send a regular lab form requesting transfusion on investigation.)
c. Draw a post transfusion EDTA specimen and send to laboratory.
d. Collect an initial post reaction urine and send to laboratory within five (5) hours for free haemoglobin.
e. Ensure you return blood bag to laboratory with the tag attached and a completed transfusion record at the back.

Transfusion Reaction Procedures Cont'd

In cases of proven or strongly suspected haemolytic transfusion reactions, the following steps must be taken:

a. Bilirubin and Urea investigations at 5-7 hours after transfusion and if indicated, at 24 hour intervals.

b. Appropriate coagulation studies to indicate the presence or absence of significant coagulopathy.

APPENDICES

Appendix 1a : List of Blood Examinations Offered , Special Requirements And Turn Around Time (in alphabetical order)

Blood Test	Tube Type	Department	Special Requirements	Routine Turn Around Time	Critical Turn Around Time
Alanine transaminase ALT	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	1.5 hrs
Albumin	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8hrs	1.5 hrs
Alkaline phosphatase ALP	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8hrs	1.5 hrs
Ammonia	EDTA (***Purple Top***)	Clinical Chemistry	***Telephone Lab before taking specimen. Transport on ice immediately to lab.***	1 hr	
Amylase	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	
ANA	Red Top (no anticoagulant)	Serology		2 weeks	
Antibody Identification And Titre	EDTA (***Purple Top***)	Blood Bank		3 Days	
Anti-DNA	Red Top (no anticoagulant)	Serology		2 weeks	
APT's	PLAIN TUBE - **NOT CLOT ACTIVATOR DO NOT USE VACUTAINER**	Haematology		Same day	
ASOT	Red Top –no anticoagulant	Serology		2 days	
Aspartate transaminase (AST)	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	1.5 hrs
Beta 2 microglobulin	Plain (Red Top)	Clinical Chemistry		2 working Days	
Beta HCG	Plain (**Red Top**)	Clinical Chemistry		2 working Days	
Bicarbonate	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	1.5 hrs
Bilirubin (Total and Direct)	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	1.5 hrs

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1a : List of Blood Examinations Offered , Special Requirements And Turn Around Time (in alphabetical order)

Blood Test	Tube Type	Department	Special Requirements	Routine Turn Around Time	Critical Turn Around Time
Blood Culture	Special bottles Obtainable from Procurement daily from 8:15-16:30 hrs	Microbiology	Take before giving patient antibiotics	48 hours if negative. If positive between 1-5 days	
Blood Films	EDTA (***Purple Top***)	Haematology		Same day –if not referred to the Haematologist	
Blood Gases	Heparin syringe	Clinical Chemistry	Remove needle, seal syringe, and send to lab immediately	5 minutes	
Blood Group	EDTA (***Purple Top***)	Blood Bank		3 Days	
C- Peptide	Plain (**Red Top**)	Clinical Chemistry	Send to lab. immediately	2 Days	
CA -125	Plain (Red Top)	Clinical Chemistry		2 Days	
CA-15.3	Plain (**Red Top**)	Clinical Chemistry		2 Days	
CA-19.9	Plain (Red Top)	Clinical Chemistry		2 Days	
Calcium	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	
Carbamazepine /Tegretol	Plain (Red Top)	Clinical Chemistry	Take specimen a minimum of 4 hrs after last dose.	8 hrs	
CEA	Plain (Red Top)	Clinical Chemistry		2 Days	
Chloride	Li Hep(green Top) or Plain (Red Top)	Clinical Chemistry		8 hrs	1.5 hrs
Cholesterol –Total	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	
Coagulation Studies (Including PT / PTT)	Blue top - SODIUM CITRATE	Haematology	Should reach within 1 hr of taking Tube **must** be >90% full	8 hrs	
Cold Agglutinins	EDTA (***Purple Top***)	Blood Bank		3 Days	
Cortisol	Plain (**Red Top**)	Clinical Chemistry	Send immediately to lab	2 Days	
Creatine Kinase (CK)	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	

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Appendix 1a : List of Blood Examinations Offered , Special Requirements And Turn Around Time (in alphabetical order)

Blood Test	Tube Type	Department	Special Requirements	Routine Turn Around Time	Critical Turn Around Time
Creatine Kinase MB isoenzyme (CK-MB)	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	
Creatinine	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	1.5 hrs
Cross Matching	EDTA (***Purple Top***)	Blood Bank	Note for elective surgery must reach laboratory 24 hrs prior to Surgery, And by noon Friday for following Monday	24hr for elective First unit can be issued within 45 minutes.	45 mins
CRP	Plain (Red Top)	Clinical Chemistry		2 Days	
Cyclosporine	EDTA (***Purple Top***)	Clinical Chemistry	***2 hrs post dose***	8 hrs	
Cytomegalovirus	**Red Top** (no anticoagulant)	Serology		2 weeks	
Digoxin	Plain (Red Top)	Clinical Chemistry	A minimum of 4 hrs after last dose	8 hrs	
Direct And Indirect Coombs Test	EDTA (***Purple Top***)	Blood Bank		3 Days	
Du Testing	EDTA (***Purple Top***)	Blood Bank		3 Days	
E.S.R	EDTA (***Purple Top***)	Haematology	***Should reach within 4 hrs of sample collection***	8 hrs	
Electrolytes	Li Hep (green Top) or Plain (Red Top)	Clinical Chemistry		8 hrs	1.5 hrs
Estradiol (ESTRAD)	Plain (Red Top)	Clinical Chemistry		2 Days	
F.B.C /C.B.C	EDTA (***Purple Top***)	Haematology		8 hrs	
F.D.P's	SPECIAL TUBES-**OBTAINABLE FROM PATHOLOGY LABORATORY**	Haematology		1 day	
Ferritin	Plain (**Red Top**)	Haematology		1 week	

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Appendix 1a : List of Blood Examinations Offered , Special Requirements And Turn Around Time (in alphabetical order)

Blood Test	Tube Type	Department	Special Requirements	Routine Turn Around Time	Critical Turn Around Time
Fibrinogen levels	Blue top - SODIUM CITRATE	Haematology	***Should reach within 15 mins of sample collection***	8 hrs	
Folate	Plain (**Red Top**)	Haematology		1 week	
FSH (Follicle Stimulating Hormone)	Plain (Red Top)	Clinical Chemistry		2 Days	
FT_4 (Free Thyroxine	Plain (**Red Top**)	Clinical Chemistry		2 Days	
Gamma Glutamyl Transferase (GGT)	Li Hep(green Top) or Plain (Red Top)	Clinical Chemistry		8 hrs	
Gentamycin	Plain (**Red Top**)	Clinical Chemistry	***Take peak*** specimen ***½ hr after IV or 1 ½ hrs after IM Take trough*** specimen ***just before next dose.***	1day	
Globulin	Li Hep(green Top) or Plain (Red Top)	Clinical Chemistry		8 hrs	
Glucose	Floride Oxalate (grey Top)	Clinical Chemistry	***State fasting/random etc***	8 hrs	
Haemoglobin (Hb)	EDTA (***Purple Top***)	Haematology		8 hrs	30 mins
Haemoglobin Electrophoresis	EDTA (***Purple Top***)	Haematology		1 week	
HbA1C	EDTA (***Purple Top***)	Clinical Chemistry		8 days	
HDL	Li Hep(**Green Top**) or Plain (**Red Top**)	Clinical Chemistry	***Fasting***	8 hrs	
Hepatitis B	***Purple Top***- k^+ edta or **Red Top** (no anticoagulant)	Serology		3 days	
Hepatitis C	***Purple Top***- k^+ EDTA or **Red Top** (no anticoagulant)	Serology		3 days	
HERPES	**Red Top** (no anticoagulant)	Serology		2 weeks	

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1a : List of Blood Examinations Offered , Special Requirements And Turn Around Time (in alphabetical order)

Blood Test	Tube Type	Department	Special Requirements	Routine Turn Around Time	Critical Turn Around Time
HIV	***Purple Top***- kK^+ edta EDTA or **Red Top** (no anticoagulant)	Serology		3 days if negative 10 days if positive	
HTLV 1	**Red Top** or EDTA	Serology		3 days	
Iron	**Red Top** (no anticoagulant)	Clinical Chemistry	***Must reach the laboratory within 1 hr and time of collection must be written on sample***	1 hr	
L.E. Cells	Plain (Red Top)	Haematology		1 Day	
Lactate	Fluoride Oxalate (grey Top)	Clinical Chemistry	Call lab before taking blood. Send to lab immediately after taking.	1 hr	
LDH	Li Hep(green Top) or Plain (Red Top)	Clinical Chemistry		8 hrs	
LDL	Li Hep(**Green Top**) or Plain (**Red Top**)	Clinical Chemistry	***Fasting***	8 hrs	
LH (Luteinizing Hormone)	Plain (Red Top)	Clinical Chemistry		2 Days	
Magnesium	Li Hep(**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	1.5 hrs
Malaria Parasite	EDTA (***Purple Top***)	Serology		1 day	
Monospot (infectious mononucleosis)	**Red Top** (no anticoagulant)	Serology		3 days	
Nucleated RBC	EDTA (***Purple Top***)	Haematology		Same Day	
Osmolality	Plain/Green	Clinical Chemistry		1 day	
Paternity Testing	EDTA (***Purple Top***)	Blood Bank		3 Days	
Phenobarbitone	Plain (**Red Top**)	Clinical Chemistry	***A minimum of 4 hrs after last dose.***	8 hrs	
Phenytoin	Plain (Red Top)	Clinical Chemistry	A minimum of 4 hrs after last dose.	8 hrs	

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1a : List of Blood Examinations Offered , Special Requirements And Turn Around Time (in alphabetical order)

Blood Test	Tube Type	Department	Special Requirements	Routine Turn Around Time	Critical Turn Around Time
Phosphorus	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	
Platelets	EDTA (***Purple Top***)	Haematology		8 hrs	
ProBNP	Plain (Red Top)	Clinical Chemistry		8 hrs	
Progesterone	Plain (**Red Top**)	Clinical Chemistry	***Day 21 of cycle***	2 Days	
Prolactin	Plain (Red Top)	Clinical Chemistry		2 Days	
PSA (Prostatic Specific Antigen)	Plain (**Red Top**)	Clinical Chemistry		2 Days	
PTH	Plain (**Red Top**)	Clinical Chemistry		2 Days-routine 30 minutes during parathyroidectomy	
R.A. Latex	Plain (**Red Top**)	Clinical Chemistry		2 Days	
Reticulocyte count	EDTA (***Purple Top***)	Haematology		Same day	
Rubella	***Purple Top***- k^+ EDTA or **Red Top** (no anticoagulant	Serology		2 weeks as part of TORCH panel, 3 days for pregnancy screen	
Syphilis	***Purple Top***- K^+ EDTA or **Red Top** (no anticoagulant)	Serology		Same Day	
T_3	Plain (**Red Top**)	Clinical Chemistry		2 Days	
Tacrolymus	Purple	Clinical Chemistry		1 day	
Testosterone	Plain (Red Top)	Clinical Chemistry		2 Days	
Thrombophilia screen Single factor Assays	Blue Top	Haematology		2 weeks	
TIBC	Plain (Red Top)	Clinical Chemistry		1 hr	
Torch titres	***Purple Top***- k^+ EDTA or **Red Top** (no anticoagulant	Serology		2 weeks	
Total protein	Li Hep (green Top) or Plain (Red Top)	Clinical Chemistry		8 hrs	

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1a : List of Blood Examinations Offered , Special Requirements And Turn Around Time (in alphabetical order)

Blood Test	Tube Type	Department	Special Requirements	Routine Turn Around Time	Critical Turn Around Time
Toxoplasmosis	***Purple Top***- k^+ edta or **Red Top** (no anticoagulant)	Serology		2 weeks	
Triglyceride	Li Hep (green Top) or Plain (Red Top)	Clinical Chemistry		8 hrs	
Troponin T	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		2 hrs – stat	
TSH	Plain (Red Top)	Clinical Chemistry		2 Days	
UIBC	Plain (Red Top)	Clinical Chemistry		1 hr	
Urea	Li Hep (**Green Top**) or Plain (**Red Top**)	Clinical Chemistry		8 hrs	1.5 hrs
Valproic Acid	Plain (Red Top)	Clinical Chemistry	A minimum of 4 hrs after last dose.	2 days	
Vancomycin	Plain (Red Top)	Clinical Chemistry			
Vitamin B12	Plain (Red Top)	Haematology	fasting	1 week	
W.B.C	EDTA (***Purple Top***)	Haematology		8 hrs	30 mins

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1b List of Urine Examinations Offered , Special Requirements And Turn Around Time (in alphabetical order)

Urine Tests	Specimen type	Department	Stability and Special Requirements	Turn Around Time
Amylase	Spot urine -plain bottle	Clinical Chemistry		Same day
B-2 microglobulin	Spot urine -plain bottle	Clinical Chemistry		2 days
Bence Jones protein-qualitative (BJP) (Bradshaw Screening Test)	Spot urine – plain bottle	Clinical Chemistry		7 days
Bence Jones protein-quantitative	24 hr collection -plain bottle Collect from Lab	Clinical Chemistry		7 days
Calcium	24 hr collection Obtainable from Lab	Clinical Chemistry		Same day *
Creatinine clearance	24 hr Collection – bottle obtainable from lab.	Clinical Chemistry	Written instructions for urine collection obtainable from lab.	Same day *
Electrolytes	24 Hr collection- plain bottle	Clinical Chemistry		Same day *
Magnesium	24 hr collection or plain	Clinical Chemistry		Same day *
Myoglobin (qualitative)	Spot urine -plain bottle	Clinical Chemistry		Same day
Osmolality	Spot urine -plain bottle	Clinical Chemistry		Same day
pH	Spot urine -plain bottle	Clinical Chemistry		Same day *
Phosphorous	24 Hr collection- plain bottle	Clinical Chemistry		Same day *
Porphobilinogen	Fresh Spot urine collected in brown bottle	Clinical Chemistry	Protect from light	1-2 days
Porphyrins	Fresh Spot urine collected in brown bottle	Clinical Chemistry	Preservative required Contact lab.	1-2 days
Proteins	24 hr or Spot urine -plain bottle	Clinical Chemistry		Same day *
Protein/Creatinine ratio	Spot urine -plain bottle	Clinical Chemistry		Same day *
Reducing substances	Spot urine -plain bottle	Clinical Chemistry		2days
Uric acid	24 Hr collection	Clinical Chemistry		Same day *
Urobilinogen	Fresh Spot urine Collected in dark bottle Contact lab	Clinical Chemistry	Protect from light	1-2 days

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1b List of Urine Examinations Offered , Special Requirements And Turn Around Time

(in alphabetical order)

Urine Tests	Specimen type	Department	Stability and Special Requirements	Turn Around Time
VMA - qualitative	24 hr. Collection	Clinical Chemistry	Acid preservative required – contact the lab for bottle	2 days
Cytological examination to detect malignant cells	Early morning samples of urine (10mL – 20mL) collected on three (3) consecutive days in plain universal bottles (**no preservative**).	Cytology	The samples are taken from the second voided urine each morning and placed in a bottle labelled with the patient's name, national identification number, type of specimen (urine) and the number 1, 2 or 3 depending on which day the sample was collected (e.g. '1' on day 1). The sample should be stored **immediately** in the refrigerator each day and on the third day, all samples are placed into a biohazard bag, along with the laboratory requisition form, and transported to the laboratory.	Within 7 days
Urine Analysis only	Plain Non-sterile urine bottle	Microbiology	Fresh voided	1 day
Microscopy only	Plain Non-sterile urine bottle	Microbiology	Fresh voided	1 day**
Culture and Sensitivity (C&S)	**Sterile** leak-proof container with or without boric acid preservative	Microbiology	Must reach laboratory within 1 hr or refrigerate specimen	4 days

* Providing urine reaches the laboratory by 1:30pm.

** Please note that all Microbiology samples received in the laboratory after 2 pm daily will be processed the following day. The stated TATs refer to routine samples and do not include Weekends or Public Holidays.

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1c List of Fluid Examinations Offered , Special Requirements And Turn Around Time

Test Name	Tube Type	Department	Special Requirements	Turn Around Time
Amylase	Plain Tube –***No Anticoagulant***	Clinical Chemistry		Same day
Calcium	Plain Tube –***No Anticoagulant***	Clinical Chemistry		Same day
LDH	Plain Tube – ***No Anticoagulant***	Clinical Chemistry		Same day
Proteins	Plain Tube –***No Anticoagulant***	Clinical Chemistry		Same day
Glucose	FLOURIDE OXALATE (Grey Top)	Clinical Chemistry		Same day
Any other request	Plain Tube –***No Anticoagulant***	Clinical Chemistry	Contact Clinical Chemistry department before submitting specimen	
APT's	PLAIN TUBE - **Not Clot Activator** **Do Not Use Vacutainer**	Haematology	Must be a bloody specimen.	Same day
Pleural, peritoneal, sputum etc Examination To Detect Malignant cells	Plain tube –No Anticoagulant	Cytology	Sputum: Mouth must be cleaned. Deep cough should be induced for viable specimen to be obtained. Three (3) consecutive early morning deep cough specimens. **Refrigerate** if not delivered same day	Within 7 days
Bronchial brushings	Frosted end glass slide prepared by physician	Cytology.	Use pencil for labelling slide.	Within 7 days
FNA's Fluid or smear	Frosted end glass slide prepared by physician	Cytology	Use pencil for labelling slide	Within 7 days
Fluids: abdominal, amnionic, ascites, bile, joint, paracentesis, pericardial, peritoneal, pleural, synovial, thoracentesis	Anaerobic transport system, sterile plain screw-cap tube, >1 ml	Microbiology	≤ 15 min, RT Transport immediately to laboratory Amniotic and culdocentesis fluids should be transported in an anaerobic system. Consult lab personnel.	Sterile: 4 days** Growth: 6 days**

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1d List of CSF examinations Offered , Special Requirements and Turn Around Time

CSF	Specimen Container Type	Department	Special Requirements	Turn Around Time
Proteins	Plain tube –no anticoagulant	Clinical Chemistry		Same day
Glucose and Lactate	FLOURIDE OXALATE (grey top)	Clinical Chemistry		Same day
Examination to detect malignant cells	Plain tube	Cytology	Refrigerate if kept overnight	1 wk
CSF Gram stain	Plain tube	Microbiology		5 hrs
CSF Culture and Sensitivity	Sterile screw-cap tubes (1 ml)	Microbiology	Must reach laboratory within 15 minutes of taking. Place in incubator at reception (35º C-37 º C) NEVER REFRIGERATE Obtain blood for culture also.	4 days**

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1e: List of Stool Examinations Offered , Special Requirements And Turn Around Time

Stool Test	Specimen Container type	Department	Special requirements	Transport Time	Turn Around Time
Reducing Substances	Plain Container	Clinical Chemistry	Should reach lab within 30 minutes or stored refrigerated	30 mins RT	1-2 days
pH	Plain Container	Clinical Chemistry	1hr	1 hr	1-2 days
Feacal Occult Blood	Sterile Plain Container	Best Dos Santos	Avoid raw fruits and vegetables such as turnips, broccoli, horseradish, parsnip, cauliflower, red radish, and cantaloupe, iron, ascorbic acid (vitamin C) in units greater than 250mg per day, and oral medications such as aspirin, reserpine, corticosteroids, phenylbutazone, indomehacin, etc. for three days before FOBT. Testing should not be done on patients using rectal preparations or patients with bleeding from other conditions such as hemorrhoids, dental work, constipation or menstrual bleeding.	1-3 days	1 day
Routine Culture and Sensitivity (Stool specimens)	Sterile Container	Best Dos Santos	Stool can be refrigerated up to 3 days if not transported to the lab immediately.	1-3 days	3-7 days

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1e: List of Stool Examinations Offered , Special Requirements And Turn Around Time

Stool Test	Specimen Container type	Department	Special requirements	Transport Time	Turn Around Time
Faeces C. *difficile* Toxin	Sterile, leak proof, wide mouthed container, >5 ml	Best Dos Santos	Stool samples for Clostridioides *difficile* toxin testing will only be performed on soft, watery fecal samples in which the fecal material assumes the shape of the container used.	1-3 days	1-2 days
Rectal swab	Plain Transport Swab	Microbiology	Indicate reason for taking swab	≤ 2 h, RT	4 days

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1f List of examinations Offered , Special Requirements and Turn Around Time (Pap Smears)

Pap Smear	Specimen Container type	Department	Special requirements	Collection instructions	Turn Around time
Liquid-based Pap Smear Thin Prep ®: Investigation Performed to Detect Abnormal Cells.	Specific collection vial supplied by manufacturer with a liquid preservative (methanol)	Cytology	Should be sent to the laboratory very soon after collection. Should be collected between day 10-23 of the menstrual Cycle.	Sample Cervix with spatula. Rinse spatula in ThinPrep ® vial; swirl vigorously 10 times. Discard spatula. Sample endo-cervix with Brush. Rinse the brush in vial, by rotating the brush 10 times while pushing against the vial wall. Vigorously swirl brush, to remove excess material. Discard brush.	21 days
Conventional Pap Smear: Investigation Performed to Detect Abnormal Cells.	Frosted end Glass slide	Cytology	Same as above	Insert the brush/spatula into the cervical os. Rotate 360º then withdraw. Spread the sample on the slide evenly. Spray with the fixative e.g. NB. Use a pencil for labelling the slide.	21 Days

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1g: List of Swabs /Cultures Examinations Offered , Special Requirements And Turn Around Time .

Swab	Specimen Container type	Department	Transport time	Special requirements	Turn Around time
Dental culture	Plain Transport swab Sterile screw cap tube Anaerobic transport system	Microbiology	≤ 2 h, RT Must be processed as soon as possible.	Consult with Laboratory personnel before collection.	4 days
Wound swab	Plain Transport Swab	Microbiology			4 days
Eye swab Conjunctiva	**Direct culture inoculation:** BAP and CHOC plates. Plain Transport swab	Microbiology	Plates: ≤ 15 min,RT Swabs: ≤ 2 h, RT	**State which eye** Store swab in incubator at 37°C located in Laboratory reception area.	4 days
Eye Corneal scrapings	**Direct culture inoculations:**BHI with 10% sheep blood, CHOC, and inhibitory mold agar Prepare 2 smears by rubbing material from spatula onto 1- to 2cm area of slide.	Microbiology	≤ 15 min, RT	Collect media plates from lab, transport slide in slide holder	culture 4 days Gram stain 5 hrs,
Eye Vitreous fluid aspirates	Sterile crew-cap tube or direct inoculation of media	Microbiology	≤ 15 min, RT		Sterile: 4 days Growth : 6 days
Ear swab Inner	Sterile tube, Plain transport swab or anaerobic system	Microbiology	≤ 2 h, RT	**State which ear and site.**	4 days
Ear swab Outer	Swab transport medium - plain	Microbiology	≤ 2 h, RT	**State which ear and site.**	4 days
Genital culture vaginal	Charcoal Transport Swab	Microbiology		Store at room temperature in box provided in reception area of laboratory.	4 days
Throat swab	Plain Transport Swabs	Microbiology			4 days
H1N1	Viral swabs	WSPC		Transport in biohazard bag in sealed container.	

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 1g: List of Swabs /Cultures Examinations Offered , Special Requirements And Turn Around Time .

Swab	Specimen Container type	Department	Transport time	Special requirements	Turn Around time
				Separate form from specimen	
Sputum for TB testing	Sterile graduated container such as 50 ml conical tube	Best Dos Santos	1-3 days	Minimum volume is 3-10 ml. Keep refrigerated at 4°C until they reach the lab.	3-5 days

Appendix 1h: List of examinations Offered , Special Requirements and Turn Around Time (Tissue and Bone)

Tissue / Bone	Specimen type	Department	Special requirements	Expected turn around time
Decubitus ulcer	Tissue biopsy sample or needle aspirate is specimen of choice. Collect in sterile screw cap tube	Microbiology	Must reach laboratory within 2 hrs of collection	Sterile: 4 days Growth: 6 days
Body tissues for histopathology	All body parts	Histology	Collect in 10% buffered formalin obtainable from Laboratory	4 days
Bone tumour diagnosis	Bone	Histology	Must be accompanied by imaging and radiology reports	

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 2 : Ordering Panels – list of assays included in panel/profile

Abbreviation	Profile	Assays
U/E	Urea and Electrolytes	Urea Creatinine Sodium Potassium Chloride Bicarbonate Anion Gap
LFT	Liver Function Test	AST ALT Alkaline Phosphatase Total Biliruin (Direct if total is elevated)
PROT	Proteins	Total Proteins Albumin Globulins
IRON		Iron UIBC
CORONARY RISK **FASTING LIPIDS** **FULL LIPIDS** **FRACTIONATED LIPIDS**	Coronary Risk Fasting Lipids Full Lipids Fractionated Lipids	Cholesterol Triglycerides HDL-C LDL-C
LIPIDS	Lipids	Triglycerides Cholesterol
CE	Cardiac Enzymes	AST CK CK-MB TROPONIN-I
TFT	Thyroid Function Tests	TSH- For initial diagnostic purposes FT4, Total T3- For abnormal TSH and Patient on Medication.
FBC / CBC	Full Blood Count	WBC Parameters RBC Parameters Platelets

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 3: List of Tests Offered after Routine Hours for AED or stat samples

Test / Panel	Department	Special instructions	TAT
U/E – Venous Blood	Clinical Chemistry		1.5 hrs
LFT – -Venous blood	Clinical Chemistry		1.5 hrs
Cardiac Profile	Clinical Chemistry		1.5 hrs
Proteins - Venous Blood - Urine	Clinical Chemistry		1.5 hrs
Ca Mg PO4- - Venous Blood -	Clinical Chemistry		1.5
Phenytoin, Carbamazepine, Valproic, Tacrolimus Cyclosporine, Vancomycin - Venous Blood	Clinical Chemistry		
Osmolality - Venous blood - Spot Urine	Clinical Chemistry		
Blood Gases	Clinical Chemistry	Call laboratory before taking specimen.	3 mins Wait for results
FBC X Match, Issuing Plasma	Haematology		30 minutes
Microcroscopy - CSF	Microbiology	Contact technologist on call through	5hrs
Rapid HIV	Microbiology		5 hrs

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 3: List of Tests Offered after Routine Hours for AED or stat samples

Test / Panel	Department	Special instructions	TAT
Hep B and Hep C for:- i. Patients for dialysis same night ii. Emergency Blood units		Queen Elizabeth Hospital's Operator	5hrs
Malaria smears	Best Dos Santos		1 day

NOTE : CONTACT THE HEAD OF PATHOLOGY FOR AVAILABILITY OF TESTS NOT OFFERED BY OUR LABORATORY

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Abscess General	Remove surface exudate by wiping with sterile saline or 70% alcohol. Aspirate abscess material with needle and syringe, or firmly pass a swab into the base of the lesion.	Swab transport system or sterile plain screw cap tube, ≥ 1ml	≤ 2 h, RT	Transport swab in plastic sheaf	Tissue or aspirate is always superior to a swab specimen. If swabs must be used (aerobic culture only). Contamination with surface material will introduce colonizing bacteria not involved in the infectious process. **Do not use syringe for transport.**
Bite wound	See abscess	Swab transport system	≤ 2 h, RT	Transport swab in plastic sheaf	Do not culture animal bite wounds ≤ 12 h old (agents are usually not recovered) unless signs of infection are present.
Catheter i.v.	Cleanse the skin around the catheter site with alcohol Aseptically remove catheter and clip 5 cm of distal tip directly into a sterile tube Transport immediately to microbiology laboratory to prevent drying.	Sterile plain screw-cap tube	≤ 15 min, RT	Place in fridge in reception area. 4ºC	Acceptable i.v. catheters for semiquantitive culture (Maki method): central, CVP, Hickman, Broviac, peripheral, arterial, umbilical, hyperalimentation, Swan-Ganz
Foley	Do *not* culture, since growth represents distal urethral flora.				Not acceptable for culture

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Blood Culture	Disinfect culture bottle by applying 70% isopropyl alcohol or phenolic disinfectant to rubber stoppers and wait 1 min. Palpate vein before disinfection of veinpuncture site Disinfection of veinpuncture site: Cleanse site with 70% alcohol. Swab concentrically, starting at the centre, with tincture of iodine or chlorhexidine. Allow the disinfectant to dry. *Do not palpate vein at this point without sterile glove*. Collect blood. After veinpuncture, remove iodine from the skin with alcohol.	Blood culture bottles for adult, 10ml/ Bottles for infants 1-5mls/ neonatal bottle or isolator tube 0.5-1.5 ml	≤ 2 h, RT	Leave at room temperature in reception area.	Acute febrile episode: one set **from each arm**, all within 10 min (before antimicrobials) Nonacute disease: anitmicrobials will not be started or changed immediately: one set **from each arm**, all within 24 h at intervals no closer than 3 h (before antimicrobials) Endocarditis, acute: one set **from each arm**, within 1-2 h, before antimicrobials if possible. Then 1 bottle from **one arm after 24 hrs.** Fever of unknown origin: one set from **each arm** ≥ 1 h apart during 24-h period. If negative at 48 h, obtain 2 more sets one from **each arm**.. **Pediatric:** collect immediately, rarely necessary to document continuous bacteria with hours between cultures.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Cellulitis	Cleanse site by wiping with sterile saline or 70% alcohol Aspirate the area of maximum inflammation (commonly the centre) with a needle and syringe. Irrigation with a small amount of sterile saline may be necessary. Aspirate saline into syringe and expel into sterile screw-cap tube.	Sterile tube (syringe transport not recommended)	≤ 15 min, RT		
CSF	Disinfect site with iodine preparation. Insert needle with stylet at L3-L4, L4-L5, or L5-S1 interspace. Upon reaching the subarachnoid space, remove the stylet and collect 1-2ml of fluid into each of 3 leakproof tubes.	Sterile screw-cap tubes Minimum amt required: bacteria, ≤1 ml	Sample for culture never refrigerate; ≤15 min, RT	Place in incubator at reception. 35^{o} C ***Samples for PCR & viral studies, store at 4^{o} C***	Obtain blood for culture also. If only 1 tube of CSF is collected, it should be submitted to microbiology first; otherwise submit tube 2 to microbiology. Aspirate of brain abscess or a biopsy sample may be necessary to detect anaerobic bacteria or parasites.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Decubitus ulcer	A swab is not the specimen of choice (see comments). Cleanse surface with sterile saline. If a biopsy sample is not available, aspirate inflammatory material from the base of the ulcer.	Transport swab /sterile screw cap tube	≤ 2 h, RT	Transport swab in its plastic sheath	Since a swab specimen of decubitus ulcer provides no clinical information, it should not be submitted. A tissue biopsy sample or needle aspirate is the specimen of choice.
Dental culture: gingival, periodontal, periapical, Vincent's stomatitis	Carefully cleanse gingival margin and supragingival tooth surface to remove saliva, debris, and plaque. Using a periodontal scaler, carefully remove subgingival lesion material and transfer to sterile container or transport swab Prepare smear for staining with material	Transport swab /sterile screw cap tube / Anaerobic transport system	≤ 2 h, RT	Consult with lab personnel first	Sample must be processed as soon as possible for maximum recovery of anaerobes.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Ear Inner	Tympanocentesis reserved for complicated, recurrent, or chronic persistent otitis media For intact eardrum, clean ear canal with soap solution and collect fluid via syringe aspiration technique (tympanocentesis) For ruptured eardrum, collect fluid on flexible shaft swab via an auditory speculum (aerobic culture only)	Sterile tube, swab transport medium, or anaerobic system	≤ 2 h, RT		Results of throat or nasopharyngeal swab cultures are not predictive of agents responsible for otitis media and should not be submitted for that purpose.
Ear Outer	Use moistened swab to remove any debris or crust from the ear canal Obtain a sample by firmly rotating swab in the outer canal	Swab transport	≤ 2 h, RT		For otitis externa, *vigorous* swabbing is required since surface swabbing may miss streptococcal cellulitis.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Eye Conjunctiva	Sample both eyes with separate swabs (premoistened with sterile saline) by rolling them over each conjunctiva. Medium may be inoculated at time of collection. Roll swab over 1- to 2-cm area of slide for Gram stain	Direct culture inoculation: BAP and CHOC Laboratory inoculation: swab transport	Plates: ≤ 15 min, RT Swabs: ≤ 2 h, RT	Place in incubator at reception. 35° C	If possible, sample both conjunctivas, even if only one is infected, to determine indigenous microflora. The uninfected eye can serve as a control with which to compare the agents isolated from the infected eye. If cost prohibits this approach, rely on the Gram stain to assist in interpretation of culture.
Eye Corneal scrapings	Specimen collected by ophthalmologist Using sterile spatula, scrape ulcers or lesions, and inoculate scraping directly onto medium. Prepare 2 smears by rubbing material from spatula onto 1- to 2-cm area of slide.	Direct culture inoculation	≤ 15 min, RT	Collect media plates from lab, transport slide in slide holder	If conjunctival specimen is collected, do so before anaesthetic application, which may inhibit some bacteria. Corneal scrapings are obtained after anaesthesia. Include fungal media.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Eye Vitreous fluid aspirates	Prepare eye for needle aspiration of fluid.	Leave in syringe remove needle and cap end or direct inoculation of media	≤ 15 min, RT	Place in incubator at reception	Include fungal media. Anaesthetics may be inhibitory to some etiologic agents.
Feces Routine culture	Pass specimen directly into a clean, dry container. Transport to microbiology laboratory within 1 h of collection or transfer to Cary-Blair holding medium.	Clean, leakproof, widemouthed container or use Cary-Blair holding medium (>2 g)	Unpreserved: ≤1 h, RT Holding medium: ≤ 24 h, RT	Transport to lab in a specimen bag	Do not perform routine stool cultures for patients whose length of hospital stay is >3 days and the admitting diagnosis was not gastroenteritis without consultation with physician. Tests for C. *difficile* should be considered for these patients. Swabs for routine pathogens are not recommended except for infants.
Feces C. *difficile*	Pass liquid or soft stool directly into a clean, dry container. Soft stool is defined as stool assuming the shape of its container. Swab specimens are not recommended for toxin testing.	Sterile, leakproof, widemouthed container, >5 ml	≤1 h, RT: 1-24 h, 4°C; >24 h, -20°C or colder	Transport to lab in a specimen bag	Patients should be passing ≥5 liquid or soft stools per 24 h. Testing of formed or hard stools is not recommended. Freezing at -20°C or above results in rapid loss of cytotoxin activity.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Feces Rectal swab	Carefully insert a swab approx 1 in. beyond the anal sphincter. Gently rotate the swab to sample the anal crypts. Feces should be visible on the swab for detection of diarrheal pathogens.	Swab transport	≤ 2 h, RT	Indicate reason for taking swab	Reserved for detecting *N. gonorrhoeae, Shigella, Campylobacter*, herpes simplex virus, an anal carriage of group B *Streptococcus* and other beta-hemolytic streptococci, or for patients unable to pass a specimen.
Fistula	See Abscess				
Fluids: abdominal, amnionic, ascites, bile, joint, paracentesis, pericardial, peritoneal, pleural, synovial, thoracentesis	Disinfect overlying skin with iodine preparation. Obtain specimen via percutaneous needle aspiration or surgery. Always submit as much fluid as possible; *never* submit a swab dipped in fluid.	Anaerobic transport system, sterile plain screw-cap tube, >1 ml	≤ 15 min, RT	transport immediately to laboratory	Amniotic and culdocentesis fluids should be transported in an anaerobic system. Consult lab personnel.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Gastric Wash or Lavage for Mycobacteria	Collect in early morning before patients eat and while they are still in bed. Introduce a nasogastric tube to the stomach Perform lavage with 25-50 ml of chilled sterile, distilled water. Recover sample and place in a leakproof, sterile container.	Sterile, leak-proof graduated container such as sterile 50 ml conical tube	≤ 15 min, RT, or neutralize within 4h of collection	Minimum volume is 5-10 ml. Keep refrigerated at 4°C until they reach the lab.	The specimen must be processed promptly, since mycobacteria die rapidly in gastric washings. Done at Best Dos Santos
Genital, female Amniotic fluid	Aspirate via amniocentesis, or collect during caesarean delivery	Sterile screw-cap tube, ≥ 1 ml	≤ 2 h, RT		Swabbing or aspiration of vaginal secretions is *not* acceptable because of the potential for contamination with commensal vaginal flora.
Genital,fem- ale Bartholin gland secretions	Disinfect skin with iodine preparation. Aspirate fluid from ducts	Sterile screw-cap tube, ≥ 1 ml	≤ 2 h, RT		

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Genital, female Cervical secretions	Visualize the cervix using a speculum without lubricant. Remove mucus and secretions from the cervical os with swab and discard the swab Firmly yet gently sample the endocervical canal with a new sterile swab.	Swab transport	≤ 2 h, RT		Clinical details and age is required for the processing of all genital specimens
Genital, female Endometrial tissue and secretions	Collect transcervical aspirate via a telescoping catheter. Transfer entire amount to anaerobic transport system.	Sterile screw-cap tube, ≥ 1 ml	≤ 2 h, RT		Clinical details and age is required for the processing of all genital specimens
Genital, female Products of conception	Submit a portion of tissue in a sterile container. If obtained by caesarean delivery, immediately transfer to an anaerobic transport system.	Sterile tube or anaerobic transport system	≤ 2 h, RT		Do not process lochia, culture of which may give misleading results.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Genital, female Urethral secretions	Collect at least 1h after patient has urinated Remove old exudates from the urethral orifice. Collect discharge material on a swab by massaging the urethra against the pubic symphysis through the vagina.	Swab transport	≤ 2 h, RT		If no discharge can be obtained, wash the periurethral area with Betadine soap and rinse with water. Insert a small swab 2-4 cm into the urethra, rotate swab, and leave swab in place for at least 2 sec to facilitate absorption.
Genital, female Vaginal secretions	Wipe away old secretions/discharge Obtain secretions from the mucosal membrane of the vaginal wall with a sterile swab or pipette. If a smear is also needed, use a second swab.	Swab transport	≤ 2 h, RT	Culture depends on clinical details and age, also on sample HVS vs ECS	For IUDs, place entire device into a sterile container and submit at RT. Gram stain, not culture, is recommended for diagnosis of BV. ECS should be taken for GC investigations

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Genital, female or male lesion	Clean with sterile saline and remove lesion's surface with a sterile scalped blade. Allow transudate to accumulate. While pressing the base of the lesion, *firmly* rub base with a sterile swab to collect fluid.	Swab transport	≤ 2 h, RT		For viral culture transport in viral transport media
Genital, male Prostate	Cleanse urethral meatus with soap and water. Massage prostate through rectum. Collect fluid expressed from the urethra on a sterile swab	Swab transport or sterile tube for >1 ml of specimen	≤ 2 h, RT		Pathogens in prostatic secretions may be identified by quantitative culture of urine before and after massage. Ejaculate may also be cultured.
Genital, male Urethra	Insert a small swab 2-4 cm into the urethral lumen, rotate swab, and leave it in place for at least 2 s for absorption.	Swab transport	≤ 2 h, RT		

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
MRSA screen	Nose(bilateral anterior)-one swab. Axillae(swab both axillae- use one swab). Groin(swab both groin areas- use one swab)	Swab transport			Also see infection control protocol
Respiratory, Bronchoalveolar lavage, brush or wash, endotracheal aspirate	Collect washing or aspirate in a sputum trap. Place brush in sterile container with 1 ml of saline	Sterile container, >1 ml	≤ 2 h, RT	Transport in a specimen bag	Place in fridge in the reception area

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Respiratory, lower Sputum, expectorated	Collect specimen under the direct supervision of a nurse or physician. Have patient rinse or gargle with water to remove excess oral flora. Instruct patient to cough deeply to produce a lower respiratory specimen (not postnasal fluid). Collect in a sterile container.	Sterile container, >1 ml	≤ 2 h, RT	Transport in a specimen bag	For pediatric patients unable to produce a sputum specimen, a respiratory therapist should collect a specimen via suction. The best specimen from all patients should have ≤ 10 squamous cells/100 x field (10x objective and 10x ocular).
Respiratory, lower Sputum, induced	Have patient rinse mouth with water after brushing gums and tongue. With the aid of a nebulizer, have patients inhale approx 25 ml of 3-10% sterile saline. Collect in a sterile container.	Sterile container, > 1 ml	≤ 2 h, RT	Transport in a specimen bag	Same as above for sputum, expectorated.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Respiratory, upper Nasal	Insert a swab, premoistened with sterile saline, approx 1-2 cm into the nares. Rotate the swab against the nasal mucosa.	Swab transport	≤ 2 h, RT	Clinical details required for processing	Anterior nose cultures are reserved for indentifying staphylococcal carriers or for nasal lesions.
Respiratory, upper Nasopharynx	1.Gently insert a small swab (e.g, calcium alginate) into the posterior nasopharynx via the nose 2.Rotate swab slowly for 5 s to absorb secretions	Direct medium inoculation, swab transport.	Plates: ≤15 mi, RT Swabs: ≤2 h, RT	Clinical details required for processing	
Respiratory, upper Throat or pharynx	Depress tongue with a tongue depressor. Sample the posterior pharynx, tonsils, and inflamed areas with a sterile swab.	Swab transport	≤ 2 h, RT	Clinical details required for processing	Throat swab cultures are contraindicated for patients with epiglottitis . swabs for *N. gonorrhoeae* should be placed in charcoal-containing transport medium and plated ≤12 h after collection.
Semen Analysis	For infertility investigation				Collect instructions from the lab

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Tissue	Collected during surgery or cutaneous biopsy procedure.	sterile screw-cap container. *Add several drops of sterile saline to keep small pieces of tissue moist.*	≤15 min, RT		Always submit as much tissue as possible. If excess tissue is available, save a portion of surgical tissue at -70°C in case further studies are needed. Never submit a swab that has been rubbed over the surface of a tissue.
Urine Female, midstream	1.While holding the labia apart, begin voiding. 2.After several millilitres has passed, collect a midstream portion without stopping the flow of urine. 3.The midstream portion is used for bacterial culture.	Sterile, container, with or without boric acid	≤ 1 h, RT	Transport in specimen bag	Cleansing before voiding does not improve urine specimen quality; i.e, midstream urine samples are equivalent to clean-catch midstream urine samples.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Urine Male, midstream	1.While holding the foreskin retracted, begin voiding. 2.After several millilitres has passed, collect a midstream portion without stopping the flow of urine. 3.The midstream portion is used for culture.	Sterile, container, ≥1 ml, with or without boric acid	≤ 1 h, RT	Transport in specimen bag	
Straight Catheter	Thoroughly cleanse the urethral opening with soap and water. Rinse area with wet gauze pads. Aseptically, insert catheter into the bladder. After allowing approx. 15 ml to pass, collect urine to be submitted in a sterile container.	Sterile leakproof container with or without boric acid preservative.	≤ 1 h, RT	Transport in specimen bag	Catheterization may introduce urethral flora into the bladder and increase the risk of iatrogenic infection.

Appendix 4: Bacteriology Specimen Collection Storage and Transport

Sample	Collection Guidelines	Specimen Container	Transport Time	Special Requirements	Comments
Indwelling Catheter	Disinfect the catheter collection port with 70% alcohol. Clamp catheter below port and allow urine to collect in tubing for 10-20 min Use needle and syringe to aseptically collect 5 to 10 ml of urine. Transfer to a sterile tube or container.	Sterile leakproof container with or without boric acid preservative	≤ 1 h, RT	Transport in specimen bag	Patients with indwelling catheters always have bacteria in their bladders. Do not collect urine from these patients unless they are symptomatic.
Wound	See Abscess				
Specimens for viral culture	Follow the instructions above for the specified site	Viral transport medium	≤ 1 h, RT	Place in fridge at reception, 4ºC	Sample should be refrigerated immediately

Thank You

For using our service