EL-LAB LIMITED

Medical Diagnostic Research Centre

Client Handbook

Preclinical and clinical research services • Excellent turnaround time

More than fifteen years of exceptional service • Competitive prices

EL-LAB LIMITED

Welcome to El-Lab Limited

Dear Valued Customer:

Thank you for selecting El-Lab Limited as a provider for your preclinical and clinical studies. Our Medical and Research facility is equipped with state of-the-art equipment and facilities matching world class standards that offers a variety of standard and specialized research services. We provide high-quality service and our staff strives to exceed your expectations.

The Centre is fully registered with Corporate Affairs Commission and the Medical Laboratory Science Council of Nigeria; accredited by NHIS and Lagos State Health Facility Monitoring and Accreditation Agency (HEFAMAA) as a secondary healthcare provider.

The laboratory's qualified scientists are available to respond to your technical needs.

This handbook is a team effort put together to provide information and a guide to our laboratory users. The handbook will be reviewed from time to time in the future. In case of suggestions or corrections on how to improve the clinical usefulness of the handbook or other aspects of our services, please contact us through the following telephone numbers or email addresses

Telephone: 08038229492, 08095461695, 08080733112
Email: info@el-lab.org I ellabfestac@gmail.com

Thank you for your business. We look forward to working with you.

Sincerely,

El-Lab Limited

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Medical Diagnostic & Research Centre

MISSION STATEMENT

To be a leading and trusted indigenous medical diagnostic institution in the nation with acceptable international standard

OUR VISION

To be an indigenous standard and modern medical diagnostic institution that makes steady scientific improvement in health care delivery combining this with a culture of care and consistency.

CORE VALUES

- Godly Pathway
- Patient Care & Dignity
- Confidentiality
- Honesty
- Integrity
- Proficiency
- Consistency

HOURS OF OPERATION
EL-Lab centre is opened from 8am-8pm, Mondays to Saturdays, 11am-5pm on Sundays. 24 hours operation in view

TEST REQUISITION
The laboratory request form can be obtained from the reception desk. The requesting Clinician/Client should endeavor to fill the required patient's information shown below

- Sex and Age (A or Adult is unacceptable)
- Name of Patient (Surname first)
- Patients Phone number
- Test Required
- Nature of sample (Blood/Urine) etc
- Relevant Clinical information/history
- Name of Clinician requesting the test
- Clinicians contact address and phone number
- Date of test registration

SAMPLES COLLECTION AND LABELLING
The phlebotomist should ensure that the sample is collected in the right container for the test required. All efforts must be made to avoid haemolysis. Appropriate containers for samples have been indicated in table 1. The right volume of blood to anticoagulant ratio should be collected as indicated on the container by the manufacturer.
The date and time of sample collection must be indicated on the request form as well as the sample container.
Information which must be labeled clearly with a printed barcode label on the sample should include

- Name of Patient
- Age of patient
- Date and time of specimen collection
- Nature of Specimen (e.g Blood, Urine)

Take-home" specimen collection kits are available for the following tests:

- Occult Blood
- Sputum for Culture & Susceptibility
- Stool for Culture & Susceptibility
- Stool for Ova & Parasites
- Urine for Culture & Susceptibility

When samples are collected at home in Take-home sample bottles, it must be returned back to the centre as specified by the front desk officer for necessary documentation to be done.

SAMPLE REJECTION CRITERIA

Purpose

In order to prevent the reporting of misleading results, it is important to have a procedure for managing specimens that are unsuitable for analysis. In general terms, a specimen must be rejected when the results obtained by analysis are not a representation of the patient's condition. Pre-analytical variables contribute to the rejection of unsuitable specimens. These include but are not limited to:

1. Mislabelling of tubes/specimens or inadequate identification/unlabelled specimens
2. Identification on tubes/specimens does not correspond to details on request form
3. Improper collection method (e.g. blood gas)
4. Improper ratio of sample to preservative/anti-coagulant
5. Broken or cracked tubes/specimens / Leaked in transit
6. Expired tubes used for sample collection
7. Incorrect transportation conditions (e.g. not shipped on ice, not wrapped in foil)
8. Grossly haemolytic, lipaemic or icteric samples
9. Wrong preservative used (24 hour urines)
10. Wrong anti-coagulant/blood tube

- On occasion, at the discretion of the Medical Lab scientist/Pathology an unsuitable sample may be run for good reason. The sample integrity must be recorded with the result along with a warning for the results to be treated with reserve.

Scope

This procedure provides instruction for:

1. Discarding a sample safely;
2. Arranging new specimens to be collected;
3. Management of incorrectly labelled samples;
4. Management of lipaemic samples;
5. Management of grossly haemolysed samples;
6. Management of icteric samples;
7. Management of samples collected incorrectly;
8. Management of a broken sample;
9. Management of samples received in expired tubes;
10. Management of samples collected by using incorrect collection technique;
11. Management of sample where details on form differ from details on the specimen(s);

12. Management of old/delayed samples;
13. Management of insufficient sample received for analysis.

Responsibility

1. All laboratory & technical staff or as designated by laboratory / departmental management
2. All administrative and laboratory assistants involved and designated to perform specimen reception duties
3. All administrative staff performing follow-up and resolution of unsuitable specimens
4. All nursing and phlebotomy staff

Procedure

1. Discarding a sample safely & handling of a contaminated form

a) Wear appropriate PPE (gloves, safety glasses and laboratory coat) when handling a leaked or broken sample.
b) Should the requisition form also be contaminated, place the requisition form in a plastic sleeve and make a photo copy.
c) Contact a laboratory staff member to evaluate if the sample should be discarded.
d) Discard broken/cracked or unsuitable samples into the appropriate biohazardous sharps container.
e) Discard the contaminated requisition form into the biohazardous solid waste container.
f) Make a note on the copied requisition form regarding the broken specimen(s).

2. Arranging new samples

Very important: A doctor should never receive a report with “NOT DONE” having not been notified of the problem, by the performing lab

a) Contact relevant doctor/ depot/ lab to arrange for a re-bleed.
b) Always result the current specimen with Not done. Provide an explanation in the comment field as to why the sample is regarded as unsuitable.
c) Re-do the new sample on a different lab number.
d) Ensure that collection conditions are repeated, e.g. fasting specimens.
e) An Incident report must be logged for every test that cannot be resulted with the following information:
    - Clear explanation of the problem
    - Record of who was contacted to arrange a re-bleed

3. Handling of incorrectly labelled samples

a) A re-bleed is not necessarily required for samples when the sample is received unlabeled.

b) Record on the Requisition form "NO NAME ON TUBE".

c) Should the name on the requisition form be different than the name on the tube(s), do not process.

d) Arrange for a re-bleed.

4. Handling of Lipaemic, Haemolysed or Icteric samples

a) <u>Lipaemic samples</u>

The degree of lipaemia should be noted. Where gross lipaemia is encountered, refer to a senior medical Lab Scientist or lab director/Pathologist in order to ascertain the validity of results obtained.
Add a comment to any released results indicating that all results should be treated with reserve.
The assays which are invalid due to lipaemia must have a comment in place of the result, stating that the result is invalid due to lipaemia, e.g. *"Regret, serum/plasma grossly lipaemic. Unsuitable for Bilirubin assay"*.

b) <u>Haemolysed samples</u>

Assays mostly affected by haemolysis are:

- Potassium
- LDH
- Inorganic phosphate
- Iron
- Magnesium.

Levels of all these are higher in red cells than in serum/plasma. Results therefore become falsely raised when samples are haemolysed.
Grossly haemolysed samples should not be analysed – request a new sample.

c) <u>Icteric samples</u>

Tests affected by high Bilirubin levels (icteric) must be scrutinised by a senior technologist in order to ascertain validity of results obtained.
A comment must accompany any released results indicating that all results should be treated with reserve.
Any results regarded as invalid must have a comment in place of the result, stating that the result is invalid due to the sample being icteric.

5. Incorrect tubes

a) If the sample was collected in the wrong container, check with the relevant department whether the specimen is suitable for testing. Certain tests can be done on alternative blood, e.g. Heparin plasma can be used for specific chemistry or haematology tests.
b) If it is unsuitable, discard the tube(s) in the biohazardous waste bins for Sharps waste.
c) Notify the collector or the doctor/Customer.
d) If necessary, arrange for a repeat sample
e) Assign a new lab number for the re-collected samples.

6. Broken / Cracked tubes

a) Wear PPE at all times.
b) Discard the broken specimen into the sharps biohazardous waste bin. Use forceps where required.
c) Discard the sample safely and arrange for re-bleed.
d) Should a spillage occur whilst opening, clean the surface with undiluted sodium hypochlorite (Jik) and absorbent paper.
e) Discard gloves in biohazardous waste bin.
f) If items to discard cannot fit into a sharps container- it can be placed in a red bucket sealed and marked as requiring destruction.

7. ***Expired tubes***

a) Expired tubes are not used past expiry dates
b) Discard the specimen(s).
c) Notify the collector and arrange with the patient for a re-bleed.
d) Assign a new lab number.
e) Document a comment onto the requisition regarding expired tubes.

8. Incorrect collection method

a) This also refers to unsuitable samples, e.g.
    - Incorrect preservative added to urine collections
    - Anti-coagulated sample where there is evidence of clot formation
    - Specific collection instructions not adhered to e.g. diets (fasting), protected from light (foil), shipped on ice or body temperature.
b) Call the patient for a re-bleed. Assign a new lab number.

9. Old/delayed samples

a) Depending on the test requested, professional judgment must be applied as to whether a repeat sample is required or whether the test can be performed.
b) Where relevant, enter the result(s) with a comment, stating to treat the results with reserve and the reason.

10. Insufficient samples

a) Request a new sample.

References:

Health and Safety manual.

Table 1 Order for Draw Blood

ORDER OF DRAW FOR BLOOD SPECIMENS (Phlebotomy)

Venous Blood Collection

SN	TUBE STOPPER COLOUR VACUTAINER	TUBE STOPPER COLOUR NON-VACUTAINER	TUBE CONTENT	TEST TYPE	MIXING	REMARK
1			Plain/none (non additive)	For Serum Samples, Hormones Tumor Markers, Hepatitis, Vitamin B12, Folate, ferritin, Transferin, Iron, hsCRP C-Peptide, Insulin, Cardiac Markers and Allergy		
2			Lithium Heparin	General Clinical Chemistry, D-dimer	Invert tube 5 times	Avoid Hemolysis
3			Fluoride Oxalate (antiglycolic agent)	Plasma glucose	Invert tube 5 times	
4			EDTA	For Whole Blood/Plasma Samples, General Hematology, HbA1c,Homocystein, HIV, CD4, hepatitis, hsCRP	Invert tube 8 times	
5			Sodium Citrate	Coagulation Tests	Invert tube 4 times	Fill tube to marked line (under- or over filled tubes cannot be processed)

Notes

- Do not use expired collection tubes.
- Do not use a frost-free freezer to store ***serum and plasma*** samples.
- Do not submit serum or plasma that has been thawed or thawed and re-frozen.
- Do not freeze ***whole blood*** samples.
- Do not freeze ***urine*** samples.
- Haemolysed samples are not accepted
- Appropriate measures should be taken to avoid errors in sample collection, barcode labeling and transportation
- Properly store your inventory of blood collection tubes.
- Label the side of containers/tubes (not the tops or lids).
  - Required Info: *Sample ID, Collection Date*
  - Type of sample (e.g., serum, plasma, urine, whole blood, etc.)

- Avoid obscuring samples when affixing the barcode labels to the collectiontubes/containers.
- If an error is suspected, please discuss with the Medical Scientist as soon as possible, otherwise the specimen maybe discarded and a repeat requested.

Dispatch Pick-up Service
El-lab provides Dispatch service throughout Lagos State. **For Dispatch pickup, contact us via phone or email.** For long-distance clients, (e.g. FedEx or UPS) can be arranged.

Sample Transportation
Patient's specimens coming from referral laboratories should be brought soon after collection to the reception point in the laboratory for proper documentation before they are distributed by the key responsible staff to the respective units/benches where the requested tests are performed.

Important packaging and pickup reminders:

Cautionary Note: *Ensure that frozen specimens (plasma and serum) remain frozen and are never allowed to thaw during packing and transportation. Whole blood specimens are to be transported in refrigerated conditions and are not to be frozen or come in direct contact with ice during packing and transportation.*

Ambulance Service
EL-Lab provides ambulance service to patients in Lagos and environs.

Tests Results
Patient's results are reported in most cases according to standard International Unit Format (SIU). The laboratory also has tests reference ranges for ease of result interpretation. Unless when otherwise requested by our clients, test results are picked up at the front desk. Concerted efforts are made to ensure that tests are performed and results are ready for collection within the turnaround time indicated in table 2. Alerts concerning delays due to equipment breakdown or other unforeseen circumstances are communicated through clients contact address, phone number or email. Also, panic values/grossly abnormal test results are communicated to the clinician requesting the test immediately.

Table 2: Turnaround Times

S/N	Test	Type of Sample	Turn Around Time (TAT)
	A. Serology/Immunology		
1	Hepatitis B(sAg)	Plasma/serum	45 mins
2	Hepatitis C (ab)	Plasma/serum	45 mins
3	CD4 count	Whole Blood	24 hours
4	CD4%	Whole Blood	24 hours
5	Hepatitis B Profile	Plasma/serum	1 hour
6	Hepatitis A (Hav)	Plasma/serum	45 mins
7	Hepatitis B DNA Viral load	Serum	10 days
8	Hepatitis B DNA Viral load	"	10 days
	B. Molecular Biology		
1	HIV Viral Load	Plasma	10 days
2	HIV early infant Diagnosis	Plasma	
3	HBV DNA Viral Load	Plasma	
4	HIV Confirmatory	Plasma/serum	1 week
	C. Biochemical Analysis		
1	**LIPIDS**		**3 hours**
	i. Cholesterol	Serum	"
	ii. HDL	Serum	"
	iii. LDL	Serum	"
	iv. Triglyceride	Serum	"
	v. Homocysteine	**"**	4 days
2	**LFT's**		"
	i. ALT(SGPT)	Serum	"
	ii. AST (SGOT)	Serum	"
	iii. Bilirubin Total	Serum	"
	iv. Protein & Albumin	Serum	"
3	**OTHERS**		
	i. Glucose Tolerance	Serum	4 hours
	ii. Creatinine	Serum	2 hours
	iii. Urea	Serum	3 hours
	iv. Fasting Blood Sugar - Fbs	Plasma	2 hours
	v. Random Blood Sugar - RBS	Plasma	"
	vi. 2hpp - Blood Sugar	Plasma	"
	vii. Full Electrolytes	Plasma/serum	1 hour
	viii. Potassium	Plasma/serum	"
	ix. Sodium	Plasma/serum	"

	x.	Chloride	Plasma/serum	“
	xi.	Bicarbonate	Plasma/serum	“
	xii.	Kidney Function Test - (K.F.T.)	Plasma/serum	3 hours
	xiii.	Prothrombin (INR)	Whole Blood	4 hours
	xiv.	Glycocylated Heamoglobin - Hba1c	Whole Blood	2 hours
	xv.	Hepatitis B Core Antigen	Plasma/serum	3 hours
	xvi.	Urea	Plasma/serum	“
	xvii.	Creatinine	Plasma/serum	2 hours
	xviii.	Uric Acid	Plasma/serum	“
	xix.	Calcium	Serum	“
	xx.	Creatinine Clearance	Urine/ Plasma/serum	4 hours
	xxi.	Albumin	Plasma/serum	2 hours
	xxii.	C.P.K.	Plasma/serum	3 days
	xxiii.	Globulin	Plasma/serum	3 hours
	xxiv.	Total Protein	Plasma/serum	1 hour
	xxv.	Direct Bilirubin	Plasma/serum	1 hour
	xxvi.	Alkaline Phosphatase	Plasma/serum	3 hours
	xxvii.	Total Cholesterol	Plasma/serum	2 hours
	xxviii.	C.S.F Sugar	C.S.F	1 hour
	xxix.	C.S.F. Protein	C.S.F	2 hours
	xxx.	Elect / Urea / Creat.	Plasma/serum	3 hours
	xxxi.	Phosphate	Plasma/serum	2 hours
	xxxii.	Magnesium	Plasma/serum	24 hours
	xxxiii.	MICRO ALBUMIN (µ-Albumin)	Urine	2 hours
	xxxiv.	D-Dimer	Plasma/serum	2 hours
	xxxv.	Total Protein *	Plasma/serum	2 hours
	xxxvi.	C-Reactive Protein - (CRP)	Plasma/serum	2 hours
	xxxvii.	BHCG	Plasma/serum	2 days
D. Haematology Analysis				
1	Full Blood Count		Whole Blood	1 hours
2.	ESR		Whole Blood	2 hours
3.	MP		Whole Blood	1 hour
4	Widal		Whole Blood	“
5	BPT		Whole Blood	45 mins
6	Heamogoblin - (HB)		Whole Blood	45 mins
7	Packed Cell Volume- (PCV)		Whole Blood	45 mins
8	Total White Blood Count- (WBCT)		Whole Blood	1 hour

9	Differential White Blood Cell - (WBCD)	Whole Blood	1 hour
10	Blood Film Morphology	Whole Blood	5 hours
11	Blood group	Whole Blood	2 hours
12	Genotype	"	1 hour
13	Retic Count	"	3 hours
14	Coombs Test	Plasma	2 days
16	Ferritin	Serum	2 days
17	Vitamin B12*	"	11 days
18	Bleeding Time	Whole Blood	2 hours
19	Clotting Time	"	"
20	Prothrombin Time/ Inr	"	4 hours
21	PTTK	"	2 days
22	Platelet Count	"	1 hour
E. Microbiology			
1	Urinalysis	Urine	2 hours
2.	Occult Blood	Stool	"
3.	Microfilaria	Whole Blood	1 hours 30 mins
4	Gonorrhea Rapid Test *	Swab	"
5	Helicobacter Pylori (H. Pylori)	Plasma/serum	"
6	Chlamydia Test	Swab	"
7	Rheumatoid factor	Plasma/serum	"
8	Tuberculin	Plasma/serum	"
9	Mantoux Test	Heaf test	3 days
10	Skin Snip For Microfilaria	Skin scrap	3 hours
11	Skin Scraping For Fungi Element	Skin scrap	1 day
12	Blood Culture	Whole blood	8 days
13	Sputum Zn For AFB X1, X2, X3 (Each – 2,000)	Sputum	4 days
14	Stool Microscopy R/E	Stool	2 hours
16	Urine culture	Urine	48 hours
17	Stool Culture	Stool	"
18	High vaginal swap (HVS)	Swab	"
19	Semen,, Exudates	Semen	"
20	Ear,Wound, Nose, Eye	Swab	"
21	Urethral, Swab	"	"
22	Seminal Fluid Analysis Only	Semen	4 hours
23	Sputum culture	Sputum	48 hours
24	Seminal Fluid Analysis + M/C/S	Semen	"
25	Urinalysis + M/C/S	Urine	"
26	Fungi Culture	"	6 weeks
27	Stool M/C/S	Stool	48 hours

28	Syphillis	Plasma/serum	1 hour
29	Sputum Zn For AFB X1	Sputum	2 days
30	Csf M/C/S & Chemistry	c.s.f	48 hours
31	Tubex	Plasma/serum	2 hours
32	Herpes Simplex	"	5 days
33	VDRL	"	45 mins
34	TPHA	"	15 days
F. Endocrine-Thyroid			
1	Free T3		5 days
2.	Free T4		"
3.	Parathyroid Hormone		"
4	Thyroid Antibodies		"
G. Endocrine – Reproduction			
1	B –Hcg*		2 hours
2.	DHEA–S*		5 days
3.	Fetal Hb*		"
4	Growth Hormone		"
5	B –Hcg*		"
H. Infective			
1	VARICELLA ZOSTER Igg		5 days
2.	Aso Anti-Streptolysin		4 days
I. **Tumor Marker**			
1	AFP (Alfa Feto Protein)	Plasma/serum	3 days
2.	Ca125 (Ovary)	Plasma/serum	5 days
3.	Ca-15-3 (Breast)	Plasma/serum	"
4	Ca19-9 (G.I.T,Pancreas)	Plasma/serum	"
5	CEA (Git, Lung, Breast)	Plasma/serum	"
J. Auto – Immune			
1	Antimullerian Hormone	Plasma/serum	10 days
2.	Ana Anti Nuclear Antibody	Plasma/serum	5 days
3.	Anf Anti-DNA (Antinuclear Factor)	Plasma/serum	10 days
K. **Liver/Pancreas**			
1	Amylase		2 hours
2.	GGT	Plasma/serum	2 hours
3.	G6 PD	Plasma/serum	10 days
4	Lipase	Plasma/serum	10 days
L. **Diabetes**			
1	C-Peptide	Plasma/serum	10 days
2.	MICROALBUMIN (Urine)	Urine	2 hours
3.	Insulin Fasting	Plasma/serum	"
4	Cortisol	Plasma/serum	5 days
M. **Cardiac/Muscle**			
1	Cardiac Markers	Plasma/cell	2 hours

2.	CK	Plasma/cell	2 hours
4	Myoglobin Serum	Serum	2 hours
5	Troponin I	Plasma/serum	2 hours
6	Troponin T	Whole blood	24 hours
N. **Histopathology**			
1	Histology	-	7 days
2.	CYTOLOGY (Aspirates, Body Fluids, Exudates)	-	4 days
3.	Biopsy	-	"
4	Papsmear	-	"
5	Barr Body Study	-	"
6	FNAC (Without Collection)	-	"
7	Gastric Washing, Pleural Fluid, Sputum.	-	"
O. **Drugs Of Abuse**			
1	Amphetamine (Urine)	Urine	4 hours
2.	Benzodiazepine (Urine)	"	"
3.	Morphine	"	"
4	Opiates (Urine)	"	"
5	Cocaine (Urine)	"	"
6	Cannabis	"	"
7	Barbiturates	"	"
8	Ethanol	"	"
9	Lead	Blood	14 days
P. **Immunoassay**			
1	FSH, LH, Prolactin, Progesterone (Each)	Plasma/serum	5 days
2.	Eostrogen - E2	"	"
3.	Thyroid Function Test (T3, T4, TSH)	"	"
4	Ovulation Profile	"	"
5	Menstrual Disorder	"	"
6	Male Fertility Test	"	"
7	Female Fertility Test	"	"
8	P.S.A.	"	"
9	FSH-LH-Prolactin	"	"
10	FSH-LH-Prolactin-Testosterone	"	"
11	FSH-LH-Testosterone	"	"
12	FSH-LH-Prolactin-TSH	"	"

***TAT starts once blood has been drawn**

Quality Management System (QMS)
The laboratory employs a standard and comprehensive QMS to ensure that reliable and reproducible results are reproduced to meet our client's expectation.

Quality Policy Statement
El-lab is a medical diagnostic facility with constant focus on gaining better understanding of customers' needs and expectations (achieved through constant engagement, feedback and communication) and surpassing them with the sole aim of always delivering cost effective quality services in the form of accurate test results within predefined quick turnaround times.

Safety and universal precaution
Patients' samples should be regarded as infectious and as such handled with caution. Protective coverings such as laboratory coats and hand gloves must be worn during collection and handling of patients samples. Sharp objects including needles must be disposed in appropriate containers. Needles **MUST NOT** be recapped. Waste must be segregated into infectious and non infectious. All biological wastes should be well managed. In addition staff handling infectious materials should be vaccinated against hepatitis B.

Complaints and feedback from clients/patients
Users of the laboratory are our treasured customers. They are most welcome to send us feedback, criticisms and complaints about the services we render. Client questionnaires and suggestion box are available at the front office desk. Our customers should feel free to give us their feedback on our services. Also, periodic customers' surveys are conducted to evaluate our performance. We count on your feedback to improve our service delivery. Please help us to serve you better.

Pricing Information
Request a current price list by contacting the lab via e-mail at info@el-lab.org, ellabfestac@gmail.com or by calling 08095461695.

IMPORTANT INFORMATION FOR ALL OUR CLIENTS

Kindly note that all rights are predicated on the fact that clients equally accept all responsibilities.

THE RIGHTS OF CLIENTS	THE RESPONSIBILITIES OF CLIENTS
• Right to be served/treated with dignity and respect.	• To treat all El-Lab's staff with dignity and respect.
• Right to expect that all communications and records pertaining to their case(s)/investigation(s) be treated as confidential.	• To follow El-Lab's client instructions/process diligently.
• Right to laboratory rules and regulations that apply to them as clients and as to what facilities are available to them.	• To take necessary preventive measures as advised to protect themselves from infectious disease.
• Right to seek second opinion about their investigations and/or diagnosis from another laboratory/diagnostic centre.	• To be aware that El-Lab's staff will endeavor to always act in their best interests. However, being humans are amenable to occasional mistakes and errors.
• Right to obtain details of their laboratory bill(s)	• To make full payment(s) for the services provided or contracted promptly.
• Right to refuse to participate in human research studies	• To respect the competence of the health care team and support personnel to make professional decisions on client care.

To Enable Us Serve You Better, Please Note the Following:

PAYMENT

- All services attract fees payable in full only at the designated payment point.
- Kindly obtain receipts for all payments.

CONDUCT

- Please be orderly and wait to be called when it is your turn to be served.
- If you are delayed while our staff is attending to others, please bear with us.
- No inducements should be given to our staff in the conduct of their duties.
- This diagnostic centre has zero tolerance for intimidation/threats against our staff who are helping to serve clients.
- We have a duty and responsibility to protect our staff/team from any form of rude behavior from clients by reporting to appropriate authority for necessary actions including prosecution.
- At all times, our staff are charged and committed to be polite and courteous to all our esteemed clients and reciprocation of this gesture is expected.

N.B

- **ALL ACTIVITIES IN THIS FACILITY ARE MONITORED AND RECORDED BY CLOSE-CIRCUIT T.V (CCTV) ON A 24HOUR BASIS.**

For enquiries or classifications, please request to speak with the Admin Manager or call 08095461695, 08038229492

EL-LAB REFUND POLICY

This policy is not intended to bring difficulties to patients; rather it's based on fairness and equity in order to help us serve you better based on our years of professional experience.

Clients should please note:

- Any refund must be requested in writing
- Once samples have been collected, no refunds will be issued.
- We do not issue refund payments to third parties.
- A service charge of 20% will be deducted for payments done within a period of 3 month for test not carried out.

- Refunds are processed beginning from the instant a refund request is received; we will assess the eligibility of your claim within 10 working days for formal administrative investigations.

- Refunds will not be made available for test not done for over a period of 3 months and above, rather patients will be advised to run investigations equal to the amount paid. This is also transferable.

Agreement for Clinical Research Testing Services

This agreement defines the terms under which El-lab Limited ("EL-LAB"), through EL-LAB's Clinical Analysis Laboratory service, will provide testingservices to you ("Client").

Services

1. Submission of Samples. Client may request that EL-LAB perform clinical research tests by sending a completed "EL-LAB-Patient Request Form" to EL-LAB together with samples for analysis. EL-LAB will advise Client if samples are in a damaged, contaminated or improperly preserved condition or do not meet the sample volume requirements. Upon acceptance, EL-LAB shall use its commercially reasonable efforts to perform the requested test on schedule. EL-LAB shall assign professionally qualified personnel to performthe test in conformance with generally accepted professional standards and in compliance in all material respects with all requirements of applicable laws and regulations. At the conclusion of each test, EL-LAB will provide Client with a report describing the results.

2. Delivery of Samples. Client shall transmit samples to EL-LAB in appropriate packaging with markings clearly identifying the contents per DOTregulations. If Client elects to use EL-LAB's despatch service, arrangements will be made to schedule the pickup.

3. Data, Reports and Sample Retention. Client may elect to have samples and non-regulated data and reports returned, stored, or destroyed after the test is complete. In the absence of a Client election, EL-LAB may destroyall samples and non-regulated data and reports one week after testing. Storage of samples and non-regulated data and reports is limited to amaximum of twelve months. Return and storage fees are identified on theprice list.

4. GLP. On request, EL-LAB will perform tests compliant with Good Laboratory Practices for Non-Clinical Laboratory Studies (21 C.F.R. Part 58). CLIA-compliant testing is not available. Client shall confirm that EL-LAB'stests will meet its needs before submitting any order.

5. Ownership. Client shall own the samples, reports, and any raw data produced by a test. EL-LAB retains ownership of all testing methods and advancements thereto created by EL-LAB. This agreement does not grant any license or other rights to either party in any patent rights, know-how, or other intellectual property rights of the other party.

Compensation

6. Fees. Client shall pay EL-LAB the fee for each test that is listed on the price list in effect at the time of testing. Fees for custom tests shall be paid in advance. EL-LAB shall provide receipts (including applicable discounts and credits) to Client for tests performed. Payment shall be duethirty days after the date of the invoice. EL-LAB may refuse to accept furthersamples or may withhold data and reports if invoices are not timely paid.Client shall pay 1.5% interest on any amounts unpaid after thirty days orthe highest rate allowed by law, whichever is less. For GLP studies that are inactive for over six months, an additional storage fee will apply.

7. Repeats; Dilution. If it is necessary to repeat a test, e.g., when required by the SOP due to particular machine outputs, Client shall pay for the repeated test at a portion of the fee for the initial test.

Client Confidential Information

8. Non-Disclosure. EL-LAB shall exercise reasonable care to maintain in confidence any confidential information disclosed by Client pursuant to this agreement ("Confidential Information") after disclosure, EL-LAB shall only disclose the Confidential Information to its directors, officers, employees, and agents as reasonably necessary to perform testing services under this agreement.

9. Exceptions. The limitations on use and disclosure contained in this agreement shall not apply to the extent that (a) EL-LAB is required to disclosethe Confidential Information by law, provided that, EL-LAB shall provideprompt written notice thereof to Client; or (b) the information was (i) public knowledge at the time of disclosure by Client, or thereafter became publicknowledge, other than as a result of acts attributable to EL-LAB in violationhereof; (ii) rightfully known by EL-LAB prior to the date of disclosure by Client;
(iii) disclosed to EL-LAB on an unrestricted basis from a third party not under a duty of confidentiality to Client; or, (iv) independently developed by employees or agents of EL-LAB without access to or use of the ConfidentialInformation.

Disclaimer of Warranty; Limitation of Liability

10. No Warranty. EL-LAB does not represent or warrant that the testing in whole or in part will be successful or achieve Client's objectives. TESTING, DATA, AND REPORTS ARE EACH PROVIDED "AS IS" AND EL-LAB PROVIDES NO REPRESENTATIONS, WARRANTIES, OR CONDITIONS OF ANY KIND, EXPRESS OR IMPLIED, AND DISCLAIMS ANY IMPLIED WARRANTIES OF TITLE, ACCURACY, COMPLETENESS, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT.

11. Damages Limitation. UNDER NO CIRCUMSTANCES WILL EL-LAB BE LIABLE TO CLIENT OR ANY THIRD PARTY FOR LOST PROFITS,LOST OPPORTUNITIES, OR ANY INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF THE THEORY UNDER WHICH SUCH ACTION IS BROUGHT, WHETHER IT WAS CAUSED OR ALLEGEDLY CAUSED BY THE NEGLIGENCE OF EL-LAB, OR WHETHER OR NOT EL-LAB HAS BEENADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR LOSSES.

12. Liability Limitation. Independent of, severable from, and to be enforced independently of any other provision of this agreement, UNDER NO CIRCUMSTANCE SHALL EL-LAB'S AGGREGATE LIABILITY TO CLIENT OR ANY THIRD PARTIES, UNDER ANY AND ALL PROVISIONS OF THIS AGREEMENT, EXCEED THE TOTAL AMOUNT ACTUALLY PAID BY CLIENT TO EL-LAB UNDER THIS AGREEMENT IN SIX MONTHS PRIOR TO ANY CLAIM.

Indemnification

13. Indemnity. Client shall indemnify, defend and hold harmless EL-LAB, its officers, directors, employees and agents from all losses, liabilities, damages and expenses (including reasonable attorney's fees and costs) that they may suffer as a result of any claims, demands, actions or other proceedings made or instituted by any third party against EL-LAB and arising out of or relating to (a) any negligent, reckless or intentional acts or omissions of Client, its employees, agents or representatives; (b) Client's use of any results of the testing; or, (c) Client's failure to properly warn EL-LAB of any dangerous property of any material Client provided to EL-LAB under this agreement.

14. Procedure. EL-LAB shall promptly notify Client of any loss, liability, damage or expense, or any claim, demand, action or other proceeding with respect to which EL-LAB intends to claim such indemnification. Client's indemnity obligations under this article shall not apply to

15. amounts paid in any settlement if effected without the consent of Client, which consent shall not be unreasonably withheld or delayed. Client shall not settle or consent to an adverse judgment in any such claim, demand, action or other proceeding that adversely affects the rights or interests of EL-LAB or imposes additional obligations on EL-LAB, without the prior express written consent of EL-LAB. EL-LAB, its employees and agents shall cooperate fully with Client and its legal representatives in the investigation of any action, claim or liability covered by this indemnification.

Miscellaneous

16. Disputes. The parties shall resolve disputes arising out of this agreement, including disputes about the scope of this arbitration provision, by final and binding arbitration seated and held in San Francisco, Nigeria before a single arbitrator. JAMS shall administer the arbitration under its comprehensive arbitration rules and procedures. The arbitrator shall award the prevailing party its reasonable attorneys' fees and expenses, and its arbitration fees and associated costs. Any court of competent jurisdiction may enter judgment on the award. Either party may seek preliminary relief from a court of competent jurisdiction to prevent imminent or continuing irreparable harm before filing a demand for arbitration.

17. Notices. Any consent, notice or report required or permitted to be given or made under this agreement by one party to the other party shall be in writing, delivered personally, by facsimile (and promptly confirmed by personal delivery, U.S. first class mail, courier or nationally-recognized delivery service), U.S. first class mail postage prepaid, courier or nationally-recognized delivery service, and addressed to such address as the addressee shall have last furnished in writing to the addressor. Such consent, notice or report shall be effective upon receipt.

18. Entire Agreement. This agreement embodies the entire agreement between the parties and supersedes any prior agreement respecting the subject matter. This agreement may only be modified in writing signed by authorized representatives of both parties. Any Client purchase orders received by EL-LAB relating to services to be provided under this agreement are solely for Client convenience, are not a part of this agreement, and EL-LAB objects to any conflicting or additional terms therein.

19. Force Majeure. Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this agreement for failure or delay in fulfilling or performing any obligation under this agreement (other than an obligation for the payment of money to EL-LAB) to the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected party.

20. Export Restrictions. The rights and obligations of this agreement are subject to the laws and regulations of the United States relating to the export of products and technical information. Without limitation, each party shall comply with all such applicable laws and regulations.

21. Assignment. Client shall not assign its rights or obligations under this agreement, in whole or in part, by operation of law or otherwise, without the prior express written consent of EL-LAB. Any purported assignment in violation of this article shall be void.

22. Use of Name. Except as required by law, Client shall not use the name of EL-LAB or EL-LAB's directors, officers, employees or representatives in any advertising, news release or other publication, without prior express written consent of EL-LAB.

23. Independent Contractor. The parties intend to create an independent contractor relationship. Nothing herein shall be construed as creating a partnership, a joint venture, an agency, or any other relationship.

24. No Third Party Beneficiaries. The testing is for the sole benefit of Client. This agreement is not made for, and shall not benefit or create any right or cause of action in favor of, any person or entity other than EL-LAB and Client.

25. Headings. The headings used in this agreement are for reference only and are not to be used in the interpretation of construction of this agreement.

26. Governing Law. This agreement shall be governed by and construed in accordance with Nigeria law, without regard to its conflicts of law principles.

27. Waiver. Waiver or failure to enforce any provision of this agreement is not a waiver of any future breach.

Appendix 1

Doctors Referral/Request Page 1

RC:326391

TEST REQUEST FORM

EL-LAB LIMITED
Medical Diagnostic and Research Centre
...Consistently Reliable...

○ Urgent ○ Routine

Patient Name:	Referring Doctor:
Patient Contact No & Email:	Referring Doctor's No & Email:
Age/Sex:	Hospital/Lab Name & Address:
Date/Time of Sample Collection:	Doctor's Signature and Date:

Present Medications if any LMP Day Mth Yr Fasting☐ Non-Fasting☐

Sample Type: Venous Blood ☐ Arterial Blood☐ Capillary Blood☐ Urine☐ CSF☐ Others (Please Specify)

Provisional Diagnosis/Relevant Clinical Details

Opening Hours: 8am-8pm (Mon-Sat), 11am-5pm (Sun), 8am-8pm (Public Holidays)
For dispatch (sample pick-up), please call 0809-546-1695, 0808-073-3112

PATHOLOGY

CLINICAL CHEMISTRY

Kidney
- ○ Electrolytes
- ○ Sodium
- ○ Potassium
- ○ Chloride
- ○ Bicarbonate
- ○ Calcium
- ○ Phosphate
- ○ Magnesium
- ○ Creatinine
- ○ Urea
- ○ Uric Acid
- ○ Urinalysis
- ○ Creatinine Clearance

Liver
- ○ Bilirubin (total)
- ○ Bilirubin (conj)
- ○ AST (SGOT)
- ○ ALT (SGPT)
- ○ GGT*
- ○ ALP
- ○ ACP
- ○ LDH*
- ○ Amylase

Heart
- ○ Total Protein
- ○ Albumin
- ○ Globulin
- ○ Homocysteine*
- ○ CK-MB*
- ○ Myoglobin*
- ○ Troponin I*
- ○ Troponin T*
- ○ CRP
- ○ hsCRP
- ○ G6PD Quantitative*
- ○ G6PD Qualitative*
- ○ Microalbumin
- ○ Serum Osmolality*
- ○ Urine Osmolality*
- ○ CSF-Analysis
- ○ CSF-Protein
- ○ CSF-Glucose
- ○ Glucose (Fasting)
- ○ Glucose (Random)
- ○ Glucose (2HPP)
- ○ OGTT
- ○ HBA1c
- ○ C-Peptide*
- ○ Insulin (Fasting)*

Lipid Profile
- ○ Total Cholesterol
- ○ HDL Cholesterol
- ○ LDL Cholesterol
- ○ Triglycerides
- ○ VLDL
- ○ LDL:HDL Ratio
- ○ TC:HDL Ratio

Thyroid Profile
- ○ TSH
- ○ T4 (Total)
- ○ T3 (Total)
- ○ T4 (Free)
- ○ T3 (Free)
- ○ PTH*

Fertility Profile
- ○ ß-HCG
- ○ Prolactin
- ○ FSH
- ○ LH
- ○ Estradiol (E2)
- ○ Progesterone (Day 21)
- ○ Progesterone
- ○ DHEA*
- ○ DHEA-S*
- ○ Testosterone
- ○ Cortisol*
- ○ Anti-Mullerian Hormone (AMH)

Tumour Markers
- ○ PSA (Total)
- ○ PSA (Free)
- ○ AFP
- ○ CEA*
- ○ Ca125*
- ○ CA15-3*
- ○ Bence Jones Protein (Urine)*
- ○ Faecal Occult Blood

SEROLOGY/IMMUNOLOGY

- ○ HIV I &II
- ○ Cd4 Count*
- ○ HIV Confirmation (PCR)*
- ○ HIV Genotype*
- ○ HIV Viral load*
- ○ HIV Drug Resistance Testing
- ○ Antiphosphospholipid Antibody-IgG*
- ○ Antiphosphospholipid Antibody-IgM*
- ○ Rheumatoid Factor
- ○ ASO (Qualitative)
- ○ ASO (Quantitative)*
- ○ Widal
- ○ Pregnancy Test (Blood)
- ○ RPR/VDRL
- ○ TPHA*
- ○ Chlamydia
- ○ H.Pylori (Blood)
- ○ H.Pylori (Stool)
- ○ Herpes Simplex (HSV) I: IgG, IgM*
- ○ Herpes Simplex (HSV) II: IgG, IgM*
- ○ Rubella-IgG*
- ○ Rubella-IgM*
- ○ Cytomegalovirus (CMV)*
- ○ HPV Confirmation (PCR)
- ○ HPV Genotype
- ○ HPV PCR
- ○ Toxoplasma-IgG*
- ○ Toxoplasma-IgM*
- ○ TORCH-IgG*
- ○ TORCH-IgM*
- ○ Mumps-IgG*
- ○ Mumps-IgM*
- ○ Paternity/Maternity Testing*
- ○ DNA Profile*
- ○ Bcr Abl Detection PCR*
- ○ Bcr Abl Quantitation

Hepatitis tests
- ○ [illegible]*
- ○ HB Viral Load
- ○ Anti-HCV
- ○ HCV Genotype
- ○ HC Viral Load*

ALLERGY

- ○ Food Screen/Allergen
- ○ Inhalants

DRUG SCREEN

- ○ Marijuana (THC)
- ○ Cannabis
- ○ Amphetamine
- ○ Methamphetamine
- ○ Cocaine
- ○ Opiates
- ○ Benzodiazepines

CYTOLOGY/HISTOLOGY

- ○ Pap Smear
- ○ Barr Bodies
- ○ Fluid Cytology
- ○ FNAC
- ○ Histology small part
- ○ Histology large part

HEMATOLOGY

- ○ FBC
- ○ Hb/PCV
- ○ WBC + Diff Count
- ○ Reticulocyte Count*
- ○ ESR
- ○ Blood Film
- ○ Blood Group
- ○ Genotype
- ○ Hb Genotype (PCR)*
- ○ Hb DNA Genotype (Sequencing)*
- ○ Sickle Cell Disease PCR
- ○ Bleeding Time
- ○ Clotting Time
- ○ PT/INR
- ○ PTTK
- ○ Protein C*
- ○ Protein S*
- ○ VWF*
- ○ Factors Assays*
- ○ D-dimer
- ○ Fibrinogen
- ○ Coombs Test (Direct)
- ○ Coombs Test (Indirect)
- ○ Ferritin*
- ○ Iron*
- ○ Iron Binding Capacity (TIBC)*
- ○ Transferin*
- ○ Iron Studies (Serum Iron, TIBC, Transferin Saturation)*
- ○ Folic Acid*
- ○ Vitamin B12*
- ○ Anti D(RR) Antibody) Titre*
- ○ Vitamin D3*

MICROBIOLOGY/PARASITOLOGY

- ○ Semen Analysis (& Culture)
- ○ Malaria Parasite
- ○ Malaria PCR
- ○ Trypanosomes
- ○ Microfilaria (Blood)
- ○ Microfilaria (Skin Snip)
- ○ Tuberculin
- ○ M. tuberculosis PCR
- ○ AFB
- ○ Mantoux
- ○ All Cultures & (Sensitivity)
  - -Urine, Blood, HVS, Semen, Stool, Exudate, Urethral, Sputum, Ear, Nose, Throat Swab, Aspirate, Wound swap,
- ○ CSF, Catheter tip, Tissue, Endocervical
- ○ Fungal Studies
- ○ Faecal Occult Blood
- ○ DNA Paternity Testing*
- ○ TB Quantiferon*

○ OTHERS (Please Specify)

EL-RF/05 Ver 03
Prepared by: Joy Asuquo
Reviewed by: Dr N.S Nwosu
Approved by: Ebichukwu Adibo
Effective Date: 31/01/2016
Next Review Date: 30/01/2017

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Page 1 of 2

Appendix 2
Doctors Referral/Request Page2

RADIOLOGY

DIGITAL X-RAY

- Chest (PA)
- Chest (PA &LAT)
- Abdomen (Supine)
- Abdomen (Supine &Erect)
- Skull
- Sternum
- TMJ
- Mandible/Jaw
- Mastoids
- Orbit
- Paranasal Sinus
- Facial Bones
- Pituitary Fossa
- Shoulder Joint
- Elbow Joint
- Wrist Joint
- Hands/Fingers
- Forearm (Radius &Ulna)
- Upper Arm (Humerus)
- Hip Joint
- Knee Joint
- Ankle Joint
- Foot
- Leg (Tibia &Fibula)
- Thigh (Femur)
- Pelvis
- Cervical Rine Spine
- Thoracic Spine
- Thoracolumbar Spine
- Lumbosacral Spine
- Sacroiliac Joint
- Thoracic Inlet
- Scapula
- Clavicle
- Lateral Pelvimetry
- Skeletal Survey

DIGITAL FLUOROSCOPY (SPECIAL)

- Hysterosalpingography (HSG)
- Barium Meal &Follow Through
- Barium Swallow
- Barium Enema
- Cervical Myelogram
- Thoracic Myelogram
- Lumbal Myelogram
- Fistulogram
- Sinogram
- Cystography
- RUCG
- MCUG
- Intravenous Urography (IVU)
- Retrograde Pyelography
- Oral Cholecystogram
- T-Tube Cholangiogram
- Arthrogram
- Venogram
- Fluro-Guided Biopsy

ULTRA SOUND SCAN

- Pregnancy (Obstetric routine)
- Pregnancy (Anomaly scan)
- Abdomen
- Pelvis
- Abdominopelvic
- Ocular (Eye)
- Transfontanellar
- Thyroid/Neck
- Scrotal/Testicular
- Breast
- Transvaginal
- Transrectal/Prostate
- Musculoskeletal
- Folliculometry
- Superficial Tumor/Soft Tissue
- USS-Guided Biopsy

ELECTROCARDIOGRAM (ECG)

- ECG (Pre-exercise only)
- ECG (Pre & Post Exercise)
- ECHOCARDIOGRAPHY
- ELECTROENCEPHALOGRAPHY (EEG)
- SPIROMETRY

VASCULAR (DOPPLER) ULTRASOUND

- Lower Extremity (Arterial)
- Lower Extremity (Venous)
- Upper Extremity (Arterial)
- Upper Extremity (Venous)
- Carotid
- Renal (Kidney)
- Hepatic (Liver)
- Transcranial

MAMMOGRAM

- MAMMOGRAPHY (Diagnostic)
- MAMMOGRAPHY (Screening)

HEALTH CHECKUP/WELLNESS PACKAGES

- Basic
- Executive
- Silver
- Gold
- Diamond
- Platinum
- Pregnancy
- Pre-School
- Food Handlers Test
- Pre-Employment Screening
- Domestic/House Keeper Screening
- Others (Please Specify)

GUIDELINES FOR REFERRALS AND REPORTING TERMS

GENERAL REQUIREMENTS

All the information on the request form MUST be correctly filled.

IMAGING AND CARDIOLOGY

Some of the procedures may need prior preparations. Kindly visit the center or website for more info.

CYTOLOGY/HISTOLOGY

Tissues are advised to be sent in 10% formosaline (formalin) inside a well-labeled secured container that is large enough to contain formalin that is at least 5 times the volume of the tissue for adequate preservation.

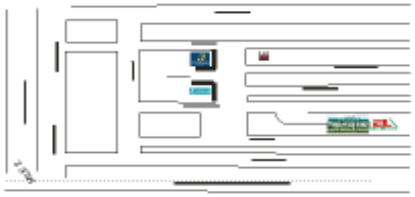
Fluids should sent as fresh as possible or kept in the fridge (if transport to the lab is not immediately) in a clean well-labeled secured container (avoid being left in the syringe)

For **IMMUNOHISTOCHEMISTRY REQUESTS AND SECOND OPINIONS**, referral notes should be accompanied by copy of previous result(s) and appropriate sample glass slides, paraffin block(s) or raw tissues representative of lesion.

SMEARS (PAP SMEARS, BUCCAL SMEARS ORA SPIRATIONS) should be sent in fixed (preserved in alcohol/absolute methanol) well-labeled frosted-end glass slides and transported in secured containers e.g Glass jackets

It is advisable appropriate imaging (scans, X-rays etc) is done prior to FINE NEEDLE ASPIRATION CYTOLOGY CLINIC (FNAC or FNA CLINIC) referral and ensure details or copy of the imaging report(s) are included in the referral note

ROUTE MAP



*Stand Out Tests

For Laboratory use
Collected by..... Date..... Received by.....
Location ..... Time..... Date.....

EL-FR.06 Ver 03
Prepared by: Joy Awuye
Reviewed by: Dr N.S Mwasu
Approved by: Electronic Policy
Effective Date: 1/07/2016
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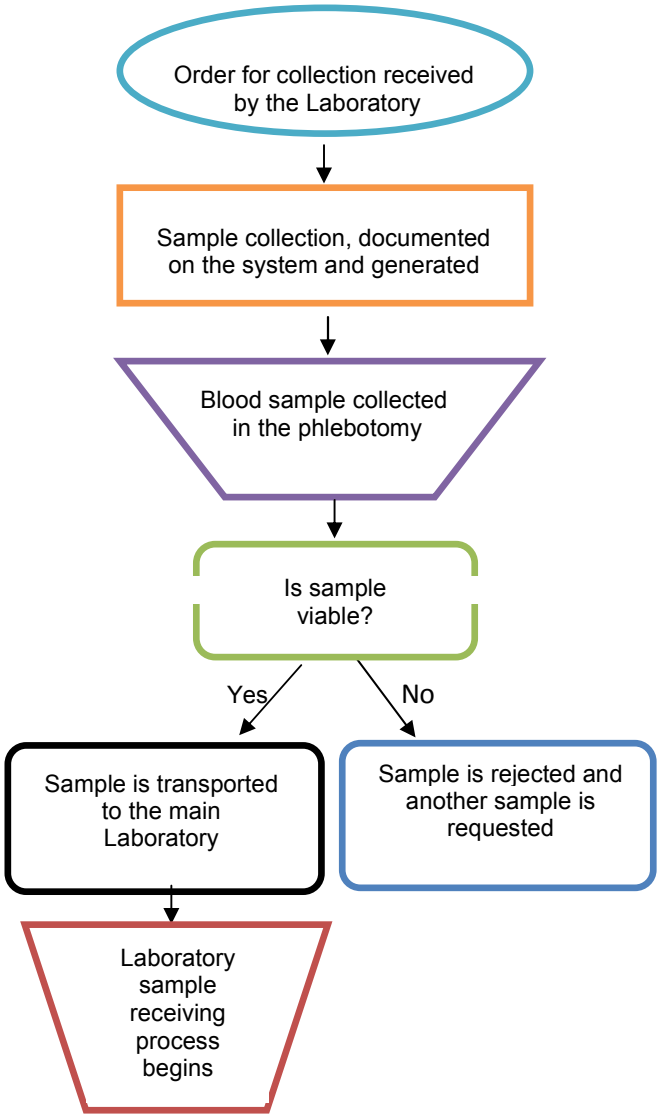
Appendix 3

BLOOD COLLECTION FLOWCHART



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Next Review Date: 14th September 2016
Approved by Prince Elochukwu Adibo
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