HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER MATERNITY AND CHILDREN HOSPITAL

Department:	Laboratory and Blood Bank		
Document:	Multidisciplinary Policy and Procedure		
Title:	Turn Around Time (TAT) for Routine and STAT Tests		
Applies To:	All Laboratory Staff, Blood Bank Staff and Nursing Staff		
Preparation Date:	January 05, 2025	**Index No:**	LB-MPP-148
Approval Date:	January 20, 2025	**Version :**	2
Effective Date:	February 20, 2025	**Replacement No.:**	LB-MPP-148(1)
Review Date:	February 20, 2028	**No. of Pages:**	11

1. PURPOSE:

1.1 To establish a uniform TAT policy and procedure for all tests to facilitate efficient processing and analysis of samples from hospital departments.

2. DEFINITIONS:

2.1 The Turn Around Time: is the time between sample collections to result releasing.

3. POLICY:

3.1 Laboratory will take the necessary steps to ensure immediate and expeditious performance of tests requested as STAT by a physician, or designee, when results are required for the immediate diagnosis and treatment of a seriously ill patient. And will ensure that all tests results (either routine or STAT) are within its designated TAT.

4. PROCEDURE:

4.1 **STAT Test Orders:**

4.1.1 All STAT tests must be ordered by a physician or authorized designee. The ordering physician must be identified in the laboratory CAREWARE system or in the request form.

4.1.2 Requests for STAT tests shall be limited to those cases where the patient requires immediate care. Inappropriate use of STAT order will result in an increase of TAT for both STAT and routine tests. All the STAT requests must be marked as STAT/ or urgent.

4.1.3 STAT samples shall be collected, labelled and delivered to the Laboratory immediately.

4.1.4

4.1.5 The laboratory sections shall implement the procedures necessary to comply with TAT by strict measures.

4.1.6 STAT results will not be conveyed by phone unless the results are in the critical range, as defined, or specifically requested. The ordering physician's mobile number or the inpatient nursing unit telephone extension number must be noted to facilitate the immediate call back of results.

4.1.7 All samples received from Emergency Department departments will be treated as STAT. Requests from other departments will be managed as routine unless they are marked/labelled as STAT/ urgent.

Approved STAT Tests/Services and TAT

TEST/SERVICE	TURN AROUND TIME (TAT)
Blood Bank	
Blood Grouping and Rh Typing	30 minutes
Reverse Blood Grouping	30 minutes
Antibody Screening	2 hours
Blood Group and Cross matching	30 minutes
Emergency release of uncross-matched "O" negative blood	15 minutes
Direct Coombs' Test (DCT)	30 minutes
In-direct Coombs' Test (ICT)	1 hour
Transfusion reaction testing*	45 minutes
FFP and Platelets Issuing	30 minutes
Chemistry/ Immune-chemistry	**The TAT for all chemistry STAT tests is 1 hour**
Troponin I	1 hour
Liver function tests (AST& ALT and Bilirubin) Only if indicated	1 hour
Calcium, Magnesium and Phosphorous	1 hour
Cardiac Enzymes – CKMB, CK, and LDH	1 hour
Amylase/ Lipase	1 hour
Electrolytes	1 hour
CSF chemical Analysis	1 hour
Glucose	1 hour
Beta-HCG	1 hour
Kidney function tests (BUN &Creatinine)	1 hour
Lactic acid	1 hour
Hematology	
Complete Blood Count (CBC)	30 minutes
Differential Automated	30 minutes
CSF/ Body Fluid for Cell Count and Differential	1 hour
Fibrinogen	1 hour
Prothrombin time (PT)	30 minutes
Partial Thromboplastin Time (PTT)	30 minutes
D-Dimer Test	1 hour
Microbiology	
CSF Smears for Gram stain	1 hour
Parasitology	
Urinalysis (Glucose, Albumin, and Ketone Bodies)	1 hour

- The tests listed above are available on an emergency STAT basis.
- Any test or service not listed must be approved by the Section Head, or Clinical pathologist on-call, prior to performing the test as a STAT.
- Additional 30 minutes will be added for any extra unit requested.

Haematology Department Test List

S/N	Name of the Test	Type of Specimen and Quantity	Routine TAT	STAT TAT
1.	Automated Complete Blood Count (CBC)	2 ml Lavender Tube	2-4 hours	30 min
2.	Automated Hemoglobin (Hb) and Hematocrit (HCT)	2 ml Lavender Tube	2-4 hours	30 min
3.	Automated Total and Differential Leukocyte Count (TLC / DLC)	2 ml Lavender Tube	2-4 hours	30 min
4.	Peripheral Blood Smear	2 ml Lavender Tube	24 hours	-
5.	Peripheral Film for Malaria and Micro filarial parasites	2 ml Lavender Tube	24 hours	-
6.	Reticulocyte Count (Retics.)	2 ml Lavender Tube	24 hours	2-4 hours
7.	Sickling Test	2 ml Lavender Tube	24 hours	-
8.	Erythrocytes Sedimentation Rate (ESR)	2 ml Lavender Tube	2-4 hours	-
9.	Prothrombin Time (PT)	1.8 in Light Blue Tube	2-4 hours	30 min
10.	Activated Partial Thromboplastin Time (APTT)	1.8 in Light Blue Tube	2-4 hours	30 min
11.	Fibrinogen	1.8 in Light Blue Tube	2-4 hours	1 hour
12.	Factor VIII and Factor IX	1.8 in Light Blue Tube	Per week	One working day
13.	D-Dimer	1.8 in Light Blue Tube	2-4 hours	1 hour
14.	CSF Cell Count	Sterile Screw Capped Container	2-4 hours	1 hour
15.	Body Fluids Cell Count	Sterile Screw Capped Container	2-4 hours	1 hour
16.	Hemoglobin Electrophoresis**	4 ml Lavender Tube	1 week	-
17.	Platelets' function tests	Contact Hematology Lab. for more information	One working day	-
18.	Protein C and protein S	1.8 in Light Blue Tube	2 weeks	-
19.	Anti-thrombin III	1.8 in Light Blue Tube	Per week	One working day

* According to the tube requirement.

** Referred to KKHGH

BLOOD BANK TEST LIST

S/N	Name of the Test	Type Of Specimen and Quantity	Routine TAT	STAT TAT
1.	ABO Grouping / Rh Typing	2-3 ml in Plain Tube + 2-3 ml in EDTA Tube	2 hours	30 minutes
2.	Direct Coombs' Test (DCT)	2-3 ml iEDTA Tube	1 hour	30 minutes
3.	Indirect Coombs' Test (ICT)	2-3 ml in Plain Tube	2 hours	1 hour
4.	Blood Grouping and Cross Matching	2-3 ml in Plain Tube + 2-3 ml in EDTA Tube	2 hours	45* minutes
5.	Antibody Screening	2-3 ml in Plain Tube / 2-3 ml in EDTA Tube	8 hours	2 hours
6.	Reverse Blood Group	2-3 ml in Plain Tube / 2-3 ml in EDTA Tube	1 hour	30 minutes
7.	ABO Grouping and save serum	2-3 ml in Plain Tube + 2-3 ml in EDTA Tube	1 hour	30** minutes
8.	ABO and Rh- typing for un-crossmatch Blood	2-3 ml in Plain Tube / 2-3 ml in EDTA Tube	------	30 minutes
9.	Blood Group "O" negative (Uncross matched Blood)	2-3 ml in Plain Tube / 2-3 ml in EDTA Tube	-------	15 minutes
10.	Fresh Frozen Plasma (FFP)	2-3 ml in Plain Tube / 2-3 ml in EDTA Tube	1 hour	30 minutes
11.	Platelets	2-3 ml in Plain Tube / 2-3 ml in EDTA Tube	1 hour	30 minutes
12	Antibody identification	2-3 ml in Plain Tube	3 hours	2 hours
13	Antibody titration	2-3 ml in Plain Tube	3 hours	2 hours

*. Additional 30 minutes will be needed for each extra unit requested for stat.

**. Sample for group and save serum will be canceled after 48 hours if blood is not used.

***. For Pediatric patient's minimum 1 ml blood is required for EDTA sample.

S/N	Name of the Test	Type of Tube and Quantity needed	Routine TAT	STAT
1.	Glucose	2 ml Green Tube or 2 ml Gray Tube	2-4 hours	45 min
2.	Urea / BUN	2 ml Green Tube	2-4 hours	45 min
3.	Creatinine	2 ml Green Tube	2-4 hours	45 min
4.	Sodium (Na)	2 ml Green Tube	2-4 hours	45 min
5.	Potassium (K)	2 ml Green Tube	2-4 hours	45 min
6.	Chloride (Cl)	2 ml Green Tube	2-4 hours	45 min
7.	Calcium	2 ml Green Tube	2-4 hours	45 min
8.	Phosphorus	2 ml Green Tube	2-4 hours	-
9.	Magnesium	2 ml Green Tube	2-4 hours	-
10.	Cholesterol	2 ml Green Tube	2-4 hours	-
11.	Triglyceride	2 ml Green Tube	2-4 hours	-
12.	High Density Lipoprotein (HDL)	2 ml Green Tube	2-4 hours	-
13.	Low Density Lipoprotein (LDL)	2 ml Green Tube	2-4 hours	-
14.	Uric Acid	2 ml Green Tube	2-4 hours	-
15.	Total Bilirubin	2 ml Green Tube	2-4 hours	45 min
16.	Direct Bilirubin	2 ml Green Tube	2-4 hours	45 min
17.	Aspartate Transaminase (AST)	2 ml Green Tube	2-4 hours	-
18.	Alanine Transaminase (ALT)	2 ml Green Tube	2-4 hours	-
19.	Alkaline Phosphatase (ALP)	2 ml Green Tube	2-4 hours	-
20.	Lactate Dehydrogenase (LDH)	2 ml Green Tube	2-4 hours	45 min
21.	Creatine Kinase (CK)	2 ml Green Tube	2-4 hours	45 min
22.	Creatine Kinase Isoenzyme (CKMB)	2 ml Green Tube	2-4 hours	45 min
23.	Total Protein	2 ml Green Tube	2-4 hours	-
24.	Albumin	2 ml Green Tube	2-4 hours	-
25.	Amylase	2 ml Green Tube	2-4 hours	45 min
26.	Iron	3 ml Plain Tube	2-4 hours	-
27.	Total Iron Binding Capacity (TIBC)	3 ml Plain Tube	2-4 hours	-

28.	Glycated Hemoglobin (HbA1c)	2 ml EDTA Tube	Monday and Wednesday	-
29.	24 Hours Creatinine Clearance	24-hour Urine Container (3 Liter size)	2-4 hours	-
30.	Protein/ Creatinine Ratio	10 ml in Screw Capped Container	2-4 hours	
31.	24 hours Protein	24-hour Urine Container (3 Liter size)	2-4 hours	-
32.	Spot Urine Protein	10 ml in Screw Capped Container	2-4 hours	-
33.	CSF	Sterile Screw Capped Container	2-4 hours	45 min
34.	Body Fluids	Sterile Screw Capped Container	2-5 hours	-----
35.	Ammonia*	2 ml Green Tube (on ice)	1 Hours	45 min
36.	Blood Osmolality	2 ml Green Tube	2-4 hours	-
37.	Spot Urine Osmolality	10 ml in Screw Capped Container	2-4 hours	-
38.	Lactic Acid*	3 ml gray tube (on ice)	1 Hour	45 min

* Bio-Chemistry technician/ technologist should be informed prior to collection of the blood.

Note: In-patient routine investigations are given priority to complete the reporting as soon as possible followed by the outpatient routine investigation.

Immune-chemistry Department Test List

S/N	Name of the Test	Type of Specimen and Quantity needed	Routine TAT	STAT TAT
1.	Triiodothyronine, Free (FT3)	3 ml Plain Tube	1 working day	_
2.	Thyroxin, Free (FT4)	3 ml Plain Tube	1 working day	_
3.	Thyroid Stimulating Hormone (TSH)	3 ml Plain Tube	1 working day	_
4.	Follicle Stimulating Hormone (FSH)	3 ml Plain Tube	1 working day	_
5.	Luteinizing Hormone (LH)	3 ml Plain Tube	1 working day	_
6.	Prolactin	3 ml Plain Tube	1 working day	_
7.	Progesterone	3 ml Plain Tube	1 working day	_
8.	Estradiol	3 ml Plain Tube	1 working day	_
9.	Testosterone	3 ml Plain Tube	1 working day	_
10.	Beta- Human Chorionic Gonadotropin (β-HCG)	3 ml Plain Tube	1 working day	*1 Hour
11.	Troponin I	2 ml Green Tube	1 working day	*1 Hour
12.	PTH	2 ml Chilled EDTA Tube	1 working day	_
13.	Cortisol*	3 ml Plain Tube	1 working day	_
14.	ACTH	2 ml EDTA Tube	1 working day	_
15.	Insulin	3 ml Plain Tube	Every Wednesday	_
16.	C-Peptide	3 ml Plain Tube	Every Wednesday	_
17.	Alpha Feto Protein (AFP)	3ml Plain Tube	Every Wednesday	_
18.	Carcino Embryonic Antigen (CEA)	3 ml Plain Tube	Every Wednesday	_
19.	CA 15-3	3 ml Plain Tube	Every Wednesday	_
20.	CA 19-9	3 ml Plain Tube	Every Wednesday	_
21.	CA 125	3 ml Plain Tube	Every Wednesday	_
22.	Serum Ferritin	3 ml Plain Tube	1 working day	_
23.	Vitamin D3	3 ml Plain Tube	1 working day	
24.	Vitamin B12	3 ml Plain Tube	1 working day	_

* Time of specimen collection should be mentioned

MICROBIOLOGY DEPARTMENT TEST LIST

S/N	Name of the Test	Nature of Specimen and Volume Required	TAT (Turn Around Time)
1.	Blood Culture	Adults: 5 ml Blood in each bottle of the set (Aerobic & Anaerobic) Infants/ child.: 1-3 ml of Blood in Pedia. bottle.	5 – 7 Days
2.	Body Fluids	0.5-20 ml in a sterile, screw caped leak proof container	72 hours
3.	CSF	In a sterile, screw caped leak proof container	72 hours
4.	Ear Swab C\S	Sterile Swab with Stuart or Amies transport medium with Charcoal	72 hours
5.	Nasal Swab	Sterile Swab with Stuart or Amies transport medium with Charcoal	72 hours
6.	HVS	Sterile Swab with Stuart or Amies transport medium with Charcoal	72 hours
7.	PUS Culture	Sterile Swab with Stuart or Amies transport medium with Charcoal	72 hours
8.	Throat Swab	Sterile Swab with Stuart or Amies transport medium with Charcoal	72 hours
9.	Urine	Mid-Stream Urine (MSU), Catheterized urine, or Supra Pubic Aspirate (SPA) Collect in a sterile leak proof container	72 hours
10.	Sputum Culture	Sputum in a sterile container	72 hours
11.	Stool	Stool in a clean ordinary container	72 hours
12.	Urethral Discharge	Discharge from Urethra in a Sterile Swab with Stuart or Amies transport medium with Charcoal	72 hours
13.	Gram Stain (Contact lab before sending sample)	Sputum, Body fluids etc. in a clean sterile container/ Pus, Wound Swab, in a transport media (without charcoal)	2-4 hours
14.	AFB Smear (sputum)*	Send 3 consecutive early morning sputum samples in a sterile urine container	10 days
15.	AFB Culture*	Any specimen in a clean, sterile, screw capped container. For renal TB early morning urine sample on 5 consecutive days	4-6 weeks
16	Clostridium difficile toxin A&B	STOOL specimen	One working day

17	Urinalysis Chemical & microscopic examination	Urine sample should in a good volume (about 10 ml) be in a clean, dry and with a good screw container.	1 hour
18	H.pylori stool antigen	Stool specimen	One working day
19	Stool Rota virus	Stool specimen	One working day

*Outsource specimens: referred to Dammam Regional Laboratory

SEROLOGY/ VIROLOGY TEST LIST

S/N	Name of the Test:	Type Of Specimen and Quantity:	Routine TAT	STAT
1.	Brucella Abs.	3 ml Blood in Plain Tube	1 Working Day	-
2.	Rheumatoid Factor (RF)	3 ml Blood in Plain Tube	1 Working Day	-
3.	C- Reactive Protein (CRP)	3 ml Blood in Plain Tube	1 Working Day	-
4.	Antistreptolysin O Titre (ASO)	3 ml Blood in Plain Tube	1 Working Day	-
5.	Venerial Disease Research Laboratory (VDRL) in serum	3 ml Blood in Plain Tube	1 Working Day	-
6.	Haemagglutination (TPHA)	3 ml Blood in Plain Tube	1 Working Day	-
7.	Widal Test (Salmonella Abs.)	3 ml Blood in Plain Tube	1 Working Day	-
8.	Schistosoma/ Bilharzia Abs.	3 ml Blood in Plain Tube	1 Working Day	-
9.	Leishmania Abs.	3 ml Blood in Plain Tube	1 Working Day	-
10.	Amoebiasis Abs.	3 ml Blood in Plain Tube	1 Working Day	-
11.	Echinococcus (Hydatid)Abs.	3 ml Blood in Plain Tube	1 Working Day	-
12.	HBs Ag-EIA	3 ml Blood in Plain Tube	2 weeks	-
13.	Hbs Ab-EIA	3 ml Blood in Plain Tube	4 weeks	-
14.	HCV Abs.-EIA	3 ml Blood in Plain Tube	2 week	-
15.	HIV 1and 2-EIA	3 ml Blood in Plain Tube	2 week	-

Therapeutic Drugs Monitoring (TDM) Test List

S/N	Name of the Test	Type Of Specimen and Quantity	Routine TAT	STAT
1.	Digoxin	2-3 ml Plain Tube	2 Working Days	-----
2.	Amikacin	2-3 ml Plain Tube	1 Weak	----
3.	Vancomycin	2-3 ml Plain Tube	2 Working Days	-----
4.	Phenobarbital	2-3 ml Plain Tube	1 Weak	------
5.	Tacrolimus*/ Sirolimus	2-3 ml Plain Tube	2 Working Days	-----
6.	Cyclosporine	2-3 ml Plain Tube	1 weak	-----
7.	Carbamazepine	2-3 ml Plain Tube	1 weak	-----
8.	Valporic Acid	2-3 ml Plain Tube	2 Working Days	-----
9.	Phenytoin	2-3 ml Plain Tube	2 Working Days	------
10.	Tricyclic Antidepressants	2-3 ml Plain Tube	1 weak	------
11.	Theophylline	2-3 ml Plain Tube	1 weak	------
12.	Acetaminophen	2-3 ml Plain Tube	1 weak	-------
13.	Tobramycin	2-3 ml Plain Tube	1weak	------
14.	Gentamycin	2-3 ml Plain Tube	2 Working Days	------

* All are available in Hafar Albatin Referral Lab. (no need for AWTAR registration)

N.B.: For therapeutic drugs monitoring, there are 2 types of specimens:

- Trough level: should be drawn within 30 minutes prior to next dose.
- Peak level: should be drawn 30 min after the end of infusion.
- Please indicate if trough, peak or random sample and indicate the date and time of last and next dose.

N. B.: All other drug levels will be sent to Dammam Regional Lab.;

- Before sample extraction, the physician should call Toxicology center Hot line: 053880087
- Patient should be registered in Awtar program and Awtar request should be sent with the sample.

5. MATERIAL AND EQUIPMENT:

5.1 N/A

6. RESPONSIBILITIES:

6.1 Lab. Director.
6.2 Medical Director
6.3 Nursing Director.

7. APPENDICES:

7.1 N/A

8. REFERENCES:

8.1 Continuous Monitoring of Stat and Routine Outlier Turnaround Times: Two College of American Pathologists Q-Tracks Monitors in 291 Hospitals, David A. Novis, MD, Molly K. Walsh, PhD, Jane C. Dale, MD, and Peter J. Howanitz, MD, Archives of Pathology and Laboratory Medicine, Jan. 2008.

9. APPROVALS:

	Name	Title	Signature	Date
Prepared by:	Dr. Talal Abdelgawad	Clinical Pathologist		January 05, 2025
Reviewed by:	Dr. Kawther M. Abdou	Consultant & Lab. Medical Director		January 06, 2025
Reviewed by:	Ms. Noora Melfi Alanizi	Laboratory & Blood Bank Director		January 08, 2025
Reviewed by:	Mr. Sabha Turayghib AlHarbi	Nursing Director		January 12, 2025
Reviewed by:	Mr. Abdulelah Ayed Al Mutairi	QM&PS Director		January 13, 2025
Reviewed by:	Dr. Tamer Mohamed Naguib	Medical Director		January 14, 2025
Approved by:	Mr. Fahad Hazam Alshammari	Hospital Director		January 20, 2025