



Emergency Laboratory

Issues and Troubleshooting

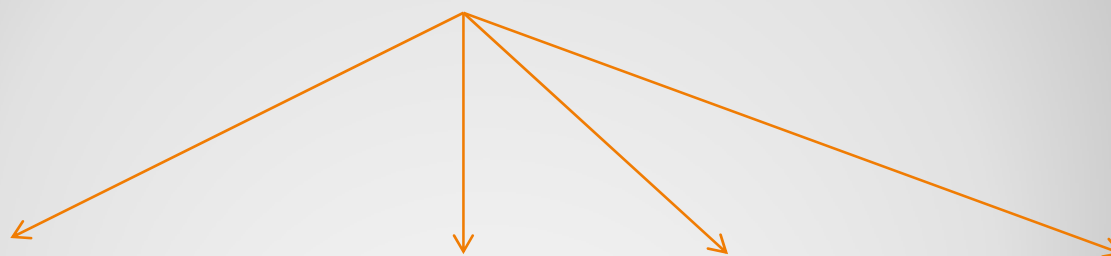
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What is an Emergency Laboratory?

- Lab which caters need of hospital during off hours.
- It is also responsible for tests which require reports in minutes.
- It serves different units in the hospital including ICU, OT and emergency wards and others
- This is for immediate management of critically ill patients.

Tests done in an Emergency laboratory



Biochemistry

Renal function test,
Liver function test,
Electrolytes,
Cardiac profile,
Blood Gas Analysis,
Others

Hematology

CBC,
Coagulation
profile
PBS for malaria

Clinical Pathology

CSF
Biochemistry
and gram stain

Osmolality

Others

MP Antigen test

Blood grouping
and cross
matching



- Turn around time (TAT) - few minutes to two hours.



Quality policy statement

- Emergency lab should follow full quality management system as followed in the routine hours.
- Example: Internal QC, EQAS etc has to be the same



Timings of the Emergency Lab

Varies from hospital to hospital

24x7 hours

365 days a week



Analyzers and Equipments in Emergency Lab

- Biochemistry Analyzers
- Hematology Analyzers
- Centrifuge
- Pipettes
- Refrigerators
- Microscope
- Incubator
- Etc



- As Emergency laboratory services are critical there should be provision of back up analyzers.
- Inventory management is important as emergency lab should not run out of reagents.
- Storage for sufficient reagent in emergency lab is important.



Policy of critical alert values reporting

- Decide the critical values in consultation with clinicians.
- Inform telephonically or according to the policy of the hospital.
- Record log is maintained.



RECORD OF ABNORMAL REPORTS CONVEYED TO CLINICIANS

TIME	LAB NO	CASE NO	WARD	PARAMETER/ CRITICAL VALUE/REASON	CLINIAN'S/SISTER'S NAME	READ BACK DONE	INFORMED BY

Record of critical alerts

TATA MEMORIAL HOSPITAL
DIAGNOSTIC SERVICES – EMERGENCY LABORATORY
EMERGENCY SERVICES,
7th FLOOR, ANNEXE BLDG, PAREL, MUMBAI-12



RECORD OF ABNORMAL REPORTS CONVEYED TO CLINICIANS

DATE	TIME	LAB NO.	CASE NO.	WARD	PARAMETER / CRITICAL VALUE / REASON	CLINICIAN'S / SUPERVISOR'S NAME	READ BACK DONE	INFORMED BY
5/12	12:30	143	CK 3236	DW	K ⁺ - 6	SLJ	Yes	Karpag
5/12	2:30	8	CK 2401	Opp	K ⁺ 7	Dr. Setu	Yes	Karpag
5/12/13	10:20 ^{pm}	73	CK-13999	SPW	N-100 / K-2.63 / e166	Manisha sis	Yes	Suma
7/12/13	6:15	84	CK-23833	SPW	K ⁺ - 2.22	Shabbhaden	Yes	Dina
9/12/13	8:30	125	CK 2401	FU	K ⁺ 6.10	S/S Rutuja	Yes	Karpag
10/12/13	7:10pm	69	CK 32679	SPW	BU 185 / T.Bi 116.3 / AST 333	manisha	Yes	Suma
17/12/13	7:15am	42	CJ-30452	q tv	FBS - 287.11	Alaina	Yes	Dina
- 11 -	7:15am	49	CK-29413	- 11 -	K ⁺ - 1.91	- 11 -	Yes	Dina

Record of critical alerts



Issues and Troubleshooting



1. Labeling

Labeling errors are high (as samples are collected in urgency the chances of labeling errors).

It could be due to:

- By the phlebotomist (labeling of containers and evacuated tubes is wrong)
- Improper placing of the bar code.

Issues and Troubleshooting





2. Sample quantity

- Insufficient sample is a common issue.
- Patient in shock causes difficulty in venipuncture.
- Erroneous and wrong result may occur



3. Contaminated or diluted sample from IV line.

Sample are commonly collected from the existing IV line in which either the infusion or drugs are given \

Thus the sample is diluted and may give erroneously false high or low results and interfere with analysis.



4. Hemolysed sample

- Due to haemolysis of blood following test parameter are affected. LDH, Potassium, SGOT, SGPT, Folic acid, Phosphate level.
- Reference: - Tietz Fundamental of Clinical chemistry



Haemolyzed sample



5. Lipaemic sample

- Erroneous result occur mainly LFT, RFT, Electrolytes, cardiac profile, lipid profile parameters get affected.
- Reference:- Tietz Fundamentals of clinical chemistry 6th edition, chapter no.3



6. Signatory authority

Emergency duties are mostly performed by technologists and the reports finalized by consultants next day.



7. Other common issues

- Off duty hours have skeletal support staff in the hospital (IT, Equipment maintenance, Engineering, Administrative etc.)
- Work load and adequacy of staff
- Help form the management in the off hours



Technologist working in emergency lab should be trained in all fields of laboratory medicine like hematology, biochemistry and clinical pathology etc.

Must attend CMEs



Multitasking...

Thank
You