Institution Name: Al Masarra Hospital

Document Title: **Policy and Procedure of Critical Result Communication**

Approval Process

	Name	Title/Designation	Institution	Date	Signature
Written by	Dr.Nada Al-Tamtami	HOD Laboratory Department	Al Masarra Hospital	May 2022	
Reviewed by	Local Guideline Committee	Committee	Al Masarra Hospital	May 2022	
	Dr. Salim AL-Hussaini	Emergency Department	Al Masarra Hospital	June 2022	
Validated by	Ph. Najla Al-Zadjali	QMPSD	Al Masarra Hospital	June2022	
Approved by	Dr. Bader Al Habsi	Hospital Director	Al Masarra Hospital	June2022	

AL-MASARRA HOSPITAL SULTANATE OF OMAN- MINISTRY OF HEALTH

Contents Table

Acronyms

AMRH	Al Masarra Hospital
HOD	Head Of Department
HC	Health Center
LAB	Laboratory
Vers.	Version Number
OPD	Outpatient Department
PRO	Public Relations Officer
P&P	Policy & Procedure
SOP	Standard Operating Procedure
MDR	Multi Drug Resistant organism
HIV	Human Immunodeficiency Virus
MRSA	Methicillin Resistant staphylococcus aureus

Policy and Procedure of Communicating Urgent Critical Result

1. Introduction

Critical test results indicate a life threatening condition and require rapid and accurate communication. They must be brought to the immediate attention of the caring physician and other healthcare provider. Prompt notification of the potentially life threatening test results is important to ensure appropriate and timely care is administered.

2. Scope

This document is applicable to the all laboratory staff, physicians, psychiatrists and nursing staff of Al Masarra Hospital (AMRH).

3. Purpose

3.1To define and list tests with critical limits, standardize practice and guide staff on channel of communication, appropriate documentation and read back verification.

4. Policy

4.1Critical value policy defines all the responsible staff who must take timely and appropriate action on any critical result. This must be followed to ensure safe and reliable care is provided to the patient.

5. Definitions

5.1. **A Critical Result:** a test result which may signify a pathophysiological state that is potentially life threatening or that could result in significant patient morbidity or irreversible harm or mortality and therefore requires urgent medical attention and action. Commonly used alternative terms are ‘critical values’, ‘panic values’, ‘critical alarms’ or ‘alarm values’.

5.2. **Read Back Verification:** for any verbal report of a test with critical value, therecipient must record and then read back the message to the caller at the same time result is given.

6. Procedure

6.1 Notification by Laboratory Department

6.1.1 Verification and notification of critical value During Working Hours:

6.1.1.1 Critical results are identified according to the attached laboratory lists for different sections in the laboratory. (See Appendix 1. Laboratory Critical Results.) They usually appear in red color for tests connected to Al Shifa 3+ system. The operating staff should inform the section in-charge immediately during the normal working hours.

6.1.1.2 The integrity and labeling should be crossed checked.

6.1.1.3 The sample has to be retested and confirmed prior to notification according to the test specific protocol.

6.1.1.4 The laboratory doctor should be informed immediately to correlate with patient data.

6.1.1.5 The operating staff has to release the report after notifying the assigned focal point doctor. (See Appendix 3)

6.1.1.6 The laboratory staff should inform the assigned focal point doctor (During working hours) or the second on-call doctor (Unknown unit /out of working hours) and not anyone else. The timeline of critical result report delivery should not exceed 30 minutes after result verification.

6.1.1.7 In the verbal notification, the following information should be given:

6.1.1.7.1 Clear introduction including name of lab staff, department and section.

6.1.1.7.2 Reasonfor phone call: Critical value according to the hospital critical result policy.

6.1.1.7.3 Patient involved: two identifiers

6.1.1.7.3.1 Full name

6.1.1.7.3.2 Hospital number or

6.1.1.7.3.3 Date of birth

6.1.1.7.4 Name of doctor.

6.1.1.7.5 Give result and request for Read Back of information given.

6.1.1.7.6 For new cases of MRSA, MDR and HIV infection control is also notified.

6.1.1.8 Document the following in Al Shifa 3+ System at the lab comment Section:

6.1.1.8.1 Add the shortcut (CRT) in the lab comment and fill.

6.1.1.8.2 Name of the lab staff (Caller).

6.1.1.8.3 Name of the doctor who received the result.

6.1.1.8.4 Time of notification and the date.

6.1.1.8.5 Verification that read back was obtained.

6.1.1.8.6 Document any failure of attempts to notify.

6.1.1.8.7 Send SMS by Shifa 3+ to unit doctors.

6.1.1.9 Register in the Excel sheet for critical result file of the concerned section.

6.1.2 Notification of Critical Values for Unknown Unit or Out of Working Hours:

6.1.2.1 Once the critical results are identified and steps 1 to 5 in section 6.1.1 are followed by the laboratory staff, the result shall be promptly communicated to the second on calldoctor. The message should be delivered within 30 minutes.

6.1.2.2 Notification, read back verification and documentation must be followed as documented in section 6.1 steps 6 to 8.

6.1.2.3 Register in the phoned result Excel sheet file of the concerned section.

6.1.3 Notification of Critical Results of samples received from other health institution.

6.1.3.1 Once the critical results are identified and steps 1 to 5 in section 6.1.1 are followed by the laboratory staff, the result shall be promptly communicated to the assigned focal point).

6.1.3.2 Notification, read back verification and documentation must be followed as documented in section 6.1.1 steps 6 to 8.

6.1.3.3 In case of failure to notify the lab in-charge of requesting laboratory, the region lab technician in-charge must be contacted. If this is still not possible, the willayat lab focal point has to be informed about the result.

6.1.3.4 The operating staff has to release the report after notifying the focal point.

6.1.3.6 Register in the phoned result file of the concerned section.

6.2 **Channel of communication for a Critical Value at patient areas:**

6.2.1 Channel of communication for admitted and Casualty Patients:

6.2.1.1 The receiver of Critical Value has to acknowledge the receipt to the caller by:

6.2.1.1.1 Repeating the two identifiers of the patient.

6.2.1.1.1.1 Full name

6.2.1.1.1.2 Hospital number or

6.2.1.1.1.3 Date of birth

6.2.1.1.2 Repeating the received message (Call back verification).

6.2.1.2 Inform Head of unit and Nurse Shift in-charge.

6.2.1.3 Inform the concerned departments when applicable and agree on the action plan.

6.2.1.4 Throughout process of communication, document in patient progress notes the following:

6.2.1.4.1 The type and time of message received.

6.2.1.4.2 Name of caller.

6.2.1.4.3 The action taken.

6.2.2 Channel of communication for Discharged and OPD patients:

6.2.2.1 The receiver of Critical Value has to acknowledge the receipt to the caller by:

6.2.2.1.1 Repeating the two identifiers of the patient.

6.2.2.1.1.1 Full name

6.2.2.1.1.2 Hospital number or

6.2.2.1.1.3 Date of birth

6.2.2.1.2 Repeating the received message (Call back verification).

6.2.2.2 The receiver informs head of unit and agrees on the action plan.

6.2.2.3 The receiver contacts the patient immediately as applicable.

6.2.2.4 Document in patient progress notes the following:

6.2.2.4.1 The type and time of message received.

6.3.1.4.2 Name of caller.

6.3.1.4.3 The action taken.

6.3.1.4.4 The contacted number of patient and information given.

6.2.2.5 Hand over the message to PRO and OPD Nurse in-charge for followup.

7. Responsibilities

7.1 Lab Technician Shall:

7.1.1 Shall confirm the critical value, initiate cascade of notification and document in Al Shifa 3+ System and register and send SMS to Unit Doctor.

7.2 **Section In-charge shall:**

7.2.1 Ensure that the procedure of critical value is strictly followed by the staff, inform the concerned lab doctor and initiate escalation procedure if required.

7.2.2 Follow up documentation of critical result weekly.

7.3 **Lab In-charge Shall:**

7.3.1 Follow and review the notification of critical values, and audit the compliance to the policy along with section in-charge and quality officer on regular basis.

7.3.2 Ensure all contact numbers are updated.

7.4 **Lab Doctor Shall:**

7.4.1 Follow and ensure full adherence to the policy and participate in the audit.

7.5 **Lab Quality Officer Shall:**

7.5.1 Audit the adherence to the policy on regular basis and report to Lab HOD.

7.6 **Lab HOD Shall:**

7.6.1 Beapproachable to and collaborate with all concerned parties and answerable to any further action.

7.6.2 Follow up investigation of any auditor occurrence and develop action plan with responsibility when needed.

7.7 **Requesting Doctor Shall:**

7.7.1 Be approachable and answerable to the calls and act properly on time to the report.

7.8 **Ward Shift In-charge Shall:**

7.8.1 Shall be answerable to the call and act on immediately and on time to the received call.

7.9 **Assigned Staff Nurse Shall:**

7.9.1 Give timely and appropriate action on the received report and plan.

7.10 **Head of Concerned Department/Unit Shall:**

7.10.1 Ensure that the contact numbers are updated and activated.

7.10.2 Ensure that the policy and action plan are clearly followed.

7.11 **Public Relations Officer (PRO) Shall:**

7.11.1 Collaborate and help in timely report delivery to the concerned party and follow up when needed.

7.12 **Quality Management and Patient Safety Department Shall:**

7.12.1 Followup the compliance to the policy and guide in investigating occurrence with regards to communication of critical results.

7.13 **Hospital Administration Shall:**

7.13.1 Be ready to help as ultimate way in channel of communication of critical result.

8. Document History and Version Control Table

Document History and Version Control			
Version	**Description of Amendment**	**Author**	**Review Date**
01	Initial Release	Dr. Nada Al-Tamtami	January 2018
02	Review	Sheikha Al Mamari	January 2022
Written by	**Reviewed by**	**Approved by**	
Dr. Nada Al-Tamtami	Quality Management and Patient Safety Department	Dr. Bader Al Habsi	

9. Related Documents

9.1 Appendix 1. Laboratory Critical Results.

9.2 Appendix 2. Flow Chart of Critical Result

9.3 Appendix 3. Focal Point List

9.4 Appendix 4. Audit Tool.

9.5 Appendix 5. Document Request Form.

9.6 Appendix 6. Document Validation Checklist.

10. References

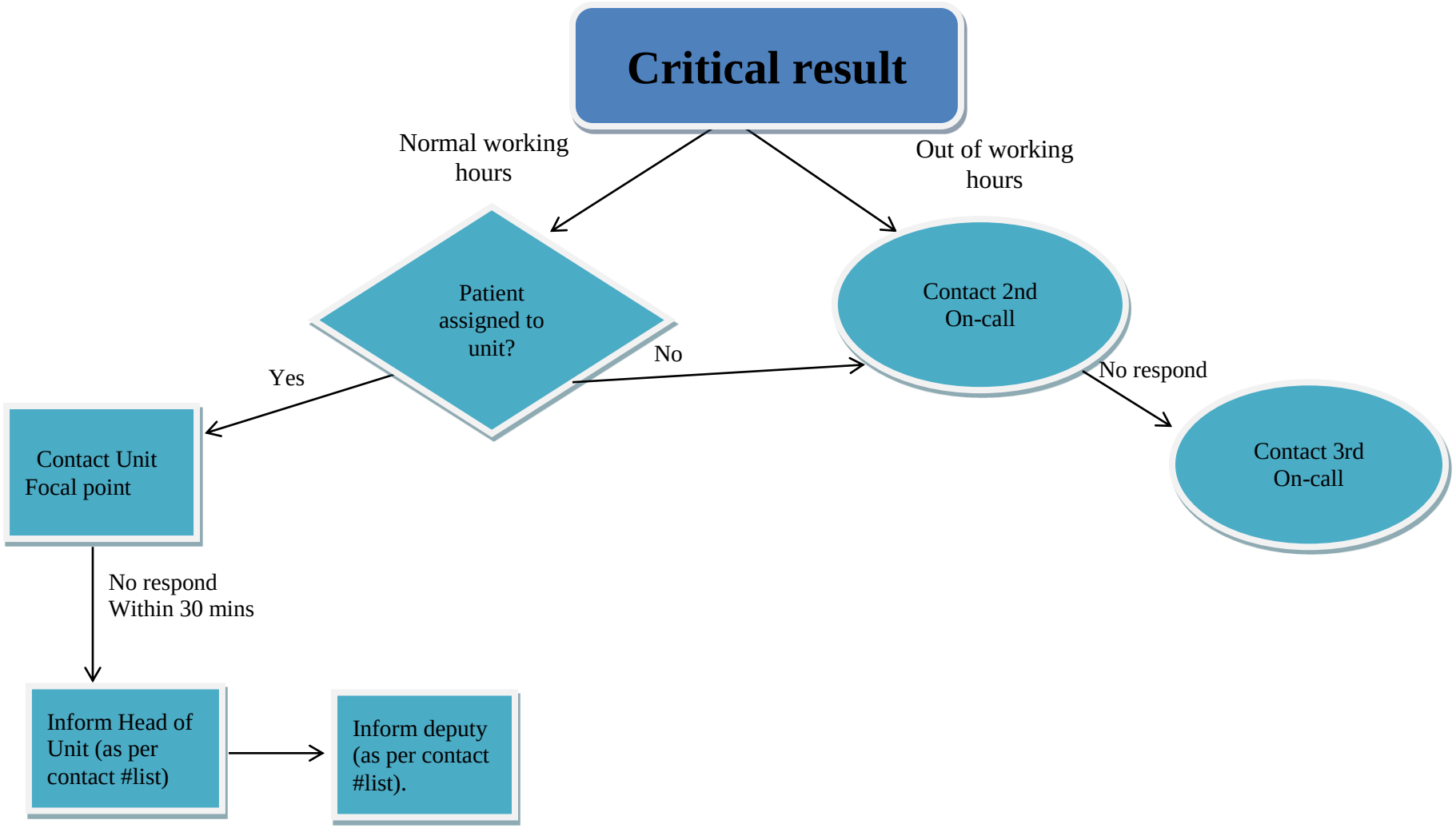
Title of book/Journal/Website	Author	Year of Publication	page
Harmonization of critical result management in laboratory medicine, Clinica Chimica Acta 432	C.A. Campbell a,A.R.Horvath	2014	135–147

9.1 Appendix 1. Laboratory Critical Results

	Test Name	Critical Low	Critical High	Units
Haematology	Activated PTT	-	≥150	sec
	INR	-	≥4	
	Hemoglobin	≤6 male ≤7 female	≥20	g/dl
	Leucocytes	<2.0	≥30.0	10^9/L
	Platelets	<50	≥1000	10^9/L
	Absolute neutrophil Count	≤0.5		10^9/L
	Malaria Parasite	Positive		
Biochemistry	Amylase		≥200	U/L
	Bilirubin, Total		≥300	Umol/L
	AST		≥1000	U/L
	ALT		≥1000	U/L
	Calcium, Total	<1.75	>3	mmol/L
	CO2	<12	>40	mmol/L
	Creatinine		>500	umol/L
	Glucose	<2.5	>22	mmol/L
	Magnesium	<0.5	>1.5	mmol/L
	Phosphorus	<0.3	>3	mmol/L
	Potassium	<3	≥6	mmol/L
	Sodium	≤120	≥160	mmol/L
	Chloide	<80	>115	mmol/L
	CK		≥1000	U/L
	Osmolarity, Serum	<250	>350	mOsm/Kg
	Troponin		>14	ng/ml

	Urea	<0.2	>35	mmol/L
	Alcohol		≥400	mg/dL
	Lithium		>1.2	mmol/L
	Blood Gases pH (arterial & Venous) pCO_2 (arterial & Venous) pO_2 (arterial)	<7.25 <30 <50	>7.5 >50 >90	mmHg
Therapeutic Drug Monitoring	Carbamazepine		>50.8	umol/L
	Valproate		>693	umol/L
Microbiology	Blood culture	Positive		
	AFB smear	Positive		
	TB culture	Positive		
	MRSA	Positive For 1st time		
	CRE			
	MDR Acinetobacter			
	Group A strep	Detected		
	CSF culture	Positive		
	Bacterial Antigen for CSF	Positive		
	Urine Ketone	Positive		
Hormones Serology	TFT TSH Free T4 FreeT3	≤0.05 <2.0	≥100 >40 >20	miu/L pmol/L pmol/L
	Prolactin		>2100	miu/L
	Neonatal TSH(cord blood)		>40	miu/L
	HIV-Ab	To be informed by lab. doctor only		

9.2 **Appendix 2. Flow Chart of Critical Result**



9.3 Appendix 3. Focal Point List

DURING WORKING HOURS			
UNIT	**FOCAL POINT**	**HEAD OF UNIT**	**DEPUTY HEAD**
UNIT A1 + A2	Dr. Salman (3646) Rotating Resident (3732)	Dr. Jamila (3634)	Dr. Fatma Al Balushi (3672)
UNIT B1	Dr. Fathyia (3702)	Dr.Nazik (3723)	Dr.Thuryia (3781)
UNIT B2	Dr. Furqan (3635)		
UNIT C	Dr. Muataz (3758) Dr. Rashid (3733)	Dr. Rahma (3741)	Dr. Khadija (3641)
UNIT D (ADDICTION)	Dr. Ahmed Yehia (3747)	Dr. Asila (3644)	Dr. Nawal (3700)
CHILD	Dr. Waleed (3721/3259)	Dr. Fatma (3744)	Dr. Yahya Al Kalbani (3260 /3255)
GERIATRIC	Dr. Hazim M (3748)	Dr. Saleha (3720)	Dr. Ahmed Samir (3649)
UNKNOWN UNIT /OUT OF WORKING HOURS			
	Second Oncall Doctor (3924)	Doctors Room (3272)	

9.4 Appendix 4. Audit Tool

Department: _____ **Date: _____**

S.No.	Audit Process	Description of Criteria	Yes	Partial	No	N/A	Comments
1	Observation	Are the Random Sample Reports showing compliance with documentation at lab department?					
2	Interview	Is the staff aware about the channel of communication procedure at the lab department?					
3	Interview	Is the staff aware about the channel of Communication in the ward/OPD/A&E and other health institution?					

Appendix 5 Document Request Form

9.5 **Appendix 5. Document Request Form**

Document Request Form			
Section A: Completed by Document Requester			
1. Requester Details			
Name	Dr.Nada Al-Tamtami	Date of Request	May 2022
Institute	Al Masarra Hospital	Mobile	99442469
Department	Laboratory Department	Email	Nada tamimi@gmail.com
The Purpose of Request			
☐ Develop New Document	☑ Modification of Document	☐ Cancelling of Document	
1. Document Information			
Document Title	Policy and Procedure of Critical Result Communication		
Document Code	AMRH/LAB/GEN/P&P/001/Vers.02		
Section B: Completed by Document Controller			
☑ Approved	☐ Cancelled	☐ Forward To:	
Comment and Recommendation: for implementation			
Name	Najla Al-Zadjali	Date	June 2022
Signature		Stamp	

Appendix 6 Document Validation Checklist

9.6 Appendix 6. Document Validation Checklist

Document Validation Checklist					
Document Title: Policy and Procedure of Critical Result Communication		**Document Code:** AMRH/LAB/GEN/P&P/001/Vers.02			
No	Criteria	**Meets the Criteria**			**Comments**
		Yes	**No**	**N/A**	
1.	**Approved format used**				
1.1	Clear title – Clear Applicability	✓			
1.2	Index number stated	✓			
1.3	Header/ Footer complete	✓			
1.4	Accurate page numbering	✓			
1.5	Involved departments contributed	✓			
1.6	Involved personnel signature /approval	✓			
1.7	Clear Stamp	✓			
2.	**Document Content**				
2.1	Clear purpose and scope	✓			
2.2	Clear definitions	✓			
2.3	Clear policy statements (if any)	✓			
3.	**Well defined procedures and steps**				
3.1	Procedures in orderly manner	✓			
3.2	Procedure define personnel to carry out step	✓			
3.3	Procedures define the use of relevant forms	✓			
3.4	Procedures to define flowchart	✓			
3.5	Responsibilities are clearly defined	✓			
3.6	Necessary forms and equipment are listed	✓			
3.7	Forms are numbered	✓			
3.8	References are clearly stated	✓			
4.	**General Criteria**				
4.1	Policy is adherent to MOH rules & regulations	✓			
4.2	Policy within hospital/department scope	✓			
4.3	Relevant policies are reviewed			✓	
4.4	Items numbering is well outlined	✓			
4.5	Used of approved font type and size	✓			
4.6	Language is clear, understood and well structured	✓			
Recommendations ..... For implementation ..... More revision ..... To be cancelled					
Reviewed by: Najla Al-Zadjali 20/6/22		**Reviewed by:** .....Kunooz Al Balushi