

Title	MANAGEMENT OF ABNORMAL LABORATORY RESULTS OOH			Number	CL20
Effective From:	08.06.10	Duration:	No end date	Review:	04.04.25
Author:	Dr Fay Wilson, Dr Andy Thompson			Version:	1.6
Other Ref:	www.gpnotebook.co.uk www.labtestsonline.org.uk				
Contacts:					

Version Control

(Only last 3 versions, earlier versions can be found in the appropriate Archive directory for the document)

DATE	CHANGE	CHANGED BY
21.03.16	Reviewed, no change	SM
31.05.19	Reviewed, no change	SM
30.03.23	Reviewed. Minor change to remove and replace RCP link	SMcD

Introduction

Increasing numbers of hospital laboratories have extended their operating hours so that they continue processing tests until well into the evening. As a result laboratory technicians seeking to pass on test results to the patient's own GP will contact the out-of-hours service.

The Royal College of Pathologists produced an advice document for Pathologists in consultation with the RCGP which was published in 2007 and updated in 2010 -

<https://www.rcpath.org/uploads/assets/bb86b370-1545-4c5a-b5826a2c431934f5/The-communication-of-critical-and-unexpected-pathology-results.pdf>

The purpose of the document was to encourage the development of local guidelines by key stakeholders. No local agreements are in place; however this guidance takes into account the recommendations in the RCPATH advice.

Responsibility

INVESTIGATIONS ORIGINATING FROM THE HOSPITAL

The person or agency requesting the test is responsible for following up the result, including any action. Tests requested by a hospital doctor should normally be passed to the relevant on-call speciality team, who will consider what action to take. In some cases they will seek help from the out-of-hours service if they are unable to contact the patient or if they need further face to face assessment in their own home.

INVESTIGATIONS ORIGINATING FROM GENERAL PRACTICE

The OOH service stands in place of the patient's own GP and is responsible for making a decision on follow up of abnormal results communicated out of hours.

Procedure

1. The receptionist will have taken details of the patient, the laboratory technician (or in some cases clinical pathologist), the technician's contact details and the test results. Calls should be case streamed to advice in the first instance. Priority for initial telephone assessment should be reviewed according to the usual criteria but will rarely be designated as urgent in OOH terms.

Calls originating via 111 usually do not include the test results and may not include the pathology sub-specialty to be contacted. In this case the call handler operating the "NHS 111 Inbox" will attempt to establish the laboratory and the test results prior to case streaming.

2. Abnormal lab test results should be dealt with by a doctor who should in the first instance contact the lab technician rather than the patient. Further information should be sought from the technician, including confirmation that the source of the request was a GP, clinical information on the request form, date and time of the sample, normal ranges, results of any other tests, results of any previous tests. This information should be available either on written records or the lab computer system. Sometimes collateral information is available from another lab (e.g. where haematology as well as biochemistry tests have been performed).

The clinician should decide then what action to take next taking into account the information available and this guidance.

The clinician should explain to the lab technician what action is intended where possible to make that decision before the conversation with the lab technician has ended.

3. Where the patient's phone number is available, and the clinician feels it is necessary to inform the patient of the result before the next time the patient's GP practice takes over responsibility, the patient should be contacted by phone. The doctor should explain the reason for the call, the significance of the test results and enquire about the clinical condition of the patient. In some cases the patient may already know the result and action will have been taken by the GP practice or out-patient department. In others, a decision will be required about managing the patient's condition at home (for example, raised blood glucose in a known diabetic), referral for a repeat test (e.g. low or raised potassium) or referral to the RMO (e.g. abnormal CK, INR>8).
4. Please see Appendix 1 and 2 for suggested action in response to some of the more common abnormal test results.

NB Immediate Medical Intervention (IMI) does NOT imply advice to the patient to dial 999 or attend A&E unless the patient's clinical condition on contact clearly requires it. It is up to the OOH clinician to decide between the following:

- Seek specialist (on-call consultant clinical pathologist) advice
 - Refer to RMO without further pathology advice
5. Useful reference tools for use during the consultation are www.gpnotebook.co.uk or www.labtestsonline.org.uk.

Procedure if no response to contact attempts

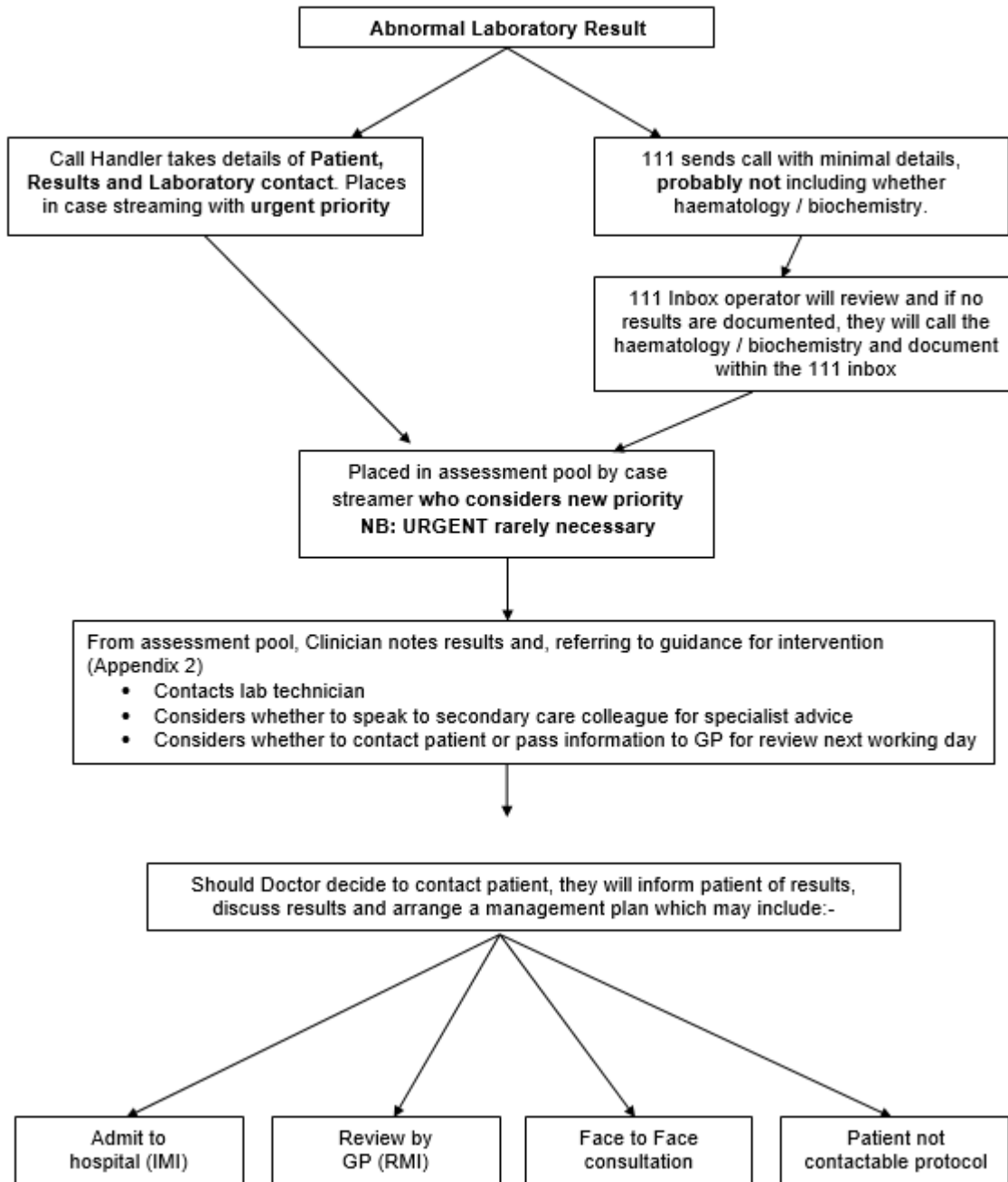
1. If no response to telephone call, the call should be managed as usual i.e. the supervisor should be notified, should check for any alternative contact details and should attempt to trace the patient via ambulance and A&E services.
2. If these measures fail a clinical judgment should be made on whether it is safe and appropriate to pass the results to the patient's GP practice for action the next working day or whether a visit should be undertaken or an ambulance sent. In the case of a visiting doctor not being able to gain a response at the patient's address a judgment should be made about whether to call the police to effect entry if a patient may be at serious life-threatening risk.
3. Clinical records should clearly record any decisions made and should reflect the rationale behind them.

FURTHER INFORMATION

In case of uncertainty, advice should be sought from the duty Medical Director.

Appendix 1

Management of Abnormal Laboratory Results



Appendix 2

Guidance for Intervention on Abnormal Laboratory Results

Guidelines of cut off levels for offering Immediate Medical Intervention (**IMI**) e.g. Hospitalisation as opposed to Routine Medical Intervention (**RMI**) e.g. Follow up the next working day.

Haematology

Full blood count parameters			
Parameter	Unit	Level	Comment
Haemoglobin	g/L	< 50	IMI (but see below)
	g/L	< 70	IMI if Normochromic, normocytic as this might suggest blood loss or bone marrow failure
	g/L or Haematocrit	>190 >55 l/l.	} IMI only if there appear to be compounding medical problems
White cell count			
Neutrophils	x10 ⁹ /L (billion/L)	< 0.5	IMI
	x10 ⁹ /L (billion/L)	>50	IMI
Lymphocytes	x10 ⁹ /L (billion/L)	>50	RMI
Platelets	x10 ⁹ /L (billion/L)	<30	IMI
	x10 ⁹ /L (billion/L)	>1000	RMI
Blood film			
Presence of blasts or diagnosis suggestive of chronic myeloid leukaemia			Discuss with the covering haematologist prior to deciding what action should be taken
Malaria parasites		Positive	IMI
Coagulation			
INR		>6.5	IMI for patients on warfarin

Biochemistry

Analyte (serum/plasma)		IMI Action limits but only if new problem – i.e. no recent similar result	
		Below	Above
Sodium	mmol/L	120	150
Potassium	mmol/L	2.5	6.5
Urea	mmol/L		30 (>10 if <16yr)
Creatinine	µmol/L		400 (>200 if < 16yr)
Glucose	mmol/L	2.5	25
Calcium adj	mmol/L	1.8	3.5
Magnesium	mmol/L	0.4	
Phosphate	mmol/L	0.3	
AST	U/L		15 x Upper Limit of Normal (ULN)
ALT	U/L		15 x ULN
Total CK	U/L		>5000 unless ? MI
Amylase	U/L		5 x ULN
Carbamazepine	mg/L mmol/L		25 105

Digoxin	µg/L nmol/L		2.5 3.25
Theophylline	mg/L mmol/L		25 137.5
Phenytoin	mg/L		25
Phenobarbitone	mg/L		70
Lithium	mmol/L		1.5
Triglyceride	mmol/L		>20
CRP	mg/L		>300
Troponin (I or T)			>local cut-off for MI