

Telephone Procedure – Clinical Biochemistry

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Relevant safety data, COSHH and risk assessments: -

Mark relevant procedures/policies

VDU	Lifting/Handling	COSHH	Spillage	Disposal	Sharps
*					

The above risk/safety assessments must be read and understood before carrying out this procedure. Details are recorded in the main text of the document.

Additional Standard cross references :-

Standard

TELEPHONE PROCEDURE

This procedure is divided into two main sections:

Section A dealing with telephone calls generated by the laboratory and the results validation procedure

Section B dealing with calls for results to the laboratory.

RESULTS VALIDATION (BIOCHEMISTRY)

Auto-verification of results in the WinPath system allows all routine chemistry results which do not fall outside critical, review and/or delta check limits to be sent directly to iCM and GP systems as soon as the results are complete.

All results failing the checks are sent to Authorisation Queue A where action (telephone/check/queue to Ghost Queue) can be taken as appropriate.

For results failing delta check limits (seen in Authorisation Queue A), consider if the failure could be due to an analytical error and if so repeat the analysis, if necessary, prior to validation.

Examples:

Total protein and albumin can have delta checks (↑) with dehydration.

Total protein and albumin can have delta checks (↓) after radical surgery (especially in ITU patients).

Enzymes can rise rapidly but take longer to fall.

Urea and creatinine can be half previous values after renal dialysis.

Urea 52.5 mmol/L and Creatinine 490 µmol/L on sample 1; Urea 48.9 mmol/L and Creatinine 40 µmol/L on sample 2, 12 hours later, will fail a delta check on the creatinine – this must be investigated for possible analytical errors.

Incomplete Tests must be checked regularly for “missing” results especially those held in review status in CentraLink e.g. positive samples indices, rerun results, triglyceride >4.5 etc.

RESULTS VALIDATION (IMMUNOLOGY SECTION)

Refer to LP/PA/IM/SOP5

Section A – Dealing with telephone calls generated by the laboratory and the results validation procedure

Appendix 1 states the critical limits that must be phoned. **These limits apply to ALL patients.**

Those that have an * must be phoned regardless of the time of day.

However, for some analytes for GP's they can wait until the next morning to be phoned. These are not shaded and do not have * next to them.

In-patients

All critical results phoned to ward.

Out-Patients

Results should be telephoned to the Consultant's secretary where possible or, in case of difficulty, to the Consultant or covering medical consultant/registrars on-call. Out of hours, contact *via* switchboard, the Clinical Scientist on-call for advice, before telephoning any results. If the medical secretary has gone home, BMS staff are advised to determine which GP practice the patient is with from CaMis prior to phoning the on-call Clinical Scientist.

For those areas which do not have access to iCM

- **GP Patients**

GP-patients – normal hours

During normal working hours telephone **results that fall outside critical limits**

GP Patients – out of hours the critical values with * attached have been agreed between the PCT and representatives from the laboratory.

Results may be given directly to the GP or Nurse Practitioner on duty. For critical results where the BMS is uncertain about the correct course of action, please contact (*via* switchboard) the on-call Clinical Scientist for advice.

Critical results without an * that do not need to be phoned until the next day should be documented on the laboratory telephone notepad and sent to the Ghost queue (M queue) detailing within the clinical notepad section of WinPath that the result will be phoned the following day.

- **HM prisons, County Hospitals**

All critical results to be phoned as these hospitals are "open" to take results 24hrs

TELEPHONING RESULTS – GENERAL

- As all ward areas and most GP practices are on electronic links, phoning of results should be kept to a minimum. Always inform the person you are speaking to that the results are available on screen.
- Verbal results may only be given by appropriately trained staff.
- **Critical results should be phoned to the requester by qualified laboratory staff. Results can also be phoned by trainee BMS and AP staff under supervision of qualified laboratory staff.**

- Before issuing results to a user over the phone first establish the person making the enquiry is entitled to do so by asking who is speaking and ascertain they are authorised to take results. Requestors may include Consultants or their secretaries, other hospital doctors and ward staff, GPs or practice nurses. Staff from GP surgeries must give the appropriate password when phoning the laboratory for results. **Under no circumstances must results be given directly to the patient.**
- If a patient contacts the laboratory for results, please refer them to the duty Clinical Scientist.
- If a clinician telephones for their own results, please refer them to the duty Clinical Scientist.
- Critical results that require phoning due to the limits detailed in appendix 1 can be given to the following groups of staff:

Doctor/Medically trained member of staff
GP
Member of the nursing staff
GP receptionist/Practice Manager
Ward Clerk
Competent staff member nominated by that clinician

If you do not feel that the person has understood/is unable to recite the results back to you, always ask to speak to another member of staff. **Always check who you are speaking to before giving any results over the telephone.**

- Pathology general office staff may only issue verbal results on telephone requests. Only authorised results can be given, and they may not comment on the results. All clinical interpretation of test results must be given to the Clinical Scientist. BMS staff can comment on whether or not a test is out with the reference range but must pass the caller on if clinical advice is requested.
- Before issuing any results first clearly identify the patient and sample by using the following information:
 - Patients name plus at least two of the following: CRN, DOB or address
 - Sample type
 - Date and time of sample
- **In all cases the person receiving the results should be requested to read back the given results in order to confirm the accuracy.**
- Results should be phoned alongside other tests within the same requesting category. For example; A potassium result is 6.6 mmol/L. Do not phone the potassium result on its own. Give the results of the U&E profile. A triglyceride result is 30.0 mmol/L, telephone the lipid profile.

TELEPHONING IMMUNOLOGY SECTION RESULTS

Most results in Immunology are classed as non-urgent and telephoning them out is not required. Exceptions are significant new paraproteins and abnormal serum free light chains; criteria are listed in Appendix 1. In addition all **new positive or equivocal** ANCA (MPO/PR3) and GBM results are telephoned.

Telephone queries for results are common.

- Immunology staff telephone only Immunology results. Refer the caller to the relevant department/section if other results are required.

- If a result to be telephoned has not been verified, BMS staff must check with Senior Immunology staff that the result is valid and complete, before it is given to the requestor. Include any comments that are attached to results.
- When phoning new paraprotein results which meet the criteria in Appendix 1, BMS staff must check results are valid and complete, with senior staff, before telephoning them out.
- Paraprotein results telephoned to a GP surgery should be given to a doctor or practice nurse, not the receptionist, due to the complexity of the result.

RECORDING THAT RESULTS HAVE BEEN TELEPHONED AND WINPATH ACTIONS (ALL SECTIONS)

- Staff must log the phone call on WinPath with tests phoned and **recipient's full name**.

This is carried out as follows:-

1. Select the red telephone icon from the top of the patient's WinPath screen
 2. Tick the analyte(s) you have telephoned
 3. Detail who you have spoken to in the 'Telephoned to' field
 4. Click Save – if you do not do this there will be no audit trail that you have contacted the requestor.
 5. Transfer results to Biochemistry Ghost Queue for authorisation (except for Immunology – see LP/PA/IM/SOP5).
- Remember that if you could not get through this must be logged also using the same method as detailed above but instead tick the failed section.
 - You must try to phone results at least 3 times. As a qualified BMS, it is expected that you are able to assess the severity of abnormalities and requirement to contact the requestor. If you are in any doubt contact the Clinical Scientist on duty/on-call.
 - If you are having problems getting through to a user, please log the laboratory number on the telephone call log, release the result (send to M queue) and try to phone the result later. Ensure you communicate to colleagues that there is a result to phone if you are handing over.
 - **All results that breach the critical telephone limits must be transferred to the Ghost Queue (M queue) for Clinical Scientist review.** This includes those that have not been telephoned due to meeting the associated information criteria. For example, a urea of 29.0 was not phoned as the result from the previous day was 30.0. An exception is new paraproteins (Immunology section) which are transferred to an alternative queue for clinical authorisation (see LP/PA/IM/SOP5).

Appendix 1 - Telephone Limits for Critical Biochemistry and Immunology Results.

The table below details the abnormal results that require phoning to the requesting doctor or medical colleague. The table below has been drawn up taking into consideration clinical pathways, users' requirements and the RCPATH Guidelines (G158 version 1) for phoning out of hours. These limits have been agreed with the Medical Directorate and GPs for phoning during the day and to the Out-of-hours service (Abnormal Laboratory Results: a Service Specification for the Out-of-hours Services).

Test marked with an asterisk and shaded:

Must be phoned to the requestor or to the OOH service (if it is a GP sample at night).

Refer to the on-call Clinical Scientist if you are unsure whether a result needs to be phoned to OOH.

Tests marked without an asterisk and unshaded:

Need to be phoned to the GP practice the following morning. This would also apply to outpatients. For outpatients if there is no facility to phone on a Saturday then contact the on-call Clinical Scientist to determine the urgency.

N.B. 'If no previous critical result' applies only to the current patient episode; otherwise results must be regarded as a new critical result and must be telephoned.

Test	≤ Low	≥ High	Action
* Na ⁺	120 (in-patients) 124 (GP and out-patients)	155	If no previous critical result or if critical result worsening Note different phoning limit for in-patients and GP/out-patients.
* K ⁺	2.7	6.5	If no previous critical result or if critical result worsening Check for haem, age of sample & possible EDTA contamination Those that are haem 1+ and have the HLOW or HAHI comment added are to be phoned.
* Urea	-	25 (Adults) 10 (<16yrs)	If no previous critical result or if exceeds previous critical result by >10.
* Creatinine	-	400	If no previous critical result or if exceeds previous critical result by >50
* AKI score			Phone all initial stage 2 and 3 results. Phone any results that change from a stage 1 to 2 or 2 to 3.
* TCO ₂	10		If no previous critical result
* Glucose (Random & Fasting)	2.5	20.0	Phone >12.0 in patients <16 yrs. For adults: If >20.0 in an unknown diabetic If >30.0 in a known diabetic
* Amylase	-	500	If no previous critical result
* Ca ⁺⁺ adjusted and results with no adjustment	1.80	3.00*	*ALL calcium results >3.00 phoned regardless of previous critical result. For results <1.8 - phone if no previous critical result or if critical result worsening. Request and perform U&E.
* Magnesium	0.5	-	If no previous critical result
* Phosphate	0.30		If no previous critical result

* CK	-	1000 400 (<16yrs)	If no previous critical result. Request and perform U & E.
* Paracetamol	-	10	
* Salicylate	-	200	
* TNIH (high sensitivity)	-	47	Phone all initial abnormal results (current patient episode) Phone all GP troponin results if above phone limit
* Lithium	-	1.0	
* Digoxin	-	2.5	Give U&E results also
* Phenytoin	-	30	
* Theophylline	-	30	
* Carbamazepine	-	25	
* Cortisol	<100		To be phoned as priority UNLESS <ul style="list-style-type: none"> dexamethasone suppression test or Midnight cortisol Do not assume a dexamethasone test has been undertaken – check with duty/on-call Clinical Scientist if in doubt
* Ammonia	-	100	All patients - Neonate and children <16 years and adults
* Lactate	-	4.0	CSF or serum sample
* CRP		See Action column	≥ 10: Children up to and including 3 months of age >300: Adults (if no previous critical result)
* ALT		600 500 (<17 yr)	Phone if no previous critical result. If patient <17 years old: phone results of 500 and above.
* AST		600	If no previous critical result
* CSF results			All paediatric CSF results and all Xanthochromia results
* Haem 4+ samples			Phone all URGENT haem 4+ (this will include all A&E)

Test	≤ Low	≥ High	Action
Bile Acids		14	
Triglyceride	-	20	If no previous critical result
Ethanol		3000	Phone > 1000 if <16yrs
Paediatric Total Bilirubin		200	Phone GP or community midwife on-call the following morning if weekend or public holiday. Do not leave results for more than 12 hours. Paed bilirubin >200 also to be phoned if result worsening.
Paediatric Conjugated		20	
CoHb		All	
Iron	-	40	

Thyroid		See Action column	TSH >100 if no previous critical TSH <0.05, FT4 >35 or FT3>15 if no previous All FT4>50 and All FT3>20 TSH <0.35 or >5.5 if patient <16 years and no previous
Gentamicin		1 5 1	Pre-dose Post –dose Random (don't know whether equivalent of pre-dose) Refer any queries to Consultant Microbiologist
PLGF ratio (Placental Growth Factor ratio)		>38	To ward teams

DO NOT COPY

Test	≤ Low	≥ High	Action
Immunoglobulins in paediatric patients – results below the reference range in context of suspected severe combined immunodeficiency (SCID)	Results below reference range in suspected SCID	N/A	Discuss with Clinical Scientist to determine need to phone results. Phone requesting location and Paediatric Immunology team at RVI, Newcastle (0191 282 5984)
Serum electrophoresis – significant new paraproteins	NA	See action column	Immunology BMS staff to phone during working hours to GP surgery, Ward or Consultant's Secretary (for outpatients). IgG ≥ 15 g/L IgA or IgM ≥ 10 g/L All new IgD and IgE paraproteins All new monoclonal free lambda/kappa light chains
Immunofixation			All insufficient samples to be phoned.
Serum free light chains – significantly abnormal results (<u>new finding</u>)	<0.2	>5	Immunology BMS staff to phone during working hours to GP surgery, Ward or Consultant's Secretary for outpatients. <u>Recommend discuss with Consultant Haematologist</u> (if patient not currently under Haematology).
	<0.01	>100	Immunology BMS staff to phone during working hours to GP surgery, Ward or Consultant's Secretary (for outpatients). <u>Recommend urgent discussion with or referral to Consultant Haematologist</u> (if patient not currently under Haematology)
ANCA (MPO/PR3) and GBM results			Phoned to user if NEW finding of positive or equivocal. Inform user of the associated clinical comment.

Section B - dealing with calls for results to the laboratory

The availability of the iSoft Clinical Management (iCM) system within the Trust and electronic reporting of results to all GP surgeries has, in most circumstances, greatly reduced the number of incoming calls to the laboratory requesting results.

There are four main reasons why results may not be available in electronic form in iCM:

- The specimen may not yet be analysed - the result may not be available as expected.
- The result may be in the Critical/Telephone Limit range and has been communicated to the doctor by telephone. Such results may need further comment by a Chemical Pathologist/Clinical Scientist and will not appear in iCM until they are released from the clinical validation queue.
- The patient may not have been registered on CaMIS before the request was processed by the laboratory. In this case a WinPath system assigned number has been used. The results will not appear in the electronic patient record until the files are merged.
- The interface between WinPath system and iCM may be interrupted and needs to be reset or investigated further.

For GP practices non-availability of results may be due to one or more of the following:

- Patient details given on the request form and sample may not match those on record at the practice.
- Tests not requested.
- Patient attended GP for phlebotomy for out-patient appointment, request booked in as OP not GP.
- Laboratory registration error.

Telephone calls may be expected when any of these situations arise. For calls within the Trust, it is expected that staff will identify themselves before asking for results. Calls for results from Priority Services and Mental Health Trusts should be regarded as "internal".

Calls for results from outside the Trust are covered by Data Governance regulations and General Practitioners and associated community based nurses are issued with passwords provided by the Trust's IT department. This password must be given before results are issued. If you are in any doubt about the identity of the caller, take the name, surgery, and telephone number – then check on the GP surgery list to confirm the information is correct then call the surgery back to issue the results.

For any external locations not issued with passwords, take the contact details of the person requesting the results and inform them that you will phone/email them back. Verify the information they have given by searching online or phoning the main telephone number for the location, then once confirmed, phone/email back with the results.

Please record in WinPath that results have been telephoned – ask for the person's name who has requested/taken the results.

Useful contact numbers:

UHND Out of hours: Ext: 32681
DMH Out of hours: 43472 (1800-2300) and 44303 (After 2300)
BAGH Out of hours: Ext: 54997/55028
Shotley Bridge Out of hours: 01207 594657
Peterlee Out of hours: 0191 518 2826

SOP LPDMCBOP101 – Useful telephone numbers

111 – if you can't get through to the OOH services then you can contact 111 who will be able to give you an alternative number for OOH. This should only be done if there is a technical problem getting through to the OOH service – not as an alternative to phoning results. Contact the on-call Clinical Scientist if further advice required.

Other contact telephone numbers should be available on the Trust Intranet site.

Critical lithium results:

For GP requests out of hours, phone the GP out of hours service.

For OPD requests from Consultants within the Mental Health Trust, etc contact the relevant Consultant on the following numbers:

Consultant Psychiatrist	Secretary	Telephone number
Dr SJS Martin	Carol McDonald	0191 333 3478
Dr J Thomkinson	Claire Peacock	0191 333 3477
Dr E Jones	Eileen Huntley	0191 333 3476
Dr J Garcia	Janice Featherstone	0191 333 3411
Dr Appleton	Pam Brown	0191 333 3444

If you are unable to contact the Consultant or secretary, contact the Durham Mental Health Trust Crisis Team on 0191 333 3500.

Critical Referral results

Results that are telephoned from our referral laboratories should be recorded on the telephone enquiry form for referral laboratories LFPACB013 and phoned to the requestor.

The duty Clinical Scientist may also ask for results to be telephoned depending on their interpretation of results.

Critical serum bilirubin results in newborns/neonates in community

Midwives

Durham Base: 0191 3728704 (unless mobile on form)
Chester Le Street Base: 01913876537 (unless mobile on form)
Derwentside Base: 01207594401 or 01207594430 (unless mobile on form)
Maternity Infinity team 64655 Shotley Bridge (unless mobile on phone)

Bishop Auckland Team: Ring Ward 10 UHND

At weekend ring Ward 10, UHND

Flow Chart (Biochemistry)

