The priority test request form

A method for improving communication between the physician and the Emergency Clinical Biochemistry Laboratory

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SUMMARY Two forms—a priority test request form and a telephone results form—provide improved communication between the physician and the emergency laboratory of the Clinical Biochemistry Department. The priority test request form contains a list of available tests and it allows the physician to tell the laboratory exactly when emergency test results are required. The telephone results form ensures that the physician will receive a report, by telephone, of a test result although it may not be an urgent test. This allows a greater control of work flow, both routine and emergency, through the laboratory.

To the critical eye there is a very obvious disparity between the number of severely ill hospital patients requiring emergency biochemical estimations and the actual number of emergency biochemistry requests received by the laboratory. Thus it is not uncommon, in Ontario teaching hospitals, to receive one emergency request for every three routine requests in general chemistry, a proportion that does not reflect the actual occurrence of clinical emergencies, even allowing for the frequent re-sampling of a critically ill patient.

Need for communication between ward and emergency biochemistry laboratory

It is evident that this type of abuse of the laboratory service can only be prevented by educating the physician, but this perennial task has to be supplemented by local hospital rules governing availability and approval of emergency testing. For the young physician in training, who rotates round several hospitals and who is responsible for ordering most of the emergency tests, these rules can be confusing. Although laboratory and ward manuals are available, it is a common experience that they are not consulted. Therefore, it is essential to provide both easy accessibility to the rules governing emergency test requests as well as a current list of the tests that are available.

All laboratory workers are familiar with the *urgent* emergency test request, which, on further enquiry, turns out to be for a test that could be done sometime within the next few hours—not necessarily immediately. Thus, it would be useful if the physician demanding an emergency test could indicate to the laboratory an acceptable delay in processing the estimation.

Another aspect of emergency test requests is that many of the results are not really required even within a few hours as long as they are available sometime that day. The only method the physician has—unless the laboratory is telephoned about the specimen, a rare occurrence—is to use the emergency test request system. Again, if some mechanism existed whereby the laboratory could be readily informed of this type of demand, less stress would be placed on the emergency laboratory.

With these criteria in mind, this laboratory has evolved an emergency test request method that goes some way to improving the level of communication between the clinical units and the laboratory. In North America the emergency test request is usually called 'stat', but, because of the lack of a clear definition of the term, we decided that 'priority' would be a better word to use as it did not have any unwanted connotations.

In Fig. 1 is shown the priority test request form; it is bright red on a white background. This form is attached to the biochemistry requisition, and its colour makes it readily distinguishable amidst a pile

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PRIORITY TEST REQUEST

1. LIST the PRIORITY TESTS you require, in DECREASING order of PRIORITY.
2. INDICATE the SPECIFIC TIME by which you must have the PRIORITY TESTS reported.
3. If necessary, give the NAME and TELEPHONE NUMBER to contact when the result is available.
4. ATTACH this FORM to the BIOCHEMISTRY REQUISITION.
5. This request will be processed ROUTINELY if the above information is not provided, or the tests requested are not listed in AVAILABLE TESTS below.

SPECIMEN: BLOOD ☐ URINE ☐ OTHER (specify) ☐

TIME & DATE: Hour Day Mo. Yr.

DO NOT USE

CLINICAL INFORMATION

RESULTS TO BE TELEPHONED TO: (Name) TELEPHONE NUMBER:

TEST (in decreasing order of priority)

	15 min	1h	2h	3h	Today
1.	☐	☐	☐	☐	☐
2.	☐	☐	☐	☐	☐
3.	☐	☐	☐	☐	☐
4.	☐	☐	☐	☐	☐
5.	☐	☐	☐	☐	☐

AFTER RECEIPT BY LAB, RESULT REQUIRED BY:

AVAILABLE PRIORITY TESTS:

SERUM/PLASMA
Na⁺, K⁺, Cl⁻, bicarb
BUN, creatinine
glucose, osmolality, Ca²⁺, Mg²⁺
amylase, CK, PT
barbiturates (total)
salicylate, ethanol, lithium

URINE
Microscopy
Stix Tests (glucose, protein, ketones,
Hb, bilirubin, urobilinogen)
— order STIX
Na⁺, K⁺, osmolality, amylase
C.S.F.
glucose, protein

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FIG. 1

Fig. 1 The priority test request form. Each form is 14 × 22 cm and they are made up in pads of 50. The rules for use are now tightly enforced although during the introduction of the system they were not.

Fig. 2 The telephone results form. The form is printed on the back of the priority test request form.

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TELEPHONE RESULTS

1. Do NOT use this side for PRIORITY TESTS.
2. List the TEST RESULTS with the TIMES (note constraints) you require them by.
3. If necessary, give the NAME and TELEPHONE NUMBER to contact.
4. ATTACH this FORM to the BIOCHEMISTRY REQUISITION.
5. Use only ONE side of this form — PRIORITY and TELEPHONE RESULTS can be put on the PRIORITY TEST form provided time constraints are observed.

SPECIMEN: BLOOD ☐ URINE ☐ OTHER (specify) ☐

TIME & DATE: Hour Day Mo. Yr.

DO NOT USE

CLINICAL INFORMATION

RESULTS TO BE TELEPHONED TO: (Name) TELEPHONE NUMBER:

TEST

	15 min	1h	2h	3h	Today
1.	☐	☐	☐	☐	☐
2.	☐	☐	☐	☐	☐
3.	☐	☐	☐	☐	☐
4.	☐	☐	☐	☐	☐
5.	☐	☐	☐	☐	☐

AFTER RECEIPT BY LAB, RESULT REQUIRED BY:

AVAILABLE PRIORITY TESTS:

SERUM/PLASMA
Na⁺, K⁺, Cl⁻, bicarb
BUN, creatinine
glucose, osmolality, Ca²⁺, Mg²⁺
amylase, CK, PT
barbiturates (total)
salicylate, ethanol, lithium

URINE
Microscopy
Stix Tests (glucose, protein, ketones,
Hb, bilirubin, urobilinogen)
— order STIX
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glucose, protein

DO NOT USE

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FIG. 2

of routine requests. The rules for use are clear and definite. We do not demand a physician's signature or clinical information although the clinical problem is often provided! The form also contains a list of the currently available priority tests. This list is changed regularly, and as the forms are printed in the hospital the list can be readily updated.

In Fig. 2 is shown the telephone results form; it is printed in red on the back of the priority test form. This form is used when there is no urgency but the physician would like to have the result telephoned back that day.

Effect of priority test request form on clinical units

Physicians in this hospital order tests by an entry in the order sheet of the patient's case notes. The actual

test request is prepared by the ward clerk (usually) or a nurse (occasionally). Both groups resented the introduction of another form (formerly, emergency tests were ordered by sticking a bright red stat sticker on the routine test request form). Before, and during, the introduction of the new form, intensive education by the senior staff of the Clinical Biochemistry Department was necessary to convince the ward clerks that the new form would improve the quality of patient care even though more work was now required to order an emergency test. For about 10 days after the priority form came into use there were very few emergency tests requested! Eventually the number of requests rose to a level similar to that experienced before the change. Since then (late 1976) the level of requests has stayed fairly constant (50-90 requests/day).

The priority test request form

The main effects on the clinical units have been:

1 The number of tests per request have *dropped* from more than four to less than two, that is, formerly a stat SMA 6/60 (serum sodium, potassium, chloride, bicarbonate, urea, and creatinine) was extremely common, whereas since the introduction of the priority form serum potassium alone is more frequent.

2 The time delay on an emergency test request is clearly being considered by the physician because two or more hours' delay is regularly being notified to us. This did not occur previously.

3 To a small extent the additional labour required to complete a priority form is inhibiting their use.

Effect of priority test request form on laboratory

The emergency laboratory in this Department of Clinical Biochemistry is incorporated in the routine laboratory so that all specimens—routine and emergency—are initially processed through the same system. Therefore, a bright red priority form attached to a test request ensures that the emergency request is accelerated through the processes of computer entry, centrifugation, and analysis. The time delay indicated on the form has proved beneficial to the laboratory staff because routine sample 'set-back' may not always be necessary if a priority test is required two or more hours after the specimen has been received. This information has therefore allowed less interruption of the routine service.

The time delay boxes on the form have created some problems for the clinical units (and therefore the laboratory) as there is sometimes a lack of awareness of a reasonable delay to be expected for some tests. Although we have suggested reasonable turn-around times for all the priority tests on our list, it is evident that a small pocket-sized booklet issued to all medical, nursing, and clerical staff will be a more effective method of communication. This is now in preparation.

Another problem for the laboratory has been that our emergency serum glucose turn-around time has not matched the demands of the clinical units. With a Technicon Auto-Analyzer II System running at 100 samples/h, using a curve regenerator and a data converter, the analysis time is 12 min. Sample prep-

aration can take 5 min and the total minimum delay of 17 min is regarded as unsatisfactory by the clinical units. We have therefore changed emergency glucose analysis to a Beckman Glucose Analyzer 2, which has reduced the turn-around time to less than 7 min.

The time constraints on the other tests appear to match demand fairly well although continuous monitoring of the acceptability of our service should uncover other inadequacies as it did for serum glucose estimations.

The telephone results form

This form was introduced earlier this year to fulfil a need, expressed by many physicians, for non-priority test results to be telephoned to the clinical units. However, we receive less than five of these requests daily. It is clear to us that we shall have to embark on a campaign of education similar to that used when introducing the priority test request form if the new form is to be used optimally. It is in our own best interests to have this form used more frequently so that the emergency service workload is lightened as much as possible.

Conclusions

The priority test request form was introduced two years ago to allow the physician to discriminate between immediate and delayed emergency test requests. This aim has been fulfilled but it is evident that continual education of house-staff will be necessary to ensure optimal utilisation of these forms. The importance of gaining the confidence and understanding of the clerical and nursing staff has become very obvious, because it is to these groups that the new house-staff member goes to seek advice.

The list of available tests has almost completely avoided acrimonious exchanges between the clinical units and the laboratory about tests that may, or may not, be done in the emergency laboratory.

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