

# ESR guidelines for the communication of urgent and unexpected findings

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**Abstract** The timely communication of radiological findings is important for patient care. When imaging reveals abnormalities that require urgent action, or shows significant unexpected findings, the usual methods of communication may not be reliable enough to ensure that those responsible for clinical care of the patient act promptly. These guidelines suggest methods for improving communication in these circumstances, using clear protocols and procedures agreed between imaging units and referrers.

## Main Messages

- *Communicating critical radiological findings will enable urgent or appropriate action to be taken.*
- *Good communication helps to improve patient safety.*
- *Clear departmental protocols become familiar to referrers within the organisation.*
- *Referrers should be aware of their responsibility to read and act on radiological reports.*

## Introduction

Medical diagnosis and treatment decisions rely increasingly on imaging information. Whilst radiologists take great care to ensure the diagnostic accuracy of their reports, patients may not benefit from this expertise if there is a failure of timely communication of the imaging findings. In some countries, notably the United States, failure of commu-

tion of imaging findings to the relevant referrer has become a common cause of litigation against radiologists [1].

An ideal situation for most non-emergency situations is where imaging reports are communicated via electronic means to the correct referring doctor, with an automatic feedback or alert mechanism if the report is not accessed within a certain time. Internationally agreed data exchange standards, such as IHE (Integrating the Healthcare Enterprise) profiles, integrated into electronic systems can assist institutions in providing seamless electronic communication.

Effective feedback and monitoring systems would enable radiologists to rely on reports being accessed and read, but in practice such systems are rare, and would still not be responsive enough for life-threatening emergencies. With large and increasing workloads, radiological examinations are more frequently reported remote from the site of acquisition, and radiologists are increasingly providing more complex services outside conventional working hours; it has, therefore, become even more challenging to ensure the timely communication of urgent or unexpected findings.

## Responsibility

### Institutional responsibility

All institutions have an obligation to encourage and promote safe practice. Additional radiology report alert mechanisms are a safety feature, but these incur extra costs. The most reliable systems which have electronic information transfer and confirm/report acknowledgement functions may require significant capital investment; and all additional methods are time-consuming for the radiologists.

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## Referrer responsibility

All doctors who refer patients for any investigation have a duty to ensure that the results of such investigations are properly followed-up, accessed and acted upon. This obviously also applies to the results of radiological examinations. The referrer should read, and preferably mark as read, the results of all imaging investigations, which they request. Hospital doctors often work in teams, and shift working is common, therefore the responsibility for reading and acting on radiological results must be clear within the team and if the duty is delegated to another team member, this delegation should be clear.

## Radiology responsibility

Departments of radiology and imaging providers have a duty to ensure that they have robust protocols in place to send reports to referrers in a reliable, timely and consistent manner. Everyone in the institution should be aware of the system.

More problematic and open to debate is the handling of cases in which there are urgent or unsuspected radiological findings, and where an additional alert mechanism to ensure that the findings are not overlooked may be desirable. In addressing this issue there are two levels of responsibility:

1. Radiology department/provider management responsibility. Ideally, radiology departments should have written protocols outlining the procedures for the additional steps required in the event of emergency or unexpected findings being revealed. This allows both referrers and radiologists to understand how limited or extensive is the radiologist's responsibility for alerting the referrer. For example, the policy may be only to contact the referrer by telephone in the case of an immediate life-threatening abnormality; or could include other situations such as clinically unsuspected cases of malignancy [2]. Protocols should stipulate the method of alert, which may range from direct telephone contact or faxing of reports, to electronic means where annotations on a picture archiving and communication system (PACS) or radiology information system (RIS) are used to indicate a priority report. Where a written protocol exists, it should be widely available, disseminated throughout the institution, and adhered to by the radiologists, although protocols do not remove the radiologist's duty of care to always act in the best interests of the patient.
2. Radiologist responsibility. In the presence of a written policy, radiologists should be aware of and follow

agreed protocols. In the absence of a clear policy, and when a radiologist is concerned that important imaging findings with emergency or potentially serious consequences for the patient may be overlooked, it is good practice to attempt to ensure that the report is communicated effectively by whatever means seems appropriate [3].

## Reasons for 'enhanced communication'

### Emergency findings

These include situations where the patient may come to harm if urgent medical action is not taken. Examples would include: pulmonary emboli, fractures, acute bleeding, etc. Rarely, individuals other than the patient may also come to harm if treatment is not started early, such as in the case of open tuberculosis. The need to communicate directly will of course depend on whether the diagnosis is suspected and mechanisms are in place to treat immediately, or whether it is unsuspected—for example, a pulmonary embolus found incidentally in a routine out-patient CT examination.

In emergency cases, the consequences for the patient are so severe that there will usually be little doubt that direct contact, usually by telephone, is made either to the referring doctor or someone who is able to take appropriate action. These cases may be very time consuming because of the need to locate a doctor who is in a position to see or contact the patient and take immediate action.

### Unexpected findings

When there is a significant abnormality detected on imaging, such as a mass lesion or suspected malignancy, the referrer needs to take appropriate action within a short time-frame. To know whether the abnormality is completely unsuspected or might have been suspected by the referrer, the radiologist has to rely on the information available, usually the request card. On this basis, he/she has to make a judgement as to whether the diagnosis is unsuspected and whether any additional alert mechanism is necessary. Here, direct telephone communication is not usually necessary, and other methods can be used. They may be electronic, with alert or red flags attached to the reports on electronic systems, or involve physical means such as faxing or e-mailing the report. Where departmental protocols are in place, these mechanisms should be clearly outlined and adhered to, but individual judgement may have to be exercised if no protocols exist. This line of communication is also influenced by the radiologist's knowledge of local processes and the individual referrer's preferred system of tracking reports.

## Incidental findings

This is a current area of debate. Usually, urgent communication is required only where action needs to be taken in a short time-frame. When further investigation is suggested but the incidental finding is not thought likely to be of urgent significance for the patient, the normal reporting processes will usually suffice.

### Advantages of enhanced communication methods

1. Improves patient safety: poor communication can result in harm to patients.
2. The radiologist ensures maximum benefit to the patient from the investigation by ensuring timely and appropriate action is taken.
3. Good department protocols become widely understood within the organisation and amongst referrers.

### Disadvantages of enhanced communication methods

1. One major concern of radiologists is that referrers will rely on alert mechanisms, especially alerts attached to electronic reports, and assume that the other reports are normal or have no significant findings; a practice or assumption which could be hazardous. It is indeed possible to adopt a policy where all investigations showing any abnormality, however minor, are flagged and only normal reports unflagged, or vice versa. This goes beyond the enhanced communication systems suggested above.
2. There is also a concern that the responsibility for ensuring that imaging reports are acted upon will transfer to the radiologist, even though they have only limited information about the patient at the time of reporting. Even legal responsibility might transfer to the radiologist. To address this, departmental policies should be clearly defined and adhered to.
3. All alert mechanisms take additional time and effort, so there are associated productivity costs.

## Recommendations

1. Institutions should support all initiatives that improve the timely communication of imaging findings and prompt action on the part of referrers.
2. Departments should develop local protocols that clearly outline the methods and circumstances under which additional alert methods—above and beyond—the normal reporting methods will be undertaken.
3. Referrers should be made aware of the department alert mechanisms and protocol and their own responsibility to ensure that they read radiology reports and act accordingly. All request cards should have sufficient contact information for the radiologist to be able to contact the referrer in the case of emergency.
4. Individual radiologists should familiarise themselves with, and comply with, local protocols. They should add notes in the imaging report or in patients' medical records, the details of any additional action undertaken as a result of the imaging findings, giving names and details of those they have contacted directly.
5. Radiologists will also need to exercise individual judgement in deciding how to proceed in the best interests of any patient.

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## References

1. Berlin L (2002) Communicating findings of radiological examinations: whither goest the radiologist's duty? *AJR Am J Roentgenol* 178:809–8152
2. The Royal College of Radiologists (2008) Standards for the communication of critical, urgent and unexpected significant radiological findings. [http://www.rcr.ac.uk/docs/radiology/pdf/Stand\\_urgent\\_reports.pdf](http://www.rcr.ac.uk/docs/radiology/pdf/Stand_urgent_reports.pdf)
3. American College of Radiology (2010) American College of Radiology practice guideline for communication of diagnostic imaging findings 2010 [www.ACR.org/Practice guidelines and technical standards](http://www.ACR.org/Practice_guidelines_and_technical_standards)