Communication of Results in Radiology

- Communication of radiology results may be either standard (written report) or non-standard (direct contact sometimes with acknowledgement)
- At Mass General, standard communication may be by paper, electronically through the longitudinal medical record, or by e-mail according to physician preference
- A variety of non-standard communications take place at Mass General. Communications based on medical urgency follow Partners Healthcare protocols. Other types of communications might be available in certain circumstances
- Failures of communication are a frequent cause of malpractice litigation. The Joint Commission and other regulatory bodies mandate that certain communication protocols be followed

Prompt communication of medical imaging findings can be essential for timely clinical management of patients. In some instances, the time frame for communication is dictated by medical issues. In others, it can be a matter of convenience or necessitated by various scheduling requirements. Although timeliness is clearly important, it may be more important in some cases to assure that the information has been received. The Massachusetts General Hospital Department of Radiology has implemented a variety of systems and policies that are intended to address these needs. This article describes the types of radiology-related communications that referring physicians may receive.

Standard Communication

In radiology, standard communication refers to the creation and delivery of written reports. Several delivery mechanisms are in use at Mass General. Most physicians probably receive their reports in electronic form, by viewing them on Clinical Application Suite (CAS), the Longitudinal Medical Record (LMR), or other systems. Our current practice is to make reports available electronically once signed by a trainee (i.e., resident or fellow). They are thus "preliminary" in the sense that the final report may be edited by the attending physician at the time of final signature. Departmental policy requires that medically significant changes be communicated directly to the requesting physician or his/her designee. Minor changes (e.g., spelling) do not require such notification. Paper reports are still generated unless the clinician has requested that they be discontinued. Final reports are also available through e-mail (preferred because of reliability) or fax. Physicians may indicate their preferences (LMR only, e-mail, fax, or paper).

Once issued, final reports are part of the medical record and cannot be edited. Changes can only be made by making an addendum to the report. When viewed on the electronic systems, the addendum (if present) appears before the report.
This communication must occur within 60 minutes of the time that the observation is made and must be documented. It is impossible to list all of the circumstances that might require Level 1 communication, and it is usually impossible to be certain that a finding has crucial significance to a particular patient. Since identification of a result as “critical” inevitably intrudes upon the work of both the clinician and the radiologist, we have limited the list of critical results to only those circumstances on which we expect universal agreement.

The complete list of “critical” results at Mass General is listed in Table 1. Note that all “critical” results require Level 1 communication, but not all Level 1 communication will meet the definition of a “critical” result.

Level 2 results are less dire and require communication within six hours. For results in this category, the radiologist might call directly, or might request that the Communication Center (see below) call on his/her behalf.

Level 3 communications are not particularly time-sensitive but report an important or potentially important finding that should not be overlooked. A newly observed lung nodule might fall into this category. The Important Findings Alert (IFA) system was created to assist clinicians to take note of such findings. The IFA is an automated e-mail alert that includes an embedded link to the report. The link only operates within the Partners firewall. The Radiology Communication Center tracks these e-mails to make sure that they are successfully sent and when necessary supplements them by phone or fax.

Non-Standard Communication

Non-standard communications in radiology follow the Partners Healthcare recommendations based upon medical urgency.

The Joint Commission requires that we identify certain results as "critical." For all "critical" results, Level 1 communication is mandated and audited. Such communication requires direct contact between the radiologist and the requesting or responding clinician or another licensed health care provider responsible for that patient’s care. This communication must occur within 60 minutes of the time that the observation is made and must be documented. It is impossible to list all of the circumstances that might require Level 1 communication, and it is usually impossible to be certain that a finding has crucial significance to a particular patient. Since identification of a result as “critical” inevitably intrudes upon the work of both the clinician and the radiologist, we have limited the list of critical results to only those circumstances on which we expect universal agreement.

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Wet Reading

"Wet readings" are available for many but not all imaging studies. If requested, a "wet reading" will cause the examination to go to the top of the radiologist's worklist, resulting in earlier interpretation and a phone call from the Communication Center to deliver the report. To ensure performance, "wet readings" must be requested at the time that the order is placed, and a pager number or phone number is required. Because of the complexity of the systems in use at Mass General, attempts to modify an existing order by adding "wet reading" may fail to be communicated.

| Table 1. A Listing of Critical Radiology Findings that Require Level 1* Communication |
|---------------------------------|---------------------------------|
| Tension Pneumothorax           |                                |
| Newly demonstrated leaking or ruptured aortic aneurysm |                                |
| Unexpected free air in the abdomen |                            |
| Clinically significant pediatric intussusception |                     |
| Significantly misplaced tubes or catheters, if not previously reported |                     |
| Acute intracerebral hemorrhage  |                                |
| Unstable fractures that might be unknown to the requesting provider |                        |
| Evidence of ischemic bowel     |                                |
| Significant pulmonary embolism |                                |
| Acute deep venous thrombosis   |                                |

*Level 1 communication must occur within 60 minutes of the time when the observation was made
The Mass General Radiology Communication Center

The Mass General Radiology Communication Center has been in operation since 2010. It operates Monday through Friday from 7am to 11pm and on Saturday and Sunday from 7:30 am to 5:30 pm. Its primary function is to facilitate non-standard (but not "critical") results reporting. The Communications Center has no role in Level 1 communication.

For Level 2 communication and for "wet readings," once the report is complete, the Communications Center will contact the requesting clinician by pager or phone, read the impression, and, if requested, provide contact information for the interpreting radiologist.

The Communication Center also ensures that e-mails generated by the IFA system are delivered. If the communications system flags an e-mail as being undeliverable, it becomes the responsibility of the Communication Center to make sure that the correct physician is contacted and the IFA is communicated.

In some instances, clinicians might receive a courtesy call from the Communication Center. This can occur if a radiologist has reason to believe that the clinician would like such a call, even if no "wet reading" was requested and no medical urgency is present.

Setting Preferences for Receipt of Standard Radiology Reports

Physicians can choose to have reports delivered by e-mail or fax, but not both, and can choose to receive them as soon as they are available or as a batch at the end of the day. An e-mailed report can only be sent to a valid Partners e-mail address on file, not a personal e-mail address. Physicians can also choose to have outpatient results sent to them as printed reports, either via postal or interoffice mail, in addition to faxed or e-mailed reports. Physicians can also elect to rely solely on CAS/LMR and select no report distribution at all.

Preferences may be changed by calling the Radiology Informatics Service Desk (ISD) at 617-643-0003.

Further Information

For more information regarding communication of radiology results, please contact Gloria Salazar, MD, (617-643-0074) Vascular Radiology, or Daniel I. Rosenthal, MD, Vice-Chairman, Department of Radiology (617-726-8784), Massachusetts General Hospital.

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