Communicating Radiology Results: Are Our Phone Calls Excessive?

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Background

- Mirroring ACR’s practice parameter guidelines, our institution’s policy is to “directly” communicate any “critical, urgent, unexpected, or corrected finding(s)” whenever there are “important patient care implications”. This communication usually occurs via a phone call.

- However, phone calls can be disruptive to the workflow of both radiologists and referring clinicians.

- Furthermore, it is unclear whether the communication of test results is always warranted, generally appreciated, or perceived to impact patient management.

Objective

- To determine radiologists and referring providers preferences regarding direct communication of radiology test results.
Methods

- An anonymous survey was emailed to 44 radiology residents and 364 referring resident providers who routinely receive direct communication of test results at our quaternary care medical center.

- Survey questions focused on the frequency, indication, clinical utility, and methods of direct communication of radiology test results.

- Free text commentary was solicited about the effect of direct communication on workflow.

- The response rates were 84% (37/44) of radiology residents and 41% (148/364) of referring resident providers.
**Results**

**RADIOLOGY RESIDENTS:** During your intern year*, how often did you get a phone call from a radiologist regarding abnormal test results?

*All radiology residents completed their intern year (PGY-1) at a separate institution.

**EM/IM/SURGERY RESIDENTS:** How often do you get a phone call from a radiologist regarding abnormal test results?
**RADIOLOGY RESIDENTS:** Do you sometimes contact clinicians with radiology results despite knowing they are aware of the findings?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, often</td>
<td>21</td>
</tr>
<tr>
<td>Yes, infrequently</td>
<td>9</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Don't know, I never check the patient's chart to see if they're aware</td>
<td>3</td>
</tr>
</tbody>
</table>

**RADIOLOGY RESIDENTS:** In your future practice (i.e. as an attending), how frequently do you anticipate directly communicating findings compared to now?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less likely</td>
<td>19</td>
</tr>
<tr>
<td>About the same</td>
<td>16</td>
</tr>
<tr>
<td>More likely</td>
<td>1</td>
</tr>
</tbody>
</table>
**RADIOLOGY RESIDENTS**: As a department, what do you think about the frequency of our communication of test results directly to clinicians?

**EM/IM/SURGERY RESIDENTS**: What do you think about the frequency of phone calls regarding test results from radiologists?
**EM/IM/SURGERY RESIDENTS:** How often does a phone call from a radiologist **add anything valuable** beyond the radiology report?

- **Never**: Surgery 4, EM 3, IM 11
- **Rarely**: Surgery 4, EM 8, IM 15
- **On occasion**: Surgery 13, EM 17, IM 20
- **Often**: Surgery 35, EM 17, IM 11
- **Always**: Surgery 4, EM 4, IM 11
<table>
<thead>
<tr>
<th>Condition</th>
<th>No</th>
<th>Yes, by page</th>
<th>Yes, via phone call</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstructing urinary calculus</td>
<td>36</td>
<td>61</td>
<td>73</td>
</tr>
<tr>
<td>Small bowel obstruction</td>
<td>36</td>
<td>61</td>
<td>73</td>
</tr>
<tr>
<td>Retroperitoneal hemorrhage</td>
<td>2</td>
<td>54</td>
<td>90</td>
</tr>
<tr>
<td>Aortic rupture</td>
<td>11</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Pulmonary embolism</td>
<td>0</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>New mass or suspected malignancy</td>
<td>11</td>
<td>51</td>
<td>13</td>
</tr>
<tr>
<td>Acute stroke</td>
<td>12</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Malpositioned tube/catheter</td>
<td>0</td>
<td>56</td>
<td>89</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>11</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Acute appendicitis</td>
<td>38</td>
<td>46</td>
<td>29</td>
</tr>
<tr>
<td>Acute fracture</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

EM/IM/SURGERY RESIDENTS: Yes or no -- in general, would you prefer to be contacted by radiology for the following abnormal finding?
**EM/IM/SURGERY RESIDENTS:** If radiology reports are available in a timely manner, what would be your preference?

- Receive a phone call only about emergent findings (i.e. tension pneumothorax, aortic rupture)
  - Surgery: 15
  - EM: 7
  - IM: 0

- Receive a phone call about emergent findings and also non-emergent abnormal/unexpected findings (i.e. acute appendicitis, fracture)
  - Surgery: 33
  - EM: 21
  - IM: 57

- Receive a page when the report is available
  - Surgery: 4
  - EM: 1
  - IM: 0

- Not receive a phone call or a page, would prefer to check for the report myself according to my own workflow
  - Surgery: 0
  - EM: 0
  - IM: 0

**IM RESIDENTS:** What is your preference for communication of non-emergent abnormal radiology results specifically for outpatients?

- I don't want to be interrupted about it, I would prefer to review the results per my own workflow
  - Surgery: 19
  - EM: 0
  - IM: 37

- I prefer a message via MiChart*
  - Surgery: 7
  - EM: 0
  - IM: 0

- I prefer a phone call
  - Surgery: 0
  - EM: 0
  - IM: 7

*“MiChart” is the name of our institution’s EMR.*
Nearly half of the radiology residents (49% [18/37]) thought the frequency of direct verbal communication was excessive and none (0/37) thought more communication was needed.

In contrast, only 1.4% (2/148; p<0.01) of referring providers indicated that the frequency of direct communication was excessive, and 24% (36/148; p<0.01) actually desired more.

The majority (67% [99/148]) of referring providers indicated that phone calls from radiologists often or always added value beyond a timely radiology report, and 59% (43/73) responded that it is the radiologist’s responsibility to call regarding abnormal findings.

Furthermore, 82% (122/148) of referring providers preferred to receive a phone call about non-emergent unexpected findings, though preferences varied for various example abnormalities.

For outpatients with non-emergent unexpected findings, most providers (63% [44/73]) prefer written communication rather than a phone call.

Summary
• Referring resident providers are significantly more likely than radiology residents to view direct results communication as helpful, even for non-urgent unexpected findings.

• Radiology residents preferred less direct communication, while referring providers felt that more direct communication was optimal for patient care.

• Understanding the needs of our referring physicians is key to adding value. When in doubt, surveys can be an invaluable tool.