

The American College of Radiology, with more than 30,000 members, is the principal organization of radiologists, radiation oncologists, and clinical medical physicists in the United States. The College is a nonprofit professional society whose primary purposes are to advance the science of radiology, improve radiologic services to the patient, study the socioeconomic aspects of the practice of radiology, and encourage continuing education for radiologists, radiation oncologists, medical physicists, and persons practicing in allied professional fields.

The American College of Radiology will periodically define new practice guidelines and technical standards for radiologic practice to help advance the science of radiology and to improve the quality of service to patients throughout the United States. Existing practice guidelines and technical standards will be reviewed for revision or renewal, as appropriate, on their fifth anniversary or sooner, if indicated.

Each practice guideline and technical standard, representing a policy statement by the College, has undergone a thorough consensus process in which it has been subjected to extensive review, requiring the approval of the Commission on Quality and Safety as well as the ACR Board of Chancellors, the ACR Council Steering Committee, and the ACR Council. The practice guidelines and technical standards recognize that the safe and effective use of diagnostic and therapeutic radiology requires specific training, skills, and techniques, as described in each document. Reproduction or modification of the published practice guideline and technical standard by those entities not providing these services is not authorized.

1991 (Res. 5)
Revised 1995 (Res. 10)
Revised 1999 (Res. 27)
Revised 2001 (Res. 50)
Revised 2005 (Res. 11)
Effective 10/01/05

ACR PRACTICE GUIDELINE FOR COMMUNICATION OF DIAGNOSTIC IMAGING FINDINGS

PREAMBLE

These guidelines are an educational tool designed to assist practitioners in providing appropriate radiologic care for patients. They are not inflexible rules or requirements of practice and are not intended, nor should they be used, to establish a legal standard of care. For these reasons and those set forth below, the American College of Radiology cautions against the use of these guidelines in litigation in which the clinical decisions of a practitioner are called into question.

The ultimate judgment regarding the propriety of any specific procedure or course of action must be made by the physician or medical physicist in light of all the circumstances presented. Thus, an approach that differs from the guidelines, standing alone, does not necessarily imply that the approach was below the standard of care. To the contrary, a conscientious practitioner may responsibly adopt a course of action different from that set forth in the guidelines when, in the reasonable judgment of the practitioner, such course of action is indicated by the condition of the patient, limitations on available resources or advances in knowledge or technology subsequent to publication of the guidelines. However, a practitioner who employs an approach substantially different from these guidelines is advised to document in the patient record information sufficient to explain the approach taken.

The practice of medicine involves not only the science, but also the art of dealing with the prevention, diagnosis, alleviation, and treatment of disease. The variety and

complexity of human conditions make it impossible to always reach the most appropriate diagnosis or to predict with certainty a particular response to treatment. Therefore, it should be recognized that adherence to these guidelines will not assure an accurate diagnosis or a successful outcome. All that should be expected is that the practitioner will follow a reasonable course of action based on current knowledge, available resources, and the needs of the patient to deliver effective and safe medical care. The sole purpose of these guidelines is to assist practitioners in achieving this objective.

I. INTRODUCTION

Effective communication is a critical component of diagnostic imaging. Quality patient care can only be achieved when study results are conveyed in a timely fashion to those ultimately responsible for treatment decisions. An effective method of communication should: (a) be tailored to satisfy the need for timeliness, (b) support the role of a diagnostic imager as a physician consultant by encouraging physician to physician communication, and (c) minimize the risk of communication errors.

Various factors and circumstances unique to a clinical scenario may influence the methods of communication between diagnostic imagers and referring clinicians. Timely receipt of the report is more important than the method of delivery.

Communication of information is only as effective as the system that conveys the information. There is a reciprocal duty of information exchange. The referring physician or other relevant healthcare provider also shares in the responsibility for obtaining results of imaging studies he or she has ordered. Formulating a comprehensive and tailored imaging interpretation requires the commitment and cooperation of administrators, clinicians, and diagnostic imagers. Whenever possible, previous reports and images should be available for review and comparison with the current study. A request for imaging should include relevant clinical information, a working diagnosis, and/or pertinent clinical signs and symptoms. In addition, including a specific question to be answered can be helpful. Such information helps tailor the most appropriate imaging study to the clinical scenario, enhances the clinical relevance of the report, and thus promotes optimal patient care.

II. DIAGNOSTIC IMAGING REPORTS

An official interpretation (final report) shall be generated and archived following any examination, procedure, or officially requested consultation regardless of the site of performance (hospital, imaging center, physician office, mobile unit, etc.).

A. Components of the Report

The following is a suggested format for reporting:

1. Demographics
 - a. The facility or location where the study was performed.
 - b. Name of patient and another identifier.
 - c. Name(s) of referring physician(s) or other healthcare provider(s). If the patient is self referred, that should be stated.
 - d. Name or type of examination.
 - e. Date of the examination.
 - f. Time of the examination, if relevant (e.g., for patients who are likely to have more than one of a given examination per day).
 - g. Inclusion of the following additional items is encouraged:
 - i. Date of dictation
 - ii. Date and time of transcription
 - iii. Birth date or age
 - iv. Gender
2. Relevant clinical information and ICD-9 code as available
3. Body of the Report
 - a. Procedures and materials

The report should include a description of the studies and/or procedures performed and any contrast media (including concentration, volume, and route of administration when applicable), medications, catheters, or devices used, if not recorded elsewhere. Any known significant patient reaction or complication should be recorded.

- b. Findings
The report should use appropriate anatomic, pathologic, and radiologic terminology to describe the findings.
- c. Potential limitations
The report should, when appropriate, identify factors that may compromise the sensitivity and specificity of the examination.
- d. Clinical issues
The report should address or answer any specific clinical questions. If there are factors that prevent answering of the clinical question, this should be stated explicitly.
- e. Comparison studies and reports
Comparison with relevant examinations and reports should be part of the radiologic consultation and report when appropriate and available.

4. Impression (conclusion or diagnosis)

- a. Unless the report is brief, each report should contain an "impression" section.
- b. A precise diagnosis should be given when possible.
- c. A differential diagnosis should be rendered when appropriate.
- d. Follow-up or additional diagnostic studies to clarify or confirm the impression should be suggested when appropriate.
- e. Any significant patient reaction should be reported.

5. Standardized Computer-Generated Template Reports

Standardized computer-generated template reports that satisfy the above criteria are considered to conform to these guidelines.

B. Principles of Reporting (Final Report)

1. The final report is considered to be the definitive means of communicating to the referring physician or other relevant healthcare provider the results of an imaging examination or procedure. Additional methods for

communication of results are encouraged in certain situations.

2. The final report should be proofread to minimize typographical errors, accidentally deleted words, and confusing or conflicting statements. Use of abbreviations or acronyms should be limited to avoid ambiguity.
3. The final report should be completed in accordance with appropriate state and federal requirements (see the Final Regulations, Mammography Quality Standards Act for Mammography Reporting). Electronic or rubber-stamp signature devices, instead of a written signature, are acceptable unless contrary to state law, if access to such devices is secure.
4. The final report should be transmitted to the referring physician or healthcare provider who provides the clinical follow-up in accordance with the appropriate state and federal requirements. The referring physician or other relevant healthcare provider also shares in the responsibility of obtaining results of imaging studies he or she has ordered.
5. When feasible, a copy of the final report should accompany the transmittal of relevant images to other healthcare professionals.
6. A copy of the final report should be archived by the imaging facility as part of the patient's medical record (paper or electronic) and be retrievable for future reference. Retention and distribution of these records should be in accordance with state and federal regulations and facility policies.

C. Communications Other Than the Final Report

1. Preliminary Report

A preliminary report precedes the final report and contains limited information. It may be time sensitive, and it should not be expected to contain all the reportable findings. A preliminary report may not have the benefit of prior imaging studies and/or reports and may be based upon incomplete information due to evolving clinical circumstances. Therefore, its accuracy may be compromised. Nevertheless, clinical decision making may be based on this report due to the need for immediate patient management.

The situations that may require preliminary reports may include, but are not limited to, the use of teleradiology interpretations provided to

emergency and surgical departments and critical care units, or initial readings provided by trainees.

Preliminary reports may be communicated in writing, electronically, or verbally, and communication should be documented. These preliminary communications should be reproduced into a permanent format as soon as practical and appropriately labeled as a preliminary report, distinct from the final report, when such a distinction is appropriate.

As soon as possible a change between the preliminary and final interpretation should be reported in a manner that reliably ensures receipt by the referring or treating physicians, when such changes may impact patient care. Documentation of communication of any discrepancy should be incorporated into the final report.

2. Non-routine Communications

Routine reporting of imaging findings is communicated through the usual channels established by the hospital or diagnostic imaging facility. However, in emergent or other non-routine clinical situations, the diagnosing imager should expedite the delivery of a diagnostic imaging report (preliminary or final) in a manner that reasonably ensures timely receipt of the findings.

a. Situations that may require non-routine communication include:

- i. Findings that suggest a need for immediate or urgent intervention:

Generally, these cases may occur in the emergency and surgical departments or critical care units and may include pneumothorax, pneumoperitoneum, or a significantly misplaced line or tube.

- ii. Findings that are discrepant with a preceding interpretation of the same examination and where failure to act may adversely affect patient health:

These cases may occur when the final interpretation is discrepant with a preliminary report or when significant discrepancies are encountered upon subsequent review of a study after a final report has been submitted.

- iii. Findings that the diagnostic imager reasonably believes may be seriously

adverse to the patient's health and are unexpected by the treating or referring physician:

These cases may not require immediate attention but, if not acted upon, may worsen over time and possibly result in an adverse patient outcome.

b. Documentation of non-routine communications

Diagnostic imagers should document all non-routine communications and include the time and method of communication and specifically name the person to whom the communication was made. The documentation may be placed in the radiology report, the patient's medical record, and/or in a department log or personal journal. Documentation preserves a history for the purpose of substantiating certain findings or events. Documentation may serve as evidence of such communication, if later contested.

c. Methods of communication

Communication methods are dynamic and varied. It is important, however, that non-routine communications be handled in a manner most likely to reach the attention of the treating or referring physician in time to provide the most benefit to the patient. Communication by telephone or in person to the treating or referring physician or his/her representative is appropriate and confirms receipt of the findings. This may be accomplished directly by the diagnostic imager or when judged appropriate (by the imager) a designee. There are other forms of communication that provide documentation of receipt which may also suffice to demonstrate that the communication has been delivered and acknowledged.

While other methods of communication may be considered, including text pager, facsimile, voice messaging and other non-traditional approaches, these methods may not assure receipt of the communication. Therefore, in these instances, the diagnostic imager may consider initiating a system that explicitly requests confirmation of receipt of the report by the clinician. If confirmation or other response is not received within a time appropriate to the diagnosis after the initial communication, a staff person should notify the clinician to document follow-up.

Regardless of the method selected, it must be in compliance with state and federal law.

3. Informal Communications

Occasionally, a diagnostic imager may be asked to provide an interpretation that does not result in a "formal" report but is used to make treatment decisions. Such communications may take the form of a "curbside consult," a "wet reading" or "informal opinion" that may occur during clinical conferences, interpretations while involved in other activities, or review of an outside study. These circumstances may preclude immediate documentation and may occur in suboptimal viewing conditions without comparison studies or adequate patient history.

Informal communications carry inherent risk, and frequently the clinician's documentation of the informal consultation may be the only written record of the communication. Diagnostic imagers who provide consultations of this nature in the spirit of improving patient care are encouraged to document those interpretations. A system for reporting outside studies is encouraged.

III. SELF REFERRED AND THIRD-PARTY REFERRED PATIENTS

Most patients evaluated by diagnostic imagers are referred by physicians or physician extenders. Some patients, however, are self-referred, such as for mammography, or are referred by a third party, such as an insurer or employer.

A. Self-Referred Patients

Diagnostic imagers should recognize that performing imaging studies on self-referred patients establishes a doctor-patient relationship that includes responsibility for communicating the results of imaging studies directly to the patient and arranging for appropriate follow-up.

B. Third-Party Referred Patients

It is not unusual for patients to be referred for imaging studies by insurance companies, employers, federal benefits programs, and in some instances lawyers. In such cases the reports of the studies are frequently communicated through the requesting entity to a clinician or directly to the third-party-designated clinician. The results of the examinations are then communicated to the patient either directly by the third party or by its designated clinician. Regardless of the source of the referral, the diagnostic imager has an ethical responsibility to ensure communication of unexpected or serious findings to the patient. Therefore, in certain

situations the radiologist may feel it is appropriate to communicate the findings directly to the patient.

IV. COMMUNICATION POLICIES

An imaging department's policy on communication can be an effective tool to promote patient care. The policy can provide guidance on the types of communications that are most critical, the individuals responsible for receiving communications and the methods of communication that are most appropriate. To be effective, however, any written policy must be followed and shared with others within the institution where the diagnostic imagers provide their services.

As new methods of communication evolve, diagnostic imagers may wish to modify their actions to accommodate these changes while still conforming to the goals of this guideline.

ACKNOWLEDGEMENTS

This guideline was revised according to the process described in the ACR Practice Guidelines and Technical Standards book by the Guidelines and Standards Committee of the General and Pediatric Radiology Commission and was based on the Report of The Task Force on Diagnostic Reporting.

Consultants: David C. Kushner, MD
David B. Haseman, MD
Cynthia S. Sherry, MD

Guidelines and Standards Committee

Kimberly E. Applegate, MD, MS, Chair
Richard A. Carlson, MD
Kevin M. Cawley, MD
Ronald E. Cordell, MD
Eric N. Faerber, MD
Bob W. Gayler, MD
Sam Kottamasu, MD
Arnold C. Merrow, MD
Diane C. Strollo, MC
Susan L. Voci, MD
Edward Weinberger, MD
J. Bruce Hauser, MD, Chair, Commission

Comments Reconciliation Committee

David C. Kushner, MD, Co-Chair, CSC
Paul A. Larson, MD, Co-Chair, CSC
Paul H. Ellenbogen, MD, Speaker
Kimberly E. Applegate, MD, MS
Raymond E. Bertino, MD
Craig E. Clark, MD
Seth N. Glick, MD
David B. Haseman, MD
David A. Rubin, MD
Cynthia Sherry, MD

REFERENCES

1. Berlin L. Communicating findings of radiological examinations: whither goest the radiologist's duty? AJR 2002; 178:809–815.
2. Berlin L. Comparing new radiographs with those obtained previously. AJR 1999; 172:3–6.
3. Berlin L. Duty to directly communicate radiologic abnormalities: has the pendulum swung too far? AJR 2003; 181:375–381.
4. Berlin L. Pitfalls of the vague radiology report. AJR 2000; 174:1511–1518.
5. Berlin L. Standards, guidelines, and roses. AJR 2003; 181:945–950.
6. Cascade PN, Berlin L. Malpractice issues in radiology. American College of Radiology standard for communication. AJR 1999; 173:1439–1442.
7. Department of Health and Human Services, Food and Drug Administration. Mammography quality standards: final rule. Federal Register Oct 28, 1997; 68:55852–55994.
8. Holman BL, Aliabadi P, Silverman SG, et al. Medical impact of unedited preliminary radiology reports. Radiology 1994; 191:519–521.
9. Kushner DC, Lucey LL. Diagnostic radiology reporting and communication: the ACR guideline. J Am Coll Radiol 2005; 2:15–21.
10. McLoughlin RF, So CB, Gray RR, et al. Radiology reports: how much descriptive detail is enough? AJR 1995; 165:803–806.
11. Physician Insurers Association of America and The American College of Radiology. Practice standards claims survey. Rockville, Md: PIAA, 1997.
12. Seltzer SE, Kelly P, Adams DF, et al. Expediting the turnaround of radiology reports in a teaching hospital setting. AJR 1997; 168:889–893.

Pertinent Legal Cases Involving Communication:

Stanley v. McCarver, 92 P.2d 849 (Ariz. 2004)
Diaz v. New York Downtown Hospital, 784 N.E.2d 68 (N.Y. 2002)
Karpinsky v. Gavich, et al, 23 N.J. Jury Verdict Review & Anal., Vol. 23, Issue 5 (2002)
Reed v. Bojarski, 764 A.2d 433 (N.J. 2001)
Duckworth v. Lutheran Medical Center, 1995 WL 33070 (Ohio App. 1995)
Caracci v. McChesney, 601 N.Y.S.2d 169 (N.Y. App. Div. 1993)
Daly v. United States, 946 F.2d 1467 (9th Cir. 1991)
Courteau v. Dodd, 773 S.W.2d 436 (Ark. 1989)
Jenoff v. Gleason, 521 A.2d 1323 (N.J. App. 1987)
Phillips v. Good Samaritan Hospital, 416 N.E.2d 646 (Ohio App. 1979)
Merriman v. Toothaker, 515 P.2d 509 (Wash. App. 1973)