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PRACTICE GUIDELINE FOR THE REPORTING AND ARCHIVING OF INTERVENTIONAL RADIOLOGY PROCEDURES

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. It should be recognized; therefore, 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

This guideline was developed and written collaboratively by the Society of Interventional Radiology (SIR) and the American College of Radiology (ACR).

This guideline is intended to improve the consistency of medical record content and image archiving for vascular/interventional radiology procedures and the written or dictated reports (exclusive of breast interventional procedures). For information on breast interventional procedures, see the ACR Practice Guideline for the Performance of Stereotactically Guided Breast Interventional Procedures or the ACR Practice Guideline for the Performance of Ultrasound-Guided Percutaneous Breast Interventional Procedures. It is our objective to improve patient care by reducing the variation that occurs among different physicians and practices. These guidelines will serve the following specific purposes:

1. To document medical care.
2. To be used in quality improvement programs and for credentialing purposes.
3. To document procedures for appropriate coding.

4. To provide guidelines to state health codes for image archiving.

II. MEDICAL REPORT

A. Medical Record

A medical record consists of a patient's medical information recorded in either written or electronic format. It may be recorded in the patient medical chart, nursing reports, radiology records, inpatient or outpatient medical information storage areas, or on computers. It should include the indication for the procedure and who referred the patient for the procedure. The medical record need not contain all of the information that is stored in a quality improvement program. Contrast agent and dose, medications administered, and measures of ionizing radiation exposure (such as total fluoroscopy time) must be part of the permanent medical record. For inserted medical devices, appropriate identifying information such as the product name, vendor, and lot numbers must be recorded.

B. Preprocedure Documentation

The preprocedural documentation provides a baseline record of patient status and documents the indication for the procedure. It should be written in the chart before initiation of moderate (conscious) sedation or the procedure. Preprocedural documentation may include some or all of the following information, depending on the complexity of the procedure:

1. Indication for procedure and brief history.
2. Findings of targeted physical examination.
3. Relevant laboratory and other diagnostic findings, including noninvasive information.
4. Risk stratification, such as the American Society of Anesthesiologists Physical Status Classification.
5. Documentation that informed consent – including discussion of risks, benefits, alternatives, and methods of procedure – was obtained or, in the case of an emergency, that this was an emergency medical procedure.
6. The diagnostic and/or anticipated treatment plan for each procedure to be performed.

C. Immediate Postprocedure Note

The immediate postprocedure note is helpful for interim communication to other medical personnel before the final report. It should be completed for all patients immediately after the procedure and includes:

1. Identification and brief description of procedure.
2. Operator(s).
3. Sites accessed or attempted.
4. Results.
5. Complications.
6. Postprocedure plan.

Additional information may be included based on complexity of procedure. In some circumstances, all of the items listed above may not be required.

D. Final Report

1. A final report is required:
   a. To transmit procedural information to all members of the healthcare community who may participate in subsequent care of the patient.
   b. For legal purposes.
   c. For reimbursement.

2. Specific information included in this report depends on the procedure. The following elements are recommended:
   a. Procedure.
   b. Date.
   c. Operator(s).
   d. Indication.
   e. Procedure/technique: a technical description of the procedure. This information should include access site (and attempted access sites), guidance modalities, catheters/guidewires/needles, vessels or organs catheterized, technique, and hemostasis. Each major vessel catheterized for imaging or intervention should be noted specifically.
   f. Medications and dosages, including any premedications and contrast agents.
   g. Results.
   h. Complications.
   i. Conclusion.
   j. Postprocedure plan.

Additional information may be included based on complexity of procedure. In some circumstances, all of the items listed above may not be required.

III. ARCHIVING OF IMAGES

A. General Principles

All pertinent imaging data should be saved in permanently retrievable digital or hard-copy format. Examples of pertinent imaging data include the relevant anatomy that will affect patient management, device position, complications, and any transient adverse events (such as emboli) that have been successfully treated during a procedure. If ultrasound guidance is used to gain entry into a blood vessel, it is optional to save a sonographic image of this blood vessel.

B. Documentation of Device Position

The final position of all devices inserted permanently or long-term with imaging guidance (e.g., stents, endovascular grafts, central venous catheters, inferior vena cava filters, embolic agents, drainage catheters) should be documented with imaging. Benefits of documenting device position should be weighed against the ionizing radiation risks of X-ray documentation (e.g., in pregnancy).

C. Angiography

Archived images are crucial to the overall diagnostic and/or therapeutic treatment plan of the patient. Archiving should be similar for cut-film angiography or digital subtraction angiography (DSA). For saved DSA runs, an attempt should be made to record at least one image in unsubtracted or partially subtracted format. This image is useful for orientation/localization purposes. It should be understood that with the use of rapid-sequence imaging and fluoroscopy, some observations that appear in the report may not be adequately documented by the static archived images.

D. Endovascular Interventions

Predeployment and postdeployment intervention images should be obtained and archived.

Intermediate stages that are pertinent to the performance of the endovascular procedure, may also be documented with archived images. Images should detail the position of the device and, when appropriate, the effect of the device on the target or nontarget vessel.

E. Nonvascular Interventions

Images should document the device's position and the its effect on target and nontarget organs. The final position of drainage catheters within fluid collections, the biliary system, the urinary tract, or the gastrointestinal tract should be documented. If contrast material is injected for delineating cavity size, location, or communication with adjacent structures, at least one image obtained should be archived. If imaging is used to mark a position for subsequent needle entry (e.g., ultrasound to mark an entry site for later paracentesis performed without imaging guidance), at least one image of this position should be saved. For needle placement (e.g., biopsies, drug delivery) under direct imaging guidance, at least one image should be saved with the needle in final position. For some procedures, the operator may choose to document all needle passes and the final condition of the accessed structure.

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REFERENCES

1. Fink A, Kosefcoff J, Chassin M, et al. Consensus methods: characteristics and guidelines for use. Am J Public Health 1984; 74:979–983.
2. Leape LL, Hilborne LH, Park RE, et al. The appropriateness of use of coronary artery bypass graft surgery in New York State. JAMA 1993; 269:753–760.
3. Omary RA, Bettmann MA, Cardella JF, et al. Quality improvement guidelines for the reporting and archiving of interventional radiology procedures. J Vasc Interv Radiol 2002; 13:879–881.