



# Managing Incidental Findings on Abdominal CT: White Paper of the ACR Incidental Findings Committee

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As multidetector CT has come to play a more central role in medical care and as CT image quality has improved, there has been an increase in the frequency of detecting “incidental findings,” defined as findings that are unrelated to the clinical indication for the imaging examination performed. These “incidentalomas,” as they are also called, often confound physicians and patients with how to manage them. Although it is known that most incidental findings are likely benign and often have little or no clinical significance, the inclination to evaluate them is often driven by physician and patient unwillingness to accept uncertainty, even given the rare possibility of an important diagnosis. The evaluation and surveillance of incidental findings have also been cited as among the causes for the increased utilization of cross-sectional imaging. Indeed, incidental findings may be serious, and hence, when and how to evaluate them are unclear. The workup of incidentalomas has varied widely by physician and region, and some standardization is desirable in light of the current need to limit costs and reduce risk to patients. Subjecting a patient with an incidentaloma to unnecessary testing and treatment can result in a potentially injurious and expensive cascade of tests and procedures. With the participation of other radiologic organizations listed herein, the ACR formed the Incidental Findings Committee to derive a practical and medically appropriate approach to managing incidental findings on CT scans of the abdomen and pelvis. The committee has used a consensus method based on repeated reviews and revisions of this document and a collective review and interpretation of relevant literature. This white paper provides guidance developed by this committee for addressing incidental findings in the kidneys, liver, adrenal glands, and pancreas.

**Key Words:** Incidental findings, incidentaloma, pancreatic cyst, renal cyst, liver lesion, adrenal nodule

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## FOREWORD

This white paper is meant not to comprehensively review the interpretation and management of solid masses in each

organ system but to provide general guidance for managing incidentally discovered masses, appreciating that individual care will vary depending on each patient's specific circumstances; the clinical environment, available resources; and the judgment of the practitioner. Also, the term *guidelines* has not

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been used in this white paper to avoid the implication that this represents a component of the ACR Practice Guidelines and Technical Standards (which represent official ACR policy, having undergone a rigorous drafting and review process culminating in approval by the ACR Council), or the ACR Appropriateness Criteria<sup>®</sup> (which use a formal consensus-building approach using a modified Delphi technique). This white paper, which represents the collective experience of the Incidental Findings Committee, using a less formal process of repeated reviews and revisions of the draft document, does not represent official ACR policy. For these reasons, this white paper should not be used to establish the legal standard of care in any particular situation.

## INTRODUCTION

The rapid increase in the utilization of cross-sectional imaging examinations over the past two decades, combined with the ongoing improvement in the spatial and contrast resolution of these studies, has led to a marked increase in the number of findings detected that are unrelated to the primary objectives of the examinations [1-4]. An incidental finding, also known as an incidentaloma, may be defined as “an incidentally discovered mass or lesion, detected by CT, MRI, or other imaging modality performed for an unrelated reason” [5]. Although such findings are incidental to the primary purpose of the study, one analysis suggested, “Some research and clinical activities are so prone to generating findings not intentionally sought that it is disingenuous to term them ‘unanticipated’ even if their precise nature cannot be anticipated in advance” [6]. More important than the definition is the action that each such finding invokes. So, we are asked to consider, “What is the responsible use of information that nobody asked for?” [7].

The burden of extra costs with incidental findings on cross-sectional imaging has also raised concerns within the government and third-party payers as medical imaging utilization and expenditures have risen. A recent example of this was seen in the May 2009 CMS noncoverage decision regarding screening CT colonography [8]. Although CT colonography focuses on detecting colorectal polyps to prevent colorectal carcinoma, an unenhanced, low-radiation dose CT scan of the lower chest, entire abdomen, and pelvis contains clinically significant incidental findings in 5% to 16% of asymptomatic patients [1,4,9-14], with a higher frequency in symptomatic patients [9,10,12-14]. The noncoverage decision by CMS cited concern for the costs of evaluating extracolonic findings that are diagnostically indeterminate. Other existing or developing technologies may face this type of economic scrutiny as CMS and other third-party payers become more focused on cost containment.

Although countless studies have been devoted to de-

scribing findings related to specific medical conditions, relatively little research has been devoted to understanding incidental findings. The most common reason to pursue incidental findings is to differentiate benign from potentially serious (including malignant) lesions. Although most incidental findings prove to be benign, their discovery often leads to a cascade of testing that is costly, provokes anxiety, exposes patients to radiation unnecessarily, and may even cause morbidity [15]. Articles describing criteria for detecting, categorizing, reporting, and managing such findings have been inconsistent at best and leave many unanswered questions [1,9-14].

## PROJECT OBJECTIVES

The objectives of this project were:

- to develop a consensus on sets of organ-specific imaging features for some commonly affected organ systems within the abdomen, which will lead to consistent definitions for, and identification of, incidental findings;
- to develop medically appropriate approaches to managing incidental findings that are diagnostically indeterminate; and
- to address the differences between unenhanced, low-radiation dose CT examinations and contrast-enhanced CT examinations using standard radiation doses for detecting and managing incidental findings.

## POTENTIAL BENEFICIAL OUTCOMES OF THE PROJECT

Benefits anticipated from this effort included:

- reducing risks to patients from additional unnecessary examinations, including the risks of radiation and risks associated with interventional procedures;
- limiting the costs of managing incidental findings to patients and the health care system;
- achieving greater consistency in recognizing, reporting, and managing incidental findings, as a component of formal quality improvement efforts;
- providing guidance to radiologists who are concerned about the risk for litigation for missing incidental findings that later prove to be clinically important; and
- helping focus research efforts to lead to an evidence-based approach to incidental findings.

## HISTORY OF THE PROJECT

Because of the increasing recognition of the problems and opportunities of incidental findings, consideration of a formal approach to these issues began within the ACR in 2006. The Incidental Findings Committee was formed under the auspices of the Body Imaging Commission of the ACR. After several meetings and conference calls, the concepts and objectives described above

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