

## PREFACE

**T**he illustrated BI-RADS® Fifth Edition is an extension of the Fourth Edition of the BI-RADS® Atlas. The Fifth Edition, like its predecessor, includes sections on ultrasound and magnetic resonance imaging (MRI) of the breast. As you will see, the number of actual cases has been increased significantly throughout all sections of the atlas. The new edition has a total of approximately 600 images. Also, whenever possible the authors have placed an emphasis on ensuring consistency in terms and definitions among the three lexicons.

There are several changes and expanded definitions within the Fifth Edition. The ultrasound portion now includes and/or expands on anatomy, image quality, labeling, and tissue composition. MRI includes a section on breast implants and clearly defines troublesome issues such as background enhancement and foci. While all the lexicons within the BI-RADS® Atlas stress the importance of clear description of findings and BI-RADS® assessment categories and management, it is now possible to separate the BI-RADS® categories from management. For example, a solitary group of punctate calcifications will have a  $\leq 2\%$  chance of malignancy and appropriately receive a BI-RADS® category 3 after workup, a probably benign finding. Previously this assessment was given with the management decision of short-term follow-up. However, there may be circumstances where the category 3 assessment is correct but perhaps a biopsy is done due to clinician and/or patient insistence. Such a scenario may now appropriately be described as category 3 without the attached management option of short-term follow-up. Of course, for the most part, the current management aligned with the BI-RADS® assessment categories will be appropriate but now the flexibility to separate the assessment categories from the management has been added.

A substantive change involving assessment category 3, which will impact the audit metrics for breast imaging, is defined. It is strongly encouraged that a category 3 be issued only after an appropriate workup. This modification has been implemented based on recent studies that have indicated that full diagnostic imaging evaluation will identify both benign and malignant lesions promptly instead of waiting for 6-month follow-up to obtain the diagnostic workup. Previously, for purposes of the audit, category 3 at screening had been considered a negative assessment. Now, to make our audits more consistent and useful as both a quality and teaching tool, **a category 3 assessment rendered from a screening exam, without workup, is considered a positive screening exam.** The rationale for making category 3 at screening positive is that it implies additional imaging evaluation prior to routine screening in 1 year. The rationale for considering category 3 after a diagnostic workup as negative is that biopsy is not recommended. Most importantly, the consistent and clearly defined use of the assessment categories and management options will help clinicians understand disposition of their patients based on breast imaging evaluation. Knowing how we perform will also aid to identify deficiencies, facilitate research, and be of practical value to avoid adverse medicolegal consequences.

The figure legends will designate the defined feature in capital letters. Obviously, many of the illustrations will display several features, for example, "ROUND", circumscribed, high-density mass. All cases will be fully described using the lexicon terminology; so, many of the examples will highlight more than one feature. However, the capitalized terms will indicate the feature that was chosen for illustration. One must remember that management recommendations should be based on the most worrisome of the features. Thus, a group of pleomorphic and punctate calcifications may use all terms needed to describe the calcifications, but must include a statement recommending biopsy due to the presence of pleomorphic forms. This flexibility should also be applied when describing mass features. For example, many margins will be partially obscured by glandular tissue: but if at least 75% of the margin is circumscribed

and the remainder is obscured, the mass can be classified on the basis of its circumscribed margins. On the other hand, a mass margin that is partially circumscribed and partially indistinct should be classified on the basis of its more worrisome indistinct margins.

The Fifth Edition of BI-RADS® is the culmination of years of collaborative efforts between the subsection heads and their committees, the American College of Radiology (ACR), and, importantly, input from users of these lexicons. It is designed for everyday practice and should make it possible to issue unambiguous breast imaging reports and meaningfully evaluate our performance. This will enable us to improve our practices and compare ourselves to other breast imaging facilities worldwide. We all sincerely hope that this document helps breast imagers everywhere better understand and evaluate our subspecialty.

BI-RADS®, now more than ever, is intended to be a dynamic and evolving document that will adapt to changes in the practice of breast imaging and be of practical use to radiologists. In addition to the traditional bound format, the Fifth Edition of the Atlas will take advantage of advances in electronic publishing to offer its material in an e-book, available online, and as an app for greater portability and expanded features. BI-RADS® in these digital media will be able to address changes in practice and advances in technology efficiently and regularly. Therefore, the BI-RADS® committee encourages comments and/or suggestions from its users and requests these in writing to the ACR. However, prior to submitting comments or suggestions, please visit the ACR BI-RADS® web page at, <http://www.acr.org/~media/ACR/Documents/PDF/QualitySafety/Resources/BIRADS/BIRADSFAQs.pdf>, which displays committee-approved responses to suggestions already submitted.

**Committee on BI-RADS®**  
**American College of Radiology**

1891 Preston White Drive  
Reston, VA 20191  
E-mail: BI-RADS@acr.org

Carl J. D'Orsi, MD, FACR  
*Chair, Committee on BI-RADS®*