

INTRODUCTION

The Illustrated BI-RADS®, Fourth Edition is an extension of the Third Edition of the BI-RADS® Lexicon and includes illustrations of each feature described and a section on auditing a mammography practice. The Fourth Edition will be part of the BI-RADS® Atlas; to include sections on ultrasound of the breast and magnetic resonance imaging (MRI) of the breast.

Unique to this fourth edition of BI-RADS® is a guidance chapter and sample reports. This is in response to the many questions and suggestions we received covering terminology and auditing. There are several changes and expanded definitions with this edition that will be covered in the guidance chapter and in the pertinent individual sections. The lexicon of mammography terms and the reporting format are meant to standardize the language used in mammography reports. In particular, the consistent use of the assessment categories will help clinicians understand disposition of their patients based on mammographic imaging and aid in auditing mammography practice. Knowing how we perform will help to identify deficiencies, facilitate research and be of practical value in taking better care to avoid adverse medicolegal consequences. The new final regulations from the Food and Drug Administration (FDA) require a mini audit of all facilities engaged in mammography.

The features we use to describe mammographic findings are illustrated in the BI-RADS® Fourth Edition. The presentation of each feature begins with a line drawing depicting the feature. This is followed by several mammographic examples. The legend beneath each example will have the feature illustrated in capital letters. Many

of the illustrations will obviously involve several features such as “ROUND circumscribed, high-density mass.” All the illustrations will be fully described using the lexicon terminology so that each example will serve to highlight more than one feature. However, the capitalized terms will indicate the feature the mammogram was chosen to illustrate. Where possible, pathology of what is described is included.

Sometimes, a single descriptor will not be adequate to characterize a finding. This is often true with calcifications and margin characteristics. Calcifications may include several different types; for example, punctate and amorphous. If one type predominates, a single descriptor may be best; if not, multiple descriptors may be preferred. One must remember that management recommendations should be based on the most worrisome of the features. For calcifications, it may be the distribution or the morphology. While more than one feature may be described, a single management recommendation will be made based on the most suspicious feature(s). Thus, a cluster of pleomorphic and punctate calcifications may use all terms needed to describe the calcifications with a statement recommending biopsy be considered due to the presence of pleomorphic forms. One may also describe the finding as a cluster of microcalcifications with pleomorphic forms and biopsy should be considered. This flexibility should also be carried over when describing margins. Many margins will be partially obscured by glandular tissue. 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. If, however, a mass margin is partially circumscribed and partially indistinct, it

should be classified on the basis of its indistinct margins.

The section on the Mammography Audit was included as a response to questions the BI-RADS® committee received concerning definition of statistical terms and their utilization. The section clearly defines a positive and negative mammogram for screening and diagnostic examination, how truth is established for each and the role of the assessment categories in making these determinations. Briefly, any screening mammogram characterized as BI-RADS® Category 0, 4 or 5 is positive and any characterized as BI-RADS® Category 1, 2 or 3 is negative. If malignancy is diagnosed within 12 months of the mammogram, this is considered positive as far as proof is concerned and the lack of malignancy in the same time period is considered negative. Thus a mammogram coded as BI-RADS® Category 0 for which cancer is discovered within 12 months would be a true positive examination. Practical examples are presented and then characterized

using the definitions included in this section.

This illustrated BI-RADS® Fourth edition is designed for everyday practice and should make it possible to issue meaningful unambiguous mammography reports. BI-RADS® was always intended to be a dynamic and evolving document that would adapt to changes in the practice of breast imaging and be of practical use to radiologists. Therefore, the BI-RADS® committee welcomes any comments and/or suggestions from its users and requests these in writing to the American College of Radiology (ACR).

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