



# Contrast-Enhanced Mammography (CEM) – BI-RADS® Lexicon

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Contrast-Enhanced Mammography (CEM) is an imaging technology that uses a dual-energy technique and iodinated contrast to simultaneously acquire views similar to conventional 2D mammography and subtraction breast MRI. CEM was approved for diagnostic use in 2011. Since that time, CEM utilization has been steadily climbing as reflected by both the number of published articles and number of CEM units internationally. Initially, the American College of Radiology (ACR) Breast Imaging Reporting and Database System (BI-RADS) mammography and breast MRI lexicons were used to interpret CEM exams. However, there has been growing interest in developing a lexicon specifically for CEM.

In 2022, the ACR developed this dedicated lexicon and published it as a supplement to ACR BI-RADS Mammography 2013 Atlas. The group that developed the CEM lexicon was comprised of physicians at multiple academic institutions in the United States that either helped develop CEM or are actively using it. The goal was to standardize the language of CEM to encourage consistency in reporting and allow for robust downstream research.

The group chose to use the mammography and breast MRI lexicon as the foundation for this new terminology but modified it to reflect published data on CEM. As such, the CEM lexicon was divided into 3 different imaging scenarios: low-energy-only findings, low-energy and recombined imaging findings, and recombined-only findings. Low-energy-only findings continue to be characterized according to the standard mammography lexicon without change. Low-energy findings with associated enhancement on recombined imaging continue to use the mammography lexicon to describe lesion morphology. However, there is a new recommendation to describe the abnormality's internal enhancement pattern, the extent of enhancement relative to the low-energy abnormality, and the degree of lesion enhancement compared with background parenchymal enhancement (BPE). Recombined-only findings are described similarly to breast MRI with slight modification. In the CEM lexicon, the new term 'enhancing asymmetry' has been introduced which refers to enhancement seen on one view only. The term 'focus' has been removed. Likewise, the descriptive terms 'dark internal septations' and 'clustered ring' have been removed, as it was felt that it was not possible to identify these features on CEM. The descriptors for tissue density and BPE remain the same as with mammography and breast MRI.

This first edition of the CEM lexicon represents a significant move towards establishing CEM as a breast imaging resource and will evolve with the continued objective and anecdotal experience of users throughout the world.

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