



PHILIPS

MicroDose SI

Mammography
solutions

Refine
**breast
density**
assessment

Assess **breast density** objectively

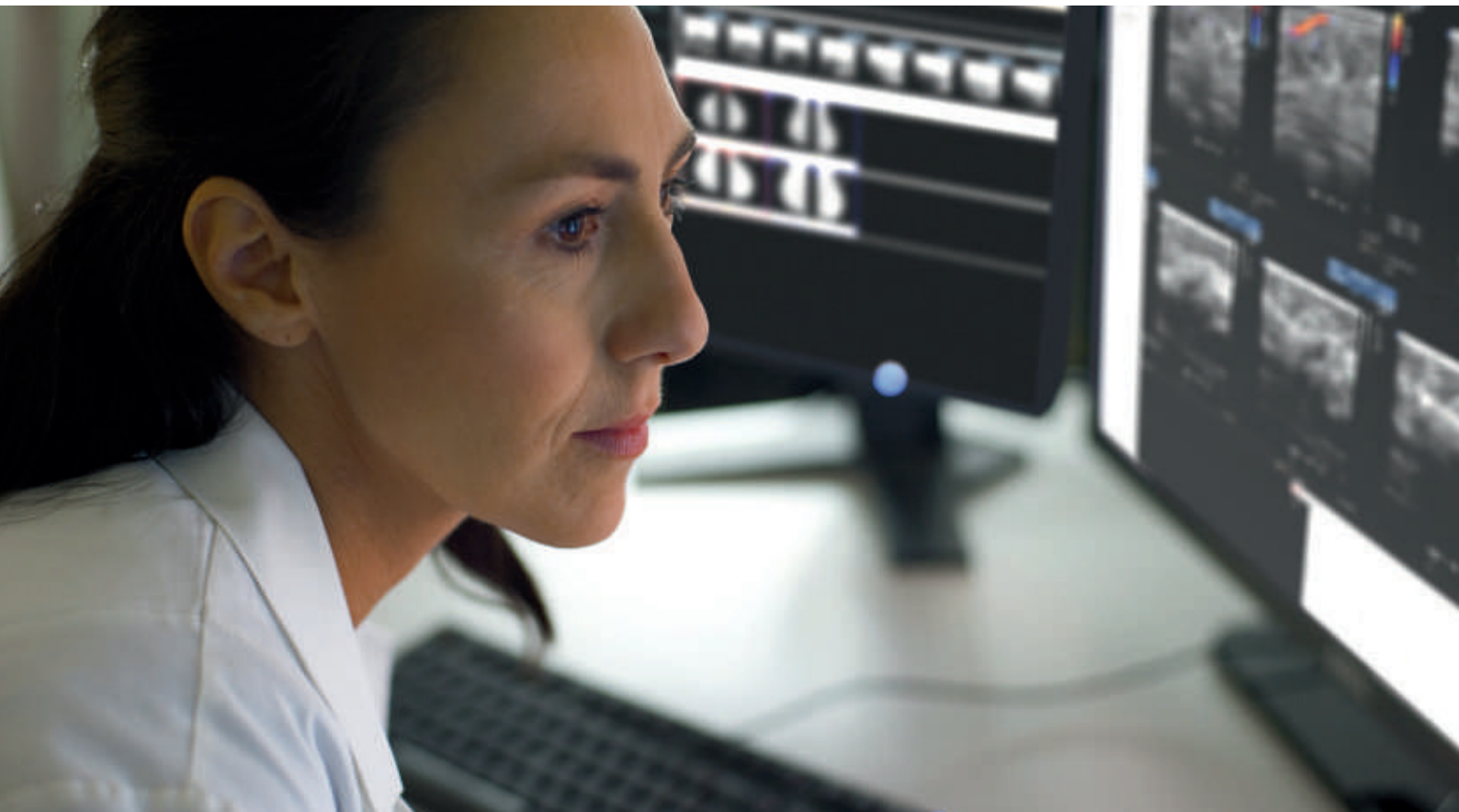
The Spectral Breast Density Measurement tool is an optional feature of Philips MicroDose mammography SI. Rather than estimating density, this application uses spectral information obtained during a regular, lowdose mammogram to differentiate between adipose and fibroglandular tissue. In this way, volumetric breast density can be measured, paving the way for refined risk assessment and personalized care. The foundation of this first MicroDose SI spectral application as well as future ones is Philips proven photon counting technology. It also provides outstanding mammographic images at a low X-ray dose.

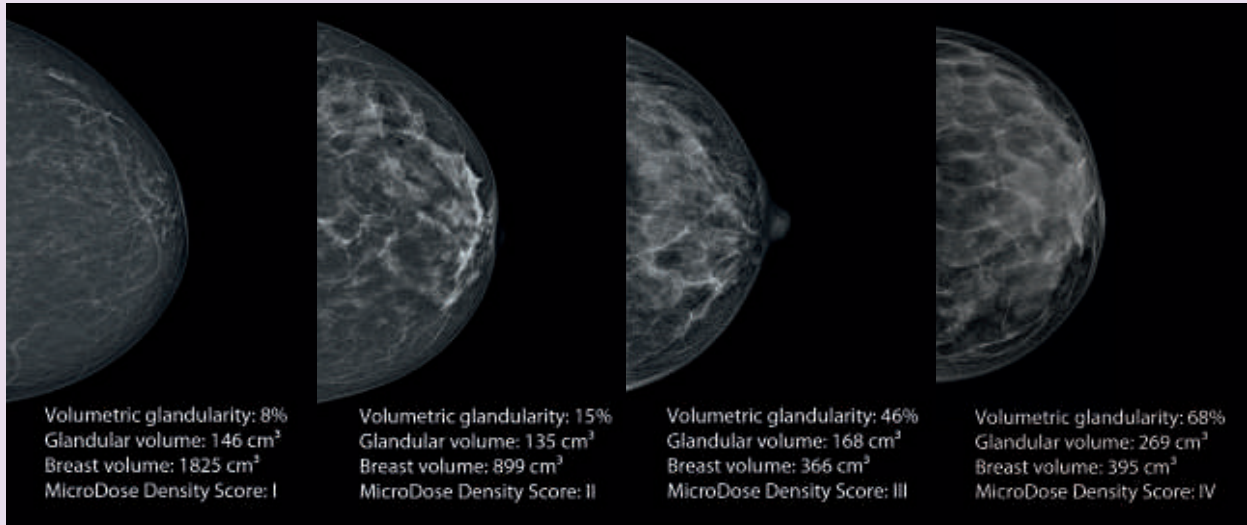
Key advantages

Quantitative: volumetric breast density measured with single-shot spectral imaging

Objective: the image is automatically assigned a density score that correlates to the BI-RADS® breast composition score

Easy to use: the breast density data is available in the DICOM header and in the DICOM structured report





How it works

Spectral imaging makes it possible to differentiate between adipose and fibroglandular tissue, which is the key to measuring volumetric breast density in a mammogram. The glandularity and the thickness are measured independently in each pixel of the image to objectively calculate the total volume and volumetric percentage of glandular tissue in the breast. You do not have to rely on estimations based on compressed thickness. Once the calculations are completed, the image is assigned a MicroDose Density Score that correlates to the BI-RADS® breast composition score.

MicroDose Density Score is calculated per exam based on area glandularity. Area glandularity is defined as the ratio of dense area to total breast area. MicroDose Density Score is correlated to the BI-RADS® breast composition score by matching it to the distribution findings of BI-RADS® breast composition scores in a large population.¹

¹ Kerlikowske K, Ichikawa L, Miglioretti DL, Buist DSM, Vacek PM, Smith-Bindman R, Yankaskas B, Carney PA, Ballard-Barbash R. Longitudinal Measurement of Clinical Mammographic Breast Density to Improve Estimation of Breast Cancer Risk. Journal of the National Cancer Institute. 2007 Vol. 99, Issue 5.

Thanks to the objective, quantitative breast density data obtained by the Spectral Breast Density Measurement tool, there are various possibilities for you to personalize breast exams. The results may encourage you to perform complementary ultrasound and MR exams or to adopt a new workflow in your practice.

Easy integration, easy to use

Density data is sent along with the MicroDose mammography images directly to the review workstation as DICOM data. It can be displayed on any DICOM workstation capable of configuring DICOM headers.

What you get

The calculated breast density data, available in the DICOM header and DICOM Structured Report, includes:

- Volumetric percentage of glandular tissue
- Volume of glandular tissue
- Total breast volume
- MicroDose Density Score (correlated to the BI-RADS® breast composition score)

“If we had an objective method to evaluate the volume of breast glandular tissue, I believe it should lead to new guidelines; at least that’s what I would do in my practice.”

Dominique Fournier, MD, Groupe 3R, Switzerland

Good to know

Where is the breast density data displayed?

The Spectral Breast Density Measurement parameters can be displayed on the review workstation together with the acquired images and can also be exported for display in a DICOM Structured Report (Mammography CAD SR).

Which images are covered by the Breast Density Measurement tool?

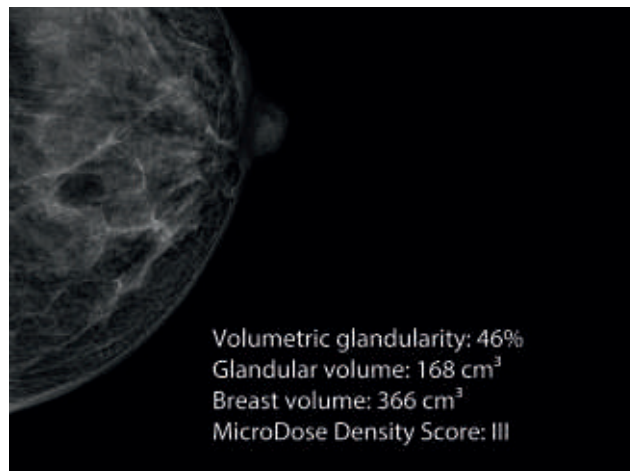
The breast density assessment applies to normal screening images; images of special views and implants are not included. Images of other types, and images with no successful measurements, will not contribute to the calculation of the Breast Density Measurement parameters.

When are the breast density parameters calculated?

The Breast Density Measurement parameters are calculated when an exam is approved the first time. Images sent to PACS before approval of the exam will not have any Breast Density Measurement parameters. Images added to an exam after approval will not contribute to the calculation of the Breast Density Measurement parameters.

What is the correlation between the MicroDose Density Score and the BI-RADS® breast composition score?

MicroDose Density Score is calculated per exam based on area glandularity. Area glandularity is defined as the ratio of dense area to total breast area. MicroDose Density Score is correlated to the BI-RADS® breast composition score by matching it to the distribution findings of BI-RADS® breast composition scores in a large population.¹



Line one shows the percentage of fibroglandular volume. Line two displays the glandular volume in cm³. Line three indicates the total breast volume in cm³. Line four denotes the MicroDose Density Score – either I, II, III or IV – which is correlated to the BI-RADS® breast composition score.

¹Kerlikowske K, Ichikawa L, Miglioretti DL, Buist DSM, Vacek PM, Smith-Bindman R, Yankaskas B, Carney PA, Ballard-Barbash R. Longitudinal Measurement of Clinical Mammographic Breast Density to Improve Estimation of Breast Cancer Risk. Journal of the National Cancer Institute. 2007 Vol. 99, Issue 5.

