

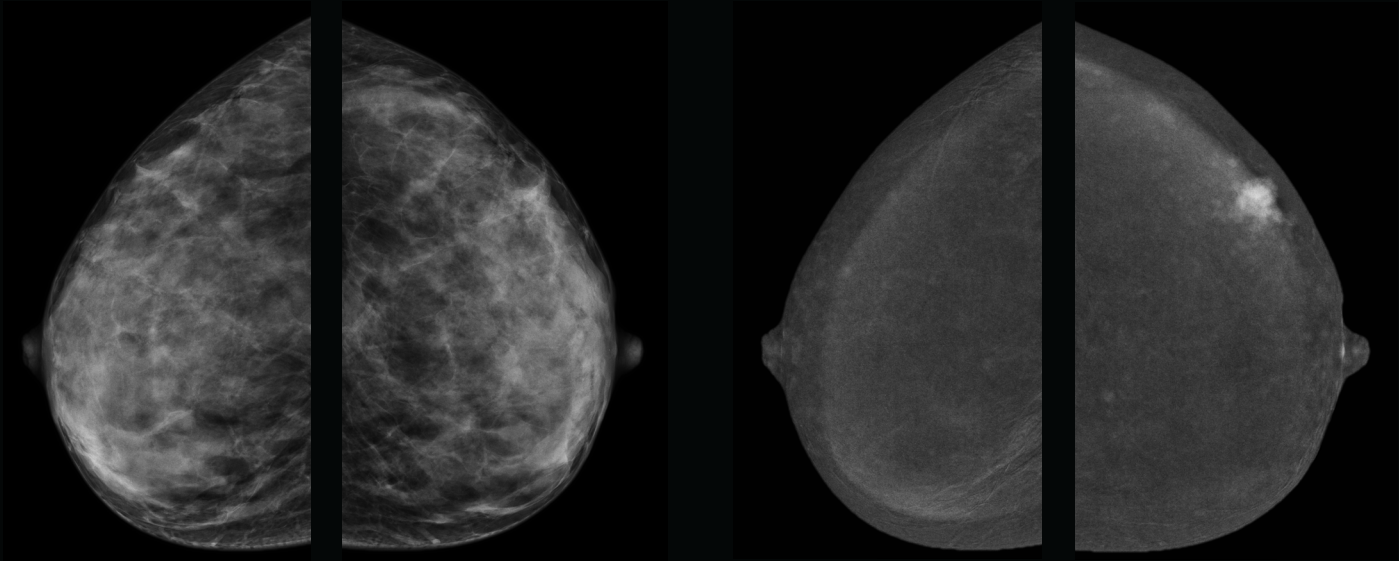


Contrast-Enhanced Spectral Mammography

Illuminating Breast Cancer Detection

SenoBright™ HD

gehealthcare.com/senobright



Enhancing the breast care pathway

Mammography is the most reliable imaging technique for breasts, but limitations can exist due to breast density. This is especially the case in dense breasts where tissues may overlap.

For a final diagnosis, radiologists often need complementary imaging, such as breast MRI. However, these modalities also have limitations (access, contra-indication, waiting list, cost, etc). At GE, we have introduced SenoBright to enhance the breast care pathway and to provide an alternative diagnostic exam.

We continue to lead the way, introducing the next generation of Contrast Enhanced Mammography (CESM) with SenoBright HD.

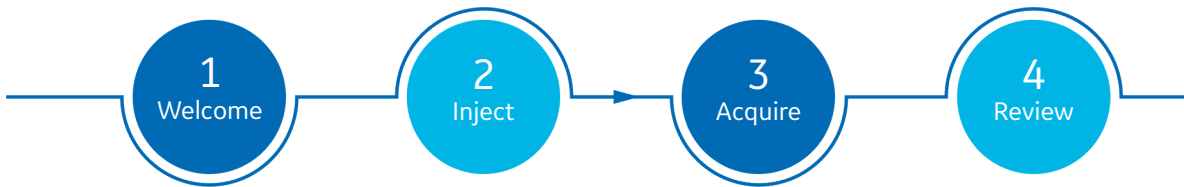
Accelerate your ability to make a confident diagnosis

Women with dense breasts are at increased risk of breast cancer, so you cannot settle for uncertainty. You need complementary imaging solutions that deliver better visualization of breast lesions. Following an ambiguous mammogram and ultrasound, most radiologists turn to breast MRI. MRI is an excellent technology that can deliver outstanding results, however it is not always the best option due to its cost, access or contraindications.

SenoBright HD is a straightforward alternative diagnostic exam that complements today's breast care pathway. Based on research and technology introduced first by GE in 2010 using contrast-enhanced spectral mammography, SenoBright HD delivers exceptionally clear images so you can give your patients a confident, accurate diagnosis faster.

How does it work?

Four simple steps



An intravenous iodine injection is performed on the patient in the same room as the mammogram exam. Four customary mammography views are acquired once the iodine has been injected. There is no need to change the setting or imaging equipment.

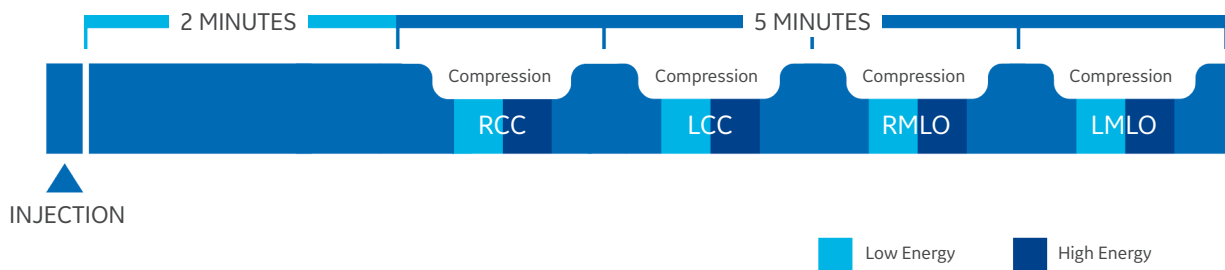
The four standard mammographic views are acquired on the same mammographic system. The entire exam takes less than seven minutes and the images are available for immediate review by the radiologist.

It's fast, accurate, straightforward. And it's cost-effective.

How can you easily implement SenoBright HD in your clinical routine?

After inconclusive mammography and ultrasound,
the exam lasts less than 7 minutes.

- **A standard intravenous iodine injection** is performed in your radiology department.
- **The usual 4 mammographic views** are acquired on the same mammography system.



Exceptionally clear visualization

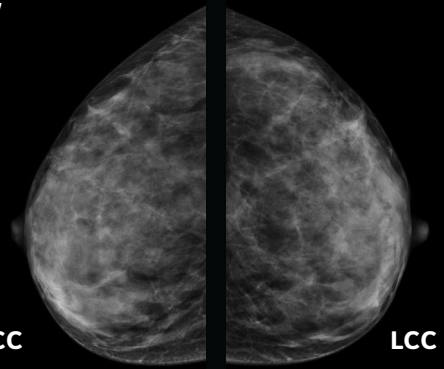
The SenoBright HD contrast agent highlights areas of unusual blood flow.

SenoBright uses multiple x-ray exposures to reduce background signal, effectively highlighting contrast enhanced areas.

Two images per view are provided. A low energy image uses standard mammographic techniques and represents tissue density. The recombined image is a contrast-enhanced image in exactly the same position.

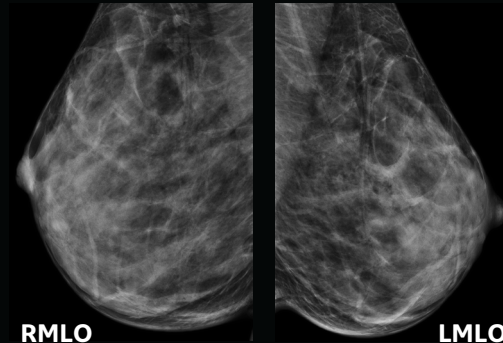
**Low Energy
images**

RCC



LCC

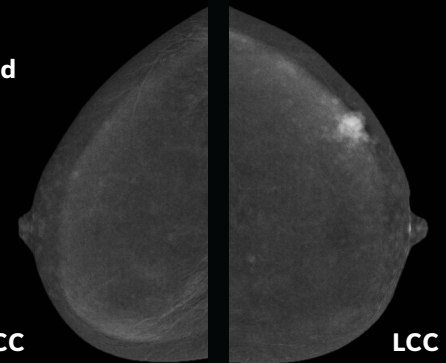
RMLO



LMLO

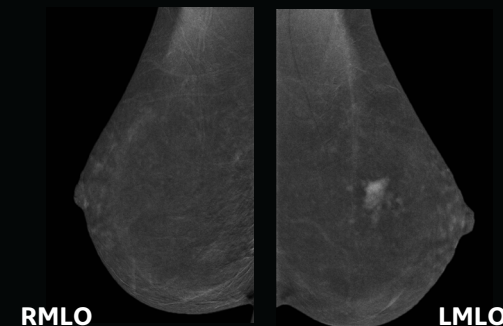
**CESM
Recombined
images**

RCC



LCC

RMLO



LMLO

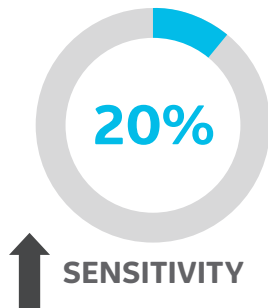
Increase your diagnostic confidence

Localize known or suspicious lesions with iodine contrast



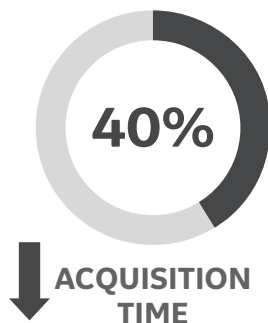
High specificity

Contrast-enhanced spectral mammography (CESM) has a **similar clinical performance** to breast MRI with an **increased specificity of 5%** to eliminate false-positives.



High sensitivity

SenoBright HD achieves a **better diagnosis performance** for breast cancer than mammography diagnosis. For dense breasts, CESM **improves breast cancer detection up to 20%**.



Clear image quality

SenoBright HD delivers clear image quality to enhance diagnostic confidence. SenoBright HD significantly reduces acquisition time by up to 40% in large breasts, reducing motion artifacts on images, compared to SenoBright. The new Senographe Pristina grid and enhanced algorithm also limit scattered radiation and minimize artifacts. The result:

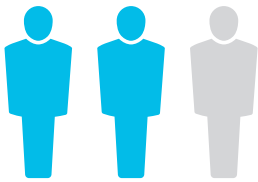
SenoBright HD delivers improved image quality and visualization of abnormalities.

Transform your patients' experience

Reduce patient anxiety by providing a breast cancer diagnosis in one appointment, one setting

When a woman receives an inconclusive mammogram result, every minute waiting for definitive answers seems like an eternity.

By performing a SenoBright HD exam at the same time as a mammogram, in the same room, with the same equipment, you can help eliminate waiting times, lengthy exams and contraindications to breast MRI – sparing your patients additional emotional, physical and financial burdens. Providing peace of mind.



Two out of three patients prefer the SenoBright HD experience to a breast MRI, with faster procedure time, greater comfort, lower noise level and lower rates of anxiety¹.

Free-up time and reduce diagnosis costs

Benefit from an affordable complementary exam that reduces unnecessary exams and frees up time on your other imaging systems.

SenoBright is a less expensive alternative diagnostic method. Its high specificity helps you reduce unnecessary biopsies and surgeries, while freeing up MRI time for other exams.

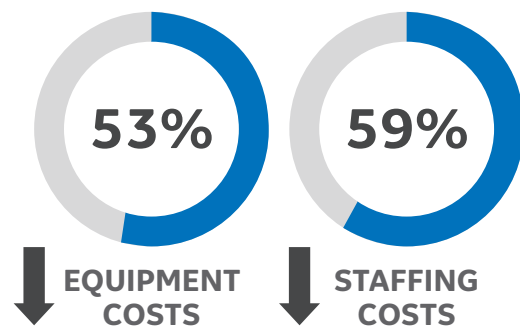
Enhance productivity and grow your bottom line

Augment clinical capabilities

Facilities without an MRI don't need to invest in expensive technology or refer patients outside your health system. SenoBright HD is a cost-effective alternative to help you reach a confident diagnosis.

Alleviate strains on budget

Providers with MRI systems can reduce staffing costs and free up valuable MRI time for other procedures. Research indicates a 53% reduction in equipment costs in addition to 59% reduced staffing costs compared to breast MRI².



Higher clarity at optimized dose

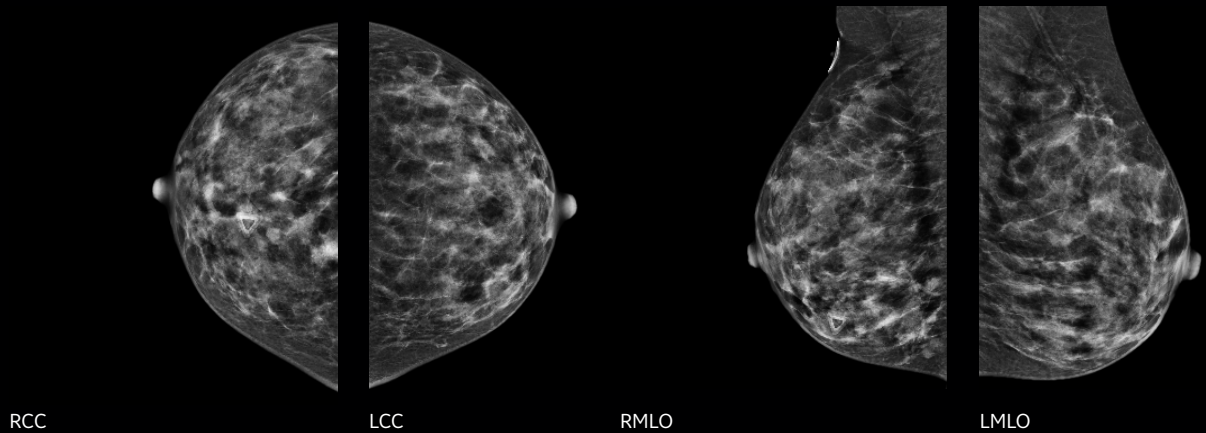
On Senographe Pristina, the Automatic Optimization of Parameters (AOP) selects the appropriate mAs based on radiological density and breast thickness. SenoBright HD delivers a personalized and optimized radiation dose based on the breast glandularity. Because we are as committed to your patients' wellbeing as you are.

Potential reactions to contrast

The risk of a severe adverse reaction to iodinated contrast medium in CESM is 0.2–0.4%, similar to that for CT contrast reaction. To address these potential reactions, the staff should undertake routine training to handle these rare but potential situations².

Invasive Ductal Carcinoma

CESM Low energy images



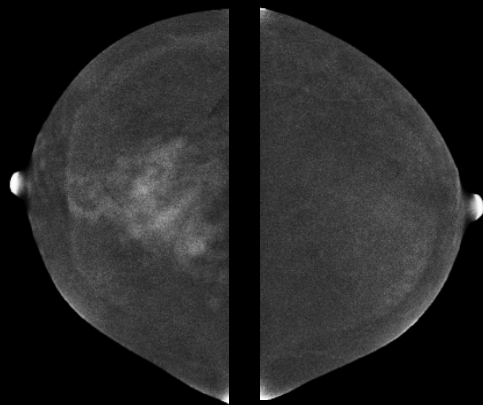
History

Patient presented for a baseline with palpable right breast lump. Heterogeneously dense nodular tissue with regional amorphous calcifications and 4-5 discrete masses. Multiples findings on ultrasound. A CESM was recommended.

Technique

Injection : Iodine Contrast volume : 95 ml injected at a flow rate of 3ml/sec with pressure injector.
Acquisition : 4 standard mammographic views.

CESM images

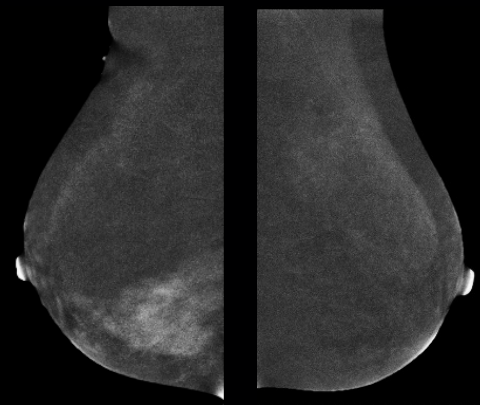


RCC

LCC

CESM Results

CESM showed a large area of enhancement in the lower inner quadrant (CESM images).



RMLO

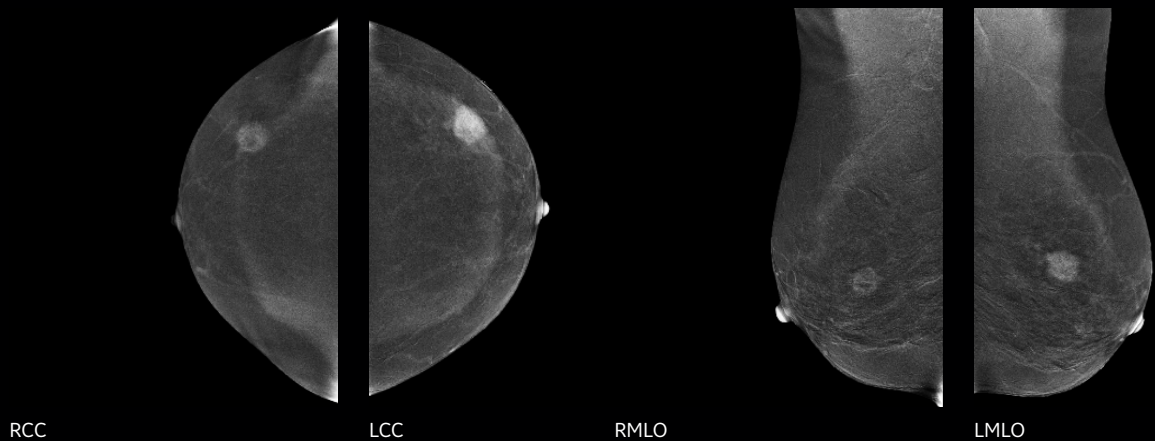
LMLO

Conclusion

Ultrasound biopsy was performed and yielded multiple invasive ductal carcinoma pathologies.

Extent of Disease and Neo-Adjuvant Chemotherapy Monitoring

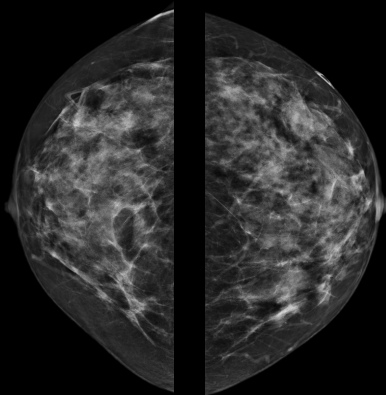
First CESH images



History

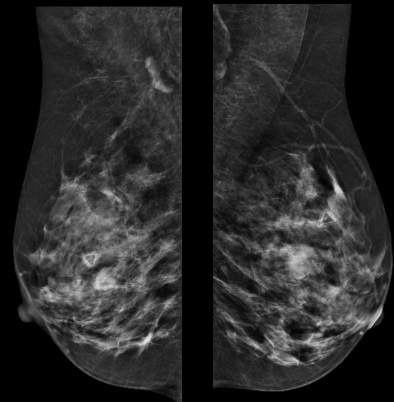
Patient with strong family history and very dense tissue. Presented with palpable left and breast lump, after a negative mammogram ten months prior. Left diagnostic was indeterminate. Ultrasound revealed a mass measuring 1,5 cm. The mass was solid, cystic and hypo echoic with an irregular margin mass. A bilateral CESH was performed.

CESM Low energy images



RCC

LCC



RMLO

LMLO

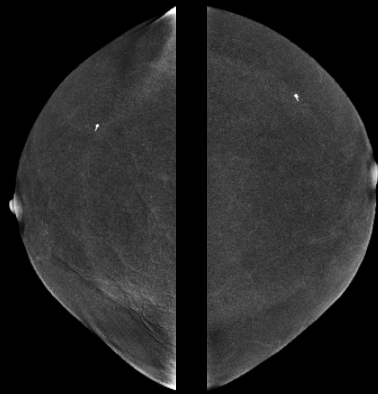
Technique

Injection : Iodine Contrast volume : 113 ml injected at a flow rate of 3ml/sec with pressure injector.

Acquisition : 4 standard mammographic views.

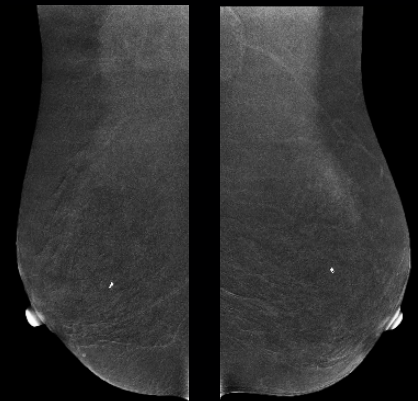
Extent of Disease and Neo-Adjuvant Chemotherapy Monitoring

Second CESM post-neoadjuvant chemotherapy images



RCC

LCC



RMLO

LMLO

First CESH Results

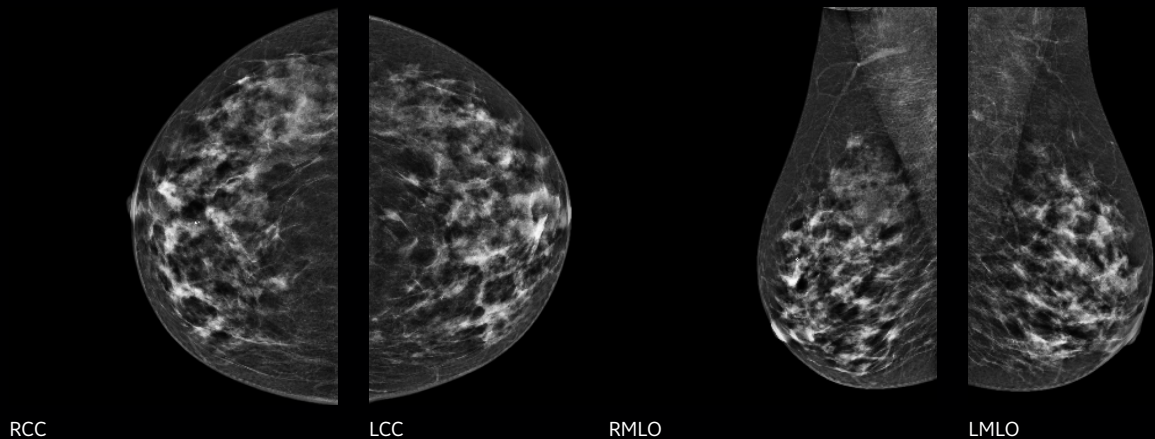
Bilateral enhancement was noted on CESH images (First CESH images). The Ultrasound exam performed after CESH confirmed the 2 findings, corresponding to palpable and CESH abnormalities. Bilateral axilla ultrasound was also performed both were negative. Bilateral biopsies were performed and showed invasive ductal carcinoma grade 3 on palpable left side. Right incidental finding showed invasive ductal carcinoma grade 3 also. The patient was treated by chemotherapy.

Second CESH Results

A CESH follow-up exam was performed after 3 months post neoadjuvant chemotherapy and demonstrated an excellent response to the treatment (Second CESH images) and post biopsy clips in place (CESH Low energy images).

Case Solving: Negative

CESM Low energy images



History

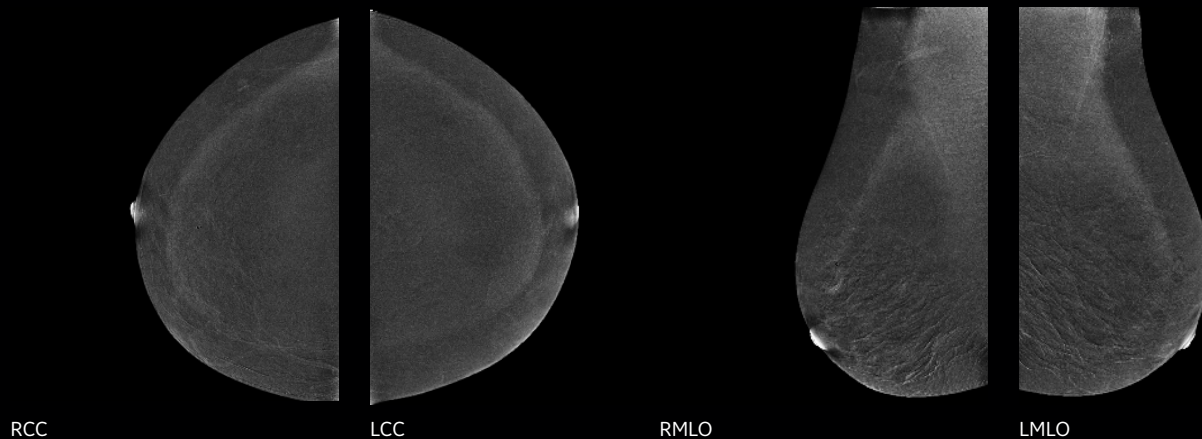
Screening mammogram showed heterogeneously dense tissue with new 11 mm nodule on left CC view only. Spot compression views confirmed nodule and a CESM was recommended.

Technique

Injection : Iodine Contrast volume : 111 ml injected at a flow rate of 3 ml/sec with pressure injector.

Acquisition : 4 standard mammographic views.

CESM images



CESM Results

CESM showed no areas of contrast enhancement (CESM images).

Conclusion

CESM confirmed a negative exam.
This patient returned to routine screening.

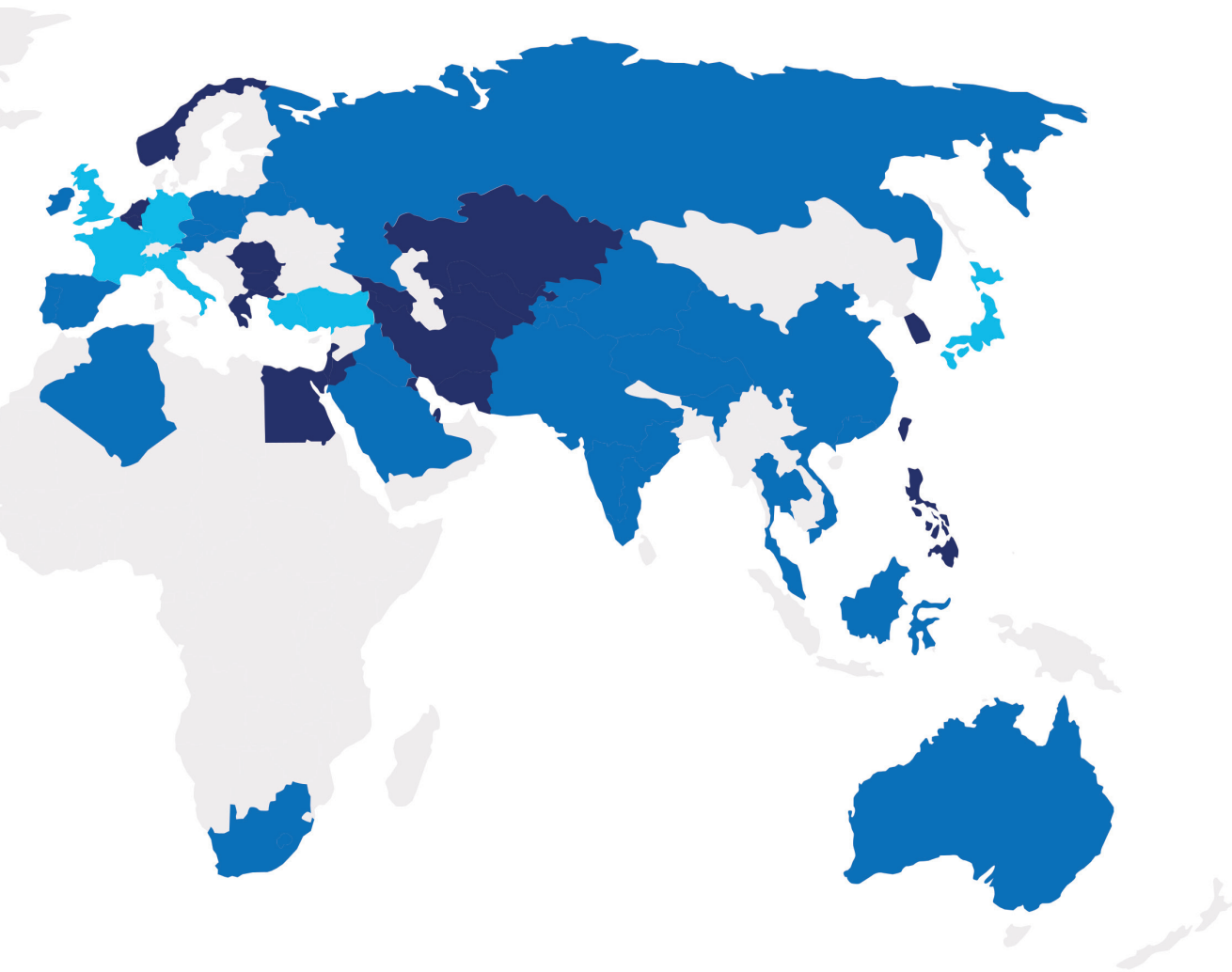
SenoBright, a clinically proven technology

SenoBright Installations



* Estimates based on 420 sites, 5 exams/week during 4 years

**Bibliography available on request





GE Healthcare has been partnering with specialists in breast imaging for almost 50 years. SenoBright HD is built around the proven innovations in the GE breast care pathway – all designed to give you better tools for early detection and diagnosis of breast cancer while enhancing patient wellbeing.

With SenoBright HD, you gain the clarity and confidence to give your patients an accurate diagnosis faster.



Imagination at work

Product may not be available in all countries and regions.

Full product technical specification is available upon request.

Contact a GE Healthcare Representative for more information.

Data subject to change.

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¹ Hobbs et al., J Med Imaging Radiat Oncol. 2015

² Patel et al., AJR Am J Roentgenol. 2017

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