



WHAT TO  
EXPECT

## **Genius™ 3D MAMMOGRAPHY™ Exam**

The most exciting advancement in  
mammography in over 30 years

# 91%

of patients agree the quality of care provided by the facility was better with a Genius™ 3D MAMMOGRAPHY™ exam.

- Results from independent survey conducted by Kadence International, June 2015

## What to expect during your exam

A Genius exam is very similar to a traditional mammogram. Just as with a digital mammogram, the technologist will position you, compress your breast under a paddle and take images from different angles. A Genius exam may be used as a screening tool in conjunction with a traditional digital mammogram or may be used by itself for a diagnostic mammogram.

During the Genius exam, the X-ray arm sweeps in a slight arc over the breast, taking multiple breast images in just seconds. Your doctor is then able to view your breast tissue in one millimeter layers. Instead of viewing all the complexities of your breast tissue in one flat image, the doctor can examine the tissue one page or “slice” at a time.

There is no additional compression required with the Genius exam, and it only takes a few seconds longer for each view. The technologist will view the images at a computer workstation to ensure adequate images have been captured for review by a radiologist, who studies them and reports results to either your physician or directly to you.

# Screening for breast cancer

Doctors and scientists agree that early detection is the best defense against breast cancer. Successful treatment and survival rates for breast cancer patients are dramatically affected by early detection of breast cancers. If we find breast cancer early, before it has spread to lymph nodes, the five-year survival rate is almost 100 percent.<sup>1</sup> Until now, the best way to do that has been with digital mammography.

While digital mammography is still one of the most advanced technologies available today, it is only a 2-dimensional picture of the breast. The breast is a 3-dimensional object composed of different structures, such as blood vessels, milk ducts, fat, and ligaments. All of these structures, which are located at different heights within the breast, can overlap and cause confusion when viewed as a 2-dimensional, flat image. This confusion of overlapping tissue is a leading reason why small breast cancers may be missed and normal tissue may appear abnormal, leading to unnecessary callbacks.

Hologic – a world leader in digital mammography – has developed an advanced technology called breast tomosynthesis, which has been shown in clinical studies to be superior to digital mammography.<sup>2</sup>



# What is A Genius™ 3D MAMMOGRAPHY™ exam?

A Genius exam is an advanced technology in the fight against breast cancer that allows doctors to examine your breast tissue one layer at a time. The imaging system uses high-powered computing to convert digital breast images into a stack of very thin layers or “slices” for your radiologist to review. A good analogy for a Genius exam is thinking of the pages in a book. If you look down at the cover you cannot see all of the pages – but when you open it up, you can go through the entire book page-by-page to see everything between the covers. The Genius exam was designed with the same concept in mind.



The Selenia® Dimensions® system is designed to maximize patient comfort during the exam.

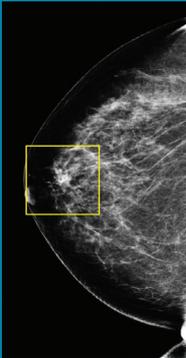
Very low X-ray energy is used during the screening examination so your radiation exposure is below the FDA guidelines.

Combining the Genius exam with digital mammography for screening has been proven to significantly reduce callbacks by up to 40%.<sup>2,3</sup> In addition, the Genius exam finds cancers earlier than 2D mammography alone, with a 41% increase in invasive cancer detection.<sup>2</sup>

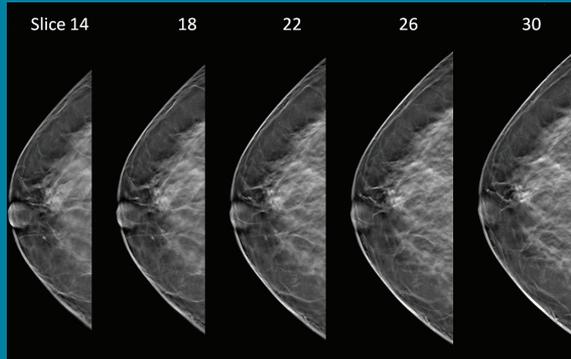
The Genius exam may also be used during a diagnostic mammogram if you happen to be called back for this type of exam.

**41% increase in  
invasive cancer  
detection.<sup>2</sup>**

## Images from a breast exam: 2D vs 3D™ slices



2D image



3D™ image slices

In a conventional 2D mammogram there appears to be an area of concern that the doctor may want to further investigate with another mammogram or a biopsy. Looking at the same breast tissue in slices from the Genius exam, the doctor can now see that the tissue is in fact normal breast tissue that was overlapping in the traditional mammogram creating the illusion of an abnormal area. In this scenario this patient likely avoided a callback for an additional mammogram thanks to the Genius exam.

# Early Detection is the Key

Because our primary goal has always been to deliver the highest quality care to our patients, we are adding breast tomosynthesis to our breast health services.

We have chosen to offer the Genius<sup>™</sup> 3D MAMMOGRAPHY<sup>™</sup> exam from Hologic because clinical studies show that it is a more accurate mammogram.<sup>2</sup>

Please call our office to schedule your Genius exam.

For additional information on breast health, call the American Cancer Society at 1.800.ACS.2345 or visit [www.cancer.org](http://www.cancer.org)

**genius**<sup>™</sup>  
3D MAMMOGRAPHY

To learn more about the  
Genius exam and locations,  
visit [MyGenius3D.com](http://MyGenius3D.com)

**REFERENCES:** **1.** Stages 0 & 1: what does it mean to have stage 1 breast cancer? National Breast Cancer Foundation, Inc. <http://www.nationalbreastcancer.org/breast-cancer-stage-0-and-stage-1>. Accessed March 31, 2015. **2.** Friedewald SM, Rafferty EA, Rose SL, et al. Breast cancer screening using tomosynthesis in combination with digital mammography. *JAMA*. 2014;311(24):2499-2507. **3.** Rose SL, Tidwell AL, Bujnoch LJ, et al. Implementation of breast tomosynthesis in a routine screening practice: an observational study. *AJR Am J Roentgenol*. 2013;200(6):1401-1408.

Genius<sup>™</sup> 3D MAMMOGRAPHY<sup>™</sup> exams are only available on the Hologic Selenia<sup>®</sup> Dimensions<sup>®</sup> system. Physicians should be consulted about the benefits and risks associated with mammography.

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