



Efficient operation, low dose

MicroDose Mammography at Dexeus Women's Health Diagnostic Imaging Service

Who/where

Dr. Rafael Fábregas, consultant in gynecological oncology and breast care

Dr. Maria Angela Pascual, chief of diagnostic gynecologic imaging unit

Jordina Trave, chief mammography technologist

Maria Dolores Noguera, patient

Dexeus Women's Health Diagnostic Imaging Service. Obstetrics, Gynecology and Fertility Department at Institut Universitari Dexeus. Barcelona, Spain

Challenge

Provide efficient, high-quality mammography in a comprehensive care environment

Solution

Low-dose mammograms with MicroDose Mammography

Dexeus Women's Health Diagnostic Imaging Service is a component of the Obstetrics, Gynecology and Fertility Department at Institut Universitari Dexeus (Barcelona, Spain). Women's Health Dexeus is one of the largest and most comprehensive women's health centers in Europe, housing a complete range of services under one roof, including gynecology, obstetrics, ultrasound, breast ultrasound, fertility, and densitometry.

Dexeus Women's Health's goal is to provide care for women in all stages of life, with special emphasis on prevention and the early detection of medical disorders, and to provide a comprehensive and efficient response to their needs. This goal is shared by Dexeus Institute for Women's Health and Diagnostic Imaging Service, where the focus is on efficient, patient-focused care and fast results.

The Institute purchased MicroDose Mammography in 2007 to help fulfill its vision of offering personalized, rapid, and convenient care. Maria Angela Pascual, M.D., Ph.D., radiology coordinator, says, "We were looking for the perfect mammography unit for our needs. MicroDose had all we were looking for in terms of image quality, connectivity and radiation dose reduction."



Dr. Maria Angela Pascual, chief of diagnostic gynecologic imaging unit.

PHILIPS



Dr. Pascual with patient.

“When we receive new patients who come with previous images taken in other centers, we observe a difference in image quality. Sometimes, we need to repeat the mammogram to make sure we have complete information.”

Dr. Maria Angela Pascual, chief of diagnostic gynecologic imaging unit.

High definition, less noise, and great detail discrimination

Dr. Pascual has noticed a significant difference in image quality with MicroDose. “We see very high definition, less noise and great discrimination of details,” she says. “When we receive new patients who come with previous images taken in other centers, we observe a difference in image quality. Sometimes, we need to repeat the mammogram to make sure we have complete information.”

Focused on dose reduction

When these repeat mammograms are necessary, Dr. Pascual is pleased that she can offer a second mammogram at a significantly lower dose. MicroDose Mammography uses unique, photon counting technology that increases dose efficiency, resulting in an 18 to 50% lower radiation dose than used on other digital mammography systems, with an average dose reduction of 40%, without affecting image quality.^{1,2,3,4}

With MicroDose, “It is possible to increase frequency of mammographic studies without increasing irradiation dose,” says Rafael Fábregas, M.D., consultant in gynecological oncology and breast care. “This has allowed us to perform breast screening beginning at age 40

on an annual basis. Between 40 and 55 years the incidence of breast cancer is high, and in some cases the aggressiveness of tumors can be greater, with rapid progression of growth. The high image quality has allowed us to diagnose earlier.”

In addition to using MicroDose Mammography, the institute follows the ALARA (As Low As Reasonable Achievable) principle, and chooses screening with a low radiation dose.

High volume requires high efficiency

Over 120 mammograms are performed each day at the Institute. Dr. Fábregas estimates that MicroDose has increased volume by 30-40%. This is a result of reading efficiency due to the quality of the images, and the speed and ease-of-use of the systems.

An examination includes patient history review, a physical exam, and a mammogram consisting of 2 + 2 oblique craniocaudal projections at 60°. The complete examination takes about five minutes.



Dr. Rafael Fábregas, consultant in gynecological oncology and breast care.

“For me, the most important thing when performing mammograms is to be able to position easily and rapidly, and to transmit the information to the radiologist,” says Jordina Trave, chief mammography technologist. “Secondly, but very importantly, I want to offer the least possible radiation dose.”

Ms. Trave points out that the software is easy to use and the automatic operation of the mammography modality facilitates her work. “Because the image appears right away on the workstation, we can continue working there, limiting the amount of time the patient needs to be in the room, which decreases anxiety,” she adds.

Comfort and speed are key to patient satisfaction

Ms. Trave notes that women often comment positively about the design and appearance of the equipment, and consider mammograms with MicroDose to be less painful.

Patient Maria Dolores Noguera, agrees. “I like the machine. It is small and fast and compared to what some other women say (about other systems), I don’t think the examination is so painful,” she says.

“Choosing the right place to perform your mammography is important. You should trust the center, its professionalism, and definitely the chosen technology used.”

“I like the fact that Dexeus offers low radiation dose. A mammogram a year may not be much, but this is not the only radiological examination you get, so keeping the radiation low is crucial, as we all know that radiation has its risks,” she adds. “I recommend this center to all my friends and the women in my family. I love their dedication and professionalism.”

Connectivity aids coordinated care

One advantage to having departments of obstetrics, gynecology, and fertility in a single building is that women are screened and diagnosed on the same day. Sometimes in less than three hours, the patient has been screened, received diagnostic tests, and even been examined by her gynecologist.

If a technologist sees something suspicious on a mammogram, the images are sent immediately to the radiologist, who reviews them and determines if breast ultrasound is needed. If it is needed, it is performed immediately, and if a biopsy is needed, that too is done as soon as possible that day.

Because Dexeus provides this range of related services, connectivity is particularly important. “The connectivity between MicroDose and our PACS and RIS is outstanding,” Dr. Fábregas says. “This makes the examination and reading process really smooth and fits our approach to serving our patients. In our experience, thanks to our low dose MicroDose we obtain high image quality with no extra dose needed.”



The unique MicroDose photon counting technology improves dose efficiency and offers low-dose mammograms, without compromising image quality.



Jordina Trave, chief mammography technologist, with patient.



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References

1. Oduko, J.M. Young, K.C., Burch, A.,: A Survey of Patient Doses from Digital Mammography Systems in the UK in 2007 to 2009. *Digital Mammogr. IWDM 2010*, 365–370, (2010).
2. Baldelli P, et. al., Comprehensive Dose Survey of Breast Screening in Ireland, *Radiation Protection Dosimetry*, Vol. 145, No. 1, pp. 52–60, (2010).
3. Leitz W, Almén A. Patientdoser från röntgenundersökningar i Sverige – utveckling från 2005 till 2008. SSM 2010-14, ISSN 2000-0456, available online (in Swedish) at www.stralsakerhetsmyndigheten.se.
4. White paper, Comparison of Dose Levels in a National Mammography Screening Program, Philips Healthcare.

* The actual result of the average dose reduction will vary based on variations of digital mammography systems.

Please visit www.philips.com/microdose



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