PHILIPS

Mammography

Customer Testimonial

Who? Where?
Doctor Rafael Salvador, Associate Professor of Radiology at the Autonomous University of Barcelona, Chief of Radiology at the Breast Pathology Unit of Hospital Vall d'Hebron and Director of the Private Center Imagine in Spain.

Challenge
Offer women a low dose mammogram with outstanding image quality which can help to objectively quantify breast density to pave the way for refined risk assessment and personalized care.

Solution
MicroDose mammography SI

Innovation makes personalized breast care a reality

Dr. Salvador, one of the most prominent radiologists specializing in mammography in Spain, uses MicroDose mammography SI's unique Spectral Breast Density Measurement application to support personalized breast cancer care.

When Paula Delgado first experienced MicroDose mammography SI, as a patient, she was pleasantly surprised by the comfort offered by the system during the examination.

Dr. Salvador, who is renowned for being one of the most prominent breast specialists in Spain explained to her that MicroDose was equipped with a unique technology, called "photon counting" which delivered outstanding image quality at very low dose. It also featured, among other advantages, a curved and warmed patient support and a unique application called "Spectral Breast Density Measurement" allowing clinicians to objectively measure the patient breast density.
A few months ago, when the system was installed at Imagine, it became the first MicroDose mammography SI unit to be available in Spain. Dr. Salvador immediately noticed a significant increase in the number of patients that visited his center as a result of recommendation by gynecologists or family and friends.

Rafael Salvador is a Doctor in Medicine & Surgery, Associate Professor of Radiology at the Autonomous University of Barcelona, Chief of Radiology Service at the Breast Pathology Unit of Hospital Vall d'Hebron and Director of the Private Medical Center Imagine. He has chaired, or has been a part of important medical societies such as the European Society of Breast Imaging, European Group for Breast Cancer Screening, Catalonian Society of Radiology, SEDIM (Spanish Society of Breast Imaging Diagnostic), Spanish Society of Senology and Breast Pathology and the International Society of Senology. In addition to that, he has written several publications, articles in international journals, peer-reviewed papers and has presented in excess of 200 lectures at regional and international conferences and events.

Imagine is a radiological center specialized in breast health, but it is also equipped to address many other disciplines within the field of radiology. Dr. Salvador is committed to offering his patients a complete and holistic care path for breast health and wellbeing from screening to diagnosis, using mammography, to conducting additional examinations such as ultrasound and biopsy. The aim is that the patient leaves the center with all examinations performed to provide a confident diagnosis that will allow her to dismiss any concerns she may have or, together with the advice provided by the medical team, to make the decision about the treatment needed. All this is made "in a friendly environment, with a direct relationship with the radiology specialist" says Dr. Salvador. This reinstates Alberto Chacon's, Coordinator of the Technicians, statement "the first thing before a mammography examinations is to win the patient´s confidence, make her relax, considering that she is about to undergo a test that can tell her if she has cancer. It is a delicate situation in which we treat the patient with a lot of care, understanding and above all closeness".

A pioneering center at the technological forefront

Imagine is a pioneer in its field in Catalonia – fully digitalized, they were the first to introduce digital mammography in 2001. Today innovation is part of their DNA, as they strive to incorporate every new technology that they believe to be beneficial to both their patients and professionals, in a bid to promote fast and confident diagnosis.

A strong partnership between Philips and Imagine was established many years ago, "Philips keeps on innovating, is up to date with technological developments. The company helps us to be at the forefront of medical imaging with their equipment. Also Philips staff is always available in case of questions or issues. We chose Philips mainly because it is a solvent, reliable company."

MicroDose SI: excellent image quality with low dose

Dr. Salvador has been familiar with MicroDose SI since its conception. He has done much research on this system, as well as other full-field digital mammography (FFDM) systems. "I knew that photon counting was an advanced scanning technology for Mammography and had behind it an innovative company like Philips. Therefore it finally had all the conditions that I consider necessary: a solvent reliable company; a technology that, for me, is one of the best; and also what I'm offering for all the patients: superb technology with low radiation which is in alignment with the ALARA (as low as reasonably achievable) principle. "MicroDose SI is, according to Dr. Salvador "even surpassing my expectations, on two very important criteria to note. Firstly, the outstanding diagnostic quality of the images and secondly, what is critically important: low dose. In both aspects we've noticed a dose reduction well above what we had originally planned." Several studies provide evidence that MicroDose Mammography* can provide outstanding image quality at 18% to 50% lower dose than used on other digital mammography systems, with an average dose reduction of 40%*[1], [2], [3], [4].

A recent study comparing MicroDose Mammography with other FFDM systems shows that the Mean Glandular Dose of the MicroDose system was significantly lower than that of the subgroup of conventional DR systems (0.60 vs. 1.67 mGy) even though the mean compression thickness was higher (61 mm vs. 59.4 mm). The Philips MicroDose photon-counting system enabled a higher overall cancer detection rate for subsequent screening compared with the statewide rate (0.76% vs 0.59%, P # .05) at a higher recall rate (5.4% vs 3.3%, P # .05)[5].

Dr. Salvador stresses the importance of low dose, clearly stipulating, “The radiation dose to which I expose my patients is crucial. In mammography the important point is the detection of cancer in preclinical stages, which involves the radiation of healthy women – therefore, the less radiation, the better”.
He continues by saying “patients want zero dose, however that does not yet exist; what does exist, and what we can offer is a dose that is almost negligible”.

Taking the perspective of the patient, Paula Delgado confirms: “I have always been worried in case the radiation could provoke something I didn’t have. You know it’s radiation, but you think that the end justifies the means, it is necessary. But Dr. Salvador has explained to me that with MicroDose SI, radiation dose is very low”.

MicroDose SI features industry-leading 50 µm spatial resolution, which offers exceptional image quality. Dr. Salvador explains, “...This equipment is unique, as the examination is done with a scanning motion and the detector counts directly each photons using only one conversion step. Typically, in the handling of images, quality may be compromised with each conversion step in the processing of the image. As this system is direct digital, it is really efficient”. This outstanding image quality facilitates fast, and confident diagnosis, and Dr. Salvador stresses the importance of this as better patient care can be achieved, “advanced diagnosis is our goal– this is a philosophy we endorse, and will practice in everything we do, every day. If we can diagnose breast cancer before the tumor becomes untreatable, we will have fulfilled our mission”.

Based on his experiences, Dr. Salvador recommends MicroDose SI to other colleagues, and emphasizes that “in 39 years I have worked with a multitude of mammography systems – different technologies, from various vendors but in my opinion MicroDose SI achieves superb performance”.

Spectral **Breast Density** Measurement

In addition to giving an outstanding image quality at low dose, MicroDose SI introduces the first solution on the market to provide spectral imaging of the breast without the use of contrast media.
The first Spectral Imaging application available on MicroDose SI is Breast Density Measurement. Rather than estimating density, Spectral Breast Density Measurement uses differences in the energy spectrum to differentiate between adipose and fibroglandular tissue to provide objective volumetric breast density measurement[6]. This paves the way for refined risk assessment and personalized care.

Being able to objectively calculate the density of the breast has significant advantages, which extends beyond the area of Radiology. Gynecologists can guide their patient as to what examination should be undertaken and at what specific interval. From Prof. Salvador’s experience, women will generally take the advice of their gynecologist, and having this additional data automatically available all within the one, low-dose mammograms provides the medical team with a unique tool to advise the patient accordingly, using objective data. In fact, according to Dr. Salvador, MicroDose SI reduces inter-reader subjectivity when measuring breast density as the information acquired differentiates between the different density categories.

Dr. Salvador believes that Microdose breast density score has established a precedent, and as such this low dose, high image quality system will become a standard in the future.

* MicroDose Mammography was developed by Sectra, whose mammography operation was acquired by Philips Healthcare in September 2011.
The actual result of the average dose reduction will vary based on variations of digital mammography systems.[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

5 Weigel, S. et al., 2014. Digital mammography screening with photoncounting technique: Can a high diagnostic performance be realized at low mean glandular dose? Radiology, Volume 271: Number 2—May 2014

6 Ding H, Molloi S., 2012. Quantification of breast density with spectral mammography based on a scanned multi-slit photon-counting detector: A feasibility study. Phys Med Biol. 57: 4719–4738.

Easy positioning for a less stressful experience

Alberto Chacon, Coordinator of Technicians, expresses that women "can appreciate that the image is good, the equipment is modern but what is most important to them, is that the examination is not too stressful. Many women will avoid having a mammogram because of the discomfort they think it will provoke". Paula Delgado confirms: "I had my first mammogram because a problem was detected, which for me, and for many others naturally, it was an ordeal. After my first mammogram at Imagine with MicroDose SI, I spoke with the doctor and technicians and I exclaimed "What a difference!". Before, I needed to take a pill to calm myself down because I knew I was going to experience a horrible pain and I really had a hard time. But now it was not so bad as I expected it to be. I was surprised."

Alberto Chacon

Paula Delgado

A system that helps the Clinical Center

Being a private clinic, one of the biggest challenges is to maintain costs – Imagine is a small clinic, offering women an exceptional, personalized service, for the care of their health and wellbeing – this comes with a cost however. Dr. Salvador emphasizes efforts undertaken to "maintain the level of patient care and quality service every day", something that they can achieve by renewing and incorporating technology to suit their needs, and ensure professionals are well trained, and equipped with knowledge of these new techniques.

"Since having installed MicroDose SI, we have noticed a substantial increase of women to the center - even women who had gone to another facility closer to their homes came back - something positive for a small, private center, such as ours" explains Dr. Salvador. Paula Delgado confirms that "undoubtedly, I will recommend Imagine to my friends, as from my own personal experience with the MicroDose SI, I can vouch that it is really worth doing their mammography there."

Conclusively, staff at Imagine consider MicroDose SI to be a breakthrough technology. Alberto Chacon reveals "It's a very simple system to work with every day, it has no complication. The team from Philips explained the system to us in just two days, and within a week we had already resolved issues that can be expected in learning a new technology, and had the confidence to work with the system without any problem". This system provides exceptional image quality without the need for manual adjustments.

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