



Technologist experience with Senographe Pristina™

Introduction

National breast cancer screening programs face growing demand from the increasing number of women who require regular screening. Workflow and technologist efficiency are keys to managing high mammography screening volume while maintaining the highest quality standards. Apart from that, efficient workflow leads to rapid report turnaround, fast diagnosis, and the least possible waiting and anxiety for the women. All this means pressures to provide greater mammography throughput at low cost.

Objective

GE Healthcare has been committed to improving breast care for many years. The objective of this study is to explore how the Senographe Pristina digital mammography system helps healthcare providers, especially the technologists population, improve the screening experience.

GE Healthcare commissioned research to gauge the improvements delivered by Senographe Pristina as perceived by technologists. More specifically, the study aimed to explore radiographers' perceptions of:

- The throughput advantages
- The impact of specific features on workflow efficiency, operational efficiency, and the patient experience

Methodology

The study was conducted by a third party. Interviews lasting about 30 minutes were conducted based on a questionnaire with radiology technologists who had used the Senographe Pristina system. The interviews were conducted between July 2017 and April 2018 in Japan and the European Union (EU). Responses from a total of 50 technologists were collected: 23 from Japan, 22 from Sweden and 5 from Italy. A majority of respondents (29) had more than 10 years' experience with mammography. The facilities where they worked conducted mammography exams for an average of seven hours per day and completed 5 to 250 mammograms per day (77 exams per day on average).



» Result of analysis

CHALLENGES

When asked about the challenges they faced in performing mammography exams before their facility acquired the Senographe Pristina system, participants cited imaging cycle time, inadequate image quality, patient discomfort, and radiation levels as the most predominant. Ninety percent had used a 2D gantry before. Satisfaction with their prior systems averaged 4.7 on a scale from 1 to 7 where 1 was considered as “not in agreement at all” and 7 “completely in agreement.”

OVERALL EXPERIENCE USING SENOGRAPHE PRISTINA

Participants reported that their facilities conducted an average of 39 exams per day on the Senographe Pristina system, with a range from 4 to 85. Sixty percent mentioned that they personally performed more than 20 exams per day on the system. They generally reported that **operation of the Senographe Pristina was simpler and easier than most previous systems they had used.** In particular, they noted that the presence of a touch screen made the system easy to operate. In terms of

functional experience, they reported that the chest wall was displayed well on the images, providing clear visualisation of the pectoralis muscles. They observed that no height adjustment was needed for CC and MLO views. They found the Senographe Pristina beneficial for patients because its rounded-corner design was far more comfortable than their previous systems, helping to prevent pain during exams.

EXPERIENCE WITH SPECIFIC ATTRIBUTES

The participants rated their experiences with specific Senographe Pristina attributes on the scale from 1 to 7 where 1 was considered as “not in agreement at all” and 7 “completely in agreement.”

» Ease of learning

94% of the technologists agreed that Senographe Pristina was easy to learn, giving it an average rating of 6.0 on that attribute. A similar majority (92%) mentioned that it took them 1 day to 4 weeks (10 days on average) to feel completely comfortable with the system. Some features they cited as making the system easy to learn were the touch

panel and size selection, the training provided, and experience with previous GE systems. The main obstacle to faster learning was cited as the system’s increased functionality, along with differences in the interface and workflow for users who had previously not used GE mammography systems.

» Ease of use

96% of the technologists agreed that Senographe Pristina was easy to use, giving it an average rating of 6.1 on that attribute. They cited auto-adjustment to breast size, easy command entry, and the patient-friendly gantry as contributors to ease of use.

64% agreed that the gantry caused them less physical strain than their previous systems during examinations, giving an average rating of 5.2 on that item. Features mentioned as contributing to less strain were tube auto-angulation and the removable faceguard. The technologists said stress was reduced because they needed to crouch less often and move less due to a feeling that they had more work space available.



“It is very easy to use. There are not too many buttons to press. I can imagine what a task is by looking at an icon and continue working.”

Radiographer from Japan

“Pristina has a compression paddle for smaller breasts, so if a patient has a smaller breast, we can take an image without causing any harm to our hands.”

Radiographer from Japan



» Patient experience compared to previous mammography system

76% agreed that Senographe Pristina reduced patient anxiety, giving it an average rating of 5.4 on that attribute. They mentioned color, the rounded shape, and flexible compression as the main reasons for reduced anxiety.

83% of respondents agreed that Senographe Pristina reduced patient pain, giving that an average rating of 5.3. The feature they cited as most responsible was the rounded design of the gantry and the slow compression; they also mentioned that less compression was required to achieve good image quality (n=23)

74% of respondents agreed that Senographe Pristina increased patient comfort during exams, giving it an average rating of 5.3 on that attribute. They specifically mentioned the rounded design and fewer edges as contributing to patient comfort (n=23)

82% of respondents agreed that Senographe Pristina enabled easier patient positioning (average 5.4 rating). They cited the easy grip and a machine design that makes it easier to get patients into position and maintain that position (n=28)



“Pristina has had very good feedback from patients since even before its introduction. They like its colour and the round shape of the machine. I think they are factors that are reducing the anxiety.”

Radiographer from Sweden

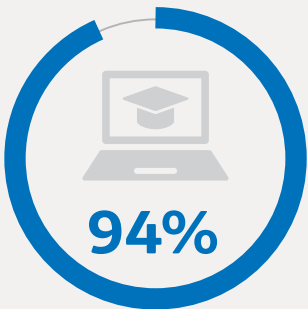
“I think it reduces pain. Pristina compresses the patient’s breast very slowly and I don’t think she feels pain.”

Radiographer from Sweden

Radiographer from Italy



EASE OF LEARNING

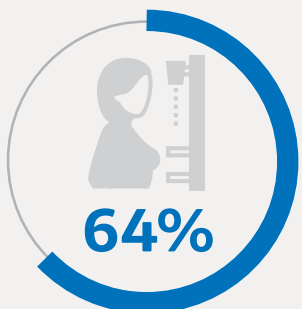


Senographe Pristina was **easy to learn**

EASE OF USE



Senographe Pristina was **easy to use**



The gantry caused **less physical strain**

PATIENT POSITIONING



Senographe Pristina **enabled easier patient positioning**



"Faster, gentler and easier to use. Because it is faster, you don't have to wait for as long and the patients are also happier compared with the old devices."

Radiographer from Sweden

"Because the tube moves, it doesn't take long to take an image. So it also takes less time from positioning to pushing the button. I think it enables faster exams."

Radiographer from Japan

» Faster exams.

96% agreed that Senographe Pristina enabled faster image acquisition. On average they reported saving 1.4 minutes per exam (n=36) or a 34% reduction in time (n=13) versus their previous system.

46% agreed that Senographe Pristina reduced the number of retakes required, citing full auto-positioning as the feature helping to reduce mistakes and thus limit retakes. Those who mentioned fewer retakes also noted that this led to 2 fewer images (n=19) or **16% fewer retakes per day (n=11).**

64% of respondents agreed that Senographe Pristina enabled an increase in exams completed per day.

» Impact on productivity

For centers that have a throughput of 100 or more patients per day, saving 1.4 minutes per exam would equate to savings of 140 minutes (or 2.5 hours) per day. In the survey there were 17 such sites.

This time could potentially be used for purposes such as spending more time with patients, educating patients about breast care, performing additional mammograms, or other tasks.

» Overall satisfaction

94% agreed that they were satisfied with the system, giving it rating of 6.0 on that attribute. All respondents except one said they would be likely to recommend Senographe Pristina to other professionals in their field. They cited better image quality, easier positioning, and easy operation as the primary reasons. Radiographers agreed that Senographe Pristina fulfilled all their previously unmet needs:

- The time to image acquisition has been reduced, speeding up the entire process
- Patient throughput has either increased or reached required levels
- Image quality is very good to excellent
- Auto-positioning makes operation easier and helps prevent mistakes, reducing retakes
- All but one radiographer agreed that patients feel less pain and are more comfortable in exams



"I am very happy. There is no problem with the image quality. The main thing is the radiation dose. Even for a patient with a thick breast, the radiation dose is very low. I am very satisfied with this."

Radiographer from Japan

"The image quality is excellent. It is faster. The appearance is good and the functionality is good too."

Radiographer from Japan

"Quite a few people have come to our hospital to see the machine. So I think I can say that we have already recommended it to other technicians."

Radiographer from Japan



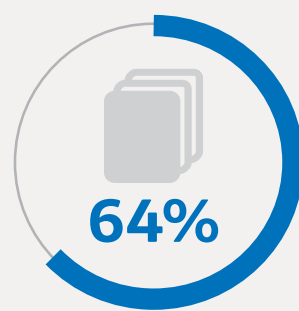
FASTER EXAMS



Enabled **faster image acquisition**



Fewer retakes per day



Increase in exams completed per day

OVERALL SATISFACTION



94% agreed that they were satisfied with the system



Conclusion

In this study, a majority of radiographers who have worked with the Senographe Pristina mammography system reported that they have experienced ease of learning, ease of use, faster exams, a positive impact on productivity, and a less painful, less stressful patient experience. These are some of the key elements by which Senographe Pristina can improve experience of users.



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Buckinghamshire,
UK

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