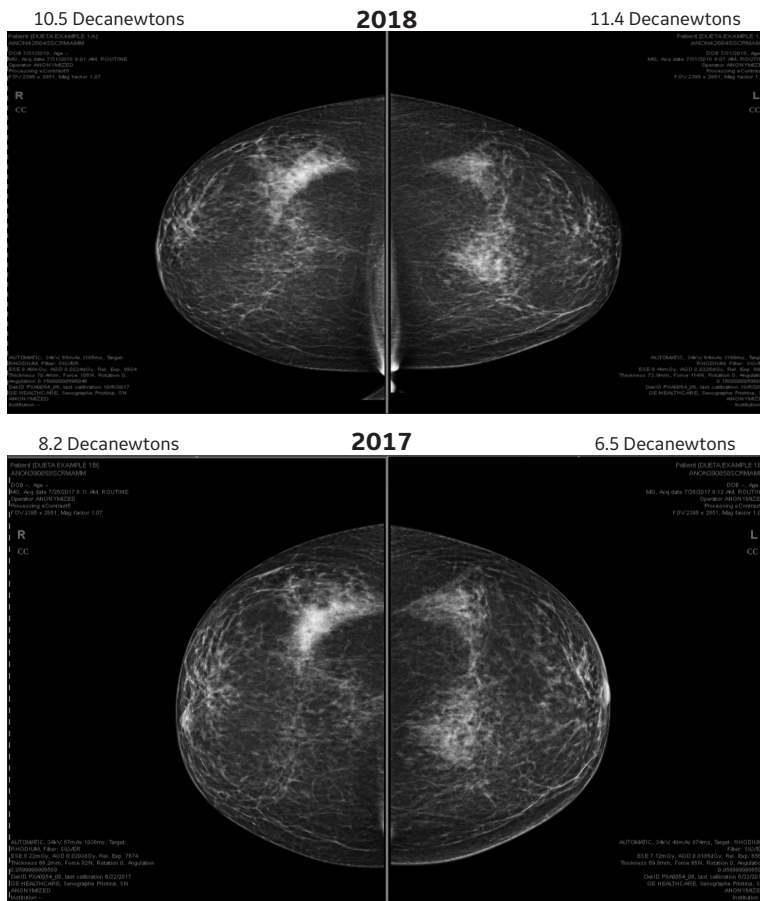


A new approach to breast compression in mammography

With a patient-assisted compression device and an educational script for technologists, Imaging for Women observes an improvement in compression force, potentially better image quality, and higher patient satisfaction, with no decline in productivity.



Introduction

The amount of breast compression applied during the mammogram potentially influences image quality and radiation dose. At the same time, compression can be a source of discomfort to patients¹: some may experience anxiety and stress from the experience, as well as pain². Discomfort may lead to low compliance for repeat mammograms. The screening compliance rate has been shown to be lower in women who experienced pain in the index mammogram as compared to those who did not³.

Clinicians have evaluated various interventions such as premedication, providing written or verbal information about the procedure, breast cushioning, reduced compression by the technologist, and patient-controlled compression as ways to reduce pain or discomfort⁴. With a focus on patients, GE Healthcare designed the Pristina Dueta™ to give patients an active role in applying compression. The Dueta device enables patients to refine breast compression using a handheld remote control after the technologist has ensured proper breast positioning and initiated compression⁵.

Dueta patient-assisted compression device in Imaging for Women, Kansas City

Imaging for Women, LLC, in Kansas City, Missouri, added the Dueta patient-assisted compression device to the GE Senographe Pristina™ mammography system in November of 2017. Three rooms are equipped with Dueta and Pristina mammography units. Imaging for Women began recording exam data in its electronic medical record system (Medinformatix) in March 2018.

Imaging for Women is dedicated to enhancing the patient experience. The facility provides same-day reading and before leaving, patients receive a verbal explanation of their results. The dedicated staff ensures that each patient obtains a comprehensive plan if diagnostic or additional exams are required. Patients also receive a letter explaining the results in language they can easily understand. The report is typically faxed back to the referring provider within one hour of the exam.

Experience with GE Pristina Dueta

In order to use Pristina Dueta effectively, the team at Imaging for Women made minor changes to the mammography screening workflow. Staff members explain to each patient the benefits of Dueta and provide the instructions patients need. They are committed to continuous improvements in workflow and continue to make minor changes to the script technologists use to explain the Dueta system and the value of giving the patient more control in setting the level of compression (see sidebar).

The change in the workflow has had no negative impact on productivity. This is also confirmed through clinical validation on the Senographe Pristina showing that patient-assisted compression did not increase exam time when compared to compression applied solely by the technologist².

“The change in the workflow has had no negative impact on productivity.”

Benefits in compression

To understand the benefits of Dueta, the site compared the compression force applied to each patient who used Dueta in 2018, with the force in the same patient when they underwent mammography in 2017, before Dueta was implemented. Tracking of compression force data began in April 2017.

From April 1, 2018 to July 31, 2018, Imaging for Women performed mammography on 3,503 patients. Since Dueta is present in only two of the three mammography rooms, it could not be offered to all patients. In all, 1,814 patients used Dueta during the study period, and 1,148 (63%) of those patients achieved higher compression than in the previous year (as seen in Figure 1).

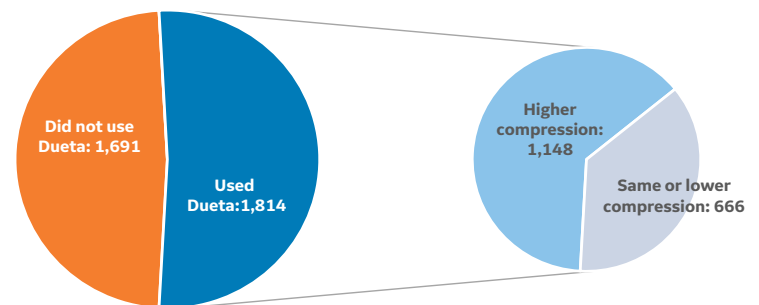


Figure 1: Patients using Dueta

Dr. Troy D Voeltz M.D, DABR, a radiologist at the site stated, “By allowing patients to control the compression, we are seeing that 65% of the patients who use the Dueta are giving us greater compression than in their previous exam.” Technologist, Annie Murphy, R.T. (R) (M), adds, “By continually perfecting the script our mammographers use in working with our patients, we are seeing improvement in patient-assisted compression applied by our patients each month.”

Phyllis Fulk, CFO and Practice Administrator for the clinic, observed, “The continuous analysis of the data has shown greater patient satisfaction and no decrease in productivity.”



Dr. Troy D Voeltz M.D, DABR

Image Quality

It is known that higher compression during mammography leads to better image quality by reducing tissue superposition, X-ray scatter, dose and motion⁶. Staff members at Imaging for Women perceive that patient-assisted compression has had a positive impact on image quality. This is supported by clinical validation on the Senographe Pristina with patient-assisted compression, showing that the addition of Dueta did not negatively affect image quality².

“When the patient controls her own compression, she actually relaxes more during positioning,” stated Ronna J. Rowe, R.T. (R)(M) CBBT. “This, allows me to pull even more tissue into the image. This is an added bonus to using the Dueta.”

Patient experience

Dr. Voeltz agrees: “If a patient fears the compression, it may hinder her return on an annual basis. By putting the compression in the hands of the patient we are seeing greater results, and the patients are telling us they will return annually for their exams.”

Conclusion

The experience of Imaging for Women demonstrates that patient-assisted compression can help achieve both direct and indirect benefits. The team claims they were able to enhance patient comfort with Dueta. While important as its own end goal, greater comfort can translate to other benefits, such as improved compression that may lead to better image quality. Additionally, due to increased patient comfort, patient-assisted compression may lead to better compliance with recommended mammography screening.

Here is an excerpt of the script Imaging for Women staff members follow to help patients use the Pristina Dueta system to enhance their comfort during breast compression:

“You know how we tell you before every mammogram that you are in control and to say stop if I’m hurting you? Well today YOU are in control of your compression (show the Dueta). I’m going to get you positioned as usual and apply a small amount of compression. Then I’ll ask you to press the top plus sign and apply additional compression. I want you to know that the more compression you apply, the better the images are for the doctor and the greater the likelihood that you will get lower radiation dose.”⁷

After completing the first couple of images, tell the patient:

“Studies in Europe have found that when you’re in control of the compression you will actually apply MORE. Last year we compressed you to ____, and today you compressed yourself to ____.”

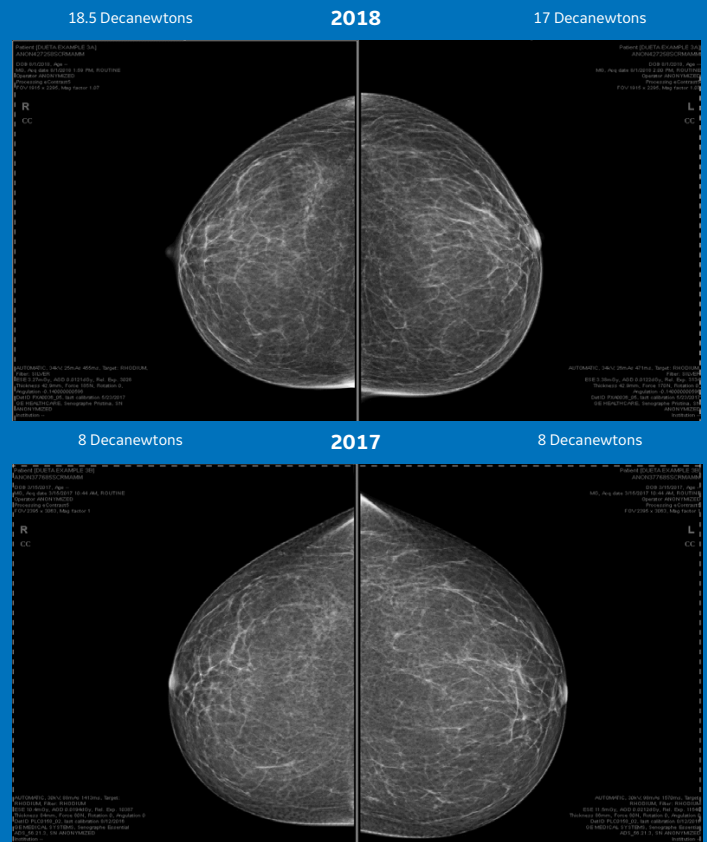


Fig 2

Figure 2: Higher compression force and more tissue seen in the same patient when Dueta was used in 2018 as compared to 2017



About the center

Imaging for Women, LLC, in Kansas City, Missouri, provides mammograms, ultrasound and bone density examinations as well as biopsies. The center is equipped with high-quality imaging services and state-of-the-art technology; its goal is to provide women with a friendly, comfortable, and caring environment.

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