The SBI inducted 5 new fellows at the annual SBI/ACR Symposium in Los Angeles on April 6, 2017. From left to right: Basak Dogan, MD, FSBI; Victoria Mango, MD, FSBI; Elizabeth Morris, MD, FACR, FSBI, SBI president; Daniel Kopans, MD, FACR, FSBI, director and chair of SBI Fellows; Anabel Medeiros Scarnello, MD, MSc, PhD, FSBI; Amy Melsaether, MD, FSBI; Eren Yeh, MD, FSBI.
Am I too young (or too old) to abandon the dream of perfection? Virginia Mason in Seattle adopted and adapted the Toyota production model to health care. At first glance, it seems incongruous. Cars and health care go together like pickles and ice cream. But if we look deeper, common goals exist, like excellent service, eliminating wasted time and expense, and, above all, putting the customer first. Our slogan is "Each person. Every moment. Better never stops." The culture encourages everyone from medical assistants to clerical staff to physicians to improve processes for the sake of patients whenever possible. This concept suggests that there will never be a perfect process. There is always room for improvement.

Not long ago, we changed our process for stereotactic biopsy. I can walk from the reading room to the stereotactic room in 23 seconds. In the past we would consent the patient and return to the reading room while the technologist worked her positioning magic. I could interpret a few screening mammograms while I waited for the technologist to call. Twenty-three seconds later I would arrive for the biopsy, which was great for me. I finished more of my work, but the patient was in compression longer. Now the radiologist waits right outside the stereotactic room. The technologist just opens the door when the patient is positioned and the first stereotactic pair of images is ready. The patient spends less time in compression and less time waiting for me, which is better for her. I’m wondering why we haven’t moved the 2 rooms next to each other to achieve the perfect solution.

I tried to be a perfect medical student during my surgical rotation. Surgeons sacrificed the long ends of numerous freshly knotted sutures to my scissors hoping each time I would trim them to the perfect length. Alas, I always cut them either too long or too short. Perfection eluded me with those tiny threads. Regardless, the patient’s incision healed without incident. It turned out that perfect sutures were not always necessary.

Screening mammograms, like sutures, do not have to be perfect to produce a positive outcome. Mammograms offer the opportunity to detect cancer earlier than patients will notice or providers can palpate. We assign screening mammograms to 1 of 2 categories: normal or possibly abnormal. We interpreters set our thresholds of sensitivity and specificity to achieve the best possible result for the population. As with trimming sutures, it is impossible to read every mammogram perfectly at exactly the right time. We strike a balance between overdiagnosis and underdiagnosis. Since we produce very little overdiagnosis as a group, it is difficult to single out specific representative cases. Unfortunately, we know all too well what underdiagnosis looks like. Those cases are not hard to find. This argument, I have found, has some traction with physicians open to the discussion of screening. A consistent, sincere dedication to excellence can produce the desired positive outcome for the population. Data prove that early detection, with an imperfect test, saves lives.
Constant improvement is admirable. The drive for perfection can provide that progress. The
danger is deciding that anything short of perfection is failure. And I have been there—frustrated
when waste or errors still occur, though tremendous improvements were made. Focusing on the
negative is a long, slow descent into quicksand. And so I have abandoned perfection for its kinder
sibling, improvement. We owe it to our patients and ourselves to continue to improve the
parameters of screening, namely the test and our interpretive performance.

We work in an extraordinary field with intensely committed and capable people who provide
exemplary care. We followed varied paths to this profession and specialization and we want to do
the best we can for every patient. Sometimes providing that care is easy. Sometimes we need every
ounce of wisdom, fortitude, and dedication to achieve excellence. This can be true for patient care,
an automobile assembly line, or even this newsletter.

My leadership has yet to produce the perfect newsletter. Fortunately for me, the members of the
committee bring their best effort month after month. It continues to be my privilege to work with
such a dedicated and talented group striving for excellence year after year. So am I too young or too
old to abandon the dream of perfection? What does age have to do with it? Nothing really. I don’t
have to beat myself up. It is never too late to sacrifice perfection for excellence.
# Table of Contents

2 | LastPresident’s Column  
By Elizabeth A. Morris, MD, FACR, FSBI

4 | Integrating Molecular Breast Imaging Into Clinical Practice  
By Anita K. Mehta, MD; Rachel Brem, MD, FACR, FSBI

7 | Breast Imaging and Health Care in Greece  
By Athina Vourtsis, MD, PhD

10 | Η απεικόνιση του μαστού στην Ελλάδα  
By Δρ. Αθηνά Δ. Βούρτση, MD, PhD

13 | Negotiation Basics: How to Create Value From a Deal  
By Vilert A. Loving, MD, MMM

15 | What I’ve Learned: Peter Dempsey, MD, FACR, FSBI  
Jamie Giesbrandt, MD

17 | Breast Imagers Organize Locally: A Brief History of the New York Breast Imaging Society  
By Victoria L. Mango, MD; Jiyon Lee, MD

20 | How to Help Your Technologist Part 3 – Common Problems with the Craniocaudal View  
By Louise C. Miller, RT(RM), FSBI

24 | How I Chose Breast Imaging  
By Marc Horner, MD, FACR, FSBI

26 | Social Media and Twitter: Reaching, Understanding, and Connecting Our Community  
By Nicole Saphier, MD

28 | Interesting Case: The Developing Asymmetry Without a Sonographic Correlate: Skin Localization Technique for Stereotactic Biopsy  
By Brian S. Johnston, MD; Vilert A. Loving, MD, MMM

34 | 2017: The First Match for Breast Imaging Fellowships  
By Gary J. Whitman, MD, FACR, FSBI

35 | SBI Committee Updates  
By Shadi A. Shakeri, MD; Yasmeen J. Fields, CAE

37 | Research Awards From the 2017 SBI/ACR Breast Imaging Symposium  
By Peter R. Eby, MD, FSBI

39 | Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Thursday  
By Peter R. Eby, MD, FSBI

42 | Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Friday  
By Shadi A. Shakeri, MD

45 | Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Saturday  
By Robert Gutierrez, MD, FSBI

47 | Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Sunday  
By Jiyon Lee, MD

50 | Upcoming Events
As I sit down to write my final President’s column, I reflect on the massive changes that are occurring around us. Politically it is an uncertain time; however, let us not get distracted. It is an extremely exciting time to be involved in science and technological innovation. Our world is shifting rapidly, and in the next 10 years our practice will likely be very different due to advances in the fields of machine learning and genomics. We have a choice: either embrace the future and guide advancements or hang onto the past and risk missing the opportunity to be the agents of change. Navigating this terrain will be difficult, but if we keep our core principles in sight—early detection and patient-centered care—we will survive and thrive.

Technological innovation is outpacing clinical validation. In the past we had time to test and adapt to novel ideas; however, that is no longer true. Consider how long mammography has been around. In the last decade we have delivered digital breast tomosynthesis (DBT) and contrast-enhanced digital mammography (CEDM) to the clinic. We didn’t achieve this without prompting numerous questions regarding validation and clinical implementation. Our old way of validating technology in screening—the randomized controlled trial—is arguably dead. By the time results of such a trial arrive, the technology has moved on.

Magnetic resonance imaging (MRI) is now commonplace for screening high-risk patients. An abbreviated protocol may extend MRI screening to average-risk populations. Why is this important to us? Because we care about our patients. Instead of being suspicious about new technology, we as a specialty must embrace it and flex and adapt to provide patients the best possible care.

We will need to develop and adapt to alternate screening modalities that improve upon the successes of mammography. We can’t ride the coattails of one technology forever. Mammography fails to detect cancer early for some women. Women with dense breasts deserve special attention and better screening. DBT and ultrasound help but are not enough. Currently, our best hope for these women may reside in a contrast-based technique like MRI or CEDM. However, injecting contrast for a screening test is not optimal for many. If our imaging techniques are not robust enough or if we cannot develop an algorithm of tests with high sensitivity and acceptable specificity, one day we will have to cede control of screening. I am a realist, not an alarmist. Currently, the interest in early detection through blood analysis for biomarkers of breast cancer is spreading and progressing at an unimaginable pace. Consider a combination of tests with high sensitivity and exquisite specificity. We could eliminate false positives and identify cancer early enough to provide patients with the option of forgoing the standard treatment. This is the Holy Grail.

Second, we need to be primary care physicians and take responsibility for all of breast health. Who else should tell women they are dense and discuss what to do about it? We are the experts who should own...
this responsibility and the value it creates. The future breast clinic will employ increasingly precise risk assessment models and mouth swabs to test for single-nucleotide polymorphisms to guide patient care. Who is going to counsel the patient on which screening method she should undergo? Breast imagers are the logical choice for explaining the risks and benefits of each test. What does this mean for us? We need to become fluent in the language of risk models and relevant genetic mutations beyond BRCA. We are now called breast imagers—no longer mammographers—and soon we may become known as something else.

Third, as detection thresholds decrease and push breast cancer toward nonsurgical disease, we imagers are poised to take on the primary responsibility of percutaneous treatment. Such a scenario will lead to inevitable turf wars with surgeons, as happened when percutaneous biopsy was developed. Lines between specialties will become blurred: radiology and surgery in the realm of treatment and radiology and pathology in the realm of diagnosis. Partnering together and sharing knowledge is the only way forward. No more walls.

Finally, research questions will emphasize patient outcomes. Investing in registries will be crucial. I encourage all practices to belong to the National Mammography Database. Transparency and data sharing will strengthen breast imaging in the United States. Technological advances affecting our specialty are evolving more rapidly than anyone can predict. Machine learning algorithms could produce software that analyzes mammograms, and we will be managing patients with abnormalities. Instead of being scared about artificial intelligence, I embrace it to free us to talk to our patients and manage their breast health.

I look back on the past 2 years of expansion and growth as president of the SBI. This could not have been achieved without our incredible staff. They deserve all the credit for bringing the SBI to where it is today: the largest breast imaging society in the world. Holly Gainer, who is our most recent team member, has expertly updated and reorganized our website and joined the ambitious SBI Newsletter team. Kesha Willis has expanded our media relations and strengthened our social media presence through Facebook, Twitter, and Instagram. Andrea Craddock has masterfully taken us through a period of transition to annual meetings and spearheaded our online learning. Our executive director, Yasmeen Fields, has taken on numerous new initiatives and committees and has brilliantly overseen the entire enterprise. They represent the best of the SBI and I will miss closely working with them all. They make everyone shine.

I am so delighted to welcome our new president, Dr Wendy DeMartini, who will undoubtedly change many aspects of our society for the better. We are all excited to see what new ideas she has for moving our society and the specialty of breast imaging forward. Change is inevitable, and in the spirit of embracing the new, we welcome her with open arms!
Given the limitations of mammography, adjunct imaging modalities are needed to improve breast cancer detection rates. This is particularly true in women with dense breast tissue for whom mammographic interpretation is less sensitive. Molecular breast imaging (MBI), also called breast-specific gamma imaging (BSGI), is a relatively new technology that circumvents the diagnostic challenges of mammography by analyzing the physiology of breast lesions, including blood flow and mitotic activity, both of which are increased in tumor cells.

MBI is performed by injecting a radiotracer, generally technetium Tc 99m sestamibi, into the venous system. Imaging begins immediately after radiotracer administration and continues for 100,000 counts or 5 to 10 minutes per projection. The breast-specific gamma camera obtains high-resolution small-field-of-view images in projections comparable to mammography to support MBI-mammographic correlation. The examination is performed with the patient in a seated position over approximately 40 to 60 minutes. MBI utilizes cameras with varying configurations, including different detector designs and single- and double-headed cameras. There have been no clinical studies demonstrating an advantage of any one configuration for the detection of subcentimeter cancer. An advantage of a double-headed camera may be faster acquisition because it can obtain 2 images at once, albeit without image integration and at nearly twice the cost.

The clinical indications for MBI are comparable to those of magnetic resonance imaging (MRI), and it can be integrated into clinical practice in a similar fashion. Indications include evaluation of equivocal mammographic/sonographic findings, challenging clinical situations such as in women with implants or direct silicone injection for augmentation, evaluation of women with newly diagnosed breast cancer for additional foci of disease, extent of disease to optimize surgical planning, and assessing response to neoadjuvant chemotherapy. Studies have demonstrated that MBI detects occult foci of cancer in approximately 10% of women with newly diagnosed breast cancer, changes surgical management in about a quarter of women with newly diagnosed breast cancer, and has similar sensitivity to and possibly higher specificity than MRI in comparable clinical situations. In our practice, MBI is utilized for surveillance of high-risk women only when MRI is contraindicated, in order to minimize exposure to radiation. Negative MBI results in this population are extremely helpful, with a negative predictive value of 97%.

With regard to
radiation, MBI, like all radiation, should be used judiciously. The dose is systemic, rather than confined to the breast. However, the currently used dose of 5 to 10 mCi is 75% less than the previously used dose of 20 to 30 mCi, and there is ongoing work in radiation dose reduction.⁵

Studies have demonstrated that MBI has high sensitivity, comparable to that of MRI, with overall sensitivities of 89% to 96.4% (97% for invasive cancers and 93.8% for ductal carcinoma in situ). The specificity of MBI is reported at 59% to 75%.³ Of note, the sensitivity of MBI is independent of breast density, with sensitivities of 95.1% in dense breasts and 95.8% in nondense breasts.⁶ BSGI, like MRI, has proved to be extremely useful in identifying occult disease not found by other modalities. Occult disease was found in 11% and 9% of patients with biopsy-proven cancer in 2 separate studies of 138 patients and 159 patients, respectively.¹,⁷ MBI can also detect high-risk lesions and invasive lobular carcinoma at a rate similar to or greater than that of MRI.⁸ Of note, an entire MBI study consists of 4 to 12 images (significantly fewer than MRI), which allows for rapid interpretation and efficient workflow.

MBI is an important tool in that it affords the opportunity to use physiologic imaging in women who cannot or will not undergo MRI. Studies have demonstrated that women opt out of MRI because of claustrophobia. These, in addition to the women who cannot undergo MRI because of renal insufficiency, implanted devices, or body habitus, make up over 15% of our patient population. With MBI we have the opportunity to offer physiologic imaging in this substantial cohort of women. There are essentially no contraindications to performing MBI.

MBI has become a critical tool in our practice. It is experiencing increased acceptance and there are now practice standards for performing MBI. An ACR accreditation program for BSGI is now in place, and in May we expect practice standards for gamma imaging of the breast to be introduced by the ACR.

Although up to 80% of cancers identified with MBI may also be seen with directed ultrasound or second-look mammography, the ability to diagnose those cancers seen only with MBI is critical to optimizing the impact of this exciting technology. There are now 2 Food and Drug Administration–approved direct biopsy devices available commercially. We have performed over 400 direct gamma-guided biopsies. The procedures are done in less than 1 hour with the patient comfortably seated upright. The positive predictive value (PPV) is 18% for cancer and 35% for high-risk lesions and cancer combined.

MBI is an exciting and effective technology for women with newly diagnosed breast cancer or dense breast tissue and in challenging clinical situations. It gives women for whom MRI is not an option the opportunity to undergo physiologic imaging. Without MBI, these 15% of women in our practice would not have had the opportunity to benefit from physiologic imaging, and now they can.
Integrating Molecular Breast Imaging Into Clinical Practice, continued from previous page

REFERENCES


Breast Imaging and Health Care in Greece

By Athina Vourtsis, MD, PhD

Incidence of breast cancer in Greece

The incidence of breast cancer in Greece is lower than in Northern Europe and the United States. Although Greece does not have an official breast cancer registry, the Hellenic Pathological Society reports that 5000 women are treated for breast cancer and 1500 women die from the disease each year.

Screening and breast health awareness

The health care system in Greece does not provide a national screening program. Nevertheless, women are well informed about breast cancer. Breast self-examination is part of breast health awareness, while clinical examination is recommended once a year and is performed by physicians. Breast cancer awareness has been disseminated over the years mainly by Greek gynecologists and Alma Zois, the Panhellenic Association of Women With Breast Cancer, which was founded by breast cancer survivors. The mission of Alma Zois is to educate Greeks about the benefits of early breast cancer detection and provide psychosocial support to patients and their families, especially through the annual "Race for the Cure" event.

Additionally, the nonprofit societies Hellenic Oncology and E.M.E.I.S. (http://www.emeis.com.gr/1_1/HomePage) play an important role in breast awareness. They conduct breast awareness campaigns and offer free mammograms to women in the context of sporadic screening with mobile breast evaluation units in different areas of the country.

Hellenic Breast Imaging Society

In 2012, a dedicated group of radiologists founded the Hellenic Breast Imaging Society (HBIS, www.hbis.gr). The aim of our society is to support radiologists in furthering their education, promote percutaneous biopsy for preoperative diagnosis, offer specialized training in cutting-edge technology, and inform our community of the latest news in the field.

Our society recommends that women with average risk undergo annual screening from ages 40 to 70 years or as long as the woman is in good health.

The structure of breast health care in Greece

The structure of breast imaging consists of:

a. Specialized breast imaging units in private hospitals
b. Breast imaging departments in public hospitals
c. Private breast imaging services within general diagnostic centers
d. Private practices specializing in breast imaging

Hospital-based imaging centers, public or private, are working more closely with other medical
Breast Imaging and Health Care in Greece, continued from previous page

specialties. Patients with histologically proven malignancies are referred to private or public hospitals for further clinical management by a multidisciplinary cancer treatment team that meets weekly. Operations are performed by surgeons or gynecologists dedicated to breast care or general surgeons who also perform other procedures. Public health care covers breast cancer treatment, including surgery, chemotherapy, and radiation. Because of the financial crisis a higher percentage of patients prefer public health care despite the longer wait time.

Availability of modalities

There is a great disparity between public and private sectors regarding technical support for breast imaging.

Most public hospitals in Greece offer analog mammography and computed radiography. In contrast, the private sector (hospitals and private practices) houses the latest technology, such as full-field digital mammography units. Breast ultrasound (US) is widely used and is performed exclusively by radiologists. Women are mainly informed by radiologists about the significance of screening breast US in dense breasts, and as a result they may request US. In most centers, mammography and US are performed during the same visit. Automated breast US examinations are offered in only 2 private centers in the country. Digital breast tomosynthesis, usually in combination with 2-dimensional images, is used in many private practices depending on breast parenchyma density and findings.

Contrast-enhanced mammography is offered at public hospitals as a problem-solving technique, in women with dense breasts, in symptomatic patients, and in high-risk lesions. The value of breast magnetic resonance imaging (MRI) has been well recognized among physicians in Greece and has been used for at least 20 years. Biopsies and needle localizations are performed under MRI guidance in specialized centers. Abbreviated MRI has been recently implemented for breast screening in women at high risk and is usually recommended by physicians in place of standard MRI.

Even though there is no national screening program, radiologists have the advantage of performing personalized evaluations according to individual risk factors. In the last 5 years, the BI-RADS lexicon has been increasingly used, and in 2016 the fifth edition was translated into Greek.

Currently, in most centers and hospitals, mammograms are interpreted by general radiologists. Fewer than one-fourth are interpreted by breast imaging specialists. Breast imaging fellowships do not exist, and many radiologists acquire their education abroad. In 2015 the HBIS launched guidelines that are in agreement with those of the ACR and the European Society of Breast Imaging. These guidelines have not been officially implemented. However, we are in the process of authorizing them through the health and human services department.

Preoperative diagnosis

Surgical biopsies remain the most common procedure for diagnosing breast cancer in Greece, especially in rural regions. However, the percentage of percutaneous biopsies is increasing because of widespread dissemination of information through HBIS activities. The number of radiologists
performing interventional techniques is increasing, and biopsies are partially reimbursed in the public sector. There is still contention between radiologists and surgeons over who should be performing the procedure. This situation is gradually improving with the involvement of younger physicians.

Reimbursement and billing

Until the end of January 2017, public health care reimbursement was available only for analog mammography and breast US. Since then, coverage for full-field digital mammography has been approved for centers that are affiliated with the public health care system. Approximately 15% of examinations are billed by the private sector. These charges can be covered by private insurance reimbursements and individual payments by the examinee.

Future challenges

In recent years, Greece has seen great progress in screening and awareness and many centers are now equipped with the latest technology. However, I believe more work must be done to help radiologists specialize in breast imaging, follow international guidelines, and promote a multidisciplinary approach for the best patient care possible.

Dr. Vourtsis is the founding president of the Hellenic Breast Imaging Society and may be contacted via email at vourtsis@mammography.gr.
Η συχνότητα εμφάνισης καρκίνου του μαστού στη χώρα μας

Η συχνότητα εμφάνισης καρκίνου του μαστού στην Ελλάδα είναι μικρότερη από ότι στη Βόρεια Ευρώπη και στις ΗΠΑ. Επί του παρόντος, στην Ελλάδα δεν έχουμε επίσημο μητρώο καταγραφής καρκίνου του μαστού. Ωστόσο, τα στοιχεία που προέρχονται από την Ελληνική Παθολογοανατομική εταιρεία μας ενημερώνουν, ότι, 5.000 γυναίκες ετησίως νοσούν με καρκίνο του μαστού ενώ 1.500 γυναίκες πεθαίνουν κάθε χρόνο από την ασθένεια αυτή.

Προληπτικός πληθυσμιακός έλεγχος και ενημέρωση του πληθυσμού

Το σύστημα υγείας στην Ελλάδα δεν παρέχει ένα εθνικό πρόγραμμα προ-συμπτωματικού ελέγχου. Παρ όλα αυτά, οι γυναίκες ακολουθούν ένα είδος παρακολούθησης που καλείται "σποραδική παρακολούθηση¨. Αξίζει να σημειωθεί ότι οι γυναίκες είναι αρθα ενημερωμένες σχετικά με την πρόληψη του καρκίνου του μαστού. Οι πληροφορίες αυτές προέρχονται κυρίως από τους γυναικολόγους τους, αλλά και από τον Πανελλήνιο Σύλλογο του καρκίνου του μαστού «Άλμα Ζωής», που ιδρύθηκε από γυναίκες πάσχοντες από την νόσο. Ο σκοπός τους είναι να προσφέρουν πληροφορίες σχετικά με τα οφέλη της έγκαιρης ανίχνευσης της νόσου και ψυχοκοινωνική υποστήριξη στους ασθενείς και τις οικογένειές τους, ιδίως μέσω του αγώνα "Race for the cure" που πραγματοποιείται κάθε χρόνο.

Επιπλέον, σημαντικό ρόλο στην ευαισθητοποίηση του μαστού έχουν προσφέρει οι μη κερδοσκοπικοί φορείς «Ελληνική Ογκολογική Εταιρεία και Ε.M.E.I.S. (http://www.emeis.com.gr/1_1/ HomePage)» Οι δραστηριότητές τους περιλαμβάνουν εκπαιδευτικές ευαισθητοποιήσεις του κοινού, δωρεάν μαστογραφίες στις γυναίκες στο πλαίσιο της σποραδικής παρακολούθησης με κινητές μονάδες μαστογραφίας σε διάφορες περιοχές της χώρας.

Ελληνική εταιρεία απεικόνισης μαστού

Το 2012 μια ομάδα εξειδικευμένων ακτινολόγων μαστού ένωσαν τις δυνάμεις τους και ίδρυσαν την "Ελληνική Εταιρεία Απεικόνισης Μαστού " www.hbis.gr”. Ο στόχος της εταιρείας μας είναι η συνεχής εκπαίδευση των ακτινολόγων, η προώθηση της προεγχειρητικής διάγνωσης, καθώς και η ενημέρωση των γυναικών για τα τελευταία δεδομένα στις τρέχουσες εξελίξεις στην διάγνωση και αντιμετώπιση των παθήσεων του μαστού.
Η απεικόνιση του μαστού στην Ελλάδα, continued from previous page

Σύμφωνα με τις κατευθυντήριες οδηγίες της εταιρείας μας οι γυναίκες με μέσο κίνδυνο πρέπει να ξεκινούν την ετήσια μαστογραφία στην ηλικία των 40 έως την ηλικία των 70 ετών, όσο η γυναίκα είναι σε άριστη γενική κατάσταση.

Η δομή της υγειονομικής περίθαλψης της απεικόνισης του μαστού

Η δομή της υγειονομικής περίθαλψης του μαστού αποτελείται από:
1. Εξειδικευμένες μονάδες απεικόνισης του μαστού σε ιδιωτικά νοσοκομεία.
2. Τμήματα απεικόνισης μαστού στα δημόσια νοσοκομεία.
3. Τμήματα απεικόνισης μαστού σε ιδιωτικά διαγνωστικά κέντρα
4. Ιδιωτικά εργαστήρια εξειδικευμένα στην απεικόνιση του μαστού

Απεικονιστικές εξετάσεις

ιδιωτικό τομέα όσον αφορά την τεχνική υποστήριξη για την απεικόνιση του μαστού.

Τα περισσότερα δημόσια νοσοκομεία στην Ελλάδα προσφέρουν τη δυνατότητα αναλογικής μαστογραφίας και CR. Σε αντίθεση, με τον ιδιωτικό τομέα (νοσοκομεία και ιδιωτικά ιατρεία) που προσφέρουν πιο εξελιγμένη τεχνολογία – ψηφιακή μαστογραφία.

Το υπερηχογράφημα μαστού χρησιμοποιείται ευρέως και διενεργείται από ακτινολόγους. Οι γυναίκες γενικά είναι ενημερωμένες για τη σημαντική αξία των υπερήχων και προγραμματίζουν οι ίδιες να υποβληθούν στον έλεγχο. Στα περισσότερα κέντρα η μαστογραφία και το υπερηχογράφημα διενεργούνται κατά την ίδια επίσκεψη.

Το αυτοματοποιημένο υπερηχογράφημα μαστού προσφέρεται μόνο σε δύο κέντρα. Η τομοσύνθεση είναι ευρύτερα γνωστή και χρησιμοποιείται σε πολλά ιδιωτικά εργαστήρια. Το πρωτόκολλο που ακολουθείται είναι συνήθως ένας συνδυασμός των 2D και 3D ανάλογα με την υφή του μαστού και τα μαστογραφικά ευρήματα.

Αντίθετα η μαστογραφία με την χρήση χημικών υλών διενεργείται σε δημόσια νοσοκομεία, υπό ορισμένες ενδείξεις.

Η αξία της μαγνητικής μαστογραφίας έχει αυξηθεί τελευταία έτη, οι γυναίκες γενικά είναι ενημερωμένες για τη σημαντική αξία του πρωτόκολλου που ακολουθείται. Πρόσφατα έχει αποκτηθεί σημαντική η διενέργεια της μαγνητικής μαστογραφίας για τον προληπτικό έλεγχο των γυναικών.

Παρότι, δεν υπάρχει εθνικό πρόγραμμα προληπτικού πλήθους γυναικών, οι ακτινολόγοι έχουν το πλεονέκτημα της εξειδικευμένης υποστήριξης των γυναικών με βάση τους παράγοντες κινδύνου. Κατά τα τελευταία πέντε χρόνια η τεχνική της BI-RADS χρησιμοποιείται όλο και περισσότερο και κατά τη διάρκεια του 2016, η πέμπτη έκδοση της αποτελείστηκε στην ελληνική γλώσσα.
Επί του παρόντος, στα περισσότερα κέντρα και τα νοσοκομεία οι μαστογραφίες ερμηνεύονται από γενικούς ακτινολόγους και λιγότερο από το ¼ από εξειδικευμένους στην απεικόνιση του μαστού.

Προεγχειρητική διάγνωση

Οι ανοιχτές χειρουργικές βιοψίες στην Ελλάδα υπερτερούν έναντι των διαδερμικών βιοψιών ιδιαίτερα στην περιφέρεια.

Ωστόσο, το ποσοστό των διαδερμικών βιοψιών σταδιακά αυξάνεται λόγω της ευρύτερης ενημέρωσης των γυναικών μέσω των δραστηριοτήτων της εταιρείας μας και από το γεγονός ότι ολοένα και περισσότεροι ακτινολόγοι ασχολούνται με τις επεμβατικές τεχνικές.

Ασφαλιστική κάλυψη - χρεώσεις

Μέχρι το τέλος του Ιανουαρίου του 2017 η επιστροφή της δημόσιας υγείας ήταν δυνατή μόνο για την αναλογική μαστογραφία και το υπερηχογράφημα μαστού, ενώ η κάλυψη για την ψηφιακή μαστογραφία εγκρίθηκε πρόσφατα, για τα κέντρα που έχουν σύμβαση με το δημόσιο σύστημα υγείας.

Η ιδιωτική πληρωμή γίνεται:
1. Μέσο της Ιδιωτικής ασφάλισης και
2. Μεμονωμένη πληρωμή από την εξεταζομένη.

Μελλοντικές προκλήσεις

Κατά τα τελευταία χρόνια έχει σημειωθεί σημαντική πρόοδος στον τομέα της πρόληψης και της ευαισθητοποίησης και πολλά κέντρα είναι πλέον εξοπλισμένα με μηχανήματα τελευταίας τεχνολογίας. Ωστόσο, προσωπικά πιστεύω ότι χρειάζεται αρκετή δουλειά να γίνει σχετικά με την εξειδίκευση περισσότερων ακτινολόγων στην απεικόνιση του μαστού, να υιοθετούνται οι διεθνείς κατευθυντήριες οδηγίες και να υπάρχει στενή συνεργασία στα πλαίσια της διεπιστημονικής προσέγγισης για την, όσο το δυνατόν, καλύτερη φροντίδα των ασθενών.
Whether consciously or unconsciously, breast imagers participate in negotiations on a daily basis. Purchasing a new mammography unit? Discussing technologists’ work hours? Convincing a hesitant patient to undergo a needle biopsy? These scenarios require negotiations between parties, albeit with different levels of financial, emotional, and physical stakes. This article provides a high-level overview of negotiation strategies.

All negotiations should begin with preparation. What are your interests in the negotiation? Although many negotiations focus on cost, there are frequently other important criteria. For example, with a mammography unit purchase, you may be concerned about brand, support, hardware, warranty, time of delivery, and/or disposal of old units. Identifying your interests will allow you to determine your best alternative to a negotiated agreement (BATNA).¹

Returning to the mammography unit example, your BATNA may be continuing maintenance of an old mammography unit, buying a new unit from the same vendor, buying from another vendor, or closing the room, site, or mammography service line. By realistically defining your BATNA, you will be able to determine whether the negotiation is generating value or, conversely, whether it is detracting from your current position and should be terminated. Moreover, the BATNA will determine your reservation value (RV). Your RV is the quantitative value above or below which (depending on your negotiation goal such as a lower purchase price or higher salary) you should terminate negotiations. For example, if vendor A quotes $500,000 for a new mammography unit, $500,000 is your RV when you negotiate with vendor B. If vendor B cannot lower its price below $550,000 for a comparable product, your RV has been exceeded and you should terminate negotiations. By defining your BATNA and RV beforehand, you will be less prone to inadvertently negotiating yourself into a loss, and you can avoid the psychological bias to “win” the negotiation regardless of the cost.

In your preparations, it is equally critical to estimate the other party’s BATNA and RV. It is highly unlikely that the other party will volunteer this information, thereby weakening their negotiating position. However, background research of the other party and similar deals may produce an educated guess. For example, if you negotiate a sonographer’s work hours, investigate the individual and her work history. What are potential motivating factors for this individual in wanting to adjust her work schedule? What are the work schedules for similarly experienced sonographers in your organization? In competitor organizations? During your investigation, you may find that sonographers work longer shifts but fewer days at a competitor organization. Perhaps this is your estimate of the sonographer’s RV—if you cannot match or better this RV, she will resign. The sonographer may have a competing job offer, which would be her BATNA.
Negotiation Basics: How to Create Value From a Deal, continued from previous page

In defining your and the other party’s RVs, you have defined the zone of possible agreement (ZOPA). The ZOPA consists of all possible negotiated outcomes that are acceptable to both parties—that is, better than your RV and better than your opponent’s RV. Your goal is to claim a large proportion of the ZOPA without exceeding your opponent’s RV, which would terminate negotiations.

Now that you have defined the BATNA, RV, and ZOPA, you may feel that you are ready to claim as much value from the negotiation as possible. However, negotiators also should search for avenues to create new value.² Does either party have other, previously unmentioned, interests that may expand the negotiation’s scope? Returning to the sonographer scenario, let’s assume that she is motivated to alter her schedule to attend night school for an advanced degree. She revealed this motivation after your investigative probing. You now have another avenue to create value. Instead of simply debating about work shifts, you may offer to subsidize tuition in exchange for a commitment to remain at your organization for a set time period. Or you may offer to introduce her to mentors at scientific meetings. Ultimately, by creating value, you avoid the “fixed-pie bias.” The fixed-pie bias is a pitfall in which the negotiating parties circle around a predetermined set of issues and view the negotiation as a zero-sum game—if you gain, I lose. This bias contributes to negotiation failures. Instead, negotiators should identify alternative issues to introduce into the discussion, thereby expanding the pie and generating win-win scenarios.

In summary, it behooves breast imagers to learn negotiation strategies, as these situations are commonplace in our field. Beyond the basics, there are multiple complicated scenarios such as negotiating from a weak position, among multiple parties, and with an emotionally charged opponent. There are many excellent publications on this topic, a couple of which have been referenced in this article.❖

REFERENCES
What I’ve Learned: 
Peter Dempsey, MD, FACR, FSBI

By Jamie Giesbrandt, MD

On February 18, I had the honor of spending the day with one of the most inspiring people I’ve ever met, Peter Dempsey, MD, FACR, FSBI. Dr. Dempsey was a practicing radiologist and breast imager for 43 years. He was section chief of breast imaging at the University of Texas MD Anderson Cancer Center for 11 years. Dr. Dempsey has published 70 peer-reviewed journal articles and received the 2017 SBI Gold Medal Award.

You have been awarded numerous prestigious titles and awards over the years. What is the accomplishment you are most proud of?

I’m most proud of being a physician. It is truly an honor to be able to take care of other human beings. I’m forever grateful to my medical school, Saint Louis University, because it was a school that emphasized patient care. That was the first and foremost thing.

Who was the biggest influence on your medical career?

I’ll answer that a couple of ways. My grandfather was a [general practitioner] in Michigan who graduated in 1898. During the summer I would go along with him as he saw patients. People would come knocking on the door at the house and he’d sew up lacerations in the living room. That was my first exposure to medicine. But the one person that really gave me principles that guided my own practice would be Dr. Theodore Cooper. In the 3 years I spent at the NIH [National Institutes of Health] under his tutelage, Ted taught me what excellence was. He lived it. After that, Dr. László Tabár, who really is the same [to me]. He doesn’t know any other way but the right way.

What is the best and worst advice you have received?

The best advice was from my dad. He told me whatever you do, do the best you can. From the time I was in seventh grade all the way through medical school, I always had a summer job. You name it, I did it. But whatever the job was I tried to do [it] the best I could. The worst advice I received...
What I’ve Learned: Peter Dempsey, MD, FACR, FSBI, continued from previous page

was when I was looking around for private practice jobs. This one guy said I should join a particular group because they made the most money. I can honestly say—and I’m really proud of this—I’ve never made a decision in my whole life based on money.

**What advice do you have for young breast imagers like myself who are just starting out?**

Make sure you understand that you and the technologists are a team there for patients. Rather than dictate exactly what views to get, I would point to the area and say, “Can you show me this better?” The technologist has just done her best to get an initial study and she knows the patient’s limitations. They’re professionals, just like you, and will get what you need.

**Given your experience as an oral board examiner, what are your thoughts on the latest change from oral to computer-based exams?**

I don’t have a problem with it. I enjoyed doing the oral boards because I’m a people person and liked talking to the candidates, but change had to come. Going to a completely computer-based exam evens the playing field and makes travel much easier. I was on several committees at the time we were converting over and we went to extreme lengths to make sure the questions were fair.

**You’ve had to overcome a number of obstacles during your life. What was your greatest source of strength?**

My faith has always been a source of strength in my life. There was a short period of time after my internship when I just kind of wandered. What brought my sanity and purpose in life back was my religion, my faith. After marrying my wife, Cindy, 43 years ago, she then became the center of my life. She has been my advisor, coach, confidante, and indeed truly my best friend.

**How did you transition into retirement?**

It was easy because of music. I felt like I wasn’t retiring from something, but to something. I was able to give much more time to music than I had the previous years and that has meant everything to me because it’s given me something to do.

**Any parting thoughts?**

To be given an award for doing what I love to do seems incomprehensible to me! My wife would joke and say that her greatest fear would be that the University of Alabama or MD Anderson would find out that I would do it for nothing, which I honestly would have.

After “retiring” from clinical work in 2007, Dr Dempsey began consulting and currently serves as the medical director for the MD Anderson Physicians Network. He enjoys playing the trumpet in his spare time and is a member of the Gulf Coast Concert Band. This 35-member band plays a wide variety of music and performs once a month at venues throughout the Houston, Texas, area.
Breast Imagers Organize Locally: A Brief History of the New York Breast Imaging Society

By Victoria L. Mango, MD; Jiyon Lee, MD

The New York Breast Imaging Society (NYBIS) was initially founded as the “Mammo Club” by Suzanne Smith, MD, in 1989, at a time when radiology was maturing as a field with differentiation into subspecialty areas (Figure 1). Various “clubs” emerged in the New York City area, providing interinstitutional forums where radiologists discussed challenging subspecialty cases and shared experience and knowledge. Dr Smith was inspired to form the Mammo Club after returning from Dr László Tabár’s course in Sweden. According to Dr Smith, “In those days there were no fellowships in breast imaging, and Tabár, along with Marc Homer, MD; Dan Kopans, MD; Ed Sickles, MD; and Stephen Feig, MD, were instrumental in educating the new generation of breast imagers. Having conducted the 2-county study on screening mammography and following certain cases for years, Tabár had a vast library of the natural history of breast cancers.” Excited by what she was learning and motivated to create a professional learning environment, Dr Smith modeled the Mammo Club after one in Philadelphia led by Lillian Stern, MD.

The Mammo Club was initially held at St. Luke’s-Roosevelt Hospital, where Dr Smith was Director of Mammography. Original members included Ruth Rosenblatt, MD, then of Montefiore Medical Center (Figure 2). Approximately 25 to 30 radiologists and technologists gathered for each meeting. As Dr Smith stressed, “The final product depended on excellence at each step of production and good mammography is a team effort.” Radiologists shared cases, with pathology follow-up and mini lectures on the diagnoses. The group met about 5 times per year and organized meetings by phone. As an informal organization, no dues were charged.

As breast imaging blossomed into a formal subspecialty, the Mammo Club officially became the New York Metropolitan Mammography Society (Figure 3). Expert speakers, including Bill Ecklund, MD, and Ed Sickles, MD, were invited. Evening lectures were initially funded by the St. Luke’s Radiology Department by coordinating with a daytime radiology resident lecture series. Eventually
Society dues were collected to fund speakers as an independent series. The primary goals continued to be educating radiologists and technologists and providing forums for collegial discussion of professional and imaging challenges. When Dr Smith moved to Columbia University Medical Center in 1993, Annette Brown, MD, became president and Susan Goldfine, MD, became secretary/treasurer. Dr Rosenblatt later served as president from 1998 to 2002.

In approximately 2007, the Society became the New York Breast Imaging Society (NYBIS), reflecting the development of important breast imaging tools beyond mammography. During the subsequent period various institutions hosted meetings, including New York University Medical Center, Memorial Sloan Kettering Cancer Center, and Mount Sinai Hospital, where meetings are currently held.

Today NYBIS is a nonprofit professional organization committed to providing a forum for discussion of current and evolving practices and technologies in breast imaging for radiologists and technologists. Dues-paying members from New York City and the tri-state area participate in 6 meetings per year, Thursday nights at Mount Sinai Hospital, that provide continuing medical education and American Society of Radiologic Technologists–accredited lectures on a variety of breast imaging topics by experts from all over the country. The focus continues to be inclusive of not only radiologists and technologists but also nurses and trainees. Students of all backgrounds are welcome; fellows, residents, and medical students are encouraged to attend. In the spirit of inclusion, members of the public may also attend as guests.

An October meeting was added 2 years ago to further promote inclusiveness of trainees and to provide well-rounded programming to all members, with nontraditional lecture topics such as...
“International Radiology” and “Smart Financial Thinking,” coupled with a mentor panel. The mentor panel consists of a mix of academic, private practice, and community hospital–based radiologists and enables trainees of all levels to ask career-related questions and connect with future mentors.

Although the October meeting is a more organized and focused mentoring opportunity, NYBIS fosters this environment by providing a buffet dinner at every meeting. This social time facilitates reconnecting with colleagues and friends, establishing new connections, and engaging with the speaker prior to the lecture.

The evolution of lecture topics over the years reflects exciting progress in breast imaging, from advances in magnetic resonance imaging to the development of tomosynthesis and contrast-enhanced mammography. Brenda Pennisi, RTRM, NYBIS technologist representative since 1997, notes, “The society has always focused on presenting up-to-date and new technologies—from breast ultrasound screening and the transition to digital mammography in 2007, positron emission mammography in 2009, and tomosynthesis updates in 2014” (Figure 4). Lectures are opportunities to engage in expert-led, evidence-based exploration of topics with the convenience of local travel.

As breast imaging continues to evolve in exciting ways, strong, local professional networks that provide opportunities for discussion, support, and formal continuing education, such as NYBIS, are increasingly important. Such an exchange is essential to encourage education, foster a team-based, inclusive approach to breast imaging, and recruit interested students of all backgrounds to be future colleagues, researchers, and leaders in our field.
This is the last of 3 articles on how to help technologists overcome common positioning problems to produce the best examination possible for the patient.

As I noted in previous articles, we must remember that regardless of the experience and expertise of the technologist, the “perfect” image cannot be produced 100% of the time.¹² Data published in 1993 showed that even after receiving hands-on, standardized positioning training, technologists were able to meet all of the criteria for mediolateral oblique (MLO) and craniocaudal (CC) views only 64% of the time because of differences in body habitus and other patient-related variables.³ I am looking forward to an updated version of the standardized techniques that were featured in the 1999 ACR manual so that technologists can learn to overcome the challenges inherent in modern equipment.

**Common Problems and Solutions for the Craniocaudal View**

**Problem 1:** The depth from the nipple to the posterior edge of the breast tissue on the CC view is not within 1 cm of the posterior nipple line (PNL) measurement on the MLO view. This is also known as the “short CC.”

**Solutions:**

**Patient:** Face the patient toward the machine with both shoulders, hips, and feet.

**Breast:** You must pull the breast with both hands. Elevate the breast and the inframammary fold (IMF) so the PNL is perpendicular to the chest wall (Figures 1 and 2).

**Equipment:** Elevate the image receptor (IR) to the height of the elevated IMF.

---

Louise C. Miller, RTRM, FSBI

Figure 1. Proper elevation of the breast so the PNL is perpendicular to the chest wall (line) and the height of the IR is raised/lowered to the level of the elevated IMF.
**How to Help Your Technologist, continued from previous page**

Other suggestions:

- Anchor the breast at the 12 o’clock position with the base of your thumb.
- Lift the contralateral breast up and over the corner of the image receptor.
- Push the patient forward using your hand, elbow, and forearm.

**Problem 2:** The nipple is not centered or in profile.

**Solutions:**

**Patient:** Face the patient toward the machine with both shoulders, hips, and feet.

**Breast:** Pull the breast forward with 2 hands while centering the breast and nipple on the IR.

**Equipment:** Elevate the IR to the height of the elevated IMF.

Important Note:

Never sacrifice breast tissue to center the nipple. If the patient has prominent superior, medial, or lateral fullness and the nipple is not centered, note this on the history sheet. Obtain additional views with appropriate labeling as needed to complete the CC examination. ACR criteria require that the nipple be seen in profile in at least 1 of the 2 standard screening views unless there is a possible subareolar mass, in which case a focused nipple-in-profile view can be obtained.

---

Figure 2. Two CC views from the same patient. The proper technique has been applied to produce the image on the right. This increased the measurement from the nipple to the posterior edge of the breast tissue by 3 cm.

Figure 3. Some portion of the left posterior lateral breast tissue is excluded from the image.
How to Help Your Technologist, continued from previous page

**Problem 3:** Lateral and posterior glandular breast tissue is missing (Figure 3).

**Solutions:**

**Patient:** Face the patient toward the machine with both shoulders, hips, and feet.

**Breast:** Pull the breast forward, paying special attention to the lateral breast tissue (which is mobile) while applying compression (Figure 4).

**Equipment:** Elevate the IR to the height of the elevated IMF.

**Problem 4:** Compression is inadequate or variable from side to side and/or view to view (Figure 5).

**Solutions:**

**Patient/breast:** Work with the patient to obtain appropriate compression. If the patient has extreme tenderness or other conditions that prohibit adequate compression, note this on the history sheet.

**Equipment:** Compare compression force when positioning and compressing the breast. The force should not vary more than 10% from side to side.

---

*Figure 4. The mobile lateral tissue is pulled into the image. The IR is raised to the level of the elevated IMF.*

*Figure 5. The figure on the left shows poor separation of structures due to inadequate compression. The image was repeated on the right using proper compression to better visualize breast tissue.*
**Problem 5:** Skin folds and bright spots produced by attenuation of the beam look similar.

Modified standardized positioning techniques increase the amount of posterior breast tissue on the CC view. Unfortunately, this is a common location of fat folds, especially in the lateral aspect of the breast, where the axillary fat pad may superimpose onto the images. Make every attempt to have the patient pull her shoulder back to eliminate the folds. However, never sacrifice breast tissue to remove skin folds. If the fold compromises evaluation of this area of the breast, obtain an additional view. Also, remember that these areas can often be evaluated on the monitor by adjusting the window and level of the image.

Sometimes a fold is not a fold. A bright spot on the image can be created when a long segment of skin perpendicular to the IR attenuates the beam (Figure 6). This bright spot looks like a fold but is really an artifact produced by the digital processing algorithm and therefore cannot be eliminated.

**Solutions:**

**Patient:** Face the patient toward the machine with both shoulders, hips, and feet.

**Breast:** Pull the breast forward, starting at the chest wall. If you see folds, use a finger or two to try to eliminate them. Do not pull breast tissue out from underneath the compression paddle.

**Equipment:** Elevate the IR to the height of the elevated IMF.

I hope this series of articles on problem-solving for the MLO and CC views will be helpful to radiologists and technologists alike. With the new EQUIP (Enhancing Quality Through the Inspection Process) initiative for the Mammography Quality Standards Act, both parties will be required to document a review of clinical images and possible corrective actions. These suggestions can serve as a resource for problem-solving.

**REFERENCES**


At the outset I must admit that the title of this essay is a bit misleading. I didn't really choose breast imaging to become the primary focus of my professional career in radiology, as will soon become evident. Also, in 1977, there actually was no specialty called breast imaging to even choose. Now I can proceed with a clear conscience!

After finishing my radiology residency at Boston's Beth Israel Hospital at Harvard Medical School in 1975, I joined the newly opened hospital at the University of Massachusetts in Worcester. After 1 year, I was recruited to join a private practice group in Worcester, where I expected to spend the rest of my career. However, I soon realized that I missed academics and the teaching associated with it.

During 1977, a staff position opened up at Tufts-New England Medical Center (now known as Tufts Medical Center) in Boston. The seminal event that determined the direction of my career in radiology was my interview with the chair of the department, Dr Robert E. Paul Jr. He assumed this position when Dr Alice Ettinger stepped down after a long and illustrious career. I vividly recall my interview with Dr Paul.

Dr Paul: The person you are going to replace worked in adult general radiology and fluoroscopy.

Me: That's fine. That is what I was trained to do.

Dr Paul: We have a radiology residency program. The job requires you to teach residents.

Me: That's fine. I will love teaching residents.

Dr Paul: We all have appointments at Tufts University School of Medicine. Medical students often take an elective in radiology. The job requires that you teach medical students.

Me: That's fine. I will love teaching medical students.

Then Dr Paul lowered his voice and, in almost a whisper, said to me, “And you will have to read the mammograms.” After the moment it took me to overcome my shock, I responded that I did not know how to read mammograms. Dr Paul’s reply is something I will never forget:

“No one knows how to read mammograms. No one cares. We do 2 or 3 mammograms per day. You will read the mammograms, I will back you up, and after 6 months I will send you to train with an expert. Then you will become an expert.”

I quickly found out that having someone who had little to no training in mammographic interpretation back you up, even if it is the chair of the department, is not very reassuring. We did film mammography and not xeroradiography at Tufts. After 6 months, I spent a week at Emory University with Dr Robert Egan, considered to be the “father” of film mammography. I learned that reading mammograms for 6 months, followed by spending a week with Dr Egan, does not make one an expert! 
How I Chose Breast Imaging, continued from previous page

In retrospect, the breast surgeon and the breast pathologist at Tufts saved me when I began my job. I introduced myself and admitted that I knew very little about the interpretation of mammograms. I proposed that we work together as a team correlating every breast biopsy with the mammogram and the pathology in order to learn together.

Very soon I recognized the pivotal role the radiologist has in the detection of early breast cancer. I rapidly realized how wrong the specialty of radiology was, at that time, to fail to promote the mandatory teaching of mammography in radiology residency programs. I advocated for the addition of mammography to the oral boards.¹

So, in reality, I did not really choose to do breast imaging. Instead I chose to accept a job offer that required that I read mammograms. As the importance of mammography became established, a mammography section was created at Tufts and I became the chief and sole member. My section ran extremely smoothly since there was no one else in it but me! It was only years later, when the volume of mammography significantly increased, that other radiologists joined the section. I claim no insight for recognizing in 1977 the importance that mammography would eventually assume, nor did I have any idea that breast imaging would become the primary focus of my practice. However, I am forever grateful for the fortuitous circumstances which introduced me to the field of breast cancer detection, which I consider to be one of the most important things a radiologist can do. ❖

REFERENCE


Now Available!

ACR BI-RADS® ATLAS

Order your copy today»

http://acr.org/Quality-Safety/Resources/BIRADS
Social Media and Twitter: Reaching, Understanding, and Connecting Our Community

By Nicole Saphier, MD

Today’s dynamic breast screening landscape has left a large number of our patients and referring clinicians confused. When should screening commence? What is the most appropriate imaging modality? We, as breast imagers, have the unique ability to demystify the current screening guidelines, but we can reach only so many people each day in a busy breast center. Now we can reach the masses with an entirely new platform, one that extends our limits significantly further than that of our predecessors. Social media. That’s correct. You have heard of it. Before you stop reading, let me perform a thought experiment to see if I can entice you to join the “cyber era” of information.

Imagine having your own town hall forum to discuss the conflicting breast cancer screening recommendations. Except now take out the cost and time associated with preparing a town hall assembly. Instead, by sending ONE tweet a day, you can clarify some of the misconceptions of breast cancer screening to an even larger community. You are no longer speaking to those in your town. Or even in your state. You have the ability to speak to patients across the country and across oceans. While this enlightenment is reason enough for me to continue on Twitter, I can’t emphasize enough to you the colleague collaboration and relationships I have built over the past 2 years. I joined the Twittersphere almost 2 years ago. It has taken me nearly that long to figure out hashtag (#) jargon and how to successfully navigate the arena. I can now instantly tweet questions and comments to breast oncologists, surgeons, and radiologists in other countries and receive rapid replies.

One element of this newfound communication that I was not expecting was the negative backlash I received from a few groups, most notably the metastatic breast cancer community. During Breast Cancer Awareness Month, I tweeted out a promotion from SBI about mammography saving lives and added the hashtag #MBC (metastatic breast cancer) to the end of it to generate traction. The use of hashtags is the key to an effective tweet. People find you and your tweets based on which hashtags you link to your content. I could have easily avoided this community but I included #MBC in an effort to maximize my exposure on social media. I was originally dumbfounded as to why my tweets that early detection saves lives were so offensive to them. Not only did I get “called out” on the fact that early detection did not save their lives but the level of fury was something I had never experienced. Although I wanted to engage in some of these heated exchanges, it was imperative for me to remember that these women ARE angry. They are fighting for their lives and terrified of their
children growing up without them. Of course seeing images saying “mammography saves lives” will leave them feeling oversold and underdelivered on the purported benefits of screening. They were steadfast in their screening regimens and their early detected cancer is still what will kill them. The truth I realized is that mammography DOES save lives, but it doesn’t save everyone.

Our metastatic community feels they have been left behind in the sea of pink ribbons, pink hair, and pink everything. The majority of feedback and messages I receive from this community are warm, thankful, and hopeful; the rare few are upsetting by their tone and resentment. What I learned was to open my eyes and see they are not angry with me but rather are pleading for their voices to be heard. It has truthfully given me an awareness of the literality of what I say and publicly promote. It has also reminded me that although we do good work in our screening efforts, there is still much more to be done in the treatment arena.

We all say collaboration is the most efficient and robust way to provide breast cancer screening for women. If we are to continue fighting for what we believe is right for our patients through all of the bureaucratic red tape, working together is the only way to guarantee our success. I implore you to join our growing social media breast health community to further solidify our unified stance. All you have to do is join Twitter, Facebook, or Instagram, and if you reach out to people, you will be instantly connected. If you are ready, here are a few users I encourage you to follow. Watch them. You will pick it up easily and we are always here if you have any questions.
A 76-year-old woman with a history of left lumpectomy for metaplastic carcinoma in 2012 presented for a screening mammogram in 2016 (Figure 1). The screening mammogram from 2015 is available for comparison (Figure 2). How would you interpret this examination?
Interesting Case: The Developing Asymmetry Without a Sonographic Correlate: Skin Localization Technique for Stereotactic Biopsy, continued from previous page

There is a focal asymmetry in the left breast at the 3 o’clock position, posterior depth, on the 2016 examination (Figure 3a, c; arrow). It is not seen on the 2015 imaging (Figure 3b, d).

Figure 3. CC (a) and MLO (c) views from the 2016 screening examination show a focal asymmetry (arrow) that was not present on the 2015 screening examination (b, d).
The screening examination was assessed as BI-RADS 0, and subsequent additional diagnostic views (Figure 4a, b) confirmed the presence of the developing asymmetry. There was no sonographic correlate. The finding was deemed BI-RADS 4, and a stereotactic-guided biopsy was recommended.
Interesting Case: The Developing Asymmetry Without a Sonographic Correlate: Skin Localization Technique for Stereotactic Biopsy, continued from previous page

The patient was positioned on a prone stereotactic biopsy table. However, the abnormality was not initially visualized in the biopsy aperture using either superior or lateral approaches (Figure 5a, b). Therefore, the patient was moved to a mammography unit, and an alphanumeric grid was employed to facilitate biopsy localization. The abnormality was visualized in the craniocaudal (CC) projection (Figure 6a). Using alphanumeric localization and a superior approach, a BB marker was then placed on the patient's skin overlying the abnormality.

Figure 5. The developing asymmetry is not definitively seen in the aperture on the prone stereotactic biopsy table from a superior approach (a) or from a lateral approach (b).

Figure 6. Using an alphanumeric grid, the developing asymmetry (arrow) is localized in the CC projection from a superior approach (a). A BB marker is placed on the skin overlying the abnormality (arrow) and linear markers are placed over the patient’s existing lumpectomy scars to assist in localization (b).
When subsequently centering the stereotactic biopsy aperture over the BB marker in the CC projection, the targeted abnormality was readily identified (Figure 7). Postprocedure mammograms confirm appropriate positioning of the biopsy tissue marker (Figure 8a, b). Pathology from the stereotactic biopsy returned high-grade ductal carcinoma in situ (DCIS).

Figure 7. The developing asymmetry is now readily seen in the aperture on the prone stereotactic biopsy table in the CC projection from a superior approach.

Figure 8. Postprocedure mammograms in CC (a) and lateromedial (b) projections demonstrate the biopsy tissue marker (arrow) in the expected location with a small postbiopsy hematoma.
**Interesting Case: The Developing Asymmetry Without a Sonographic Correlate: Skin Localization Technique for Stereotactic Biopsy, continued from previous page**

**DISCUSSION**

The developing asymmetry, as described in the BI-RADS Atlas, is a new focal asymmetry or one that has increased in size or conspicuity compared to prior mammograms.¹ Given that the risk of malignancy with a developing asymmetry is approximately 15%, biopsy should be recommended even if there is no sonographic correlate.¹

In the absence of a sonographic correlate, developing asymmetries can be difficult to localize using stereotactic guidance because of their lack of distinguishing features relative to normal fibroglandular tissue. This case demonstrates the utility of an alphanumeric grid in localizing challenging mammographic abnormalities prior to stereotactic biopsy. The alphanumeric grid should be positioned over the patient’s breast in the anticipated orientation of the biopsy approach (Figure 6a). In this case, a superior approach was selected because the target was most reliably visible in the CC view. Subsequent mammographic images confirm the presence of the abnormality, and the skin overlying the developing asymmetry should be marked with a radiopaque skin marker (eg, a BB marker). The patient should then be taken back to the stereotactic biopsy device with the radiopaque skin marker centered in the aperture in the same orientation as the skin localization (Figure 7). Postbiopsy mammography should be performed to confirm correct sampling and appropriate positioning of the biopsy tissue marker.

The differential diagnosis of developing asymmetries includes benign entities such as fibrocystic changes, fibrosis, fibroadenoma, intramammary lymph node, fat necrosis/scar, and pseudoangiomatous stromal hyperplasia. The differential also includes DCIS and invasive breast carcinoma (ductal and lobular).² As a result, developing asymmetries should not be assessed as probably benign (BI-RADS 3) or followed at a short interval. Tissue sampling is indicated for definitive diagnosis.▼

**REFERENCES**

The breast imaging fellowship match has begun! On March 22, 2017, registration opened, and on May 31, 2017, ranking closes. Match Day is June 14, 2017!

The idea of a fellowship match for breast imaging had been debated in various venues on several occasions. Two and a half years ago, the SBI Fellows discussed the idea and decided that breast imaging and everyone involved would be best served by a formal match process.

Why a Breast Imaging Match?

Prior to the breast imaging match being initiated, there was a disequilibrium in the breast imaging fellowship selection process. For example, an applicant would interview at a program on Monday, and if the applicant was well received, he or she would be asked to commit to a spot within 36 hours. If the applicant was also interested in another program, he or she might cancel at the last minute or fly across the country for an interview, only to be told that no offers would be made at the second program until all candidates had been evaluated (3 weeks later).

Thus, while breast imaging was making great strides in so many areas (patient-centered service, accreditation, and outcomes, for example), there was a feeling in the breast imaging community that improvement was needed in a critical area: matching the next generation of breast imagers to the programs that provide the best fit for everyone.

Now we have a breast imaging fellowship match administered through the National Residency Match Program (NRMP). Special thanks go to the SBI staff and especially to Holly Gainer for providing the initial infrastructure needed to make the match a reality.

The Future

Future considerations include moving the interview period closer to the match day and moving the match process closer to the time when the fellowships start.

As this is the first year of the match, there may be some bumps in the road. The SBI will be monitoring the results and working with the NRMP as needed. Feedback should be sent to Holly Gainer (hsuthers@sbi-online.org) or Gary Whitman, MD (gwhitman@mdanserson.org), the chair of the SBI Fellowship Committee.
**SBI Committee Updates**

By Shadi A. Shakeri, MD; Yasmeen J. Fields, CAE

The SBI committees continue to forge ahead with new and ongoing efforts. Many of the committees met at the annual SBI/ACR Symposium in Los Angeles. It was a great opportunity for committee members to meet and discuss projects face to face. Here are some updates on the latest developments in our society’s committees.

**SBI Board of Directors:** SBI has hired a strategic planning facilitator to help the society develop a 3-year strategic plan. The focus will be on creating a plan that the board will follow as board term limits have now been reduced from 8 years to 6 years. This will streamline priority work over ad hoc projects and help achieve efficiency with limited staff resources.

The Scientific Advisory Committee, chaired by Jennifer A. Harvey, MD, FACR, FSBI, has written the following 2 white papers, which may be accessed at [http://www.sbi-online.org/RESOURCES/WhitePapers.aspx](http://www.sbi-online.org/RESOURCES/WhitePapers.aspx):

- Contrast Enhanced Digital Mammography, March 2017
- Current Status of Dedicated Nuclear Breast Imaging, March 2017

These are overviews of current hot topics, written by society members who are experts in these areas. All papers pass review by the SBI Scientific Advisory Committee and receive approval from the SBI Board of Directors. Please note that unless otherwise stated, the content of the white papers reflects the perspective of the authors and not necessarily the position of the SBI. Other white papers are in development and in various stages of review. We hope that you will find these to be helpful resources.

The Communications Committee, chaired by Margarita L. Zuley, MD, FACR, FSBI, has been busy in the beginning months of 2017 on multiple fronts, including the SBI website, forum, and social media outlets. Our social media engagement has become so active that we now have a Social Media Committee chaired by Paula Gordon, MD, FSBI. The SBI’s third Twitter chat, “#RADWomen, Past, Present and Future,” was cohosted with the American Association for Women Radiologists on International Women’s Day, March 8, 2017. This chat generated a great deal of discussion about women in radiology and the challenges they face. You can search #RadWomen on Twitter or go to [bit.ly/2m3BDRX](http://bit.ly/2m3BDRX) to see what was shared. The society’s social media (Facebook, Twitter, and Instagram) presence continues to grow. As of this writing the SBI has over 1300 followers on Twitter! You can connect with the SBI on social media using the handles @BreastImaging on Twitter and @EarlyDetectionSavesLives on Instagram and you can “like” SBI on Facebook. Dr. Zuley will become the Scientific Program Chair and hand leadership of this committee to Jessica Leung, MD, FACR, FSBI. Thank you for all your guidance, Rita!
SBI Committee Updates, continued from previous page

The International Education Outreach Committee, chaired by Murray Rebner, MD, FACR, FSBI, seeks to partner with breast imaging societies outside the United States to improve knowledge and clinical care worldwide. The SBI is working on joint conferences with BATSON in Nepal, chaired by Dr Jessica Leung (October 5-6, 2017), and with the Indonesian Society of Women’s Imaging in Bandung, Indonesia, chaired by Dr Bonnie Joe (November 4-5, 2017). Dr Margret Szabunio has been asked to chair the joint meeting with the Egyptian Society of Women’s Imaging in February 2017.

The Patient Care and Delivery Task Force, chaired by Stamatia Destounis, MD, FACR, FSBI, has just completed a comprehensive survey of SBI members to establish the variety of practices focused on the area of patient-centered care and communication. The results from this survey will help this committee prioritize their actions based on the issues of patient care delivery defined as critical by the SBI members.

The Breast Imaging Fellowship Match Committee, chaired by Gary Whitman, MD, FACR, FSBI, has continued to work with program directors and coordinators as well as the National Resident Matching Program for the first Breast Imaging Fellowship Match underway this year. Please see the related article in this edition of the newsletter.

The Fellows and Residents Committee is already hard at work on developing communications pieces to encourage membership by residents and fellows and is working to help develop resident-specific networking opportunities at future symposia. A “Meet the Experts” lunch was held on Friday, April 7, to give members in training and fellows a chance to sit and talk with faculty and SBI board members.

SBI Fund Committee: Going forward, the fund will no longer operate as the “Ellen Shaw de Paredes Resident and Fellow Education Fund.” The purpose of Ellen’s Fund was to support original scientific research by SBI residents and fellows. We will continue our commitment to supporting research, aiding the development of residents and fellows, and sustaining the field of breast imaging efforts through the Society of Breast Imaging Research and Education Fund.

The Newsletter Committee, chaired by Peter Eby, MD, FSBI, seeks to keep the members informed of what is new in the world of breast imaging and the SBI. We aim to bring the members an overview of the largest radiology meetings that feature breast imaging content. Dr Eby keeps the creativity of the committee members flowing by continuously generating new ideas for columns that might be of interest to SBI members. Be on the lookout for a new physics/technology column, an international column, and perhaps even a regular column to showcase some breast imaging talent. Calling all poets, photographers, and cartoonists! Liane Philpotts, MD, FACR, FSBI, has retired from the committee after 4 excellent years of service. Thank you, Liane!
Research Awards From the
2017 SBI/ACR Breast Imaging Symposium

By Peter R. Eby, MD, FSBI

Jay A. Baker, MD, FACP, FSBI, Duke University, chair of the SBI Scientific Committee, presented the awards for best research from members in training (Figure 1).

Elizabeth Adams, BS, second-year medical student, University of Wisconsin, received the Gerald D. Dodd Jr, MD, Award for research by a medical student or resident for “Evaluating the Complexities of Risk-Based Versus Age-Based Mammography Screening in Women 40-49.” The goal was to quantify risks and benefits of risk-based versus age-based screening. A total of 72,200 consecutive screening mammograms were analyzed in 2 scenarios. First, the team modeled the results of hypothetical exclusion of 40- to 44-year-old women based on American Cancer Society screening guidelines. Second, a model of risk-based screening excluded women under 50 years of age with average risk.

Figure 1. Presentation of the research awards at the 2017 SBI/ACR Symposium. Left to right: Jay Baker, MD, FACP, FSBI, chair of the SBI Scientific Committee; Elizabeth Morris, MD, FACP, FSBI, SBI president; Elizabeth Adams, BS, University of Wisconsin, receiving the Gerald D. Dodd Jr, MD, award for research by a student or resident; Tamara Carroll, MD, Yale University, receiving the Wendell Scott Award for research by a fellow; and Wendy DeMartini, MD, FSBI, SBI vice president.
Research Awards From the 2017 SBI/ACR Breast Imaging Symposium, continued from previous page

The benefit in screened women was defined as cancer detected, and the risks were false-positive recalls and benign biopsies. Benefits in unscreened women were defined as avoided recalls and biopsies, and the risk was missed cancer. The team concluded that compared with age-based screening at age 45 years, risk-based screening leads to greater benefit to risk ratios for women who would be screened and no significant difference in benefit to risk ratios for women who would be excluded from screening. The research team acknowledges that the data may lack the statistical power needed to draw this conclusion and that the values of the benefits and risks should be considered before finalizing any recommendation.

Tamara Carroll, MD, fellow, Yale University, received the Wendell Scott Award for research by a fellow for “Impact of Digital Breast Tomosynthesis On Recall Rates – The Five-Year Experience in a Large Multi-Site Academic Center.” The purpose of the research was to estimate the impact of digital breast tomosynthesis (DBT) on recall rates compared with concurrent 2-dimensional full-field digital mammography (2D-FFDM). The research team retrospectively compared DBT and 2D-FFDM cohort screening metrics from 85,792 examinations over 5 years. Recall rates differed between the 2 cohorts, starting at 15.3% and 7.9% for FFDM and DBT, respectively, and finishing at 13.2% and 7.0%. Cancer detection rate and positive predictive value (PPV) were higher for DBT throughout. The research is limited by the retrospective design and proportionally small 2D-FFDM sample size, which accounted for slightly more than 6000 of the 85,792 total cases.

Please consider supporting the Society of Breast Imaging Research & Education Fund. This initiative supports the education program by offering a travel stipend of up to $2,000 to residents and fellows whose original scientific abstract is selected for presentation at the SBI/ACR Breast Imaging Symposium. Future seed grants for research to further advance breast imaging will also be supported by the fund. To make a donation, please visit: bit.ly/SBIREFund
Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Thursday

By Peter R. Eby, MD, FSBI

The theme of the first plenary session of the 2017 SBI/ACR Symposium was “Tools and Techniques,” and a team of accomplished women composed the panel. Emily F. Conant, MD, FSBI, University of Pennsylvania, began the meeting with an update on digital breast tomosynthesis (DBT). Four vendors have Food and Drug Administration–approved DBT systems: Fuji, General Electric, Hologic, and Siemens. Manufacturers vary their approaches. A wider tube angle improves separation and resolution but requires more time, which increases the risk of motion degradation. Dr Conant reports that the learning curve for DBT is longer than expected, but after 3 years the recall rate has remained lower than for full-field digital mammography (FFDM) and the cancer detection rate and positive predictive value (PPV₃) have remained higher. The greatest impact is on the recall of asymmetries. Some cancers are seen only on a single DBT view, so “1-view” findings should be carefully investigated. DBT increases the dose and synthetic 2-dimensional mammography can relieve this downside, but the data suggest that some significant findings are more difficult to see with synthetic images.

Janice S. Sung, MD, FSBI, Memorial Sloan Kettering Cancer Center, discussed novel methods for breast cancer localization. Wire localization dominates the standard of care, but it takes time, adds cost, can delay the start of operations, and has other pitfalls. New methods try to eliminate the problems of wire localization and preserve accurate guidance for resection of nonpalpable cancers. Radioactive seed localization can be performed days before surgery, but there are numerous logistical issues related to medical handling and patients living with radioactive devices. Electromagnetic reflector (EMR) devices do not use radioactive isotopes. They can be placed up to 30 days in advance, but EMRs contain nickel, cannot be placed under magnetic resonance (MR) guidance, and halogen lights in the operating room can interfere with the signal. Magnetic seed localization (MSL) is available in 12- and 20-cm lengths. MSL does not contain any nickel or radioisotopes, but surgeons cannot use stainless steel instruments near the target, the maximum detectable depth is 4 cm, and published data are sparse.

Jocelyn A. Rapelyea, MD, FSBI, George Washington University Medical Center, reviewed the practice and implementation of whole-breast ultrasound screening (WBUS) as a supplemental screening tool for women with dense breast tissue. The amount of time required for handheld WBUS has decreased from 19 minutes in ACR Imaging Network (ACRIN) 6666 to 4 to 5 minutes in the latest research. There are multiple types of automated screening systems. Some use existing machines with software mapping and some use dedicated units with large-footprint transducers to acquire
3-dimensional volumes. Recall rates remain significantly higher for ultrasound screening than for FFDM and DBT but may decrease with experience. Additional cancer detection ranges from 1.8 to 4.6 per 1000 patients across multiple published reports. There are no Current Procedural Terminology codes for screening ultrasound. Legislation guaranteeing direct coverage has created an increase in examinations and associated costs.

Maxine S. Jochelson, MD, FSBI, Memorial Sloan Kettering Cancer Center, updated symposium attendees on nuclear breast imaging (NBI). The advantages of NBI include the ability to detect cancer based on physiology independent of density and morphology. Current National Comprehensive Cancer Network (NCCN) guidelines allow positron emission tomography/computed tomography (PET/CT) for evaluation of the whole body in patients with stage III and IV cancer. Dr Jochelson has gained support from the NCCN for staging patients with stage IIB disease with PET/CT rather than bone scan and CT. However, in women with invasive lobular carcinoma, bone scan identifies bone metastases more reliably than PET/CT, and the latter should not be used alone in these patients. Many new radiolabeled tracers targeted to surface receptors are in development. Nuclear molecular imaging can also assess the impact of chemotherapy and support current or revised prescription of clinically effective chemotherapy.

The vice president of the European Society of Breast Imaging (EUSOBI), Julia Camps-Herrero, MD, University Hospital of La Ribera, Alzira, Spain, and Constance Lehman, MD, PhD, FACR, FSBI, Harvard Medical School, co-presented the current state of breast MR imaging (MRI) in Europe and the United States. In Europe, there are consensus recommendations for high-risk screening with breast MRI, but staging remains controversial (www.eusoma.org). Based on a survey of EUSOBI members, MRI for staging is more common in the southern European countries than in northern nations. Less than half of European practitioners use MR-guided interventions for tissue sampling. The Multicenter International Prospective Analysis study to assess preoperative breast MRI is ongoing at 32 centers (http://www.eusobi.org/html/img/pool/MIPA_Outline.pdf).

Dr Lehman reported that screening breast MRI is not being applied in the United States as hoped. Seventy-five percent of all screening MRIs are performed in women with a less than 20% lifetime risk of breast cancer. Dr Lehman called on us all to contribute to the breast MRI body of knowledge as we tackle controversial indications and topics such as staging, BI-RADS 3, increased mastectomy rates, and nipple discharge. Eastern Cooperative Oncology Group–ACRIN data show that breast MRI accounts for less than half of the conversions from partial mastectomy to mastectomy. The next step is to fully consider abbreviated breast MRI (AB-MRI). Dr Lehman currently uses an AB-MRI protocol that requires less than 10 minutes, and the ACRIN trial of AB-MRI is underway.

On Thursday afternoon Brett T. Parkinson, MD, FACR, FSBI, Intermountain Healthcare Breast Care Services, Murray, Utah, and Nicole Saphier, MD, Memorial Sloan Kettering Cancer Center, teamed up for a session titled “Practical Tools for Interacting with the Media.”
Dr Parkinson discussed how personal relationships are essential to engaging the media. Let your public relations department or marketer know you are a content expert and encourage them to engage local media. In turn, take opportunities to speak but avoid a self-serving message. When on television, look the interviewer in the eye and discuss what you know with passion. Messages need to be concise and clear. Know your data and never comment on new research until you have completed a critical review. You can find carefully crafted speaking points and analysis in the SBI and ACR position statements (http://www.sbi-online.org/RESOURCES/PolicyPositionStatements.aspx). Anecdotal human interest stories engage the public but should transition to appropriate generalizable statements. Not all opportunities are for speaking. Write something for local women’s magazines, newspapers, and community newsletters. Team up with other breast-related specialties like surgery, medical oncology, radiation oncology, and technology to hold a survivors’ dinner or other event.

Dr Saphier focused on using social media to engage patients and other physicians. Use hashtags (#) to gain followers and reach a larger audience. For example, #RadsHaveAFace and #SBIACR2017 are hashtags. All tweets from an individual user will go to that user’s followers. When tweets contain hashtags, other users can find those tweets through a search for the hashtag. That is the quickest way to gain new followers. Dr Saphier recommends not giving medical advice to individuals. She includes the following statement in her Twitter profile to protect herself and her institution: “Quotes/tweets/retweets are not medical advice or opinion of employer.”

The speakers featured on Thursday morning set the stage for a fantastic meeting. Many excellent breakout sessions on Thursday afternoon were recorded and will be available through the SBI website 6 to 8 weeks after the meeting.
The Friday morning program began with the SBI business meeting, led by President Elizabeth Morris, MD, FACR, FSBI, Memorial Sloan Kettering Cancer Center, who reported on the financial growth and increased membership of the society. She also summarized some of the key efforts of the SBI in the past year, such as the launching of new task forces, a breast imaging fellowship match program, and enhancement of the society’s media presence with the “End the Confusion” campaign and multiple hosted Twitter chats. With expressions of gratitude for the dedication of members and staff of the SBI, Dr Morris brought her term to a close and passed the gavel to the incoming president of the SBI, Wendy DeMartini, MD, FSBI, Stanford University.

The first speaker of the “Diagnosis and Treatment” morning plenary session was Thomas Lawton, MD, Coastal Breast Pathology, Inc, Chapel Hill, North Carolina, who discussed breast cancer biomarkers and genetic profiles. He gave an overview of the limitations of traditional immunohistochemistry techniques and reviewed the imaging, clinical characteristics, and survival probabilities of different molecular subtypes of breast cancer. Although gene profiling has the potential to improve prognostication and personalize breast cancer treatments, immunohistochemistry for estrogen receptor, progesterone receptor, and human epidermal growth factor 2 (HER2) remains the current standard of clinical care. He clearly delineated that these 2 classification systems are not necessarily interchangeable and one is not a surrogate for the other.

Bonnie Joe, MD, PhD, FSBI, professor of radiology and chief of breast imaging at the University of California, San Francisco, followed up with a comprehensive discussion on the role of imaging in neoadjuvant chemotherapy. Dr Joe discussed the rationale for using breast magnetic resonance imaging (MRI) as the modality of choice for evaluating response to neoadjuvant therapy for locally advanced breast cancer. She added that breast MRI is so accurate at evaluating the extent of disease that it can be considered an imaging biomarker, providing prognostic information. Functional tumor volume measured on MRI is an imaging biomarker of long-term outcomes and response to chemotherapy. Dr Joe informed us that the BI-RADS assessment, which is normally based on imaging findings, has been updated as of January 2017 to include MRI showing complete response to neoadjuvant chemotherapy within BI-RADS category 6 (known malignancy). She rounded out her talk with a summary of multi-institutional collaborative studies such as ACR Imaging Network 6657 and the Investigation of Serial Studies to Predict Your Therapeutic Response With Imaging and Molecular Analysis (I-SPY TRIAL). She reiterated the importance of collaborative efforts among institutions to demonstrate the value of imaging, concluding that it is an exciting time to be a radiologist, given the use of imaging in personalized medicine.
Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Friday, continued from previous page

George W. Sledge Jr, MD, professor of medicine and chief of the oncology division at Stanford University School of Medicine, delivered the keynote lecture, “Current Concepts in Systemic Therapy for Breast Cancer.” His main point was that our understanding of the biology of breast cancer has influenced the treatment of breast cancer. Dr Sledge said that the ability to identify and measure the molecular signature of a cancer allows precise therapeutic targeting. He referred to breast cancer as a family rather than a single disease and said it may be classified into 5 basic molecular types: luminal A, luminal B, basal-like, HER2-enriched, and normal-like. He gave a detailed analysis of the disease mechanisms of each breast cancer subtype and their overlapping molecular targets and showed the resulting clinical outcomes. Dr Sledge also touched on potential applications of circulating tumor DNA (ctDNA) from cancers. He noted that many prognostic markers have failed because we don’t know what to make of them clinically. Future applications of ctDNA could allow us to measure specific mutations in a cancer and choose appropriate therapies. He expressed that oncologists are enthusiastic about the use of ctDNA. He asked, “Can we use our increased knowledge of the genomics of breast cancer to intervene at an early point in time to prevent recurrence?” Dr Sledge summarized that nearly two-thirds of the...
treatment drugs used routinely today did not exist a decade ago; therefore, it would be safe to say that breast cancer will be a very different disease 10 years from now. Hopefully we will be able to better predict treatment failures and perhaps use imaging to predict which patients will benefit from which therapies.

The last talk of the morning plenary session before the always-lively question and answer session was given by Alice Y. Ho, MD, Department of Radiation Oncology, Cedars-Sinai Medical Center. Dr Ho discussed radiation therapy (RT) techniques to minimize cardiac toxicity. She reviewed data from early trials showing a net survival advantage in patients with breast cancer who received radiation as a component of their treatment strategy. Dr Ho described the pathophysiology of RT-induced cardiac injury, which can manifest as pericarditis, pericardial fibrosis, valvular disease, conduction defects, diffuse myocardial fibrosis, and coronary artery disease. Dr Ho described the RT options available in the treatment of breast cancer, including partial breast irradiation and intraoperative RT as well as alternative options such as proton therapy.

The session closed with Dr Morris presenting the 2017 Gold Medal to Peter J. Dempsey, MD, FSBI, and the Honorary Fellow award to this newsletter’s very own Louise C. Miller, RT (Figure 1). The Gold Medal winner is recognized for outstanding contributions to the field of breast imaging and extraordinary service to the SBI. The Honorary Fellow is awarded to an individual who has made outstanding contributions to breast imaging. With their family members in attendance, including Louise’s 93-year-old mother, both honorees expressed their gratitude and heartfelt dedication to their families, patients, and colleagues and left not a single dry eye in the audience. Dr Dempsey’s closing sentiments that “breast imagers are not only the face of radiology but the heart of radiology” echoed the dedication of the leadership and membership of this great society.
Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Saturday

By Robert Gutierrez, MD, FSBI

The Saturday session at the 2017 SBI/ACR Breast Imaging Symposium in Los Angeles was filled with engaging and important topics. Deborah Monticciolo, MD, FACR, FSBI, Baylor College of Medicine, kicked off the lectures with a succinct and clear review of the benefits, risks, and guidelines for screening mammography. She reminded us of the 40% mortality reduction shown in observational studies and Cancer Intervention and Surveillance Modeling Network models, the benefits of less extensive surgery and chemotherapy from early detection, and the ability to diagnose high-risk lesions. Regarding the risks, Dr Monticciolo delved into the most common criticisms, such as recalls for additional imaging, benign needle biopsies, patient anxiety, and the concept of overdiagnosis. For each of these, she provided compelling information to refute these overstated concerns. For example, from a woman’s perspective, a decade of screening results in about 1 recall every 12 years and 1 biopsy every 149 years. She emphasized how there are limited quantitative metrics for patient anxiety and how overdiagnosis cannot be measured directly and is overestimated by critics. An important point she made was that screening at later ages or with longer intervals will not reduce theoretical overdiagnosis. Her overview of the ACR guidelines compared with those of the US Preventive Services Task Force (USPSTF) is best summarized by the following statement: The USPSTF guidelines save the most mammograms while the ACR/SBI recommendations save the most lives.

In an entertaining but practical lecture titled “Twitter 101: Twitter Tips for Radiologists,” Paula B. Gordon, OBC, MD, FRCPC, FSBI, University of British Columbia and BC Women’s Hospital, Vancouver, British Columbia, offered useful information about how to use this powerful social media tool in the world of medicine and described how Twitter has the potential to increase patients’ compliance with screening mammography. Dr Gordon reviewed the basic mechanics of tweeting and defined terms we hear so often, such as tweet, retweet, and hashtag. She reminded us that tweets are public and recommended that everyone should “pause before you tweet.” Another sage piece of advice offered by Dr Gordon: “Don’t feed the trolls; they will stop eventually.” Follow her on Twitter @DrPaulaGordon.

The lecture titled “Breast Cancer Worldwide and SBI Projects,” presented by Sughra Raza, MD, Brigham and Women’s Hospital, Boston, was an inspiring introduction to the critical global outreach led by many of our very own colleagues in the SBI. Dr Raza explained that although less-developed countries have a relatively lower incidence of breast cancer, they suffer from higher mortality rates due to the lack of early detection programs and adequate diagnosis and treatment facilities. She emphasized the importance of education, both for patients and providers, and described how the SBI International Outreach Program seeks to fulfill this goal by providing discounted access to online resources.
teaching tools and offering membership, involvement, and educational exchange with providers worldwide. Well-received SBI outreach programs have already taken place in South Africa and India. Upcoming programs will reach Nepal, Indonesia, and Egypt over the next 2 years.

Those fortunate enough to attend the afternoon refresher course titled “Advanced Practice Providers in Breast Imaging Practices: There’s an App for That” witnessed an extremely informative and engaging 2-person lecture presented by Peter Eby, MD, FSBI, and Carly Searles, ARNP, from Virginia Mason Medical Center, Seattle. Dr Eby began the presentation by illustrating many of the frustrating obstacles patients experience in their efforts to seek care for a breast concern, such as dealing with numerous medical visits, suffering long wait times, paying for travel and parking costs, and losing time from work. The average time between discovering a lump and having a management plan in place is 23 days! Dr Eby described the birth of an innovative and creative effort at his institution to address these problems and improve the care of his patients: an advanced practitioner breast clinic spearheaded by Carly Searles. Under this model, a typical visit to the breast clinic includes a clinical evaluation, appropriate image ordering, treatment and/or counseling, and a follow-up plan. Given the proximity to the breast imaging center, imaging workups and biopsies are typically performed the same day, and more importantly, these workups are appropriately ordered following evidence-based imaging guidelines. The impact of their breast clinic was evaluated in a retrospective cohort study of symptomatic patients with breast concerns, comparing the experience of 100 pre-breast clinic patients to 100 patients who used the new clinic. The results were impressive, with the lead time reduced from 23 days to 3 days and same-day visits increased from less than 20% to 98%! Also, 97% of patients received appropriate imaging within 24 hours of their clinic visit. All the breast clinic patients received their biopsy results within 3 days, and the time from presentation to receiving biopsy results decreased from 15.8 days to 3.8 days. If these results are still not enough to make you or your institution consider implementing this model, consider the following: their model resulted in a 19% decrease in direct care costs, and it is estimated that employers will save $316 per woman from increased work productivity. Ms Searles did a great job describing the various challenges she faced in the development of the breast clinic, and her obvious dedication to the success of the breast clinic was truly inspiring.
Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Sunday

By Jiyon Lee, MD

This year's SBI Symposium briskly launched into “Tools and Techniques” on Thursday. Friday’s theme was “Diagnosis and Treatment.” Saturday’s talks presented “Practice in the US and Worldwide.” Sunday’s morning session delved deeper into “Enhanced Skills and Knowledge.”

In “Update on Essential Recent Literature,” Cherie Kuzmiak, DO, FACR, FSBI, University of North Carolina, recapped 3 relatively recent papers. Regarding breast density (BD), Toula Destounis, MD, FACR, FSBI, et al published a study comparing a volumetric BD tool utility with visual BD rating.¹ On the subject of recall and cancer detection rates, Grabler et al reviewed a single academic institution’s audit and suggested that the “sweet spot” for optimal cancer detection rate was a recall rate of 12% to less than 14% but noted that this is higher than previously recommended.² Regarding breast cancer subtypes and preoperative magnetic resonance imaging, a retrospective review by Grimm et al revealed multifocal/multicentric disease and lymph node involvement more often in luminal B and HER2 subtypes.³

A practical and empowering talk by Jay Baker, MD, FACR, FSBI, Duke University Medical Center, reminded us that aside from the technical reasons to cancel a biopsy (lesion location, anatomy, patient tolerance), there are imaging-supported reasons that we are charged not to miss. He demonstrated findings that were eventually recognized as “characteristically benign” calcifications, masses, and normal anatomy. Dr. Baker also reminded us how to convey this change in management to the puzzled—and still concerned—patient. Even the outcome of a canceled biopsy can be disconcerting to a patient. We need to temper our “superhero” zeal to be right with our human doctor compassion and appropriately reassure without losing team credibility. He recommended always getting an additional view or repeat some portion of a sonogram to allow radiologists to approach the patient with added information rather than discounting a colleague’s opinion when canceling a procedure.

In a new session based on selected “Hot Topics and Dilemmas from the SBI Forum,” Peter Eby, MD, FSBI, Virginia Mason Medical Center, Seattle, opened with a question first posed in December 2013 on the online discussion platform: “I was wondering how other sites handle sterile technique for ultrasound biopsies.” He quoted several reader responses, polled the in-person audience, reviewed data on the complications from core-biopsy procedures, informed us of the Agency for Healthcare Research and Quality 2014 core-biopsy update (incidence of severe complications was less than 1% for all techniques), and then elicited from each panel member his or her own practice habits.
Catherine Giess, MD, FSBI, Brigham and Women’s Hospital, Boston, used a similar format to walk us through topic 2: second opinions of outside breast imaging. She polled the panel for their opinions and presented her recommendations, validated by her practice’s formal consultation process instituted a year ago.

W. Phil Evans, MD, FACR, FSBI, University of Texas Southwestern, discussed topic 3: “What is a Reasonable Number of Cases to Read in a Day?” His presentation was probably the most enlightening with respect to the system of work relative value units (wRVUs). The number of wRVUs per day that comprise the 25th, 50th, 75th, and 90th percentiles of breast imagers is 39, 47, 59, and 75, respectively. Data came from a survey by the Association of Administrators in Academic Radiology in fiscal year 2016. There are creative combinations of breast imaging procedures and examinations to reach any percentile target. The panel members, representing a mix of academic and private practices, suggested that these numbers are an excellent starting point but may not represent everyone. This topic alone could spark an hour-long session, followed by more hours of angst and debate.

John Lewin, MD, FACR, FSBI, The Women’s Imaging Center, Denver, wrestled with the age-old debate about “Imaging for Breast Pain.” He used the ACR Appropriateness Criteria, 3 articles, common sense, the panel’s input, and medicolegal, professional, and ethical comments to round out the discussion. He concluded that cancer is rarely associated with pain. However, patients and providers want imaging for pain and if you don’t provide it they may just go elsewhere. Based on data and appropriateness criteria, it is reasonable to perform imaging for focal pain to provide reassurance and relieve anxiety.

Avice O’Connell, MD, FACR, FSBI, University of Rochester, New York, posed “To Clip or Not to Clip, That is the Question…With Apology to Shakespeare.” This was specifically about axillary lymph nodes and preparation for targeted axillary dissections. It remains a highly controversial topic because of evolving surgical treatment and staging of the axillary nodal basin. The panel members all described unique philosophical and technical rationales.

In “Why BI-RADS Matters,” Ed Sickles, MD, FACR, FSBI, University of California, San Francisco, provided background and summary of the aims and changes in the BI-RADS fifth edition. The immediately subsequent “BI-RADS: Taking Cases with the Experts” highlighted some scenarios that led to modifications of the BI-RADS Atlas. Moderator Carol Lee, MD, FACR, FSBI, deftly facilitated the energetic debates and occasional consensus that emerged between panelists Wendy DeMartini, MD, FSBI, Stanford University; Elizabeth Morris, MD, FACR, FSBI, Memorial Sloan Kettering Cancer Center; Christopher Comstock, MD, FACR, FSBI, Memorial Sloan Kettering Cancer Center; and Dr Sickles. We were reminded that BI-RADS is a language we speak and a living thing, designed to be flexible and adjust to emerging needs. Our clinical experience, our earnest efforts, and our sincere
**Highlights From the 2017 SBI/ACR Breast Imaging Symposium: Sunday, continued from previous page**

questions as we grapple with our evolving field are the reasons why our input is welcomed by the BI-RADS committee.

Thank you to SBI, the presidents coming and going, and the staff who put on a great and smart show and tell! We look forward to next year in Las Vegas! ✨

**REFERENCES**


<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 21-25, 2017</td>
<td>Washington, DC</td>
<td>American College of Radiology (ACR) Annual Meeting</td>
</tr>
<tr>
<td>June 2-6, 2017</td>
<td>Chicago, IL</td>
<td>American Society of Clinical Oncology (ASCO)</td>
</tr>
<tr>
<td>June 10-14, 2017</td>
<td>Denver, CO</td>
<td>Society of Nuclear Medicine &amp; Molecular Imaging (SNMMI)</td>
</tr>
<tr>
<td>September 22-23, 2017</td>
<td>Berlin, Germany</td>
<td>European Society of Breast Imaging (EUSOBI) Annual Meeting</td>
</tr>
<tr>
<td>October 5-6, 2017</td>
<td>Nepal</td>
<td>Breast &amp; Thyroid Society of Nepal (BATSON) Meeting (joint meeting with SBI)</td>
</tr>
<tr>
<td>November 4-5, 2017</td>
<td>Bandung, Indonesia</td>
<td>Indonesian Society of Women’s Imaging Meeting (joint meeting with SBI)</td>
</tr>
<tr>
<td>November 8, 2017</td>
<td></td>
<td>International Day of Radiology</td>
</tr>
<tr>
<td>November 26 - December 1, 2017</td>
<td>Chicago, IL</td>
<td>Radiological Society of North America (RSNA) 2017</td>
</tr>
</tbody>
</table>

For a listing of other society events please check out the SBI Calendar of Events at www.sbi-online.org.