INSIDE THIS ISSUE:
Highlights From the ACR and ARRS Meetings
An American Radiologist in New Zealand

Tide pools at Taputeranga Marine Reserve, Wellington, New Zealand. Photo by Monica Saini, MD, MS.
http://www.octopus.org.nz/
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**INTERESTING CASE:**
Robert Gutierrez

**OTHER MEMBERS:**
Vilert Loving
I like surprises. They make life exciting. A colleague recently shared a surprise with me that was simultaneously interesting and disheartening. At a presentation to primary care providers on the basics of breast imaging, the presenter posed the following question to the audience: “Annual screening mammograms beginning at the age of 40 save the most lives and reduce the extent of required treatment by finding earlier-stage breast cancer. True or false?”

Seventy percent of the audience chose “false.” This was a surprise to the speaker at the time, as it was to me when she recounted the story. Not all surprises are as enjoyable as the welcome gift of good news. Some are unsettling but may provide us with an opportunity to learn, reveal a gap in our understanding, or challenge the assumptions we make about ourselves or others. This surprise—that most primary care providers don’t think that screening mammography saves lives and reduces treatment—was a reminder that we still have a great deal of work to do.

I love gathering with all of you face-to-face at our annual meeting and online through social media because our connection affirms that we are part of a like-minded team with a dream of ending death from breast cancer. At home in the breast center at Virginia Mason I am surrounded by like-minded surgeons, oncologists, nurse practitioners, pathologists, and radiologists, all of whom also share our dream. With so much agreement, I often forget that there are other medical professionals who have different opinions about screening mammography.

I welcome the surprise result described above. It reminds me that we can and should continue to educate everyone at every opportunity. We never know who might benefit—a patient, colleague, or relative—from the early detection that we encourage at a continuing medical education event, reading room consult, dinner party, or school function. The SBI supports evidence-based recommendations and discussion and provides online resources for patients and providers at www.sbi-online.org/endtheconfusion/Home.aspx.

Here are a few simple facts with references to use in any conversation about the risks and benefits of screening mammography:

- Research shows that getting a mammogram every year starting at age 40 years, as recommended by the American College of Obstetricians and Gynecologists and the National Comprehensive Cancer Network, saves the most lives from breast cancer.

- The US Preventive Services Task Force, American Cancer Society, and American College of Radiology all agree on this point.

- The Cancer Intervention and Surveillance Modeling Network models, sponsored in part by the National Cancer Institute and used by the US Preventive Services Task Force, confirm the real-world benefits of mammography. They estimate the mortality reduction of mammography to range from a low of 25.8% for biennial screening of women 50 to 74 years old to a high of 37.8% for annual screening of 40- to 74-year-old women.

- The largest and longest-running randomized breast cancer screening studies in history confirmed that regular mammography reduces breast cancer deaths by roughly a third in women aged 40 years and over.

- Randomized controlled trials underestimate the benefit of screening because not all women who are assigned to receive a mammogram actually do. Therefore, the benefit is actually much greater than presented. Indeed, deaths from breast cancer have dropped 35% to 40% per year since screening mammography became widespread in the United States.

Hopefully these facts come as no surprise!

References
President’s Column

OUR SBI MISSION:
To save lives and minimize the impact of breast cancer

OUR SBI VALUES:
Patient-centered and evidence-based care
Excellence in education
Scientific integrity
Collaboration and collegiality
Respect for diversity and inclusiveness

As the SBI enters its 33rd year, it is an honor and a privilege to step into the role as the society’s 18th president. I would like to thank all of the preceding presidents and the society’s dedicated staff for helping the SBI grow from 5 members in 1985 to the active society of over 2000 members that it is today. In particular, I would like to acknowledge the measured and thoughtful leadership of my immediate predecessor, Wendy DeMartini, MD, FSBI. Following her example, I hope to help the society continue to thrive and expand in reach and impact over the next year.

Fortunately, breast imaging is in an enviable position among radiology subspecialties, and the SBI is here to help each of us fulfill the society’s core purpose: “To save lives and minimize the impact of breast cancer.” The American Cancer Society recently released updated figures confirming that mortality due to breast cancer has decreased about 40% in the United States since the onset of screening in the mid-1980s. This translates into tens of thousands of lives saved each year and hundreds of thousands saved overall. These numbers are astounding. We also know that improving technology is leading directly to improved care for our patients. There is little doubt that digital breast tomosynthesis is having a measurable impact for women with access to it. Use of tomosynthesis has resulted in a 15% to 40% improvement in cancer detection rates and a 15% to 30% reduction in recall rates for benign conditions. Improved sensitivity combined with improved specificity is a rare win-win in the realm of advances in medical imaging.

We know we have a positive impact on the lives of our patients in other ways as well. We are among the few subspecialists in radiology who regularly meet face-to-face with our patients, and we are among the few subspecialists who regularly refer to the people we treat as “our” patients. Although maintaining the level of communication we offer can be challenging and time-consuming, it is also a privilege that we do not take lightly. We have all seen the great relief on a patient’s face when the lump she palpates turns out to be a cyst, and we have all helped patients through an early understanding of a new diagnosis of breast cancer and on to the next steps of what is most often very successful therapy. For most breast imagers, the end of a long day may leave us feeling drained but also fulfilled.

Breast imaging is thriving and we continue to attract fantastic trainees. The fellowship match spearheaded by the SBI and implemented by almost all breast imaging fellowships has become a model for other subspecialties that are not already governed by a match. Although no match program is perfect for all participants and there may be some growing pains, the Society of Chairs of Academic Radiology Departments has recognized the success of our match and recently challenged all other subspecialties to emulate it. Meanwhile, the SBI Fellowship Match Committee continues to improve our match process, most recently working to develop a single standardized application that all fellowships will accept.

Although the present and future of breast imaging are clearly bright, there are things we can and must improve. We must continue to resist the forces that oppose screening on the false argument that the potential harms outweigh the definite benefit of lives saved. We must persistently spread the message that years of life saved aren’t the only benefit of screening. Recent studies have confirmed what we have known all along: there are other benefits to screening, including reducing the number of mastectomies, reducing the size of lumpectomies, reducing the need for axillary node dissections, and markedly reducing the need for chemotherapy. These are all important considerations and are almost universally ignored by those who eschew screening.

We must also continue to improve the science and art of breast imaging. We should strive to improve our cancer detection rates while reducing our recall rates—seemingly diametrically opposed goals—using the tools available. This means we must continue to train and learn to perfect our craft. We must look for new tools like tomosynthesis to improve the sensitivity of our imaging. We should strive to improve our cancer detection rates while reducing our recall rates—seemingly diametrically opposed goals—using the tools available. This means we must continue to train and learn to perfect our craft. We must look for new tools like tomosynthesis to improve the sensitivity of our search and minimize interval cancers found between screenings. We should be early adopters of new tools like radiomics and artificial intelligence to minimize biopsies of benign breast lesions. And we must make these systems widely available as quickly as possible once their value has been confirmed.

We know we have a positive impact on the lives of our patients in other ways as well. We are among the few subspecialists in radiology who regularly meet face-to-face with our patients, and we are among the few subspecialists who regularly refer to the people we treat as “our” patients. Although maintaining the level of communication we offer can be challenging and time-consuming, it is also a privilege that we do not take lightly. We have all seen the great relief on a patient’s face when the lump she palpates turns out to be a cyst, and we have all helped patients through an early understanding of a new diagnosis of breast cancer and on to the next steps of what is most often very successful therapy. For most breast imagers, the end of a long day may leave us feeling drained but also fulfilled.

In the United States, there is no national health system and no ongoing test to certify our skill in interpreting breast imaging studies. It is therefore incumbent on each of us to police our own practices, be aware of our audit results, and seek additional training if our performance falls below accepted norms. The SBI is here to help each of us maximize our skills and provide the best possible care for our patients. That is how we will fulfill the society’s core purpose of saving lives and minimizing the impact of breast cancer. I look forward to working with each of you in this important endeavor.

Jay A. Baker, MD, FACR, FSBI
President, Society of Breast Imaging
SBI Committee Updates

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

The SBI committees continue to make progress through the efforts of many dedicated SBI members. Here are some updates on the latest developments in our society’s committees.

The **Patient Care and Delivery Task Force**, chaired by Stamatia Destounis, MD, FACP, FSBI, was renamed the **Patient Care and Delivery Committee** after a review of their projects revealed a need to maintain this ongoing effort of the SBI. The committee added Lars Grimm, MD, FSBI, as its newest member. See the article in this issue of the newsletter by John Lewin, MD, FACP, FSBI, on physicians writing patient orders, describing the committee’s most recent accomplishment.

The **International Education Outreach Committee**, chaired by Elizabeth Morris, MD, FACP, FSBI, has begun working on a long-term strategic plan for international outreach. The SBI has committed to a new partnership with the Colegio Interamericano de Radiología for a meeting in Cancun, Mexico, on June 21 to 23, 2019. The SBI plans to initiate regular contact with the organizers of past collaborations to assess any enduring effects of previous visits and evaluate the need and timing for future SBI educational support. The committee will work to develop a repository of all academic institutions that currently offer international observerships. If your institution offers international observerships and you would like that information included in our database, please submit your information here: [https://radsociety.wufoo.com/forms/xxza1af0d0eudp/](https://radsociety.wufoo.com/forms/xxza1af0d0eudp/).

Rachel Brem, MD, FACP, FSBI, is the new chair of the **Breast Imaging Fellowship Match Committee**. The immediate past chair of this committee, Gary Whitman, MD, FACP, FSBI, will continue to serve as the SBI liaison to the Society of Chairs of Academic Radiology Departments (SCARD). SCARD has made rapid advancements in their initiative to organize fellowship matches for all radiology subspecialties. The SBI has been supportive of this endeavor and hopes to encourage every radiology subspecialty to enter the match.

The **Social Media Committee** continues to support the overall goals of the society in communications and advocacy. The committee and the ACR recently cohosted a Twitter chat titled “Screening for Breast Cancer in Minorities: What You Need to Know” to support and participate in National Minority Health Month and bring awareness to the newly released ACR recommendations.¹

The **Newsletter Committee**, chaired by Peter Eby, MD, FACP, FSBI, established an all-new layout and color format for 2018 SBI News Issue 2. Our new designer, Heather Kjar of Uneek Designs, did a wonderful job with this new layout. We will continue to produce a print version and a digital version on the SBI website. We have also introduced a new wellness column, headed by Eric Rosen, MD, FSBI, and Nina Watson, MD.

The **SBI Connect Committee** was recently established and will be chaired by Rebecca Siedel, MD, and Eric Rosen, MD, FSBI. This committee will develop a community platform for SBI members. The anticipated committee launch is this summer.

Reference

Penny Butler Receives Service Award

The Conference of Radiation Control Program Directors (CRCPD) bestowed the Board of Directors Award for Meritorious Service upon Priscilla “Penny” Butler, MS, FACR, senior director of medical physics with the ACR and career member of the SBI, at the CRCPD annual meeting in May 2018.

Ms Butler’s dedication and expertise as a medical physicist is well recognized. She has built strong relationships between the ACR and CRCPD and state regulatory control programs through numerous lectures on medical physics, patient safety, and other topics. The SBI congratulates Penny on her CRCPD award.

Breast Radiologist Receives Advocacy Award at ACR 2018

Amy K. Patel, MD, received the Howard Fleishon, MD, Advocate of the Year Award from the American College of Radiology at the 2018 ACR annual meeting. Dr Fleishon is known for being instrumental in establishing the government relations branch of the ACR. Dr Patel was recognized for her work in radiology political advocacy, which includes recruiting trainees and young radiologists to participate in advocacy efforts and using social media to advance the profession’s outreach efforts. She is a strong advocate for breast imaging, women radiologists, and increasing diversity in radiology. Dr Patel is a breast radiologist at Beth Israel Deaconess Medical Center, Boston, Massachusetts. She is the youngest radiologist and first woman to receive this award.
Much of what we know has been validated by scientific investigation and published in web-accessible journals for all to see. But there is so much more we learn through daily experience and interaction with our colleagues and patients. Where is that stored? How can we access it? If we are lucky, a talented veteran colleague will impart wisdom at opportune moments. Our series of articles called “What I’ve Learned” is designed to transmit the experience of our leaders far beyond the halls of their own breast centers to the many young dedicated custodians of the future of breast imaging.

What I’ve Learned: Carl J. D’Orsi, MD, FCR, FSBI

My Dinner With Carl  By Mimi Newell, MD, FCR, FSBI

MN: What advice would you give to a brand new breast imaging fellow?

CD: To remember that the field they are embarking on has made a huge dent in breast cancer mortality and that there are not many other areas of medicine that can say that they have contributed to such a great drop in any mortality. This is something they should really be proud of and [be] involved in.

Who are your heroes?

People who just do their jobs well without complaining and usually without much recognition. Those are really people who are the backbone both in medicine and outside of medicine.

Are there any famous heroes who influenced you?

No, not really. But I would include my parents as heroes. If it was not for the both of them I probably would be digging ditches somewhere. They did a lot.

Dinner out with 10 friends or a movie in, on the couch, with 2 friends?

A movie with 2 friends on the couch.

What is the most important part of your life outside of medicine?

Right now, I do a lot of woodworking and reading, the usual stuff. I am kind of happy with that.

Red or white?

Red. I do like a sip of Louis Martini.

What is one thing few people know about you?

I hate, hate computers.

Mini Cooper or Ferrari?

Ferrari. I had a Mini Cooper already. Now I’m ready for the Ferrari.

Of what are you most proud?

What I have done in breast imaging.

What was a pivotal moment in your career?

I am glad you asked that. It was when I was on sabbatical from UMass, and I was working at a think tank in Massachusetts, Beranek and Newman, which is now gone. I was working on the concept of BI-RADS. Gerry Dodd (Gerald D. Dodd Jr, MD) came to visit because he heard about it and thought it was a great idea. He thanked me for doing that. I will never forget that.
Did his visit cement what you were doing?

Yes, it did, the whole idea of structured reporting. Before, I thought this was interesting but I did not know if it would be embraced or used. Dr Dodd made a special trip from Texas because he heard about it—the old man, not the son. He said, “This is great what you are doing; keep it up.”

That was kind of fortuitous. It is amazing, actually.

Yes, it was.

If you could do it all over again, would you change anything?

No.

Thanks, Carl, for everything.

Carl D’Orsi is an emeritus professor of radiology at Emory University, where he served as division director. He was one of the developers of BI-RADS and has been integral in advancing the subspecialty of breast imaging during his highly productive career. He has also trained and mentored a large number of grateful colleagues for more than 40 years. Carl was one of the founding fathers of the SBI. He and his wife, Ellen, reside in Brookhaven, Georgia.

The breast imaging community is diverse, and there is artistic talent that lives and breathes among us. We define art broadly to include all visual and literary forms such as drawings, paintings, photography, cartoons, and poetry. We welcome artistic submissions from all SBI members in any subject. We also invite SBI members to nominate nonmembers whose art pertains to our field of breast imaging. Please contact Jiyon Lee, MD, at Jiyon_L@hotmail.com with your submissions and nominations. Please provide a brief paragraph that addresses the following questions. Artist: why did you choose the subject and what does the art mean to you? SBI member: what does the piece of art mean to you and why do you want to share it with SBI Newsletter readers?

Artistic Impressions: Liane Philpotts, MD, FACR, FSBI

By Jiyon Lee, MD

JL: Why did you choose the subject and what does the art mean to you?

LP: Art has always been an interest of mine. I have always been a “visual” person. Both my grandmothers were very artistic. One of my grandmothers bought me an oil painting set when I was a teenager and showed me how to paint. Those first paintings I did with her are still hanging in my parents’ living room! While I didn’t always find time to paint during my training or years when my children were young, I still enjoyed art vicariously through reading books or watching videos. I still don’t find nearly as much time to paint as I’d like but when I spend a few hours painting I always feel a great sense of satisfaction for time well spent. Painting is mindful; it absorbs me for hours and takes my mind away from work and responsibilities of daily life. The final product is not nearly as important as the process. It is great to satisfy my creative bug!

I like to paint still life and landscape en plein air. I think spending so much time as a radiologist indoors and in the dark has made me crave being outdoors! It’s challenging painting under changing light and weather conditions but being outside in nature and painting is a double treat! I have just recently taken up figure painting. This is a new twist on “breast imaging” for me!

I believe it is important to have hobbies. It keeps us balanced and sane. They facilitate meeting people outside of medicine. Artists can be a very diverse group and these relationships enhance my life. As much as I love my job, I think it is important to take time to pursue other things that make you happy. In addition to painting, I take ballet and tap dance classes and enjoy participating in community theater along with my family. My husband and children are very musical. I am thrilled that they also pursue their interests such as singing in groups, playing in bands or orchestras, and photography.

Our world is becoming more and more digital all the time. I believe creative activities that have a human connection are important. Robots will soon perform much of the activities we do today. I think art created by humans—hands and minds—will be valued more and more in the future.
It’s very hard to choose a favorite painting as some of my favorites are the ones that I never really finish. I try to paint while on vacation and have some lovely memories of times and places spent with family. These aren’t finished masterpieces, but they are invaluable. Of course, paintings accepted to a juried show or sold are very special. It’s very humbling knowing that someone likes your work enough to purchase it to hang in their home. I am thrilled to have had 2 paintings just accepted to the current Lyme Art Association juried show, Four Acts.

SBI-N: Dr. Lee, what does Dr. Philpotts’s art mean to you and why do you want to share it with readers?

JL: This is wonderful to see some of Liane’s paintings. Finally! Their titles and her captions speak for themselves. They are rich with wonder and human connections. Her sentiments about hobbies, being outdoors, and creative distractions that balance our work lives and help keep us sane are all wise and true, especially as we get older and gain more life perspective. I also agree that art by human hands and minds will be more valuable because they are of human origin. The observations that some of her favorites are “the ones I never really finish” should give us pause and elicit a smile. Professionally we’re conditioned to finish everything we start. In art and in life, that may not always be necessary to engender value and meaning, or the “finishing” may be something that happens over time and in and around us, not necessarily in visible brushstrokes on the canvas. I find that reassuring and calming. Thank you, Liane.

A’Pealing Clementine. I painted this in my kitchen. It was the second painting I had accepted at a juried show. My favorite part is the pith on the clementine!

Garlic and Spring Onions. Another kitchen painting! I think garlic is so beautiful, with the subtle colors and texture of the skin. (Accepted at Lyme Art Association, March 2018)

Water Ballerina. This swan visited our sailboat while docked at Port Jefferson, Long Island. A favorite place to go in the summer. It was so beautiful I had to paint it. (Accepted at Lyme Art Association, March 2018)

Vineyard in Provence. I took a painting workshop in Provence, France, last fall. My husband came with me. The group painted all day and had amazing food and wine while staying in an 11th-century renovated priory. What an amazing experience!

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SoLuTIONS. An acronym using chemical element abbreviations. I painted this for my son, Cameron, who just graduated from McGill [University] with honors in biochemistry in 2017.

Golden Hour. My very first accepted work in a juried show. This hung in the Lyman Allyn Museum in New London, Connecticut, as part of a show to highlight the beauty of Lyme, Connecticut.

Branford River. I sometimes paint with a plein air group that paints at sites along the shoreline. This is one of the favorite spots looking upstream from Birbarie Marina. I am so lucky to live where I do with such beautiful shoreline and inland views!

Switzerland. We took a family skiing trip to Switzerland years ago. While there were amazing snow-covered mountains all around, I like this view of a simple house and stream. I painted this from a photo when we returned home.
DeeDee’s Lemons. This painting I gave to my mother-in-law, Donna, whom we call DeeDee. My children always loved seeing this painting when we visited their house.

Provencial House. Another painting from the workshop in Provence.

Copper and Onions. One of my earliest still-life paintings. I was proud of capturing the shine of the metal and the skin of the onions. Both were challenging!

Male Figure. I just started taking a figure painting class. The human figure was not something I had tried painting before. It’s a nice challenge. It seems that painting figures is something that all artists have to do at some point!
The SBI Newsletter Committee is excited to provide interesting cases for our members. The print edition includes a brief introduction and key images of the case. We reserve the full discussion and bulk of images, in high-resolution glory, for the digital edition of the newsletter, which is available online to our members (http://www.sbi-online.org/NEWS.aspx). Our hope is that interesting cases will illustrate one or more valuable teaching points for a scenario or combination of findings that may emerge in any type of daily practice. We are happy to accept an interesting case from any individual or group. The description of a single extremely rare entity (case report) is discouraged unless there is an important aspect to the workup or imaging or clinical picture that merits discussion and can be more widely applied. Please contact Rob Gutierrez, MD, FSBI, for questions or submissions at gutierrez.rl@ghc.org.

### Interesting Case: Unique Imaging Appearance of Surgical Technique for Breast Reconstruction

By Donatella M. Pavel, DO; David Munger, DO; Alicia DeRobertis, MD; Dan Dahl, MD; Bernadette Ramos-Cardona, MD; Lea Lecaj, BS; Heather Frimmer, MD; Mia Gorovoy, MD; Andrew Shih, MD

A 46-year-old woman with no history of breast cancer presented with a palpable abnormality in her left breast. She had a history of bilateral retropectoral silicone gel implants placed for cosmetic purposes; these were later removed for aesthetic reasons. Her palpable abnormality corresponded to a cluster of cysts. Her mammogram showed interval removal of the breast implants and innumerable new, tiny, lucent, oval masses within the postimplant fibrous capsule (Figure 1). Ultrasound revealed hypoechoic masses in the retropectoral regions of both breasts (Figures 2 and 3).

#### Figure 1. Left breast mediolateral oblique mammogram shows mixed fat and fibrous tissue within the implant cavity (arrows).

#### Figure 2. Left breast longitudinal ultrasound image shows innumerable hypoechoic, nonshadowing, oval masses within the retropectoral cavity.

#### Figure 3. Left breast transverse ultrasound image shows innumerable hypoechoic, nonshadowing, oval masses within the retropectoral cavity.
Given the patient’s interval implant removal, these findings were attributed to postsurgical changes. However, without knowledge of the specific surgical procedures, the findings were deemed indeterminate, and breast magnetic resonance imaging (MRI) was recommended. On MRI, preserved fibrous capsules were described in the absence of implants. The enhancing fibrous capsules contained innumerable T1 hyperintense, T2 hypointense, nonenhancing, ovoid masses demonstrating fat suppression (Figures 4, 5, and 6). Review with the breast surgeon confirmed that the patient opted for breast augmentation with fat grafting to offset the resultant volume loss of explantation. The surgeon grafted fat from the patient’s body (thighs) into the remnant noncalcified fibrous capsules for cosmetic reconstruction. Approximately 120 mL of fat was injected into the right breast and 140 mL was injected into the left breast. Mastopexy was also performed at the time of fat grafting.

Figure 4. Sagittal T1 magnetic resonance image (MRI) of the left breast shows innumerable small, hyperintense, oval masses within the fibrous capsule, posterior to the pectoral muscle (arrows).

Figure 5. Fat-suppressed sagittal T2 MRI of the left breast shows innumerable small, hypointense, oval masses within the fibrous capsule (arrows).

Figure 6. Fat-suppressed postcontrast axial T1 MRI shows enhancement of the left fibrous capsule (arrows) without enhancement of the intracapsular contents.

This is an unusual case because the breast implants were removed but the fibrous capsules were left intact. Calcified fibrous capsules are commonly surgically resected with implant removal, but noncalcified fibrous capsules can remain in the patient without risk of complication. Another unique aspect of this case is the injection of grafted fat into the residual fibrous capsules rather than directly into the breast, as is normally done.

Autologous fat grafting is a new breast reconstruction and augmentation technique that involves the transfer of fat tissue from an area of the body, usually the thighs, abdomen, or buttocks, to the reconstructed breast. The fat tissue is harvested by liposuction, washed, liquefied, and then injected into the area of reconstruction. The goal of fat grafting is to correct deformities and asymmetries that may appear after breast reconstruction. Most reported cases of autologous fat grafting for reconstruction were performed for partial mastectomy defects or aesthetic augmentation. The technique is rarely used for entire breast reconstruction. Although long-term outcome studies are lacking, autologous fat grafting is considered safe. Several studies have shown that breast reconstruction neither increases the rate of breast cancer recurrence nor decreases the sensitivity for recurrence detected on mammography.

Autologous fat grafting has gained popularity in the last decade and is being used more frequently for breast reconstruction in patients with breast cancer. It is important for radiologists to recognize the imaging features associated with this technique.

References
Enhancing Cultural Competency in Breast Imaging

By Elizabeth M. Valencia, MD, JD; Vilert A. Loving, MD, MMM

Reducing health disparities is a national priority as the United States becomes increasingly diverse. Racial minorities account for 37% of the current US population, and by 2044, more than half of all Americans will belong to a minority group. Persistent racial and ethnic health disparities suggest that the health care system has failed to adequately evolve with the changing population. These health disparities result in higher rates of morbidity and premature death among minorities. In addition, health disparities contribute to substantial unnecessary costs, with an overall expense of $1.24 trillion between 2003 and 2006.

As a result, several federal laws and health policies have been passed to reduce health disparities. Most recently, in 2013 the US Department of Health and Human Services promulgated the revised National Standards for Culturally and Linguistically Appropriate Services (CLAS), a widely accepted framework designed to advance health equity, improve quality, and reduce racial and ethnic health disparities. To date, 21 states have enacted some form of CLAS legislation, and an additional 11 states sponsor CLAS-related initiatives. The 15 CLAS standards are organized into the following 3 themes: (1) governance, leadership, and workforce; (2) communication and language assistance; and (3) engagement, continuous improvement, and accountability (Figure).

The implementation of the national CLAS standards in the breast imaging clinical setting can improve the delivery of culturally competent patient-centered care and reduce health disparities. In particular, CLAS standards encourage comprehensive language assistance services, including the availability of printed materials in languages commonly used in the community. Equally as important, breast imaging programs should strengthen their collection of demographic data on racial, ethnic, and language preferences to better coordinate service delivery. To identify areas for improvement, programs should also consider demographically parsing their breast imaging audits to detect variations in outcomes and management recommendation adherence within racial and ethnic groups. Teams should also designate a CLAS champion to maintain overall accountability and ensure standards are integrated into the breast imaging program. Additionally, all members of the breast imaging service should undergo CLAS-related training to improve cultural awareness. Although these are just a few examples, each is a critical step toward reducing health disparities in breast imaging.

In conclusion, the national CLAS standards provide a strategic plan for breast imaging programs to improve quality and reduce racial and ethnic health disparities. In keeping with the SBI core values,4 the national CLAS standards promote patient-centered care and respect for diversity and inclusion.

**References**


**Figure. National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care**

**Principal Standard**

1. Provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural beliefs and practices, preferred languages, health literacy, and other communication needs.

**Governance, Leadership, and Workforce**

2. Advance and sustain organizational governance and leadership that promotes CLAS and health equity through policy, practices, and allocated resources.
3. Recruit, promote, and support a culturally and linguistically diverse governance, leadership, and workforce that are responsive to the population in the service area.
4. Educate and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis.

**Communication and Language Assistance**

5. Offer language assistance to individuals who have limited English proficiency and/or other communication needs, at no cost to them, to facilitate timely access to all health care and services.

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Radial Scars and Complex Sclerosing Lesions: A Review for Technologists

By Christine Puciato, BS, RT(R)(M)(BS)

Radial scars (RS) and complex sclerosing lesions (CSL) are histologically similar benign breast lesions that may present as suspicious imaging findings. RS are classified as measuring less than 1 cm; CSL measure greater than 1 cm. The implementation of digital breast tomosynthesis (DBT) has brought more attention to RS and CSL, which often present as areas of architectural distortion.

Ultrasound can be useful for evaluating suspected RS and CSL found on mammography and DBT. RS and CSL may have variable sonographic features. Reni Butler, MD, assistant professor of radiology and biomedical imaging at Yale School of Medicine, recently reviewed RS and CSL diagnosed by core-needle biopsy (written communication of unpublished data). Of 190 lesions reviewed, 109 had ultrasound correlates. Sonographic features included areas of abnormal echogenicity, masses, architectural distortion without a mass, and dilated hypoechoic ducts. Of the 109 lesions with ultrasound correlates, 64 (58.7%) were antiparallel and 45 (41.3%) were parallel in orientation. Most were hypoechoic (n = 70; 64.2%), some were isoechoic (n = 16; 14.7%), a few were hyperechoic (n = 4; 3.7%), and some had mixed echogenicity (n = 19; 17.4%). In addition, most showed no posterior acoustic features (n = 64; 58.7%), some had posterior shadowing (n = 31; 28.4%), and some had posterior enhancement (n = 14; 12.8%). Color Doppler results varied, with some showing no vascular flow, some showing adjacent flow, and some showing no internal or adjacent flow.

Because of the association of RS and CSL with malignancy there is ongoing debate regarding the necessity of complete surgical removal of these lesions versus close clinical follow-up with imaging studies. The correlation of DBT with careful utilization of ultrasound may allow these lesions to be monitored over time or localized for core-needle biopsy and surgical excision.
An American Radiologist in New Zealand

By Monica Saini, MD, MS

I am a breast imager and it’s an integral part of who I am. After fellowship, I enjoyed building a thriving breast practice and acting as section chief in Santa Fe, New Mexico. It was a glorious 5 years.

As time passed, I wondered how I would maintain professional growth in a world of constantly changing administrators, constrained physician autonomy, and a growing number of uninsured patients. It was time for a career pivot, so I became the medical director for automated breast ultrasound at GE Healthcare. During my time there and throughout my domestic and international trips, I met many remarkable breast imagers. I was surprised to find that we face common challenges, such as shortages of breast imagers and low screening compliance. I also observed many unique challenges. For example, in China the examination volume was 1000 patients a day. In Dubai, there are cultural concerns about modesty to consider as well as the disparate demands of extremely wealthy and less privileged populations.

I was fortunate enough to have the opportunity to present an ultrasound workshop in Queenstown, New Zealand. It was not my first trip to this beautiful country, but this time I began interviewing my Kiwi colleagues about their work and lives. The New Zealanders I spoke with seemed content and had a slower, gentler lifestyle. The familiar topic of medical burnout wasn’t part of the conversation; instead, we spoke about travel, nature, and the best trekking sites. It could be that the dignity of practicing medicine in New Zealand has not eroded, at least not yet.

Already searching for a new clinical position, I returned home and said to my husband, “Let’s move to New Zealand.” My husband, who had been whispering “New Zealand” in my ear for over a year, did not need any further convincing. We chose Wellington, New Zealand’s capital and cultural heart, for our new home. After we made this decision, we had to work out the logistics: a practicing medical certificate (license), a signed job contract, and a visa. Thankfully, medical and radiology tests were not required for licensure.

Obtaining a “practicing certificate” can take 4 to 6 months, depending on the backlog at the Medical Council of New Zealand (https://www.mcnz.org.nz/), and costs a few thousand dollars. After completing the paperwork, submitting supporting documentation (detailing the intricacies of training and jobs), and an interview with the Royal Australian and New Zealand College of Radiologists, I was cleared to practice.

There are many locum or permanent positions in New Zealand because there is a shortage of radiologists. I did not use a placement service for my position in Wellington but instead queried radiology and industry colleagues to find out who was hiring. My friends in surgery and internal medicine have used recruitment agencies, and they appreciated having someone chase the paperwork, which is no small task. Once you have employment of 30 hours per week or more, obtaining a visa (https://www.immigration.govt.nz/new-zealand-visas) will take another 2 to 3 weeks.

My typical symptomatic breast clinic runs from 8 AM to 4 PM in New Zealand. Despite performing all of my own ultrasounds, I do not work at the breakneck pace of my American practice. In the United States I was accustomed to serving a greater patient volume in the same amount of time. As a result, I suffered from chronic neck pain, reflux from eating while reading screens, and overall feeling fatigued.

In New Zealand, all mammography examinations are double-read. It’s common to have 2 radiologists in a diagnostic clinic reading together. Screening examinations are read outside of the diagnostic clinic. We reach consensus on every case and the entire team reviews each discordant recall weekly. The weekly review leads to a greater understanding of how others interpret mammograms and their rationale for dismissing or accepting a recall. The discussions when we disagree are the best. It’s light-hearted and we throw out our ingrained knowledge, biases, and freshly learned conference data. The recall rate is less than 5% for incidence screening and less than 10% for prevalence screening. The cancer detection rate is 5.6 per 1000 patients, and 50% of tumors are under 15 mm. Even as a seasoned breast imager, I have learned a lot and improved my reading style.

Every 3 months, we review the interval cancers discovered by our audits. We do a blinded review of 20 cases, and then the interval cancer is revealed. Collectively, we decide if there was a true missed cancer. In some regions these reviews include a set of normal cases, and radiologists may review another region’s interval cancers to reduce as much bias as possible. This is all done without fear of litigation. There is a malpractice system but not as robust as in the United States.

New Zealand women from ages 45 to 75 years are invited to screening on a biennial schedule. We don’t report breast density. While I have mixed feelings on both points, every
Wellington Harbour, North Island, NZ

A woman in New Zealand is covered and has free breast care. There are no deductibles, no fighting with insurance companies, no outstanding medical debt to bring patients to financial ruin. Any symptomatic woman regardless of age is evaluated for free, and a patient with a suspicious history will be imaged within 2 weeks. Free coverage includes imaging (including magnetic resonance imaging), biopsy, surgery, and oncologic therapy. Free yearly screening is provided for breast cancer surveillance and high-risk patients. One can opt to pay out of pocket for yearly screening with digital breast tomosynthesis and/or handheld ultrasound at a private practice.

As a practicing breast radiologist in New Zealand, I must think of population-based screening rather than personalized screening and of the pros and cons of both. With population-based care, resources here are geared for equity. The native Maori and Pacifica (women of the Pacific Islands) are underserved and have higher breast cancer rates. Resources are thus dedicated to specific Maori and Pacific health units that work to improve compliance with screening and access to care.

My professional time in New Zealand is more balanced. Since my diagnostic and screening time are at a reasonable pace, I do not feel depleted at the end of the day. I drop off my kids to school twice a week, I have dedicated time for research, and I take personal time to exercise. After finding this revitalizing work/life balance, I hope this can eventually be possible for all radiologists, no matter where they practice. This balance benefits not only us but also the women we care for in our practices.

Dr Monica Saini (www.monicasainimd.com) is a senior medical officer at Hutt Valley District Health Board in Wellington, New Zealand, and a medical advisor at Volpara Health Solutions.
Spain is a western European country with a population of 45,549,045, of which 52.1% are women.1 Breast cancer is the most common female malignancy in Spain (28% of malignancies in female patients), followed by colorectal, uterine, and lung cancer.2 In 2015, breast cancer was diagnosed in 27,742 women. In 2016, breast cancer was the leading cause of cancer-related death in Spain, with 6285 deaths. However, this death rate was lower than that in most European countries.3

Women in Spain between 50 and 69 years of age receive biennial imaging in dedicated screening centers. Bilateral full-field mammography in craniocaudal and mediolateral oblique views is standard. The list of women candidates is obtained from the municipal population census. Ten to 15 days before the appointment, women receive an invitation to screening via a certified letter informing them of the appointment time and date and also including information about the screening test. If a patient misses an appointment, another invitation is sent. The only women excluded are those with a history of breast cancer and bilateral mastectomy. Every woman receives a letter with her screening results. If the mammography result is abnormal, a registered letter with acknowledgment of receipt is sent to the patient 3 days before a new diagnostic appointment in a hospital corresponding geographically to the woman’s place of residence.

In addition to this population-based, controlled screening, many women request breast cancer screening beginning at age 40 years, sometimes on the advice of their gynecologists. Primary care doctors, gynecologists, or other specialists request a mammogram from the radiology department of the patient’s referring or local hospital. This personalized screening is also free. Clinical breast examinations, breast self-examinations, and supplemental ultrasound screening for women with dense breasts are not included as part of breast cancer screening in Spain.

Spain is divided into 17 autonomous communities and 2 autonomous cities, each with its own executive, legislative, and judicial power. The national health system in Spain is publicly funded, universal, and free. Therefore, there are no social, religious, or cultural barriers to health care access. The public health services are administered by the distinct autonomous communities. The Red de Programas de Cribado de Cáncer (Spanish Network of Cancer Screening Programs), which has the goal of consistency across regions, comprises 17 independent, free-of-charge, population-based breast cancer screening programs. The oldest program was implemented in Navarra in 1990 and served as a model for the other communities.

Galicia, one of the 17 regions, is located in the northwest Iberian Peninsula and has a population of 2,708,339. The Galician breast cancer screening program was implemented between 1992 and 1998, when it attained 100% coverage. In 2015, the breast cancer mortality rate in this region was 17.8 deaths per 100,000 people. Galicia has 14 dedicated outpatient screening centers where digital mammography is standard practice. Screening mammograms are performed by specially trained radiographers who inquire about risk factors for breast cancer before the examination.

Breast Radiologist Training and Screening Quality Assurance Measures

Spain has no subspecialty radiology fellowship training. After completing a 4-year residency, radiologists practice according to their preferences and the needs of the hospital. Therefore, as attending physicians we continue training on the job to develop the necessary subspecialty expertise without official certification. Changing the location of employment may require us to practice a different type of radiology.

Breast radiology in Spain is not in high demand. Breast-dedicated radiologists can devote their careers to this field; all of them read mammograms and perform ultrasounds and percutaneous procedures. Magnetic resonance imaging (MRI) is still not available for many radiologists who interpret conventional breast images. Specially trained radiologists read 4000 imaging studies before they start working and double-read all mammograms using the BI-RADS lexicon. Galicia has 3 centers: 2 with 6 radiologists each and 1 with 4 radiologists (a total of 9 men and 7 women). Each radiologist reads at least 1500 mammograms monthly. As members of specialized multidisciplinary breast practices in different hospitals, most of these radiologists perform screening and diagnostic assessment of patients, including interventional procedures, as per European guidelines.4

Since 1996, the Galician breast cancer screening program has been part of the European Breast Cancer Network, whose primary aim is to improve the quality and effectiveness of breast cancer screening and services in Europe. All programs in Spain work according to set protocols based on the European Guidelines for Quality Assurance in Breast Cancer Screening and Diagnosis.4 These protocols form part of a local quality assurance manual. All data related to each part
of breast cancer screening, assessment, and treatment are carefully registered and analyzed. The performance indicators established by the European guidelines are calculated from these data and shared with the professionals who work in the screening program.

**Diagnostic Imaging and Social Support**

Most public hospitals in Spain offer digital mammography for diagnostic examinations. Digital breast tomosynthesis has not yet been widely adopted. Breast ultrasound is performed exclusively by radiologists to further evaluate mammographic findings. Ultrasound is the primary guidance modality for biopsy. Stereotactic biopsy is reserved for mammographic abnormalities without an ultrasound correlate. In most hospitals, mammography, ultrasound, and biopsy are performed during the same visit by breast or general radiologists. Small medical centers do not have dedicated breast radiologists; general radiologists manage diagnostic workups. In Spain both men and women practice breast imaging, and there are more female than male doctors.

The use of breast MRI is not uniform in Spain. In Galicia, most centers perform MRI to evaluate lobular cancer and discrepancies between mammographic and ultrasound findings or to monitor response to neoadjuvant chemotherapy. Screening MRI starting at age 30 years is reserved for women with a 20% or higher lifetime risk, which is usually determined by an oncologist. Screening ultrasound is not routinely performed.

Many oncology departments in Spain have psychologists to help patients and their families deal with breast cancer. The Asociación Española Contra el Cáncer (Spanish Association Against Cancer) works with other entities to fight the stigma and collaborations with celebrities and public figures remind the Spanish people that any of them could develop cancer. Yearly events, such as concerts, and collaborations with celebrities and public figures remind the Spanish people that any of them could develop cancer. However, patients report difficulties reintegrating into the workforce or getting a disability pension from the government if they are unable to work.

**Galicia Breast Cancer Screening Program**

In Galicia, 2,240,622 screening mammograms were performed from 1992 to 2016. The mean participation was 78.60% (83.10% in 2016). The global recall rate was 6.36% for prevalence screening and 1.88% for incidence screening mammograms. Among these recalled women, 7,440 breast cancers were detected, with a positive predictive value of 11.97% and a breast cancer detection rate of 3.57 per 1000 screened women. All of these performance indicators met the European recommendations.

The European guidelines recommend that the ratio of benign to malignant biopsies obtained for diagnostic purposes not exceed 0.5 to 1. However, the Galician breast cancer screening program exceeds this ratio, with a global result of 1.1 to 1 from 1992 to 2015. This can be explained because the European guidelines were published in 2006 and refer to surgical biopsies. Since then, the number of percutaneous biopsies has increased significantly, and the results registered by the Galician breast cancer screening program include both surgical and percutaneous procedures.

Of the 7,440 breast cancers detected in the Galician screening program, 1,047 (14%) were ductal carcinoma in situ. The proportion of screen-detected neoplasms that were stage II or above was 40.6% after prevalence screening examinations and 31.3% after incidence screening, both slightly above the recommendation of the European guidelines (< 30% and < 25%, respectively). At prevalence screening mammography, 62.8% of the detected invasive carcinomas were node-negative cancers, and at incidence examinations, 67.3% had no axillary metastasis. These values are slightly below the acceptable levels suggested by the European guidelines.

From 1996 to 2011 the interval breast cancer rate for 0 to 11 months was 23.32% (desirable level, < 30%), and the rate for 12 to 23 months was 50.51% (desirable level, < 50%). In 2016, almost 100% of the screen-detected cancers were treated within 21 days after diagnosis.

Thank you for your interest in our country of Spain. Please come visit!

**References**

Fatigue in the Reading Room

By Elizabeth A. Krupinski, PhD

It is increasingly evident that fatigue, stress, and burnout are common problems faced by radiologists, technologists, and other workers in the modern health care environment.

For a number of years, we have been studying ways to objectively measure fatigue and its impact on diagnostic accuracy and efficiency. For example, we quantified asthenopia—a condition resulting from close work of any kind that can cause eyestrain, such as reviewing images on a computer monitor for hours. To do this, we borrowed a tool from ophthalmology. We used an autorefractometer to measure radiologists’ ability to accommodate (focus) before and after a long day of clinical reading.1 We documented that after an average of 6 hours of image interpretation there was a significant drop in radiologists’ ability to focus on a given point in space, as compared with their ability to focus at the beginning of the day.

We have also studied subjective feelings of fatigue and physical stress using the Swedish Occupational Fatigue Inventory and the Cornell Musculoskeletal Discomfort Questionnaire.2,3 The Swedish Occupational Fatigue Inventory measures 5 latent factors: lack of energy, physical exertion, physical discomfort, lack of motivation, and sleepiness. Physical exertion and physical discomfort are considered physical manifestations of fatigue, while lack of motivation and sleepiness are considered primarily mental manifestations of fatigue. Lack of energy is a general factor reflecting both physical and mental manifestations of fatigue. In multiple studies, all of these factors increased after a long day of standard radiology tasks. Surprisingly, we repeatedly found that residents reported significantly worse fatigue measures than faculty. We attribute this to the fact that residents, although younger than faculty, are in a very stressful learning environment that likely increases their feelings of fatigue.

The Cornell Musculoskeletal Discomfort Questionnaire was designed to assess discomfort of mostly computer-based activities in sedentary workers. It systematically asks respondents to indicate 3 things for different body parts (eg, back, shoulders, wrists, legs, neck): “In the past week have you experienced pain/discomfort; if you did, to what degree; and most importantly, did it interfere with your ability to work?” Approximately 80% of our respondents spent more than 7 hours daily at a workstation. Respondents reported aches, pains, or discomfort at least once a week in the neck (66%), lower back (61%), upper back (43%), right shoulder (36%), and right wrist (33%). Longer hours at the workstation were significantly associated with more reports of discomfort. More women than men reported shoulder and left forearm symptoms; more moderately or very uncomfortable neck, low back, and hip/buttock pain; and right thigh pain that slightly or substantially interfered with their ability to work. Older radiologists and those board certified for more than 10 years were more likely to report that neck pain interfered with work. All of these measures are interesting and objectively confirm what most radiologists know and feel without having to fill out a survey.

The ultimate question is whether fatigue actually impacts diagnostic accuracy and/or efficiency. In a number of studies using different types of cases (chest images with nodules, computed tomography of chest with nodules, simple and complex fractures, satisfaction of search with patients with multiple trauma), we have consistently found a statistically significant drop in diagnostic accuracy of approximately 5% after an average of 8 hours of clinical reading.2,4,5 Additionally, false-negative and false-positive results increase. The decrease in diagnostic performance is generally significantly greater for residents than for faculty. This may be due to the overall stressful nature of the training. Part of the reason for the decline in accuracy may be that when radiologists are fatigued it takes much longer to scan a case, find lesions of interest, and render a decision. The Figure shows how search patterns change.

There are a number of ways to avoid, reduce, or delay the onset of fatigue. First, think about your reading environment. If you are feeling any physical discomfort, consider replacing your chair. Acquire one that fits your body type, has adequate lumbar support, is height adjustable, and has good cushions. According to our results, this is particularly important for women—chairs seem to be built with men in mind, making them uncomfortable
The Need for Speed: Is Faster Care Better Care?

By Stamatia Destounis, MD, FACR, FSBI

Organizational Initiatives
The Radiology Cares campaign \(^1\) was introduced at the Radiological Society of North America Annual Meeting in 2012. This program was designed to increase patient engagement and create meaningful patient interactions with radiology professionals. The Imaging 3.0 initiative, which the ACR launched in 2013, focuses on the patient rather than the physician.\(^2\) The ACR also created the Imaging 3.0 Informatics Committee to help radiologists adjust to their expanding role by offering tools to improve efficiency and deliver quantifiable value in the evolving health care delivery and payment systems. These initiatives reflect the shift from increasing technology and physician needs to what matters most to our patients: better value and outcomes. Achieving these goals requires not only procedural and diagnostic competence but also respect and empathy for the total patient experience from the entire staff.

Enhancing the Patient Experience
Improving the patient experience requires partnering with patients to provide the care they most value. This often begins by understanding their needs.\(^3\) Breast imagers meet patients early in radiology care during ultrasound examinations and interventional procedures to discuss management options and review results. Through these interactions, we foster the radiologist-patient relationship throughout the patient’s care experience. Direct communication is important to patients. Ninety percent of patients prefer to receive communication of breast imaging results directly from radiologists.\(^4\) Direct and empathetic communication also leads to higher levels of patient satisfaction, treatment adherence, and improved overall clinical outcomes.\(^5\) However, communication is not limited solely to the patient. Clear and timely communication with other physicians in a patient’s care team is also critical. These discussions may range from the concordance of biopsy results and follow-up recommendations to whether a localized specimen is adequate and appropriate.\(^6\) This kind of clear communication helps create long-term relationships and minimizes delays in treatment and mistakes.\(^7\)

In summary, do what makes sense and feels comfortable to reduce your fatigue. Be aware of your warning signs of increasing fatigue, whether they are muscular, visual, or cognitive in nature. Make a commitment to yourself and your patients to pay attention to those signs and take action when they start to creep into your routine. Be proactive; otherwise fatigue will set in and your diagnostic performance will be impacted.

References

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The Need for Speed: Is Faster Care Better Care? (continued from page 21)

Staff Interaction
Multiple studies have evaluated the factors that most heavily influence patients’ perspectives of and satisfaction with imaging facilities. One such study used an online ratings website to identify factors most commonly associated with positive and negative patient perceptions of imaging centers. Overall, only 13.6% of comments were related to the radiologist, and 86.4% were related to other service quality aspects.5 Ginocchio et al and Boos et al found that wait time, patient-staff communication, caring staff, professionalism, pleasantness, helpfulness, and efficiency were important for high patient satisfaction.6,7 Patients’ free-text comments were largely influenced by staff behavior and communications. Schedulers, receptionists, technologists, and billers are highly visible to patients and heavily influence patient satisfaction. Therefore, as physicians we must lead by example. We can help improve the relationship between staff and our patients by encouraging supportive and compassionate language, which helps patients feel valued and heard.

Appointment and Results Availability
Chhor et al reported that patients prefer to have all procedures done at 1 location on the same day and to receive immediate results.8 Another study reported that 67% of patients preferred immediate results, with 78% willing to wait 30 to 60 minutes. However, only 11% were willing to pay an additional fee for this benefit.9 Screening utilization increases when the patient can have a mammogram the same day it is recommended.10 Patients want the ability to have screening and diagnostic evaluation at the same location and preferably in 1 visit.11 Offering same-day work-ups and results improves patient loyalty and satisfaction while decreasing patient stress.3

Patient Control
Giving control back to the patient can increase satisfaction. Allowing patients to schedule appointments online offers flexibility, promotes patient control, improves practice efficiency, and decreases telephone wait times.

Offering New Technologies and Services
In light of increased patient education and direct-to-patient marketing, the latest technology may be perceived as “better care.” Digital breast tomosynthesis and screening breast ultrasound are examples of new technologies that can raise expectations and impact the overall patient experience. Offering these additional services can lead to increased patient satisfaction whether they decrease recall rates, as in the case of digital breast tomosynthesis, or increase recall rates, as in the case of ultrasound.

Offering a wide gamut of services is becoming more popular, with many breast imaging facilities experimenting with risk assessment. Providing patients with risk information gives patients control over their own health care. A survey of screening encounters found that patients preferred to learn details of their estimated risk.12 Risk assessment services also educate patients and improve cancer detection through additional screening appropriate to their clinical care. Moreover, finding ways to incorporate additional services at 1 location can increase patient satisfaction and perception of better care.

How Do We Do This?
Not all breast imaging facilities can accommodate these demands. Face-to-face communication is time-consuming and many radiologists are uncomfortable with it. Furthermore, many facilities cannot operationally provide same-day results of work-ups because of reduced efficiency and access for other women. Having a trained and well-organized support staff is vital for providing these services to patients and allows the radiologist to focus on providing expert image interpretation as well as the best patient care.

Summary
Patient-centered care is multifaceted and gaining importance in radiology. Breast imagers are well suited to play key roles in patient communication and as active participants in the patient care team. Providing patient-centered care requires the identification of factors important to patients’ overall satisfaction. Offering same-day work-ups, results, risk assessment, and procedures performed at 1 location all contribute to high overall satisfaction, although this is not possible or feasible for all facilities. Having a dedicated and educated support staff is paramount to meeting the demands of patients and ultimately enhancing patient care and satisfaction as well as workflow efficiency.

References
Breast Imagers Can Order Studies for Their Patients! (At Least Most of the Time)

By John Lewin, MD, FACR, FSBI

Would you be able to take better, more efficient care of your patients if you could perform the studies and procedures you are recommending without the formality of needing a written order from another doctor? Does this requirement inconvenience your patients, take up valuable staff time, and annoy your referring physicians and their staff? For most of us, the answer to some or all of these questions is “yes.” On behalf of the SBI Patient Care and Delivery Task Force I started a project to determine what it would take for us to be able to write our own orders for our patients. Our eventual goal is to entirely eliminate this administrative barrier to care, but that will take some time. In the meantime, it turns out that in most situations it is unnecessary for us to get orders from clinicians.

The following discussion assumes that you, your referring providers, your practice, and your institution/clinic all agree that eliminating these orders is desirable. It is not meant as a best practices recommendation from the SBI or the task force.

Hospital-Owned Versus Non–Hospital-Owned Centers

If you work in a hospital-owned center, either physically contained in a hospital or a freestanding extension of the hospital, you can already legally write orders for your patients under Medicare law. This provision applies to both imaging examinations and biopsies, and it applies to all types of patients, whether they originally presented for screening or for evaluation of a problem. The rules prohibiting radiologists from ordering studies apply only to freestanding centers not owned by a hospital (ie, centers that bill both the technical and professional portions under Medicare Part B). The reason for this distinction is that the rules for hospital outpatients are given in section 410.28 of the Code of Federal Regulations (CFR), whereas the rules for non–hospital-based services are given in section 410.32. Section 410.32 contains ordering rules that distinguish between “treating physician” and “interpreting physician.” Don’t believe me? Check out those sections of the CFR1 or go to the Medicare Benefit Policy Manual, chapter 15, section 80.6, which states, “Note: Unless specified, these sections are not applicable in a hospital setting.”2

Private Insurance, Medicaid, and Medicare

Patients With Private Insurance

Keep in mind that Medicare rules apply only to Medicare patients. The rules for private insurance are set by the contract between the patient and that carrier and by any contract you may have as a provider. The ordering provisions specified in Medicare law are not typically in those contracts. Medicare rules do apply to patients with private Medicare supplement plans (eg, Medicare Advantage).

Patients With Medicaid

Each state develops and administers its own Medicaid program. Therefore, SBI members must consult their applicable state plan requirements.

Patients With Medicare

For those of you who work in freestanding centers not owned by a hospital, the situation with Medicare patients is less clear. The Medicare rules in CFR section 410.32 have a “mammography exception” that allows the interpreting physician (ie, the radiologist) to order diagnostic mammography to work up abnormal results on a screening mammogram.1 Ultrasound, a key part of the workup, is not included in this exception. Fortunately, there is another document that seems to provide more leeway, the Medicare Benefit Policy Manual.

Chapter 15 of the Medicare Benefit Policy Manual3 is the best single source of guidance for imaging providers in non–hospital-owned centers to operate under Medicare rules. Included are summaries of information provided in the Federal Register, such as what constitutes a valid order, definitions of treating versus interpreting physicians, and which nonphysician providers can order tests. It also has a section with rules for the interpreting physician to change the ordered test and, most importantly for breast imagers, to perform additional tests not ordered (Figure).

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To save lives and minimize the impact of breast cancer.

Although the wording of the rules seems to refer to an urgent medical situation, the 2 examples given in the document are (1) adding a pelvic computed tomography scan to fully evaluate an incidental finding on the last cut of an abdominal computed tomography scan and (2) adding a plain film of the femur when the result of a bone scan is abnormal. In both instances, additional tests could be performed on a different day after obtaining an order but doing so would delay a definitive interpretation of the ordered test and inconvenience the patient. These examples seem very similar to adding an ultrasound to mammographic views for working up a persistent finding on those views. Given these guidelines, therefore, I would argue that once the radiologist orders the additional views, the ultrasound can legally follow. Can the same reasoning apply to cyst aspiration and biopsy? Perhaps, but only if those procedures are performed on the same day as the mammographic views. This strategy would not cover, for example, 6-month follow-ups or palpable abnormalities.

Conditional Orders

Given that the above rules do not seem to cover additional studies scheduled for later days, what other strategies exist to avoid additional orders while staying within Medicare guidelines? If the patient presented with a referral, one option that Medicare has deemed legal is the use of conditional orders. Conditional orders are written so that additional tests are conditional on the result of the first test. For a screening mammogram, the order is typically written as “Screening mammogram. Additional imaging and biopsy as needed, per the radiologist.” Conditional orders must be written for a specific patient. A standing order, such as a statement authorizing additional indicated tests on all patients, is not allowed. A common way to implement a program of conditional orders is to include the appropriate verbiage on ordering forms and distribute them to referring providers. In this day of electronic medical records, of course, many patients will come with electronic orders, which should include the appropriate verbiage. Referring providers may be convinced to include this verbiage once they realize that it will reduce what they correctly perceive as unnecessary requests for additional orders from your center.

Summary

Hopefully the above information will reduce the number of times you need to inconvenience your patients, referring physicians, and staff by having to obtain rubber-stamp orders for studies you are recommending. Non–hospital-owned, freestanding centers treating Medicare patients will still have situations in which orders need to be given (written or verbally per the regulations) by a treating physician or treating provider (eg, a nurse practitioner or physician assistant).

The Task Force on Patient Care and Delivery will continue to monitor the issue on behalf of our members and, most importantly, our patients. Given the inevitable periodic calls for “health care reform,” there may be a time when conditions will be amenable to a change in Medicare ordering rules.

References


Burnout, particularly in physicians, is not a new concept. Physiologist Dr Herbert J. Freudenberger first coined the term in the 1970s to describe the consequences of severe stress stemming from the many demands that accompany “helping” professions such as medicine.\(^1\) Some of these demands may be related to workload (too much work, not enough resources), control (micromanagement, lack of influence, accountability without power), reward (not enough pay, acknowledgment, or satisfaction), community (isolation, conflict, disrespect), fairness (discrimination, favoritism), and values (ethical conflicts, meaningless tasks).\(^1\) Despite increased awareness regarding physician burnout, the rates are reported to be as high as 42%.\(^2\) The first step in eliminating burnout and promoting wellness is recognizing the 3 hallmark symptoms.

1. Physical/emotional exhaustion
For many doctors, this is the most obvious and persistent symptom. Burnout-related exhaustion can make it difficult to get out of bed in the morning and can leave a person completely drained at the end of the day. This is accompanied by a total lack of the energy needed to perform normal everyday activities such as spending time with family, cooking, and participating in activities that one usually would enjoy. It can also create the feeling in physicians that they have nothing left to offer patients from an emotional standpoint.

2. Depersonalization
Depersonalization, also known as compassion fatigue, creates a lack of empathy in physicians. It can be signaled by cynicism, sarcasm, and frequent complaints about their job and patients. Physicians who are experiencing compassion fatigue are emotionally unavailable not only to their patients but also to their friends and family.

3. Lack of efficacy
With lack of efficacy, physicians may begin to question the value and quality of their work. Physicians may feel that they are not effective in taking care of patients and that their professional accomplishments lack value.\(^3\) They may find themselves asking, “What’s the point?”

The symptoms can develop gradually or be triggered by a traumatic event like a lawsuit. When discussing burnout, its effects on the individual physician are normally the focal point. Most significantly, burnout has been linked to alcohol or drug abuse/addiction, depression, suicidal ideation, and higher physician and staff turnover.\(^4\) However, it also affects the patients that are being treated and has been linked to lower quality of care, higher medical error rates, and increased malpractice risk.\(^5\) Burnout is not just a physician issue; it is a health care issue.

Early recognition of these symptoms is essential.\(^6\) While there may be factors in our lives that are beyond our control, there are steps we can take to promote wellness. In future issues of this column, we will explore burnout prevention to help you lower your stress level and build more life balance.

References
Breast imaging representation was in full force at the 2018 meeting of the ACR, with resolutions, celebrations, and auspicious firsts.

Four breast imaging resolutions were adopted. Resolution 34, ACR Practice Parameter for the Performance of Contrast-Enhanced Magnetic Resonance Imaging (MRI) of the Breast, and Resolution 39, ACR-SPR Practice Parameter for Imaging Pregnant or Potentially Pregnant Adolescents and Women with Ionizing Radiation, were adopted as amended (adopted with substantive changes). Resolution 35, ACR Practice Parameter for the Performance of Screening and Diagnostic Mammography, and Resolution 36, ACR Practice Parameter for the Performance of Digital Breast Tomosynthesis (DBT), were adopted as written. For a full description of these resolutions, please refer to https://www.acr.org/-/media/ACR/Files/Annual-Meeting/2018-Resolutions.pdf.

Geraldine McGinty, MD, MBA, FACS, breast radiologist at Weill Cornell Medicine and chief strategy officer of the Weill Cornell Medicine Physician Organization, became the first female chair of the ACR Board of Chancellors. She is the first woman elected to this position in the 95-year history of the organization. Dr. McGinty previously served as chair of the ACR Commission on Economics and as the ACR representative to the American Medical Association Relative Value Scale Update Committee. She has proven to be an exemplary patient advocate and radiology leader throughout her prolific career. She was also the recipient of the 2018 William T. Thorwarth Jr., MD, Award, which “recognizes individuals who demonstrate outstanding contributions to the field of health policy and economics for radiology.”

Three breast radiologists were inducted as ACR fellows, one of the highest honors the college can bestow on a member (only 10% of ACR members are fellows). Cheryl R. Herman, MD, FACR, assistant professor in the Department of Radiology, Washington University in St. Louis, Cecilia L. Mercado, MD, FACS, FSBI, of New York University, and Kimberly N. Feigin, MD, FACR, of Memorial Sloan Kettering Cancer Center, received this honor at the meeting. To be inducted as a fellow, a radiologist must demonstrate a history of service to the ACR as well as a commitment to teaching, research, and/or organized radiology. Please use the following link for more information on how to become a fellow or submit nominations: https://www.acr.org/Member-Resources/Fellowship-Honors/facr.

The Women’s Caucus sponsored by the American Association for Women Radiologists focused on the topic of parental/maternity leave. Attendees were encouraged to share the existing policies at their own institutions. The group discussed the Family and Medical Leave Act (FMLA) of 1993, which stipulates 12 weeks of unpaid leave. Radiologists remarked on the challenges of meeting FMLA criteria, particularly in small radiology practices. The group also noted that the United States is one of a few countries with unpaid parental leave. At the conclusion of the discussion, it was agreed that action must be taken and that groups such as the ACR and the American Medical Association should develop a consensus statement regarding parental leave. Recently, the Society of Interventional Radiology released a statement on parental leave supporting no less than 6 and 8 weeks of maternity leave for vaginal and cesarean delivery, respectively, and no less than 6 weeks of paternity leave. This leave should also be separate from vacation time and sick leave. If you are interested in sharing policies that have worked at your practice and institution to serve as a case study, please contact Katarzyna Macura, MD, PhD, FACR (kmacura@jhmi.edu).

The first dedicated Medical Student Session was held at ACR 2018. It included a panel with representation from all subspecialties, including breast imaging, and a curriculum vitae–building workshop. This session was a great success, and the college plans to expand the programming at future meetings to strengthen its outreach efforts.

The second HeForShe campaign also took place at the meeting. HeForShe is a gender equality movement established by UN Women. In radiology, the goal is to attract, train, and support radiology professionals who are responsible for the needs of each other and of our diverse patients. Signs and stickers were distributed at the meeting, and attendees shared pictures on social media using the hashtags #HeForShe and #ACR2018. A video booth was also available for HeForShe testimonials. The campaign was wildly successful on social media, with 53,100 impressions (indicating exposure or reach), 413 engagements (the total number of times users interacted with a tweet), and more than 1,200 unique #HeForShe or #ACR2018 tweets. For more information on HeForShe, please refer to https://www.acr.org/Member-Resources/Commissions-Committees/Women-Diversity/HeForShe.

Reference
HIGHLIGHTS FROM THE 2018 ARRS MEETING: BREAST SCIENTIFIC SESSIONS

By Edward C. F. Lam, MD; Jennifer L. Saline, MD

Greetings from the American Roentgen Ray Society (ARRS) 2018 Annual Meeting in Washington, DC, at the Marriott Wardman Park Hotel near the Smithsonian National Zoo. Although wildlife was within walking distance, the research being presented at the hotel was more captivating. ARRS 2018 had 3 scientific sessions dedicated to breast imaging, each with amazing presentations. Here is a sampling of the research presented.

During the Tomosynthesis session, third-year medical student Tricia Stepanek (Case Western Reserve University School of Medicine) presented “Changes in the Utilization of the BI-RADS Category 3 Assessment in Recalled Patients Before and After the Implementation of Screening Digital Breast Tomosynthesis.” The research team conducted a single-institution retrospective review of 20,828 screening mammograms. The investigators compared data from 2 patient cohorts: 11,478 patients screened only by digital mammography (DM) from September 2010 through August 2011 and 9350 patients screened by DM with digital breast tomosynthesis (DBT) from January 2014 through June 2015. Rates of delayed cancer detection were comparable in the 2 cohorts. After DBT implementation, only 53% of patients recalled for evaluation of a mass had additional mammographic views obtained prior to ultrasound, and 47% had ultrasound only. In comparison, in the DM-only cohort, 90% of recalled patients had additional mammographic views before ultrasound and 10% had ultrasound only. Findings were categorized as BI-RADS 3 in 26% of recalled patients in the DM-only group and in 20% of patients in the DM with DBT group. The combination of DM and DBT also resulted in a 30% overall decrease in the number of screened patients ultimately receiving BIRADS-3 short-interval follow-up. This decrease was due to reduced recall rates after screening and fewer recommendations for short-term follow-up at the time of diagnostic evaluation. This finding represented a significant decrease of 10 per 1000 screened women ultimately being assigned to short-term follow-up. DBT seems poised to be beneficial for categorizing BI-RADS 3 lesions.

The Breast Magnetic Resonance Imaging (MRI) scientific session included an intriguing oral presentation titled “Breast MRI for Clinically Suspicious Nipple Discharge with Negative Conventional Imaging” by Wendy Tu, MD, a postgraduate year 3 radiology resident at the University of Ottawa, Canada. The investigators retrospectively reviewed data from 12,207 consecutive patients who underwent MRI from January 2008 through December 2014. Of these patients, 294 met the inclusion criteria of clinically suspicious nipple discharge (clear or bloody, unilateral, and spontaneous) with no abnormal findings on mammographic and sonographic imaging and at least 2 years of follow-up. One hundred sixty patients (54.4%) had abnormal breast MRI results. Biopsy samples obtained from 124 of these 160 patients (77.5%) revealed that 12.9% of lesions were malignant, 21.8% were benign, and 65.3% were high-risk lesions or papillomas. Six (4.8%) of the malignant lesions were invasive and 10 (8.1%) were ductal carcinoma in situ. MRI also had a very high negative predictive value of 99.3%. Only 1 of the patients with normal breast MRI results developed an ipsilateral malignancy in 5 years of follow-up (with no abnormality found on retrospective review of the MRI). These findings demonstrate that breast MRI should be considered for patients with suspicious nipple discharge and no abnormalities on conventional work-up and that breast MRI can provide reassurance with its high negative predictive value.

During the Screening and Intervention session, Lonie Salkowski, MD, PhD, professor in the Department of Radiology, University of Wisconsin, presented her department’s experience in “Evaluation of a Technical Recall Program for Digital Mammography Designed to Fulfill the New MQSA Enhancing Quality Using the Inspection Program (EQUIP) Requirement.” The EQUIP program was fully enacted in January 2018 and requires daily image quality review, processes for corrective action on image quality, and combined responsibility of technologists and radiologists. This study evaluated the rate and indications for consecutive digital mammographic technical recalls from October 2013 through March 2017, covering 39,457 screening mammograms (excluding nondigital imaging). Technical recalls were initiated prospectively by the interpreting radiologists using online software and were divided into 3 categories: motion, positioning, and technique/artifacts. Two hundred twenty-three patients (0.57%) were recalled for 289 indications. Of these 223 patients, 193 (86.6%) were recalled from full-field digital mammography and 30 (13.5%) were recalled from DBT, a significant difference between modalities (P = .002). Positioning accounted for over half (50.9%) of indications for technical recall, motion for 27.7%, and technique/artifacts for 21.4%. Over half of the positioning technical recalls were due to missing posterior breast tissue and inadequate imaging of the pectoralis muscle. There were significantly more technical recalls for mediolateral oblique views (63%) than for craniocaudal views. This research shows that the EQUIP program can identify key areas for improvement, particularly with positioning and motion.

These scientific sessions demonstrate that the field of breast imaging is always advancing as we seek out new ways to provide better patient care. We hope to see you all at future scientific meetings.
### Upcoming Events

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<td><strong>September 10-13, 2018</strong></td>
<td>ISMRM Workshop on Breast MRI: Advancing the State of the Art (in collaboration with the Society of Breast Imaging and the European Society of Breast Imaging)</td>
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<td>Las Vegas, NV</td>
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<td><strong>October 11-13, 2018</strong></td>
<td>European Society of Breast Imaging (EUSOBI) Annual Scientific Meeting</td>
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<td><strong>November 8, 2018</strong></td>
<td>International Day of Radiology</td>
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<td><strong>November 25-30, 2018</strong></td>
<td>Radiological Society of North America (RSNA) Annual Meeting</td>
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For a listing of other society events please check out the SBI Calendar of Events at [www.sbi-online.org](http://www.sbi-online.org).