

EYE ON IMAGING

Summer 2014

MRI CT Xray HIDA Cardiac Stress NUCLEAR Ultrasound Bone Density Mammography

Indiana “Breast Density” Law

Indiana Senate Bill 414 was signed into law April 30, 2013. **This law requires radiologists to inform women if they have high breast density.** Under the law, "high breast density" means a condition in which there is a greater amount of breast and connective tissue in comparison to fat in the breast. The law also requires the medical licensing board to adopt rules or protocol establishing an education program and standards for annual screening or diagnostic tests of women with high breast density and requires notice to women with high breast density. Most health insurance plans that are renewed after June of 2013 will be required to cover additional screening for breast density such as Ultrasound.

About 40% of women who receive mammograms have dense breast tissue. This is especially true of women under 50 years old. High breast density is a well established risk factor for breast cancer and can make detection of cancer with mammography more difficult. Density is only observed on a mammogram and

cannot be determined by how breasts feel by physical examination.

These women have been more likely to develop breast cancer but the reasons for this have been unclear. University of Manchester scientists, funded by leading UK research organization, Breakthrough Breast Cancer, worked with IBM researchers and academics in the USA and Cyprus to uncover the biological mechanisms at play. Their findings could help to improve breast cancer prevention by targeting these specific biological mechanisms with cancer therapies in at risk patients and potentially lead the way for a new strategy for the use of preventative treatments.

Professor Michael Lissanti, from The University of Manchester – part of Manchester Cancer Research Centre, said: “We know that high breast density can greatly increase a woman’s breast cancer risk as well as other factors such as ageing, family history and presence of muta-

tions in genes such as BRCA 1 and BRCA 2. “What no one has fully appreciated before are the underpinning mechanisms at play. Using a bioinformatics approach, we have identified the relevant signaling pathways that make dense breast tissue more favorable for tumor formation. “This signaling pathway could be used as a biomarker to identify women at higher risk of breast cancer more accurately and earlier than the current methods. Furthermore, there are drugs out there that block these pathways, so that these women could be offered effective chemoprevention. These same drugs could also potentially act as a treatment for women who already have breast cancer.

Advanced Medical Imaging continues our same-day mammography services and informs women at the time of their mammogram of their results including their density status. An order would be required for any follow-up Ultrasound testing.



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Controversial Canadian Breast Cancer Study

According to the American College of Radiology and Society of Breast Imaging, the recent breast cancer screening article (Miller et al) published in the British Medical Journal (BMJ) (1) is an incredibly misleading analysis based on the deeply flawed and widely discredited Canadian National Breast Screening Study (CNBSS). The results of this BMJ study, and others resulting from the CNBSS trial, should not be used to create breast cancer screening policy as this would place a great many women at increased risk of dying unnecessarily from breast cancer.

Experts called on to review the CNBSS confirmed that the mammography quality was poor (2). The trial used second hand mammography machines, which were not state of the art at the time of the trial. The images were compromised by "scatter," which makes the images cloudy and cancers harder to see since they did not employ grids for much of the trial. Grids remove the scatter and make it easier to see cancers. Also, technologists were not taught proper positioning. As such, many women were not properly positioned in the machines, resulting in missed cancers. And the CNBSS radiologists had no specific training in mammographic interpretation. The CNBSS own reference physicist stated that "...in my work as reference physicist to the NBSS, [I] identified many concerns regarding

the quality of mammography carried out in some of the NBSS screening centers. That quality [in the NBSS] was far below state of the art, even for that time (early 1980s)." (3)

In this latest BMJ paper, only 32 percent of cancers were detected by mammography alone. This extremely low number is consistent with poor quality mammography. At least two-thirds of the cancers should be detected by mammography alone (4). In an accompanying BMJ editorial, Kalager and Adami admit that "The lack of mortality benefit is also biologically plausible because the mean tumour size was 19mm in the screening group and 21mm in the control group... a 2mm difference." The documented poor quality of the NBSS mammography screening alone explains these results and should disqualify the CNBSS as a valid scientific study of modern mammography screening. Yet, the CNBSS trial was even more troubled (5).

To be valid, randomized, controlled trials (RCT) must employ a system to ensure that the assignment of women to the screening group or the unscreened control group is random. Nothing can/should be known about participants until they have been assigned to one of these groups. The CNBSS violated these fundamental rules (6). Every woman first had a clinical breast examination by a

trained nurse so that they knew which women had breast lumps, many of which were cancers, and which women had large lymph nodes in their armpits many of which indicated advanced cancer. Before assigning the women to be in the group offered screening or the control women, investigators knew who had large incurable cancers. This was a major violation of RCT protocol. It most likely resulted in the statistically significant excess of women with advanced breast cancers assigned to the screening arm compared to those assigned to the control arm (7). This guaranteed more deaths among the screened women than the control women.

The five year survival from breast cancer among women ages 40–49 in Canada in the 1980s was only 75 percent, yet the control women in the CNBSS, who were supposed to reflect the Canadian population at the time, had a greater than 90 percent five year survival (8). This indicates that cancers may have been shifted from the control arm to the screening arm. Coupling the fundamentally corrupted allocation process with the documented poor quality of the mammography should have long ago disqualified the CNBSS as a legitimate trial of modern screening mammography.

Source: American College of Radiology February 2014

For a consult or to refer a patient, please call 765-454-XRAY (9729)

Self Pay Mammograms \$99 during October

Osteoporosis Screening

An estimated \$17 billion is spent each year to treat the roughly 2 million osteoporosis-related bone fractures that occur in the US annually, according to The American College of Obstetricians and Gynecologists.

The American College of Radiology has issued Osteoporosis screening guidelines. Dual-energy X-ray absorptiometry (DXA) of the lumbar spine and hip is the gold standard for diagnosing osteoporosis, and bone mineral density (BMD) screening should begin at age 65 for all women. Postmenopausal women younger than 65 should only be screened with DXA if they have risk factors for osteoporosis and/or bone fracture based on medical history. Screening for men should begin at age 70 unless additional risk factors warrant earlier screening. Additional risk factors can include smoking, height loss, previous non-traumatic fractures, glucocorticoid therapy, and other disorders known to affect BMD.

Research is focusing on new techniques for evaluating risk of bone fractures. While DXA scans can tell how much bone is present, they cannot see the structure of that bone. Osteoporosis researchers are studying new imaging and computer techniques that will allow them to look *inside* the bone, and see specific structural characteristics. This will help them to build models of bone strength that can help predict which patients are most likely to have fractures.

Pre-authorization

Pre-authorization is required by most private insurers for MRI, CT and Nuclear exams. Retroactive authorizations are rarely approved so it is critical to obtain the pre-auth before the patient arrives at our office. Most insurers require the referring physician to initiate this process. If you have suggestions on how to make this process easier for your staff, please contact Jodi Hartzler at our office to discuss ideas.

Cost and Quality

We have had an increase in the number of direct patient inquiries regarding procedure costs.

We are happy to talk with you and your patients about exams and their estimated expenses.

We strive to provide high quality, low cost procedures. In general, we are far less expensive than hospitals and their centers. Our fees include the radiologist professional component unlike hospitals and other centers, which add an undisclosed 20-30% for a separately billed radiologist. We also offer a discount of 50% for self-pay patients.

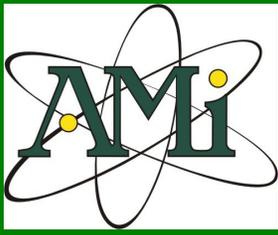
We maintain an "A" Anthem rating and are accredited through the American College of Radiology.

Website News

We have launched our new AMIKokomo.com website! The Physician Portal is in a new, prominent location at the top right of the home page. It is highlighted in blue. If you experience any problems with your login, please call our office.

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Jumping Hurdles

To provide the highest quality in medical imaging



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