Recent Developments in Breast Imaging

There is a lot of confusion in the media about the utility of mammograms. For you to be confused is understandable, as many of the people who talk about mammograms are not even physicians!

Would you trust a plumber over a mechanic to provide you with advice about your car? Of course not. While the plumber and the mechanic are both trades people, the mechanic is far more likely to be qualified to give you the advice that you need in regard to your car.

Many of the people who talk about mammograms are like the plumber. They may have expertise within their respective field, but they are not experts in the fields of medical imaging or diseases of the breast. Indeed, it is likely that many of them have probably never seen a patient with breast cancer.

The real experts in mammography, Radiologists and Medical Physicists, and the physicians that treat patients with diseases of the breast, Surgeons, Oncologists and Gynecologists, are nearly unanimous in their endorsement of mammography as the best screening test available today.

Notwithstanding such broad endorsement, mammography is not perfect. Yes, mammograms can detect almost 98% of cancers in the near 50% of women with fatty or almost fatty breasts. However, mammograms are not nearly as effective at detecting cancers in the other 50% of women with dense breasts.

Knowing the density of your breasts is important, as breast density can have significant potential health implications and could be a reason to consider supplementing a traditional mammogram with other testing.

You can find out about the density of your breast from your physician. The Radiologist indicates the density of your breast on his/her report to your physician (the report from your test is usually sent to your doctor within 2 to 3 days of the study).

If you know you have dense breasts from a previous mammogram or you would simply like to learn more about the potential implications of dense breasts for your long term health, you may wish to go to www.densebreastscanada.ca or read the summary below. We would like to make supplementary testing available to women with dense breasts, as currently such testing is not generally available in the Province of Ontario.

**Risks Associated with Dense Breasts on Mammography**

1. 4-6 times increased risk of breast cancer.
2. About 50% of cancers are missed on traditional digital mammogram in women with dense breasts.
3. Higher risk of interval cancer (between mammograms) which are often larger and more aggressive.
If You Have Dense Breasts, What Can You Do About It?

1. Traditional handheld ultrasound to supplement the mammogram. This is not approved by OHIP as a valid indication. When performed, the examination should be scheduled as a 30-minute appointment per breast (according to the experts) and is therefore not economically feasible in most jurisdictions and is generally not done.

2. 3D mammogram (same procedure as traditional mammogram you are used to with same amount of radiation and no additional discomfort other than a few extra seconds of compression) will pick up 2-3 additional breast cancers per 1000 women that would otherwise be missed on traditional mammogram. It is not an insured service (i.e., is not covered by OHIP) and is not routinely available to patients at any institution in Ontario.

3. Automated 3D Breast Ultrasound (15-minute appointment using a dedicated machine for this test) has now been validated as a legitimate adjunct to screening mammography and can detect an **additional** 3-4 cancers per 1000 screens. Like 3D mammogram, it is not an insured service (i.e., is not covered by OHIP) and is not routinely available to patients at any institution in Ontario.

**Salient Scientifically Accepted Facts Regarding Breast Cancer**

1. Screening mammography after age 40 has been shown to decrease mortality from breast cancer by up to 40%.

2. In 50% of patients without dense breasts, the accuracy of testing using current mammography technology approaches 98%. No further testing is warranted.

3. In the other 50% of patients with dense breasts, up to 50% of cancers are missed in tests using current mammogram technology. Conducting such tests is still better than nothing. However, for these patients, 3D mammogram and Automated 3D Breast Ultrasound would bring the cancer detection rate in line with that of patients without dense breasts.

Let me tell you right of the bat that you are in the right place. There is incontrovertible evidence to indicate that mammograms save lives to the tune of 40% reduction of mortality. In addition, other tests are now available to supplement mammography and help us in the fight against breast cancer. More on these other tests later.

First, knowing your breast density is important. Your breast density can have significant potential health implications, particular with respect to breast cancer. A mammogram is the **ONLY** way to determine the density of your breasts.

For the 50% of women who have a mammography that indicates fatty or almost fatty breasts (show mammo of fatty breast)mammograms done at an accredited facility such as the Toronto Centre for Medical Imaging (show OBSP/CAR accreditation certificate) will detect up to 98% of breast cancers, including cancers as small as a few mm (show mammo with small cancer).
For the other 50% of women with dense breast (show dense breast mammo), we know that there is a 4-6 times increased risk of breast cancer. We also know that approximately 50% of cancers for women with dense breasts are missed on traditional 4 view digital mammogram because breast cancer and dense breast tissue both appear white on mammograms. Women with dense breasts also have a higher risk of interval cancers (between mammograms) which are often larger and more aggressive. For these women, conducting a traditional mammogram is still better than doing nothing. However, there are now other types of supplementary testing available as well.

We believe that, for women, knowing your breast density on mammography is as important as knowing your blood pressure and blood glucose. In fact, there is now an organization, Dense Breasts Canada (www.densebreastscanada.ca), created by women breast cancer survivors with dense breasts, that has made it its mission to educate women about the importance of knowing breast density.

Your breast density will be included in the report of your mammogram that will be sent to your doctor in the next couple of days.

The current standard of care in Ontario for women with dense breasts is to offer a traditional 4 view mammogram and if that is “normal” to conduct another screen in two years. For women signed up with the Ontario Breast Screening Program or OBSP, may be invited to return for screening in 1 year instead of two years. However, for 80% of women with “dense” breasts, the density is not considered to be great enough to warrant being recalled in 1 year. This is despite the fact that these women have almost the same risks associated with dense breasts as the other 20% of women with dense breasts that will be offered screening in 1 year (show mammo of type C and type D density).

If you have dense breasts, don’t despair just yet. Remember the “supplementary tests” I talked about earlier? Well, these tests can pick up additional cancers that are missed on the traditional mammogram bringing the detection rate in women with dense breasts almost to the level of women with fatty breasts. Also, as these tests are not insured services that are covered by OHIP, women who want these tests can access these tests at any time.

Automated 3D Breast Ultrasound. It is a 15-20-minute test using a dedicated machine that has been validated as a legitimate adjunct to screening mammography. The test has been shown to be able to detect an additional 3-4 cancers per 1000 screens. Again, these are cancers that would be missed with a traditional mammogram. Like 3D mammography, 3D Breast Ultrasound is not an insured service in the Province of Ontario and is not covered by OHIP. 3D Breast Ultrasound is not currently generally available to Ontario patients.

At the Toronto Centre for Medical Imaging, at least 50% of the women we see for mammography have dense breasts. The Automated 3D Breast Ultrasound is available at this clinic and has no radiation involved and reported by the same Radiologist.
If an abnormality is detected on any one of these tests, a diagnostic mammogram and traditional handheld ultrasound would be offered to the patient (covered by OHIP) within 1 week. If a biopsy is required, this would be arranged at the Toronto Centre for Medical Imaging within a few days (also covered by OHIP). You would be provided with a very high level of care at The Toronto Centre for Medical Imaging. We do not believe that women should be required to wait any longer in order for this to become reality of care.