



## MRI of the Breast: Life saving or just hype?

Breast MRI (Magnetic resonance imaging) has the potential to identify early stage and potentially curable breast cancers that are missed on screening mammograms (either because they are too small or because they are obscured by surrounding dense breast tissue). This would seem to be the long awaited breakthrough in breast imaging, but, unfortunately there are some major limitations to use of the MRI as a screening tool (i.e. for routine evaluation of asymptomatic women).

The first limiting factor is cost. In Orange County the cost of a screening MRI varies from 1,500 dollars to 6,000 dollars (with no evidence that the more costly MRI is any better at detecting early cancers). The costs involved in adding an MRI exam to the screening mammogram for all women would bankrupt our already fragile medical care system. Also, mammograms are able to detect calcifications that are often the earliest sign of an evolving cancer. The MRI does not "see" calcifications and, thus, the mammogram remains a valuable tool that cannot be replaced by the MRI.

The second major limitations of the MRI is that in addition to picking up small cancers, they also identify spots on the breast that on biopsy prove to be completely benign (not cancer). This adds significantly to the cost of care and exposes women to the trauma of going through an unnecessary breast biopsy. Recent advances in technology have improved the accuracy of the MRI, but the problem of negative biopsies continues to be a challenge.

As a result of these limitations, insurance companies have recently taken a more aggressive role in restricting payments for breast MRI's unless the referring physician can provide evidence that the patient is at significant risk for getting breast cancer. At present, most experts agree (and most insurance companies are willing to pay for) yearly screening MRI's for women who are proven to have a BRCA1/2 mutation. This however, is a small segment of the population (probably less than 1% of all women).

There is, however, a large population of women with either strong family histories, or histories of a high risk biopsy who would be covered by these new insurance guidelines. The majority of these high risk women have one or more first degree relatives with breast cancer. Other factors that indicate that a woman is at increased risk are family members with early onset breast cancer (younger than 50 years), ovarian cancer, male breast cancer, Ashkenazi Jewish background, and previous chest wall irradiation at a young age (i.e. for treatment of Hodgkin's disease).

At the present time, insurance companies are not paying for MRI's unless a patient has a significant risk which is documented by a risk model assessment tool. The most commonly used tool is the Gail model. The insurance companies require that a woman has a score of 20 or more before they will agree to pay for a MRI. The problem is that the Gail model often underestimates the risk associated with a strong family history. For example, a 50 year old woman with a mother who was diagnosed with breast cancer at age 80 years and has no other relatives with breast cancer could be given that same risk score as a 50 year old female whose mother was diagnosed at age 35 and has five maternal aunts who were diagnosed with breast cancer before the age of 50. Both women could score under 20 (i.e. 20 percent lifetime risk of getting breast cancer) assuming neither had a previous high risk biopsy.



Of course, the 50 year old with the mother who was diagnosed at age 35 would be considered to be at very high risk.

To identify women who are at risk but do not have a high enough Gail score requires the use of alternative risk assessment models. Unfortunately, these models lack the simplicity of the Gail model and are not available in most doctors' offices. Women who are concerned and want more information must go to breast centers that have additional expertise in this area. Fortunately, most hospitals have breast cancer risk assessment programs. You can either check the website for your closest hospital or you can contact us at Ask the Doctor. We can also help if you have questions on genetic testing or where to get the lowest cost MRI.

What are the rest of the female population to do? There seems to be a growing consensus among both breast care experts and the payers that there is a subgroup of women who are not known to carry the BRCA mutation that are reasonable candidates for MRI screening. In general these are women with dense breast and strong family histories (ref.).

Most payers have adopted a system of risk analysis for determining which women would be candidates for a screening MRI. The new criterion for approval of screening MRI is to prove to the payer that the patient's risk of getting breast cancer meets a certain threshold on risk analysis model. The most commonly used model is the Gail model. A score of 20 on the Gail model will be sufficient to get most payers to cover the cost of an MRI. One of the main problems with the Gail model is that it underestimates risk associated with a family history. For example, a patient with a mother who was diagnosed with breast cancer at age 90 years would be given 1 extra point for family history. A similar score would be obtained for a woman with a mother who was diagnosed at age 35 and had multiple family members with breast and ovarian cancer. In short, the Gail model work well for women with previous high risk biopsies, but underestimates risk in women strong family histories.

Fortunately, there are other models that can be used to assess risk and it has reach the point where it takes an expert to sort through the various models in an effort to determine if a woman is a candidate for MRI screening. Most doctors' offices do not have the time or expertise to do these determinations.

Thus, for a woman do determine risk take more than just looking at one model. Women who are concerned about their risk and who what to have an MRI if it will be covered by insurance would be advised to undergo risk assessment by professionals who specialize in this issue. Most hospitals and free standing breast care centers offer this information, but it is not covered by all insurances.

If you have questions or comments, please contact us.