

**What if my doctor feels a lump  
and it doesn't show up on  
the mammogram?**

This is *not* a rare situation. The ultrasound is an excellent way to check if a physical finding is not showing up on the mammogram because it is part of normal lumpy breast tissue or because it is a lump and it is hidden by dense mammographic breast tissue. The ultrasound characteristics of solid lumps have been shown to be very accurate in predicting which lumps are suspicious or benign (not cancer). If breast ultrasound doesn't show a cyst or a solid mass, it often shows that it is the "normal lumpiness" of the breasts that is thought on the physical exam to be a lump or mass. Ultrasound is extremely reliable in this situation, as long as it is performed by an experienced specialist, such as those at The Knoxville Comprehensive Breast Center.

We hope this removes some of the mystery associated with the term "dense breasts." If you should have any further questions, please contact one of the breast imaging professionals at The Knoxville Comprehensive Breast Center.

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**DENSE  
BREASTS**



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for over thirty years*

## **DENSE BREASTS**

This brochure describes the meaning of the term “dense” breast on a mammogram. Radiologists describe a mammogram as having a dense pattern if they see more white than gray on the mammogram. The reason this is important is that lumps are more difficult to see on a dense (white) mammogram. Here at the Knoxville Comprehensive Breast Center, we routinely supplement dense mammograms with physical examination and ultrasound to make up for the lowered sensitivity of the mammogram in the case of the dense breast. The following questions are frequently asked by our patients:

### **Am I abnormal if I have dense breasts?**

No. The density of the breast is an individual characteristic like hair color or height. Young women tend to have dense breasts, but 25% of young women do not have dense breasts. Older women tend to have more of a fatty, or low density, mammogram, but 40% of older women will have dense breasts. Some women may convert from dense to intermediate to low density during the course of their lifetime, but it occurs at a different rate and at a different time for each woman. The density of the breast reflects the amount of fibroglandular tissue in the breast relative to the fatty tissue. Density can change with pregnancy, lactation,

menstrual cycle, weight gain/loss, hormone use, surgery, radiation therapy, and age. Having dense breasts does not mean you have fibrocystic disease! Please refer to the brochure on fibrocystic condition if you have more questions about that.

### **Are my dense breasts caused by diet?**

No. As discussed above, your individual characteristics and hormonal status can affect your breast density. Losing weight may increase your breast density if you lose more than 20 pounds, but individual items in your diet do not significantly affect breast density.

### **If the mammogram is less sensitive for dense breasts, do I still need yearly mammograms?**

Yes. Although the mammogram of a dense breast may not show lumps as clearly as the ultrasound, it is still the best way we have of looking for microcalcifications. Most microcalcifications are part of normal aging in the breast. Some patterns of microcalcifications are present in a cancer, they can be the smallest, earliest sign of some cancers that we can identify. Fortunately, they show up on mammograms no matter how dense the breast is! For that reason, we still recommend yearly mammograms in women age 40 and up and, in certain situations, in younger women.

### **Is it dangerous to have dense breasts?**

Having dense breasts can increase your risk of developing breast cancer. Also, if you have dense breasts, you have a higher chance of a lump not being seen on your mammogram. This can be compensated for by a thorough breast physical examination and breast ultrasound. The breast ultrasound study detects lumps hidden by overlapping normal breast tissue on the mammogram. It does this in two ways. First, it shows the breast in a straight line from the skin to the chest wall with no interference from what might be on top of or next to an area of interest (sectional imaging). The mammogram is a composite picture, with overlap of tissue from multiple planes. It is like placing five swatches of material with different patterns, on each other and taking an x-ray. The resulting picture is a composite image of patterns. But the ultrasound shows us a cross-section with no overlap.

Also, the ultrasound looks at a different physical property of tissue: its fluid content, not how x-rays are absorbed by the breast tissue. Fluid-filled structures show up darker than surrounding tissue on ultrasound, instead of the same shade of white as the surrounding fibroglandular tissue on a mammogram. Solid masses have a different ultrasound pattern than normal breast tissue.