

How Dense Are Your Patients?

There's a movement afoot in America. From Maine to Florida, Texas, Oregon, and many states in between, the "Are You Dense?" nationwide campaign led by the breast cancer advocacy movement is making efforts to enact laws that ensure women receive proper education regarding the significance of breast density and its association with an increased risk of breast cancer. Breast density varies considerably among women and can also change with advancing age. For this reason, physicians should inform women undergoing mammograms of their personal level of breast density.

What is breast density and why is it important?

Breast density refers to the relative proportion of the three main contents of the breast: 1) milk-producing glandular tissue and ducts, 2) stroma—the internal scaffolding of the breast that holds everything in place, and 3) fat tissue which serves as a filler to keep the breast soft and pliable. Breasts that have a relatively high proportion of fat tissue are considered “fatty” or “non-dense,” and breasts that have more glandular tissue and stroma are considered “dense.”

Breast density tends to be higher in premenopausal women and in women taking hormone replacement therapy. As women age, the glandular and stromal components of the breast tend to disappear and the fat component tends to predominate. However, some young women have fatty breasts and some elderly women have dense breasts. Breast density patterns also tend to run in families, so women are likely to notice breast densities similar to their mother or sister.

Efforts to increase public awareness of breast density are also motivated by its association with an increased risk of breast cancer. In fact, women with dense breasts are four times more likely to develop breast cancer than women with fatty, less dense breasts. In addition, breast tissue density influences the ability of both physical examination and screening imaging tools to detect the presence of breast cancer.

The four levels of breast density that may be detected in mammograms. Levels 3 and 4 should be disclosed to doctors and their patients.

How is breast density measured?

Breast density is divided into 4 levels based upon the amount of glandular tissue and stroma compared to the amount of fatty tissue contained within the breast (See Image Above).

- Level 1 breast density is mainly composed of fatty tissue and contains less than 25% glandular tissue and stroma.
- Level 2 breast density contains between 25-50% of glandular tissue and stroma.
- Level 3 breast density contains 51-75% glandular tissue and stroma.
- Level 4 breast density is the most dense breast tissue and is composed of more than 75% glandular tissue and stroma.

The effort to improve breast cancer detection and prevention led California legislators to pass a Breast Density Bill, which requires mammography providers, beginning April 1, 2013, to notify women if they have Level 3 or Level 4 breast density. Women must also be notified that high breast density may increase their risk of breast cancer. Furthermore, the law requires women with Level 3 or 4 density to be informed of other available screening options to improve breast cancer detection. These options include, but are not limited to,

contrast-enhanced breast MRI, whole breast screening ultrasound, and tomosynthesis. The actual screening regimen is left to the discretion of the ordering physician.

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