

## ER, PR, and HER2 Status May Change in Breast Cancer Tumors That Have Spread

In a new study, researchers discovered that breast cancer tumors that have spread to the liver can have different features than the original tumor. As part of diagnosing breast cancer, several features of the tumor are measured, including estrogen receptors (ER), progesterone receptors (PR), and HER2. Estrogen and progesterone receptors are found in breast cancer cells that depend on estrogen and related hormones to grow. HER2 is a specialized protein found on breast cancer cells that controls cancer growth and spread.

In cancer that has spread, ER, PR, and HER2 are often not tested for the areas where the cancer has spread—it is assumed that these features are the same. However, this study shows that the ER, PR, and HER2 status changed, requiring a change in treatment for 30 of the 255 women in the study.

### What this means for patients

These results indicate that tumor features, such as ER, PR, and HER2 status, often change between primary tumors and metastases, and suggest that biopsies of these secondary tumors should be performed when possible, said co-author Giuseppe Curigliano, MD, PhD, Senior Deputy Director in the Division of Medical Oncology at the European Institute of Oncology in Milan, Italy. Traditionally, we start therapy according to the features of the primary tumor, and these results can influence treatment choices as many as 10 years later. Retesting secondary tumors will help ensure that patients get the most effective treatment possible. However, breast cancer may spread to areas that are difficult to take the sample of tissue needed for these tests.

### What to Ask Your Doctor

- Has the breast cancer spread outside of the breast?
- What stage of breast cancer do I have?
- What is the ER, PR, and HER2 status of the tumor? What does this mean?
- If my cancer has spread, do you recommend testing the ER, PR, and HER2 status again?

### For More Information

[Guide to Breast Cancer](#) [1]

[ASCO Answers Fact Sheet: Breast Cancer](#) [2]

[What to Know: ASCO's Guideline on Tumor Markers for Breast Cancer](#) [3]

[What to Know: The ASCO and CAP Guideline on Estrogen and Progesterone Testing for Breast Cancer](#) [4]

[What to Know: ASCO's Guideline on HER2 Testing for Breast Cancer](#) [5]

#### Links:

[1] <http://www.cancer.net/patient/Cancer+Types/Breast+Cancer>

[2] [http://www.cancer.net/sites/cancer.net/files/vignette/ASCO\\_Answers\\_Breast.pdf](http://www.cancer.net/sites/cancer.net/files/vignette/ASCO_Answers_Breast.pdf)

[3] <http://www.cancer.net/patient/Publications+and+Resources/What+to+Know%3A+ASCO%27s+Guidelines/What+to+Know%3A+ASCO%27s+Guideline+on+Tumor+Markers+for+Breast+Cancer>

[4] <http://www.cancer.net/patient/Publications+and+Resources/What+to+Know%3A+ASCO%27s+Guidelines/What+to+Know%3A+The+ASCO+and+CAP+Guideline+on+Estrogen+and+Progesterone+Receptor+Testing+for>

[5] <http://www.cancer.net/patient/Publications+and+Resources/What+to+Know%3A+ASCO%27s+Guidelines/What+to+Know%3A+ASCO%27s+Guideline+on+HER2+Testing+for+Breast+Cancer>