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## MCED Testing for Breast Cancer: Opportunities and Limitations

### Announcer:

This is *On the Frontlines of Metastatic Breast Cancer* on ReachMD. Here's your host, Dr. Alexandria May.

### Dr. May:

This is *On the Frontlines of Metastatic Breast Cancer* on ReachMD, and I'm Dr. Alexandria May. Joining me to explore where multi-cancer early detection tests fit into breast cancer care is Dr. Marie Wood. She's a Professor of Medical Oncology at the University of Colorado Anschutz School of Medicine. Dr. Wood, welcome to the program.

### Dr. Wood:

Thank you for inviting me. It's a pleasure to be here.

### Dr. May:

So to set the stage for us, Dr. Wood, can you give us an overview of what multi-cancer early detection, or MCED, tests are designed to do and why breast cancer has become part of this broader conversation about early detection?

### Dr. Wood:

I think that multi-cancer early detection, or MCED, testing is very exciting. There are a lot of companies that are developing tests that are potentially able to identify cancer early. These tests use blood tests to look at circulating DNA or other markers, and generally, they test anywhere from three to 50 different cancer types.

I think that breast cancer has become part of this because of the shedding of tumors at diagnosis, which is probably a little bit more well-demonstrated in triple-negative and HER2-positive breast cancer and less commonly seen in ER-positive cancer. Whether these cancers can be detected prior to being seen with standard of care screening, such as mammogram or MRI, for our high-risk population remains to be seen.

I think multi-cancer early detection tests are being marketed to primary care providers and sometimes to patients as a way to get a single blood test to look for multiple cancers. If you look at the data closely—and there are a number of studies out there—they're very good at finding stage III and stage IV cancer, but they're less good at finding early-stage cancer. And if we're going to make a dent in what we can do for our patients, they need to find cancers early. I think for cancers like I've mentioned, like HER2-positive or triple-negative, these probably can advance us, but we need to make sure that we study the clinical utility of this test and their ability to identify cancer early.

### Dr. May:

With that in mind, how are clinicians thinking about the relationship between MCED testing and established breast cancer screening approaches, such as mammography or MRI?

### Dr. Wood:

I think that's a great question. When you think about multi-cancer early detection, the way that these tests are marketed is a single blood test to identify multiple cancers as opposed to signing up for one MRI or one mammogram. So can that be an advantage?

Unfortunately, I don't think that testing has shown us where the MCED test can move breast cancer screening forward. If you look at the studies that have been done to date, largely in case cohort studies, they show that these MCED tests can pick up ovarian cancer, pancreatic cancer, and esophageal cancer. They seem to be less sensitive at picking up breast cancer.

### Dr. May:

Now, one issue that comes up often with MCED testing is sensitivity and specificity. Knowing that, what makes breast cancer particularly challenging or promising when it comes to blood-based detection?

**Dr. Wood:**

I think the lack of tumor shedding with early-stage cancers is what makes these more challenging. You need to have something that's put into the bloodstream to be able to measure when I think these tests are probably more sensitive than what we think of as tumor markers. A lot of these tests have been used in the minimal residual disease space, such as colon cancer and now breast cancer. Although it's hard to know what finding these signals means.

I think it's also important to realize that multi-cancer early detection can be falsely positive. You can find a signal. You can do a mammogram or an MRI and you cannot find any cancer. You can also find a cancer that's not associated with that tissue, say another cancer like lung or ovarian cancer. Additionally, you can have a negative test and still have cancer. So I think people who are thinking about these tests or their clinicians need to be aware of all of these factors.

**Dr. May:**

For those just tuning in, you're listening to *On the Frontlines of Metastatic Breast Cancer* on ReachMD. I'm Dr. Alexandria May, and I'm speaking with Dr. Marie Wood about how MCED technologies are entering the conversation around breast cancer screening.

So, Dr. Wood, as the potential of MCED testing grows, what kinds of evidence do clinicians and health systems still need before these tests can become more broadly adopted into breast cancer care?

**Dr. Wood:**

So I think two things are really important. Can they find cancer early, and how do we integrate it into standard of care? These two things are actually what the NCI is looking for. The NCI has deployed the Cancer Screening Network, and their first study, which is called the Vanguard study, is a 24,000-person study of multi-cancer early detection testing using two different tests. One group gets no testing, the next group gets one test, and the third group gets another test. We're looking to establish whether multi-cancer detection testing can find cancer early. We're also looking at, can we deploy these tests in primary care settings? Will patients come back for the evaluation? Will they adhere to their standard-of-care screening? So these are all really important points.

Are MCED tests exciting? Yes. Are there multiple companies developing them? Yes, absolutely. Are they ready for prime time? I'm not so sure.

**Dr. May:**

And are there any particular patient populations or clinical settings where MCED testing is being explored more closely in relation to breast cancer?

**Dr. Wood:**

That's a great question, and thank you for asking that because we at the University of Colorado are starting a study to look at the feasibility of testing in people who have mutations. So we know that mutation carriers have a very high risk for cancer. We put them through arduous screening protocols, and sometimes, we don't find those cancers early. So looking in this very high-risk population—a population at risk for multiple cancers—is, in my opinion, an important place to test MCED testing.

**Dr. May:**

Finally, Dr. Wood, looking ahead, what areas of research or development are likely to shape the future role of MCED testing in breast cancer care?

**Dr. Wood:**

I think that's a bit of a difficult question to answer because I'm not sure that MCED testing for breast cancer is going to be the be-all, end-all. I think it may be an adjunct to our standard screening, which we know saves lives and—even for our high-risk population—finds cancer early at a more treatable stage.

So I think while I'm optimistic that MCED testing can potentially move the screening field forward, be accessible to lots of different populations, and make it easier for people to adhere to screening, I think we need validation studies. I am optimistic that the NCI trial will help us move this question forward, and I also think that we need to do more testing in high-risk populations or more studies in high-risk populations, and there are a couple of those in the wings.

**Dr. May:**

That's a great way to round out our program today. A big thanks to my guest, Dr. Marie Wood, for sharing her insights on multi-cancer early detection testing in the context of breast cancer care. Dr. Wood, thanks so much for joining us.

**Dr. Wood:**

Thank you so much for having me.

**Announcer:**

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