



Within Reach

New breast cancer findings are making researchers more hopeful than ever.



As October's pink ribbons remind us, the fight against breast cancer is far from over. But after a host of recent breakthroughs, doctors are optimistic. "There's a tremendous amount of work being done," says Deborah Rhodes, MD, a specialist in breast cancer risk at the Mayo Clinic. "With such a multifaceted approach, we're gradually winning the war." Here, some of the most inspiring discoveries of 2011. —RACHEL BERTSCHE

Detection

● **THE LATEST:** A study coauthored by Rhodes found that a screening method called molecular breast imaging (MBI) is three times better than mammograms at finding small cancers in women with dense breasts (that's at least two-thirds of women in their 40s). Patients are injected with a radioactive agent that collects in tumor cells, making them light up on a radiation-detecting camera.

● **THE FORECAST:** Rhodes believes MBI could be a game changer: "If we could offer an additional imaging option ideally suited to women with dense breasts, we'd have a home run."

Progression

● **THE LATEST:** The majority of deaths from cancer are caused not by the original tumor but by the spread of the disease. Jeffrey Pollard, PhD, of the Albert Einstein College of Medicine, has discovered that a molecule called CCL2 helps stimulate a tumor's spread.

● **THE FORECAST:** Researchers could develop CCL2-inhibiting therapies that would slow metastasis or even prevent it altogether. "Over the past 20 years, there has really been no improvement in the survival of women with metastatic breast cancer," Pollard says. "We need this type of targeted therapy to tackle the problem."

Prognostics

● **THE LATEST:** A May report announced that a new genetic test might be able to predict which patients with highly aggressive tumors are more likely to survive postchemotherapy. And German researchers have identified a molecular marker that may indicate how well triple-negative cancers (the hardest kind to treat) will respond to chemotherapy.

● **THE FORECAST:** The ability to identify whether a patient will do better with one type of chemotherapy over another would save patients from unnecessary drugs that can cause devastating side effects or have no effect at all.

Surgery

● **THE LATEST:** In about 40 percent of breast cancer patients, the disease spreads to the lymph nodes in the armpit. Doctors determine whether metastasis has occurred by surgically removing a few nodes; if those nodes are cancerous, ten to 30 more may be removed—a procedure that can have debilitating side effects (including chronic swelling in the arm and chest). But a recent study found that this operation had no effect on survival rates for early-stage cases: The patients who had no further nodes removed had a prognosis as good as patients who had at least ten removed.

● **THE FORECAST:** With further study, Rhodes suspects the approach could become standard care for certain types of patients.

Drugs

● **THE LATEST:** A trial conducted by the American College of Surgeons Oncology Group found that in postmenopausal women, a class of estrogen-lowering drugs called aromatase inhibitors can shrink some stage II and III tumors enough to allow for a lumpectomy instead of mastectomy.

● **THE FORECAST:** The drugs could prove pivotal in reducing the national mastectomy rate of 37 percent.

For more on breast cancer, see "Your Story Will Be Unique," page 194.