

COLUMBIA UNIVERSITY MEDICAL CENTER  
*Herbert Irving Comprehensive Cancer Center*

# Clinical Breast Cancer Program



# Welcome

At the Clinical Breast Cancer Program, we understand that a diagnosis of breast cancer can be a disorienting and stressful experience. We have structured our patient care around this fact, complementing our clinical services with the emotional support, information, and guidance that patients with breast disorders need.

The Clinical Breast Cancer Program is part of the Herbert Irving Comprehensive Cancer Center of NewYork-Presbyterian/Columbia University Medical Center, a National Cancer Institute (NCI) designated cancer center. It is also accredited by the National Accreditation Program for Breast Centers (NAPBC) through the American College of Surgeons. These special designations recognize our excellence in the areas of patient care and breast cancer clinical research.

We are committed to delivering a comprehensive and seamless continuum of breast care. Our multidisciplinary team of clinical breast specialists includes breast surgeons, plastic surgeons, medical oncologists, radiation oncologists, pathologists, radiologists, genetic specialists, psychosocial support specialists, oncology nurses, nutritionists, physical therapists, and other experts. From the time of the first appointment, each patient is assigned a nurse navigator who possesses in-depth familiarity with the steps in the patient's care plan and connects the patient to our specialists for answers to questions, provides guidance about appointment types and times, and offers the compassion of someone who knows what the patient is going through. In this way we can ensure a smooth and accessible experience from the first consultation, to imaging and further diagnostics, through surgery if required, to follow-up consultations and coordination of additional treatment either at NewYork-Presbyterian/Columbia or in the patient's community.

In short, our caring encompasses not just clinical excellence, but the entire scope of a breast patient's needs.

## Sheldon Marc Feldman, MD

Chief, Breast Surgery

Vivian L. Milstein Associate

Professor of Clinical Surgery

## Dawn Hershman, MD, MS

Leader, Breast Program, Herbert Irving

Comprehensive Cancer Center

Associate Professor of Medicine  
and Epidemiology



## The Clinical Breast Cancer Program Serves Patients with a Variety of Breast Cancer Concerns


*We can help you if you:*

- Have a lump in your breast
- Received an abnormal mammogram or biopsy report
- Received a diagnosis of breast cancer
- Would like a second opinion
- Are worried about a breast cancer recurrence
- Want to learn about strategies to prevent breast cancer
- Want genetic counseling for yourself or a family member
- Seek support services from breast cancer survivors
- Seek possible participation in clinical trials
- Need information about breast cancer and its treatment



### Multidisciplinary Consultation and Treatment from Breast Cancer Specialists

Our group of expert pathologists, radiologists, breast cancer surgeons, plastic surgeons, and medical and radiation oncologists possesses focused expertise in caring for and treating patients with breast disease. We meet weekly to review breast cancer cases, and through our combined effort, are able to develop a treatment plan suited to each patient's individual needs. This multidisciplinary approach to patient care enhances communication among specialists, which is essential to optimizing treatment outcomes.



## Rapid access for diagnostic, surgical, medical oncology, and radiation oncology appointments

We recognize that a woman's anxiety is greatest when a diagnosis of breast cancer is in question. She is given an appointment promptly for diagnostic breast imaging and physician evaluation. If diagnosed with breast cancer, she rapidly obtains appointments for surgical evaluation. Surgery is scheduled as soon as diagnostic and preparatory tests are completed.

## Diagnosis

To arrive at a diagnosis, our specialists use state-of-the-art technology. Digital mammogram, ultrasound, and MRI are performed and interpreted by our expert breast radiology team. Biopsies are performed using minimally invasive techniques either by palpation or under image guidance including mammogram (stereotactic), ultrasound or MRI.



## Second Opinions

Patients with newly diagnosed or recurrent breast cancer may schedule consultations to review treatment recommendations, mammography films, or pathology slides they have received from other doctors.



*The Clinical Breast Cancer Program develops a treatment plan suited to each patient's individual needs.*

## Pathology

Breast cancer is a complex disease. Research has shown there are many different types of breast cancer, and that the biology of a specific tumor dictates how that cancer may behave (for example, how aggressively it may grow), and what the best treatment is to prevent it from recurring. That is why our pathologists examine each patient's breast cancer carefully to ensure that she receives the most effective treatment available.

## Breast Cancer Surgery

*Oncoplastic Surgery* — The majority of patients can have breast conservation (lumpectomy) surgery. Sentinel node biopsy, a method of detecting cancer that has spread to lymph nodes, is performed using minimally invasive techniques. Our surgeons are versed in oncoplastic surgery, which combines the latest techniques for tumor removal with reconstructive options. This approach leaves patients with no visible reminder of their breast cancer, better cosmetic results, and low risk of recurrence.

*Mastectomy* — In most women for whom lumpectomy is not an option, skin-sparing and nipple areola-sparing mastectomy can be performed using cosmetic incisions which preserve the normal appearance of the breast.

*Reconstructive Techniques* — Our plastic surgeons perform immediate or delayed breast reconstruction with options that include the use of implants as well as reconstruction using a patient's own tissue, including microvascular and pedicle DIEP and TRAM flap procedures. We also offer our patients nipple areolar reconstruction. Reconstructive surgeons are involved right from the beginning of a patient's care to ensure that the best possible cosmetic outcome is achieved.

*Preoperative Preparation* — Patients are carefully evaluated and medically optimized to ensure a smooth operative experience. Educational materials and talking with experienced patients, as well as mind-body interventions including relaxation CDs, consultation with healers, Reiki therapy, and aromatherapy are available to support the patient's surgical experience.





*Advanced Anesthesia* — The use of local nerve blocks to close the pain pathways that would be activated by surgery dramatically reduces postoperative pain and side effects such as nausea. We also may utilize implanted catheters that administer continuous local anesthesia to the surgical site even after the patient is discharged home. For many of our patients, these techniques have eliminated the need for narcotics.

*Radioisotope Seed Localization* — Radioisotope seed localization is a new technique that facilitates precise surgical excision of tumors without the placement of preoperative needles. Until recently, women with small breast tumors would typically have a mammogram or ultrasound prior to surgery, during which a wire or thin needle is inserted into the tumor. With the wire extending out of her skin, the patient is then moved to the operating room, where the wire guides the surgeon to the correct area for removal. This process can be uncomfortable, however, and less precise since it does not provide a three-dimensional map of the area to be removed. In the near future, the Clinical Breast Cancer Program will be using a new technique in which a tiny radioisotope ‘seed’ is placed in the tumor instead. Once in the operating room, this seed guides the surgeon to the exact site for removal. Not only is this technique more comfortable for patients, but studies show that better targeting the correct area for excision translates into more effective surgery and a reduced need for secondary surgery later. In addition, the seed can be placed several days prior to surgery, providing more flexibility in scheduling.

*Intraoperative Ultrasound* — During surgery to remove breast tumors, it is extremely important to achieve a healthy margin, or to remove enough tissue around the tumor to ensure that cancerous cells no longer remain. According to some reports, the use of ultrasound during surgery helps surgeons to accurately assess and achieve a clear surgical margin. This helps to lessen the chance of a second surgery to remove additional tissue later, and reduces the rate of cancer recurrence.

## Radiation Oncology

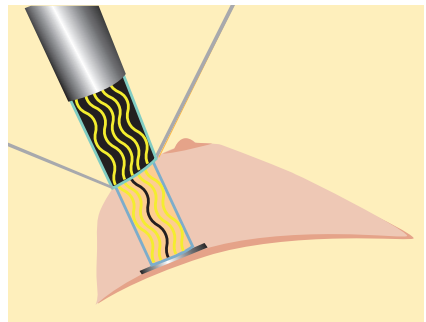
NewYork-Presbyterian/Columbia radiation oncologists ensure every patient receives the best radiation treatment based on her diagnosis, recommended dosage, and targeted body area. Our program offers the full spectrum of radiation therapies, including:

- External beam breast radiation therapy in prone or supine positions using three-dimensional conformal and intensity-modulated radiation therapy. The course duration ranges between three and six weeks, depending on stage and surgery performed.
- Accelerated partial breast irradiation aimed only to the tumor cavity, using MammoSite® balloon or external beam radiation. The entire treatment is administered over five days.
- Intraoperative Radiation Therapy (IORT) is a form of partial breast irradiation administered at the time of surgery.

Three-dimensional radiation and intensity-modulated radiation therapies target radiation beams to the contours of the patient's breast while sparing healthy tissue as much as possible.

### *Intraoperative Radiation Therapy (IORT)*

— Intraoperative Radiation Therapy (IORT) is used to prevent recurrences in women who have undergone breast-conserving surgery for breast cancer. IORT is delivered at the time of surgery directly to the cavity from which the breast cancer was removed, rather than to the entire breast. This is an excellent option for selected patients who are diagnosed with early stage breast cancer. In selected patients it prevents the need for daily external radiation treatments. It adds about 30 minutes to the lumpectomy procedure.



*IORT delivers radiation directly into the tumor bed during breast-conserving surgery to kill cancer cells. This advanced technology may help eliminate microscopic disease, reduce radiation treatment times or provide an added radiation “boost.”*



## Breast Medical Oncology

Every patient's cancer is unique, and our medical oncologists take a personalized approach to each person's plan of care. As treatments become more individualized, our group is aware of all of the latest advancements in risk prediction and treatment. We aid patients in making decisions regarding chemoprevention and regarding treatment of in situ cancers, non-metastatic cancer, and advanced and recurrent breast cancer.



### *Early Stage Breast Cancer*

— For women with stage 0-3 breast cancer, the decision-making process can be complex. Our group has extensive experience and knowledge of the latest clinical trial results to guide patients in determining treatment plans that are most effective for them.

### *Experimental Therapeutics*

— There has been an explosion of new treatments for breast cancer. Our oncologists are leaders in breast cancer clinical trials and are able to offer patients the newest treatments as they become available, or as part of research studies.

### *Supportive Care and Late Effects of Therapy*

— We are one of the leading centers investigating how to predict and control symptoms that result from cancer treatment. We are evaluating natural products and pharmacologic agents, as we are sensitive to the serious effects some treatments can have on long-term quality of life.

### *Integrative Oncology*

— There is concern that some natural products can be harmful or interfere with cancer treatment. The Clinical Breast Cancer Program has a team of experts in integrative oncology that conduct studies of diet, physical activity, weight loss, dietary supplements, and acupuncture for breast cancer prevention, treatment, and supportive care.





## Innovations and Special Expertise


*Oncoplastic Breast Reconstruction* — Your breast surgeon can reconstruct the breast tissue during lumpectomy to achieve the best possible cosmetic appearance. This significant advance allows patients to undergo completion of all their breast cancer local therapies during a relatively minor outpatient procedure.

*Intraductal Papillomectomy* — The Clinical Breast Cancer Program is the only facility in the U.S. to offer scarless endoscopic papillomectomy for treatment of pathologic nipple discharge (fluid leaking from the nipple). Intraductal techniques allow our surgeons to perform minimally invasive evaluations, in contrast to traditional evaluations which required surgical removal of the milk ducts under the nipple, and resulted in scarring and deformity. Moreover, this is one of only a handful of centers in the U.S. with extensive experience performing ductoscopically guided microductectomy, which allows for targeted surgical removal of the portion of the milk duct causing the discharge. Using an interventional ductoscope, a papilloma causing the discharge can be removed completely endoscopically, through the nipple, without the need for a surgical incision.

Our researchers are also investigating intraductal endoscopy for the earliest detection and potential intraductal treatment of ductal carcinoma in situ (DCIS). Ultimately we hope to be able to prevent breast cancer through intraductal local therapy delivered through the nipple.

*Genetics and Breast Cancer in Asian Women* — While Asian women have among the lowest incidences of breast cancer, that incidence is rising dramatically both in Asians abroad as well as in Asian Americans. Moreover, Asian women tend to develop breast cancer at earlier ages than their non-Asian counterparts—even before the age at which mammography is normally recommended—and their forms of cancer tend to be more aggressive due to the presence of certain genetic factors. In collaboration with researchers at other centers in the U.S. and Hong Kong, New York-Presbyterian/Columbia will be participating in a gene expression study to identify genetic factors affecting breast cancer in Chinese women.





*Interstitial Laser Ablation: Minimally Invasive Treatment of Breast Tumors* — Surgeons in the Clinical Breast Cancer Program will be leading a trial of minimally invasive treatment of small breast tumors based on the success of research in percutaneous interstitial laser ablation (ILA) of fibroadenomas—benign breast tumors that occur most commonly in younger women. During ILA, tumors are destroyed using a needle-sized probe with a laser. We will be offering ILA to women with small breast tumors (under 2 cm) as part of a new protocol to further study the technique.

*Intraoperative Radiofrequency Ablation* —The Clinical Breast Cancer Program offers intraoperative radiofrequency ablation (RFA) to women undergoing breast conservation surgery (lumpectomy). Although breast conservation surgery is less invasive and results in a more natural cosmetic outcome than mastectomy, 20 – 30% of women will go on to need additional surgery to remove tumor cells remaining in the surrounding tissue. To reduce the need for secondary surgery, RFA is applied to the lumpectomy cavity during the same procedure. By destroying cells close to the surgical margin, RFA helps to ensure that no tumor cells remain in the breast tissue.

*Tissue AIR Expansion System for Breast Reconstruction* — After mastectomy, breast cancer patients who wish to have reconstructive surgery often undergo a process by which a space to accommodate a breast implant is created under the patient's remaining skin. The standard process entails injections of saline every few weeks to gradually expand the skin and muscle in the chest to allow placement of a permanent implant. Some women find that not only are the injections painful, but frequent visits to the hospital for 4 to 6 months or more may present a significant time burden.

Ours is the first center in the U.S. to conduct a trial of a needle-free tissue expansion technique, which eliminates the need for frequent saline injections and hospital visits. This investigational method first requires implantation of a small expander device. Once at home, the patient uses a remote-control device to release small amounts of compressed carbon-dioxide from a valve in the expander. Daily expansion may result in creation of a pocket in an average of 15 days, a significant advantage over several months of saline injections. Patients can use the new needle-free technology while at home, at their own pace and comfort level.



## Preventing Lymphedema

About 19% of women who undergo lymph node dissection develop some degree of lymphedema, which is swelling of the arm, hand, or fingers. Although most cases are mild, lymphedema can vary in severity and can be debilitating. Pressure from extra fluid in the limb can lead to pain and loss of motion, chronic skin damage, and infections such as lymphangitis and cellulitis.

The Clinical Breast Cancer Program now offers two important protocols to prevent lymphedema following surgery for breast cancer.

*LYMPHA* — The cutting-edge LYMPHA protocol is now available to women who are scheduled to undergo complete axillary lymph node dissection. Prior to lymph node dissection, blue dye is injected into the patient's upper arm. Then, during the surgery, the presence of the dye guides the surgeon in identifying lymphatics from the arm which are reattached microscopically to a branch of a vein in the armpit area. This approach re-establishes lymphatic flow, which significantly reduces the patient's risk of developing lymphedema.

*Bioimpedance Spectroscopy* — Bioimpedance spectroscopy is a painless, noninvasive technique used to measure extracellular fluid in the limbs by passing low-dose electric current through the limb. Before surgery for breast cancer, patients undergo a baseline measurement to determine their normal fluid levels. After surgery, patients will be assessed again at frequent intervals (usually during regular office visits). Through continuous monitoring, any change in fluid levels will be detected in their earliest stages, even before any arm swelling may be visible. Started in 2010, this protocol successfully identifies patients who have subclinical levels of lymphedema. Detecting and treating lymphedema at far earlier stages than ever before has the potential to significantly improve the quality of life for many patients.





## Clinical Trials

Investigation of newer and better breast cancer treatments is at the core of our mission. Leaders in clinical research, our clinicians have led and participated in studies that resulted in approval of many anticancer drugs used to treat breast cancer today. We work with experts from around the country to develop studies funded by the National Cancer Institute, and we work with pharmaceutical companies to help understand the benefits and side effects of new and promising drugs. We also work closely with basic science researchers at NewYork-Presbyterian/Columbia to understand the mechanisms of new drugs, determine who best benefits from each type, and which combinations prove the most beneficial.



## Patient Support

We recognize that treating the disease itself is just one component of success. That's why we offer patients a full range of psychosocial and other support services.

*Support from Survivors* — Talking to someone “who has been there” is a powerful support resource for a woman facing a diagnosis of breast cancer. Our lay patient navigator program, together with our affiliated Women At Risk program, ensure that every one of our patients has immediate access to dedicated, caring advocates who are breast cancer survivors.

*Counseling and Support Services* — We offer bimonthly support groups in Spanish and English, which are run by breast cancer survivors. Patients may also choose to meet with our psychiatrist or psychologists to develop coping strategies and to reduce stress.

## Prevention

Caring for women at high risk for breast cancer, including breast cancer survivors, women with a family history of breast cancer, or others with high risk indicators, is a core focus of the Clinical Breast Cancer Program. Our specialists counsel women about lifestyle changes such as reducing post-menopausal weight, regular exercise, and complete nutritional wellness.

*Medical Prevention* — A number of FDA-approved drugs can help to reduce the risk of developing breast cancer. Our clinical research team is investigating new agents and natural products that may also work to prevent breast cancer. Patients can receive a comprehensive evaluation of potential risk-reducing strategies.

*Genetic Analysis* — Our Cancer Genetics Program provides genetic counseling and testing for women with a personal or family history of breast cancer. Patients receive a personalized profile of their cancer risk, outlining strategies that they can take to potentially reduce their risk of developing the disease.

*Surgical Prevention* — Prophylactic mastectomy dramatically reduces the risk of breast cancer for women at very high risk. In conjunction with their medical and surgical team, some women choose this option following confirmation that they have a BRCA1 or BRCA2 gene mutation. In some cases, women without BRCA gene mutations also choose prophylactic mastectomy if they had cancer in one breast and want to prevent cancer from developing in the other; if they have a familial cancer syndrome; or if they are otherwise at high risk. Anyone at high risk for breast cancer may seek consultation regarding risk-reducing surgery.

*Women at Risk* — Our clinicians and researchers work closely with our affiliated Women At Risk program (WAR), which has a distinguished track record in breast cancer research, education, and support for high-risk patients. In addition to a patient resource library, WAR runs a support group for women at high risk for breast cancer and also maintains a registry for patients at high risk.



*When you arrive for your appointment, you may need to bring originals or copies of your breast imaging studies.*



## Important Questions

### *How do I schedule an appointment?*

Our scheduling staff is ready for your call. A complete directory of phone numbers is available on the insert included in this brochure. Very important: Please check to find out if your insurance requires a referral, and make sure to bring your referral form when you come for your first visit.

### *Can my family and/or friends accompany me?*

Patients are encouraged to bring a family member or friend with them for support and to act as a liaison. Our physician team believes strong relationships lie at the heart of a successful care experience. We find that not only do family and friends offer company and support, but they often help by serving as advocates who can ask questions you may have forgotten or by making a list of things you need to do before your next appointment.

### *What do I need to bring with me to my office visit?*

When you schedule your appointment, our staff will ask you to have your medical records faxed to our office. When you arrive for your appointment, you may need to bring originals or copies of your breast imaging studies—for example, mammograms, ultrasounds, and MRI studies.

### *How do I obtain my records and films?*

By law, you must submit a request in writing to your doctor(s) in order to have them release medical records. Keep in mind that original imaging films or copies of films must be requested from the radiologist that performed the study. There may be a fee associated with this depending on the radiologist's policies. If you have had your studies done at NewYork-Presbyterian/Columbia you do not need to request films, as we can access them directly.

### *How quickly will I be able to start my treatment plan?*

All patients are scheduled as soon as diagnostic and preparatory tests are completed. Some patients may require additional appointments and examinations prior to treatment including radiologic exams and/or biopsies. Every effort is made to schedule dates that are convenient for patients and their families.



## Contact us:

For referral to one of our doctors, please call:  
855.CU.SURGE

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To schedule a consultation at the  
*Clinical Breast Cancer Prevention Program*,  
please call:

212.305.5098  
for a breast specialist or  
212.305.5890  
for genetic counseling

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## We are located at:

NewYork-Presbyterian/Columbia University Medical Center  
Herbert Irving Pavilion, 10<sup>th</sup> Floor  
161 Fort Washington Avenue  
New York, NY 10032

ColumbiaDoctors Midtown  
51 West 51<sup>st</sup> Street  
New York, New York 10019  
212.326.8500

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Please visit us on the internet at:

[www.breastMD.org](http://www.breastMD.org)  
[www.womenatrisknyc.org](http://www.womenatrisknyc.org)  
[www.hiccc.columbia.edu](http://www.hiccc.columbia.edu)

