

Chemotherapy: How It Works

Treatment for breast cancer often involves the use of drugs referred to as chemotherapy. The word chemotherapy comes from two words, “chemo” meaning chemical and “therapy” meaning treatment. A medical oncologist, a physician specializing in the treatment of cancer, prescribes and monitors this treatment.

After carefully reviewing all your medical records and performing a physical exam, your healthcare providers will recommend a treatment plan, often including chemotherapy. This plan, referred to as a treatment protocol, will consist of one or a combination of the following types of treatment:

- Surgery
- Chemotherapy
- Targeted Therapy (Herceptin®, trastuzumab)
- Radiation therapy
- Hormonal (endocrine) therapy
- Immunotherapy
- Precision medicine (genetic and genomic testing)
- Observation only (rare)

Treatment protocol decisions are made by your physician(s), decided in consultation with other physicians or through more formal multidisciplinary conferences. Many hospitals or cancer centers conduct multidisciplinary conferences, where physicians specializing in different areas of treatment (oncology, radiology, surgery, pathology, primary care, etc) and other healthcare providers discuss each case and come to an agreement on a treatment protocol. After the most appropriate therapy is selected, the healthcare provider discusses with the patient the reason for the selection and the potential side effects. Regardless of the method used to determine your treatment protocol, it is very important that you understand the plan and have any questions answered. Ask for written information on your disease and the treatment that is deemed appropriate for you.

There are approximately 15 different types of breast cancer and many factors that influence individual treatment decisions. It is imperative that you **do not compare your treatment to another patient’s treatment**. Carefully analyze what friends, family and co-workers say and what you read in newspapers, magazines, the Internet or hear on television and radio. **Treatment decisions are individually formulated**. Rely on your healthcare providers and treatment team for accurate information based on your cancer and treatment.

A combination of chemotherapy drugs may be used to fight your cancer. Each drug is used to kill any cancer cells that may be left in the body after your surgery that could continue to grow and divide. The drugs selected have different side effects and work in different ways to kill cancer cells. Chemotherapy drugs work by killing rapidly dividing cells, both cancerous and healthy cells. Other rapidly dividing cells in your body that may also be affected include hair cells, which may result in varying amounts of hair loss; gastrointestinal cells, causing a sore mouth or throat; and blood cells, which can produce lower blood counts and increase potential for infection, bleeding and fatigue.

Most of these cells recover rapidly, and the side effects subside quickly. Your treatment team will inform you of what side effects to expect from the recommended chemotherapy.

Most chemotherapy drugs used to treat breast cancer are given through an I.V. (intravenous—needle through a vein), and a few are given orally. If a patient’s veins are hard to locate, or if a type of chemotherapy drug that has a potential to damage the skin are to be given, a permanent infusion device may be implanted by a surgeon. This port, called a “life-port” or “port-a-cath,” is placed under the skin, usually on the chest wall.

The frequency of treatment will vary according to the type of drugs selected. Treatments are usually started several weeks after surgery and are administered in the physician’s office or cancer center. Your oncologist will explain your treatment schedule.

Many horror stories about chemotherapy treatment have been told and heard. Fortunately, times have greatly changed with the discovery of new medications and the advancement of technology. Newer medications for nausea have all but eliminated the nausea and vomiting associated with chemotherapy.

Some drugs stimulate the immune system, while others attack the cancer directly. Immunotherapy drugs have been developed that boost the immune system and relieve many of the symptoms resulting from low blood counts.

Precision medicine is the customization of your recommended therapy based on study results of your genes (genetic and genomic studies). After decades of research, scientists now understand that a patient’s tumor has changes in their genes that determine a cancer’s growth and spread. They have also learned that the changes in one person’s cancer may not occur in others who have the same cell type of cancer. These tests reveal how your genes have changed and allowed your cancer to grow, its aggressiveness and its potential to spread. This information allows your physician to select the most appropriate therapy known for your individual cancer.

Your treatment team will discuss the treatment protocol and plan for managing possible side effects. Every effort is taken to ensure that side effects are kept to a minimum.

Additional Information:
