

## Side Effects of Cancer Treatment

**Condition:** Cancer treatment often differs based on the type of cancer; however, it may include surgery, chemotherapy, and radiation. Often, while treatment can be curative, significant side effects may occur.

**Background:** In 2020, estimated number for new cancer cases is 1.8 million with 606,520 cancer deaths projected in the United States alone. Globally, cancer is the second leading cause of death. In the US, 39-40 people out of 100 are estimated to be diagnosed with cancer in their lifetime. Long-term declines in death rates have occurred for the four leading cancers (lung, breast, prostate, and colorectal) leading to an estimated almost 17 million individuals with a history of cancer alive as of January 1, 2019. This means that the number of cancer survivors is increasing with likely more than 22 million estimated cancer survivors by the year 2030.

For these survivors, their cancer treatment may have included localized therapies such as surgery, radiation, chemical ablation as well as systemic therapies such as chemotherapy, hormonal therapy, and immunotherapy. Side effects from these treatments can include symptoms such as nausea, vomiting, weight loss, diarrhea or constipation, and fatigue as well as physical effects such as loss of range of motion of an arm or leg, lymphedema (swelling of the arm or leg due to change in lymph drainage), pain at the site of surgery, and organ or tissue damage from chemotherapy or radiation therapy.

**Risk Factors:** Risk factors can vary for different types of cancer. Family history of cancer can play a part. Other risk factors include smoking, sun exposure, excess body weight, poor nutrition, physical inactivity, and alcohol consumption. Certain cancers are caused by infectious agents such as HPV (human papillomavirus), HVC (hepatitis B virus), and HCV (hepatitis C virus).

**History and Symptoms:** A thorough history will ask about both physical and emotional side effects including nausea, vomiting, weight loss, fatigue, depression, sleep, swelling or pain at the site of surgery, and overall pain levels. A functional assessment to see what activities of daily living are affected is important as well.

**Physical Exam:** Physical examination will look for physical impairments. These can include muscle weakness, decreased range of motion, difficulty with swallowing or with speaking, lymphedema or swelling of an arm or leg, changes in skin texture and tone, and pain with any movements.

**Diagnostic Process:** Dependent on the side effects noted such as pain or swelling not improving, imaging such as x-rays or MRI may be warranted. Often, side effects can be managed with medication and therapies such as physical or occupational therapy.

**Rehab Management:** Rehabilitation for cancer-related impairments and side effects is often underutilized for cancer survivors. A physical medicine and rehabilitation (PM&R) physician can be the leader of the rehabilitation team and can coordinate management of cancer treatment side effects. This may be referrals to speech therapy to help with swallowing and talking or a referral to physical therapy

to address fatigue, lymphedema, and exercise. Medications can also be helpful for fatigue, memory issues, sleep, and pain.

**Other Resources for Patients and Families:** Support from family, friends, and cancer support groups can help ease the stress of having cancer. [The American Cancer Society](#) is one source of information.

## Frequently Asked Questions

### What is PM&R?

Physical medicine and rehabilitation (PM&R), also known as physiatry, is a primary medical specialty that aims to enhance and restore functional ability and improve quality of life to those with injuries, physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles and tendons. PM&R physicians, known as physiatrists, evaluate and treat the whole body, maximize patients' independence in their daily life and are experts in designing comprehensive, patient-centered treatment plans to empower patients to achieve their goals. By taking the whole body into account, they can accurately pin-point problems, decrease pain, assist in recovery from devastating injuries and maximize overall outcomes and performance with non-surgical and peri-surgical options. To learn more, visit [www.aapmr.org/aboutpmr](http://www.aapmr.org/aboutpmr).

### What makes PM&R physicians unique?

PM&R physicians' training focuses not just on treating medical conditions, but on enhancing the patient's performance and quality of life in the context of those medical conditions. They focus not only on one part of the body, but instead on the development of a comprehensive program for putting the pieces of a person's life back together – medically, socially, emotionally and vocationally – after injury or disease. PM&R physicians make and manage medical diagnoses, design a treatment plan and prescribe the therapies that physical therapists or other allied therapists perform or that are carried out by the patients themselves. By providing an appropriate treatment plan, PM&R physicians help patients stay as active as possible at any age. Their broad medical expertise allows them to treat disabling conditions throughout a person's lifetime.

### Why see a PM&R physician?

A PM&R physician will thoroughly assess your condition, needs, and expectations and rule out any serious medical illnesses to develop a treatment plan. By understanding your condition and goals, you and your PM&R physician can develop a treatment plan suited to your unique needs.

### How do I find a PM&R physician near me?

Visit [www.aapmr.org/findapmrphysician](http://www.aapmr.org/findapmrphysician) or contact your primary care physician for a referral.