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[Nervous System Side Effects](#) [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 09/2015

Nervous system side effects are common from cancer and cancer treatments. Relieving such side effects is an important part of cancer care. This is called [palliative care](#) [3]. Talk with your health care team about any symptoms you experience, including any new symptoms or a change in symptoms.

About the nervous system

The two main parts discussed below make up the nervous system.

- Central nervous system (CNS). The brain and spinal cord are part of the CNS.

- Peripheral nervous system (PNS). The nerves outside of the CNS carry information back and forth between the body and the brain are part of the PNS. The PNS helps control the following:
 - Movement;

 - Sensing, such as touching, hearing, seeing, tasting, and smelling; and

 - The functioning of the internal organs, such as the stomach, lungs, and heart.

Types of nervous system side effects

Cancer or cancer treatment may cause the following nervous system side effects:

- Hearing loss and/or a ringing in the ears called tinnitus
- Vision loss and/or side effects such as blurred or double vision
- Slurred speech or difficulty expressing oneself or understanding speech
- Cognitive or thought-process changes including decreased memory, problem solving, and calculation
- Changes in taste and smell
- Difficulty swallowing
- Problems with balance, dizziness, nausea, and vertigo, which is feeling like the room is spinning
- Problems with coordination and movement, including problems with posture, walking, or holding objects
- General weakness that causes an overall lack of strength, weakness on one side of the body, or drowsiness
- Paralysis of different parts of the body. This can range from one side of the body to a smaller area like the muscles in the face.
- Seizures
- Changes in the functioning of organs. This can include the following:
 - Constipation

- Incontinence, which is not being able to control the flow of urine
- Impotence, which is being unable to get or maintain an erection
- Pain from a tumor pressing on the nerves or damage to the nerves from treatment
- Peripheral neuropathy, a condition caused by damage or irritation to the peripheral nerves. Learn more about [peripheral neuropathy](#) [4], including the symptoms.

Causes of nervous system side effects

Many factors cause nervous system side effects, including cancer, cancer treatments, other medications, or other disorders. The symptoms may lead to a cancer diagnosis, appear soon after treatment, or may appear several years after treatment. Below is a list of the possible causes of nervous system problems:

- Cancers that affect the nervous system, such as brain cancer and sarcomas of the nerves. For example, neurofibrosarcoma, malignant peripheral nerve sheath tumor, and peripheral primitive neuroectodermal tumor all affect the nervous system.
- Cancers that have spread to the brain or spinal cord
- Tumors growing in other parts of the body that press on nerves
- Some types of chemotherapy may cause peripheral neuropathy. Learn more about the [causes of peripheral neuropathy](#) [4].
- Other types of chemotherapy may cause other nervous system side effects, including:
 - Cytarabine (Cytosar-U)
 - Fludarabine (Fludara, Oforta)
 - Fluorouracil (5-FU, Adrucil)

- Ifosfamide (Ifex)
- Interferon (multiple brand names)
- Methotrexate (multiple brand names).
- Radiation therapy, especially to the head and neck, or whole-body radiation treatment
- Radiation therapy to the spine, or chemotherapy injected directly into the spine
- Surgery, if nerves are damaged during surgery to remove a tumor or to perform a biopsy. A biopsy is the removal of a small amount of tissue for examination under a microscope.
- Specific medications, including:
 - Some anti-nausea drugs
 - Opioid pain killers
 - Anticonvulsants, which are drugs to treat seizures
- Infections causing swelling or inflammation of the brain, spinal cord, or inner ear
- Other conditions or symptoms related to cancer or cancer treatments, including:
 - Anemia, which is a low number of red blood cells
 - [Dehydration](#) [5]
 - Fatigue
 - Stress

- Depression
- Other conditions or disorders not related to cancer, including:
 - Diabetes
 - Vitamin deficiency
 - Thyroid dysfunction
 - Human immunodeficiency virus (HIV)
 - Stroke
 - Alzheimer's disease
 - Multiple sclerosis
 - Nerve injury

Managing nervous system side effects

Nervous system side effects can make it difficult for people to complete their usual daily activities. Some symptoms caused by cancer treatment will go away after treatment ends, but some may be ongoing. Although nerve damage and nervous system side effects may not be preventable, most are manageable if found early.

Early treatment can also prevent the symptoms from worsening. It is important to tell your doctor immediately if you have any of the symptoms listed above. Once diagnosed, management of nervous system side effects depends on the type of problem and the cause.

The following list provides several ways to manage nervous system problems:

- Medicines to prevent nausea and vertigo:
 - Meclizine (Antivert)

- Prochlorperazine (Compazine)
- Scopolamine patch (Transderm-Scop),
- Antibiotics to treat infections
- Corticosteroids to reduce inflammation and swelling
- Pain medications, including opioids
- Antidepressants, such as amitriptyline (multiple brand names), nortriptyline (Aventyl, Pamelor)
- Medications to treat peripheral neuropathy
- Nerve blocks and transcutaneous electric nerve stimulation (TENS), which provide pain relief
- Occupational therapy to maintain motor skills needed for daily activities
- Physical therapy, to improve physical strength, balance, coordination, and mobility
- Speech therapy, to improve speech and learn ways to change speech as needed
- Evaluation by a neuropsychologist to look at cognitive function
- Changes to the home environment to increase safety:
 - Installing hand rails in the bathroom
 - Using nonskid rugs
 - Adding extra lighting

- Checking water temperature with an elbow instead of the hands

More Information

[Understanding Chemotherapy](#) [6]

[What is Radiation Therapy?](#) [7]

[Rehabilitation](#) [8]

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Links

[1] <http://www.cancer.net/navigating-cancer-care/side-effects/nervous-system-side-effects>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/31921>

[4] <http://www.cancer.net/node/24588>

[5] <http://www.cancer.net/node/31521>

[6] <http://www.cancer.net/node/24723>

[7] <http://www.cancer.net/node/24728>

[8] <http://www.cancer.net/node/25397>

[9] <http://www.cancer.net/node/25238>