

# CHEMOTHERAPY INDUCED PERIPHERAL NEUROPATHY (CIPN)

CIPN refers to symptoms caused by nerve damage. Certain chemotherapy treatments can cause damage to the peripheral nervous system, which include all nerves outside the brain and spinal cord. Peripheral neuropathy can cause tingling, burning, weakness or numbness in the hands and/or feet.

There are many chemotherapy and immunotherapy medications that can cause peripheral neuropathy. It is important that you discuss your specific treatment plan with your healthcare team to see if this is a possible side effect.

**Individuals at greatest risk of peripheral neuropathy associated with chemotherapy are those with preexisting peripheral neuropathy from conditions such as:**

- Diabetes (May already have nerve damage)
- Alcoholism
- Previous chemotherapy (existing neuropathy)
- Severe malnutrition

## Symptoms of Peripheral Neuropathy:

- Numbness, tingling (feeling of pins and needles) of hands and/or feet and move gradually upward in a sock/glove type fashion
- Loss of sensation to touch
- Loss of balance
- Burning of hands and/or feet
- Loss of positional awareness (knowing where a body part is without looking).
- Clumsiness
- Numbness around mouth and jaw pain
- Weakness and leg cramping or any pain in hands and/or feet
- Walking problems
- Constipation
- Difficulty picking things up or buttoning clothes
- Hearing loss
- Stomach pain.

This change in sensation usually increases gradually and can worsen with each additional dose of chemotherapy. However, some of the signs of neuropathy may appear suddenly. It is usually heightened right after a chemo treatment but tends to lessen before the next treatment is due. The symptoms usually peak about 3-5 months after the last dose of chemotherapy. The abnormal sensations may disappear completely or lessen. If neuropathy diminishes, it is a gradual process usually requiring several months. If you have one or more of these symptoms, report them to your doctor immediately. Medications may be able to reverse peripheral neuropathy, and physical therapy can help you maintain normal function.

## Protection and Safety against Peripheral Neuropathy:

- Protect areas where sensation is decreased (example: do not walk around without footwear). Wear thick socks and closed toed shoes.
- Use gloves when washing dishes, and gardening.
- Extreme temperature changes may worsen symptoms.
- Wear warm clothing in cold weather. Protect feet and hands from extreme cold.
- Inspect skin for cuts, abrasions, and burns daily, especially arms, legs, toes and fingers.
- Do not let the water get too hot and use care when washing dishes or taking a bath or shower. .
- Use potholders when cooking.

# Chemotherapy Induced Peripheral Neuropathy (CIPN)

## Measures to relieve constipation induced by neuropathy:

- Eat foods high in fiber like fruits (pears, prunes), cereals, and vegetables.
- Drink two to three liters of non-alcoholic fluids (water, juices) each day, unless you are told otherwise by your doctor.
- Exercise twenty to thirty minutes most days of the week, as tolerated, and if cleared to do so by your doctor. A lot of patients find that walking for exercise is convenient and easy to do.
- If you have been prescribed a "bowel regimen," make sure you follow it exactly.

## Other tips to combat or minimize chemo-based neuropathy:

- Some patients have found techniques such as deep breathing, relaxation and guided imagery helpful, particularly with pain associated with neuropathy.

## Simple Comfort Measures:

- Massage
- Flexible splints
- Topical Lotions and creams

## Therapies:

- Physical therapy may help with strengthening of muscles that are weak, balance, fall prevention, range of motion exercises, stretching and massage. They may also recommend assistive devices such as orthotic braces, canes, and appropriate splints.
- Therapies such as biofeedback, acupuncture, or transcutaneous nerve stimulation (TENS) may also be recommended/ prescribed in severe cases.
- Occupational therapy may also be helpful with assistive devices for your care (bathing, dressing, and cooking).

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