

Immune Checkpoint Inhibitor Medicine (Nivolumab, Pembrolizumab, Ipilimumab)

How They Work

Immune Checkpoints are hardwired pathways in your body. They help ensure that the immune system is able to discriminate between healthy and abnormal cells (such as cancer cells). Sometimes cancer cells are able to imitate healthy cells and avoid being recognized and killed by the immune system. A class of medicines known as Immune Checkpoint Inhibitors can help stimulate your immune system to kill cancer cells.

How They Are Given

These medicines are given IV (intravenously). The medicine is given over 30-60 minutes.

During an Immune Checkpoint Inhibitor infusion you will be monitored for an infusion reaction. Please tell your health care provider right away if you have any of the following symptoms: wheezing, itching, rash, dizziness, increased shortness of breath, fever, chills or shaking.

Most common side effects (occurring in greater than 30 percent of patients)

- Fatigue
- Diarrhea
- Shortness of breath
- Itching, rash
- Nausea.

Less common side effects (occurring in 10-29 percent of patients)

- Decreased appetite
- Constipation
- Increased serum creatinine
- Increased liver enzymes
- Electrolyte imbalances
- Joint pain, muscle pain, pain in extremities, back pain
- Vomiting
- Weakness

- Fever, chills
- Swelling.



When the immune system is stimulated to attack cancer cells, healthy cells of different organ systems can receive damage also. This is known as an Immune Mediated Adverse Reaction. Adverse events will be monitored by your oncologist. Symptoms related to the area of the body that can be affected will be assessed.

The following are symptoms of which you **NEED** to notify your oncologist within 24 hours:

- Diarrhea
- Nausea (interfering with the ability to eat and unrelieved by medication)
- Vomiting (more than 4-5 times in a 24 hour period)
- Inability to eat or drink for 24 hours or signs of dehydration (thirst, tiredness, dry mouth, dizziness, decrease in the amount of urine, dark urine)
- Sudden changes in eyesight
- Urine that turns dark, tea colored or has blood in it
- Blistering rash
- Stools that are light colored, bloody, dark or tarry/sticky
- Inability to pass urine or a change in the amount of urine passed
- Sudden onset of shortness of breath, accompanied by cough and or fever
- Skin or the whites of your eyes turning yellow
- Stomach pain or upset stomach
- Very bad muscle pain, joint pain or weakness
- Big weight gain or swelling in your arms or legs.

The following are symptoms of which you need to notify your oncologist at your next clinic visit:

- Sores in the mouth
- Decreased appetite
- Itching, rash
- Bleeding or bruising more easily than normal
- Cough with or without fever
- Signs of trouble with your thyroid or pituitary gland (change in mood, change in weight, constipation, dizziness, deeper voice, feeling cold, hair loss, fainting, headache or loss of sex drive).

What to do:

- Drink 2-3 quarts of water every 24 hours.
- Avoid sun exposure. Wear SPF 30 or higher sunblock and protective clothing.
- Keep drinking alcohol to a minimum or avoid it completely.
- Get plenty of rest.
- Maintain good nutrition.

What not to do:

- Do not receive any kind of vaccine/immunization without your health care provider's approval.
- Do not get pregnant or conceive a child while receiving these medications.
- Do not breast-feed while receiving these medications.

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