

## Nivolumab

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### What is Nivolumab (nye-VOL-ue-mab) and how does it work?

Nivolumab is a type of cancer therapy called a “monoclonal antibody”. Another name for this drug is Opdivo. Certain features of cancer cells make them different from normal cells. These differences provide a target which allows certain treatments to attack the cancer cells with less damage to normal cells.

Nivolumab blocks the cancer cells from harming your T-cells. T-cells are a type of white blood cell which helps the body kill cancer cells. This allows the T-cells, which are part of the body’s natural defense against cancer, to better see and fight the tumor. This treatment is also called immunotherapy because the drug helps boost your body’s immune system.

### What should I tell my doctor before getting this treatment?

Talk to your doctor about the following:

- If you have ever had treatment for cancer and the names of the drugs you were given.
- If you have ever had thyroid, kidney, bowel, liver, or lung problems.
- If you are pregnant or think you may be pregnant. Your doctor will talk with you about birth control while getting this treatment.
- If you want to have a family in the future.
- If you are breastfeeding.
- If you have been told that you need to start a new medicine.
- If you have been told to receive any kind of vaccination.
- The medicines/pills you are taking, including:
  - ▶ Medicines prescribed by any of your doctors, including drugs called “steroids”
  - ▶ Herbs
  - ▶ Vitamins
  - ▶ Over-the-counter medicines

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**This handout is for informational purposes only. Talk with your doctor or health care team if you have any questions about your care.**

## **How does my doctor decide my treatment dose?**

To determine your treatment dose, your doctor will review the following: your weight, your medicines, how well your lungs, bowels, kidneys, liver and thyroid are working, and any other health problems you have.

You will receive a dose every two weeks. Normally, you will continue receiving this treatment as long as you are not having too many side effects and your cancer is not getting worse. You will see the doctor or nurse practitioner at least once every 4 weeks while you are getting this treatment.

## **Should I eat or drink before my treatment?**

It is best to eat a small meal before getting your treatment. Drinking plenty of non-caffeinated fluids may also be helpful. However, if you have been told to limit fluids, check with your doctor about how much you can drink.

## **How will my treatment be given?**

Nivolumab is given directly into your blood stream through a tube (IV) placed in your arm or chest. Nivolumab comes in a bag with tubing attached. The nurse will connect the tubing to a pump. This treatment takes 60 minutes.

Your entire visit, including your doctor's appointment and your treatment will take about 3 to 5 hours.

## **What are the side effects of this treatment?**

**Every person responds differently to treatment. Some of the more common side effects may include:**

- Rash or other skin changes such as dryness or itching
- Shortness of breath
- Muscle, joint or bone aches and pain
- Decreased appetite and weight loss
- Fatigue
- Cough

**Some of the less common side effects of this treatment may include:**

- Low white blood cell count (may increase your risk for infection)
- Nausea or vomiting

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- Low hemoglobin (may cause you to have less energy and tire more easily)
- Constipation
- Changes in the amount of sodium, potassium, magnesium, calcium in your bloodstream (your doctor will order blood work before each treatment to check the amount of each of these)
- Diarrhea
- Swelling of hands, feet or ankles
- Weakness
- Fever
- Abdominal pain or other pain
- Increase in the number of enzymes made by your liver (your doctor will check your blood to monitor how your liver is working)
- Low platelet counts (may cause you to bleed more easily or longer than normal and have more bruising)
- Infection in your lung

**Rare, but more severe side effects of this treatment are:**

- Swelling or irritation in your lungs
- Swelling or irritation in your bowels
- Swelling, irritation or damage to your liver
- Damage to your kidneys
- Damage to your thyroid gland which can cause headaches, extreme tiredness, weight gain or weight loss, changes in mood or behavior, hair thinning or loss, feeling cold, or voice changes

**When should I call my doctor?**

- You should call your doctor right away if you have any of the following symptoms or problems:
- Fever of 100.4 degrees Fahrenheit (38 degrees Celsius) or higher
- Chills, sore throat, new or worsening cough or a wound that does not get better
- Open sores in your mouth
- Nausea that prevents you from eating or drinking
- Vomiting even after you have taken your anti-nausea medicine
- Bleeding or bruising, including bloody or black stools

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- Diarrhea (4 or more loose stools in 24 hours), or diarrhea with severe cramping or fever
- Dark urine or decrease in the amount of your urine
- Swelling in feet or ankles
- Shortness of breath, chest pain or difficulty breathing
- Yellowing of your skin or the whites of your eyes
- Tenderness or pain on the right side of your stomach area
- Severe tiredness, weakness or pain
- Signs of an allergic reaction, including:
  - ▶ Difficulty breathing, wheezing, chest pain or tightness
  - ▶ Swelling in your face, lips, tongue, or throat, or unusual hoarseness
  - ▶ Rash, hives, itching

### **Is there anything else I should know about this treatment?**

- Nivolumab can change how your body reacts to vaccines. Talk to your doctor before getting any vaccines.
- “Steroid” drugs such as Dexamethasone, Prednisone and Methylprednisolone may change the way Nivolumab works. Talk to your doctor before taking any of these medicines or any new medicine.
- You should drink 8 to 10 eight-ounce glasses of non-caffeinated fluid each day throughout your treatment. It is important to keep hydrated while you are getting this treatment.

For more information about cancer, chemotherapy, side effects or how to care for yourself during treatment, refer to your **Chemotherapy and You** book, or ask your doctor, nurse or pharmacist.

You may also find it helpful to watch The James Patient Education videos at <http://cancer.osu.edu/patientedvideos> to help you learn tips for managing treatment side effects.