HOPA
Hematology/Oncology Pharmacy Association

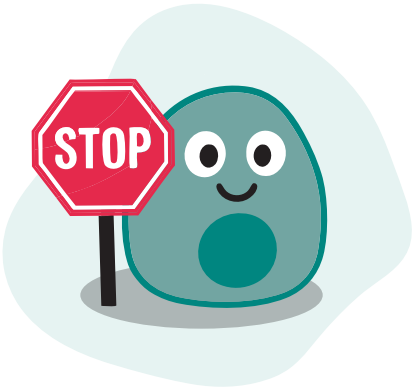
TIME TO TALK

IMMUNE CHECKPOINT INHIBITORS: HOW THEY WORK AND WHAT TO EXPECT

Many new cancer treatments are called immunotherapies. Immunotherapy works differently than traditional chemotherapy. Traditional chemotherapy kills cells that grow quickly in your body, such as cancer cells, but immunotherapy uses your body's own immune system to treat cancer. One type of immunotherapy is checkpoint inhibitors.

Your immune system protects you from things that make you sick, like viruses and bacteria. One important part of your immune system is a special set of cells called T cells. T cells look for harmful cells like viruses and bacteria and destroy them, but they usually leave normal healthy cells alone. The immune system has special proteins called checkpoints that help T cells know which cells are normal.

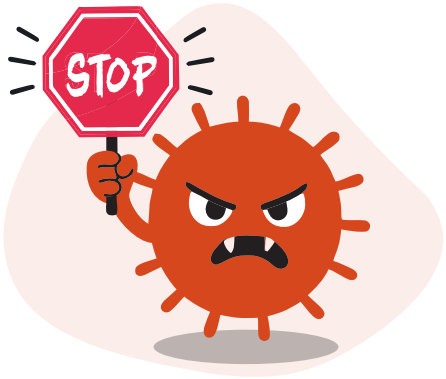
You can think of these checkpoints as stop signs that tell your immune system *not* to destroy a cell.



Checkpoint proteins direct your immune system to "stop" before destroying healthy cells.

HOW DO CANCER CELLS ESCAPE ATTACK BY THE IMMUNE SYSTEM?

Normally, your body uses checkpoints to stop immune cells from attacking normal cells and to keep them focused on the "bad guys," like viruses, bacteria, and cancer. Some cancer cells can trick the body by using stop signs to protect themselves. When the cancer cell has a stop sign in front of it, the immune system won't attack it.

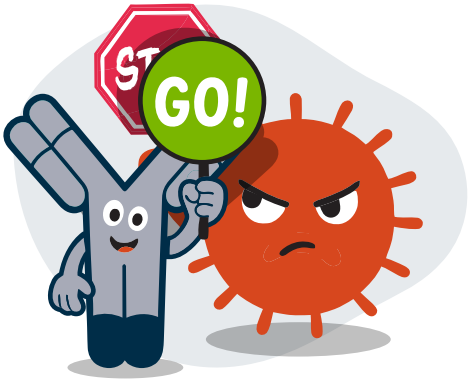


Cancer cells are sneaky and can hide behind the stop sign intended for healthy cells.

HOW DO IMMUNE CHECKPOINT INHIBITORS WORK TO KILL CANCER?

Immune checkpoint inhibitors work like crossing guards. They cover up the stop sign that the cancer is holding and hold up a sign saying "Go!" This helps your immune system see the cancer cell as another "bad guy" that must be destroyed.

Immune checkpoint inhibitors used today to treat cancer block one of four different checkpoints in the body: CTLA- 4, LAG-3, PD1, or PD-L1. Sometimes more than one of these medicines will be used together to block different checkpoints and help the immune system attack the cancer cells.



Immune checkpoint inhibitors are not fooled by cancer cells, so it's their job to signal the immune system to "Go" attack the cancer cells.

WHAT CAUSES SIDE EFFECTS FROM IMMUNE CHECKPOINT INHIBITORS?

Just like different people may drive cars in different ways, each person's immune system reacts differently to these immune checkpoint inhibitors. Sometimes, when people get these therapies, their immune cells may ignore the stop signs in front of normal cells. It is like a driver pressing too hard on the gas pedal.

When the immune system moves too fast, it may attack healthy cells by mistake. This can cause problems called *auto-immune side effects*, which can happen when the body's own immune system causes damage to different parts of your body. When the side effects are recognized early, they can be treated with medications (such as steroids) that slow the immune cells down again, like slowing down a car.

To learn more about common side effects and management, read HOPA's *Immune Checkpoint Inhibitors: Side Effects* resource.

Once revved up, immune cells can miss the stop signs. Thankfully, medications can help put the brakes on auto-immune side effects.

WHAT CAN I EXPECT DURING TREATMENT?

What?

Your immune checkpoint inhibitor can be given by itself, with another immunotherapy, or with other cancer treatments.

You will have blood tests and possibly other tests before you start therapy and during treatment. These tests help make sure the treatment is safe and check for side effects.

Where?

You may get immune checkpoint inhibitors in an infusion center, a clinic, or in the hospital.

Who?

A nurse or another trained healthcare professional will give you this treatment.

You will meet with your care team regularly to talk about how you feel, check for side effects, address any side effects that might be going on, and see how well the treatment is working.

When?

Immune checkpoint inhibitors can be given every 2, 3, 4, or 6 weeks, depending on the treatment and kind of cancer being treated.

How?

You will receive this medication through a vein in your arm or through a port-a-cath, a device that is placed under the skin near your collarbone.

Medications may be given before the immune checkpoint inhibitor infusion to reduce side effects.

A single infusion usually takes 30 to 90 minutes. If you are getting other cancer medications, your visit may last longer.

Disclaimer: This resource should be used for informational purposes only and does not substitute for the advice of a qualified healthcare professional. Provision of this resource does not constitute or imply endorsement or recommendation by the Hematology/Oncology Pharmacy Association. All medical decisions should be made with the guidance and under the direction of a qualified healthcare professional.

Updated June 2026

HOPA-0626-230