



IMMUNE CHECKPOINT INHIBITORS: SIDE EFFECTS

AUTO-IMMUNE SIDE EFFECTS

Immune checkpoint inhibitors help your own immune system fight cancer. Because of this, the side effects are different from chemotherapy. These therapies usually do not cause hair loss or lower your blood cell counts like chemotherapy sometimes does.

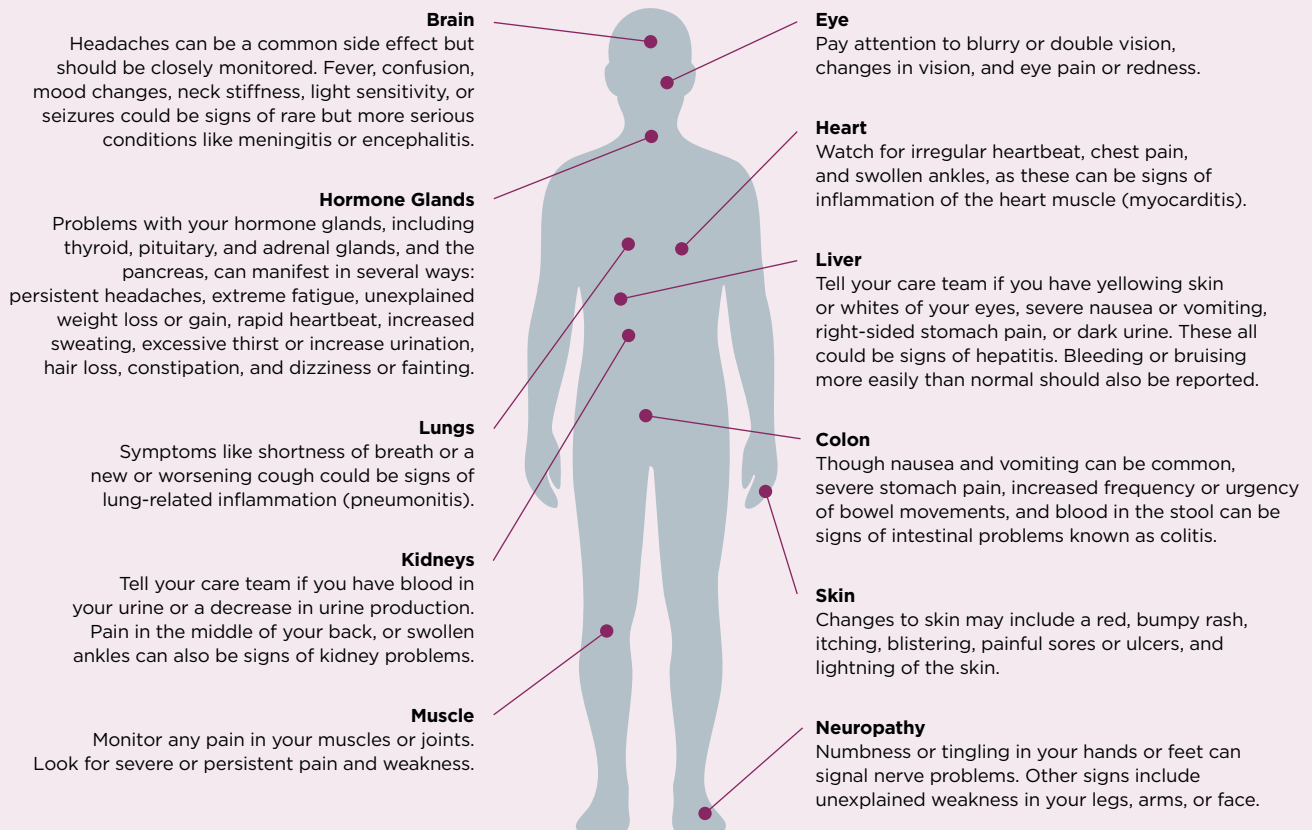
After treatment, you may feel a little tired or achy for a few days. This can happen because your immune system is becoming more active as it fights against cancer.

Sometimes treatment can cause the immune system to become too active. In these cases, your normal immune cells can attack your body rather than the cancer. This attack causes auto-immune side effects, including inflammation.

The medical term your cancer care team may use to describe these side effects may end in “-itis.” If these are left untreated, the immune system can cause inflammation and damage important organs and tissues.

Figure 1: Auto-immune side effects from immune checkpoint inhibitors

Your immune system is found all over your body, so side effects from immune checkpoint inhibitors can occur even in areas where there is no cancer. In addition to the self-reported symptoms in this figure, your healthcare provider will monitor your blood work and other tests to check for auto-immune side effects.



SYMPTOM TRACKING

Auto-immune side effects can happen at any time during or after treatment (Table 1). It is important to pay close attention to new or unexplained symptoms or the worsening of existing ones.

Treating auto-immune side effects *early* will help prevent them from becoming more serious. You may want to schedule a time each week to ask yourself whether you have noticed any new symptoms. Write them down so you can tell your cancer care team about them.

You can use this list of questions:

- How is my energy level?
- Do I have a new cough? Is my breathing the same as it was before I started taking the immune checkpoint inhibitor?
- Are my bowel movements normal (for me), or have I seen any changes?
- Do I have any new rashes on my body?
- Do I have pain anywhere that is not normal for me?

Table 1. Timing of Possible Side Effects

Early-Treatment (after 1 dose)	Mid-Treatment (after 2 doses)	Late-Treatment (after 3 or more doses)
Skin Joint & Muscles	Intestinal System Lungs Liver	Hormone Glands Nerves Kidneys Eyes Heart Brain

Note: These side effects may happen around these times, but they can happen sooner or later during treatment.

MANAGEMENT OF SIDE EFFECTS

Many of these auto-immune side effects are reversible and generally treated with other medications, such as corticosteroids, that slow down the overactive immune system. However, side effects that affect hormone glands usually do not go away and must be managed with medications.

You should call your cancer care team to report any new or worsening symptoms, large or small, so that they can help you determine whether treatment for an auto-immune side effect is needed. If treatment is needed, this should happen as soon as possible to prevent severe or permanent damage to your body.

Side effects are treated differently depending on how severe they are and which auto-immune side effect you have. Some side effects can be managed during a clinic visit with your cancer care team. More serious side effects may require that you go to the hospital.

If you have an auto-immune side effect, the following steps may be taken:

- You may be given treatments that control your symptoms.
- Treatment with the immune checkpoint inhibitor may be stopped for a short time, or completely.
- You may be treated with corticosteroids (for example, prednisone, dexamethasone, or methylprednisolone) to slow down the immune system. These can be given in creams (such as for a rash), taken as pills by mouth, or given through the vein.
- You may be treated with other immune-suppressing medications. If additional immune-suppressing medications are needed, your healthcare team may suggest that you visit a specialist who can help decide on the best medicine for you.

SELF-CARE

It is important that you take care of yourself while you are receiving immune checkpoint inhibitors.

Here are some tips:

- Choose a family member or friend to be your caregiver at home. Talk with this person about your symptoms, feelings, and any concerns you have about your treatment.
- Ask for help when you need it. Your caregiver can help you feel supported when you have concerns to discuss with the healthcare team.
- Report any new symptoms right away. Even if you're not sure they are caused by the immune checkpoint inhibitor, don't wait until your next appointment.

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