

Preparing for Your Immune Checkpoint Inhibitor (CPI) Treatment



Overview

- What is the immune system?
- What are immune checkpoint inhibitors?
- What are the side effects to look out for?
- How are side effects treated?
- Who to contact if you have questions about potential side effects?

What is the Immune System?

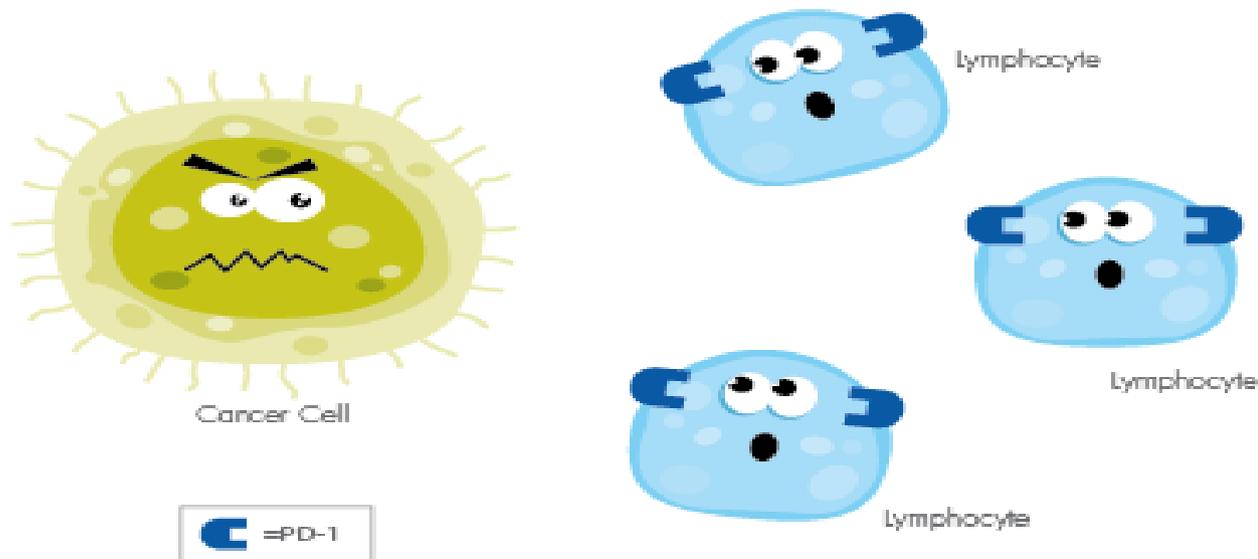
- Known as the body’s “defense system”
- A group of cells, tissues and organs that work together to recognize and destroy unfamiliar invaders in the body
 - Infections (bacteria, viruses, fungus)
 - Abnormal, unhealthy or dying cells, including cancer cells

What Cells in Your Immune System Can Help Fight Cancer?

- White blood cells are an important part of your immune system
- Lymphocytes are a types of white blood cell

The Immune System

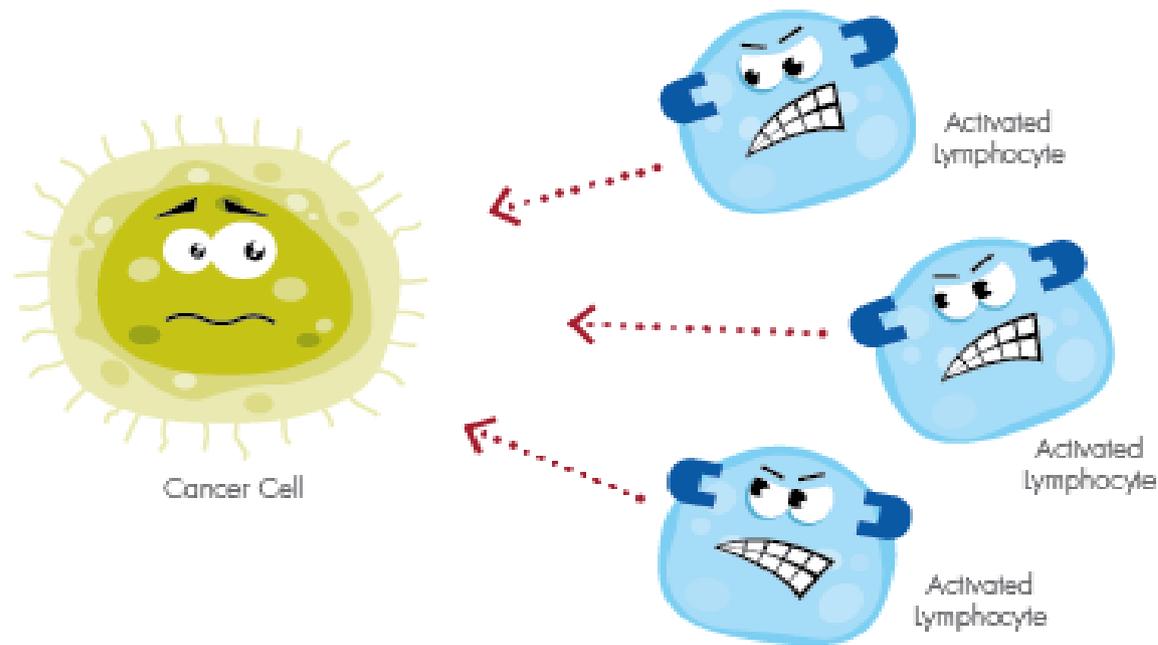
The lymphocytes recognize the cancer cell as something that should not be there



Accessed from <http://www.freetobreathe.org/lung-cancer-info/treatment/treatment-options/immunotherapy>

The Immune System

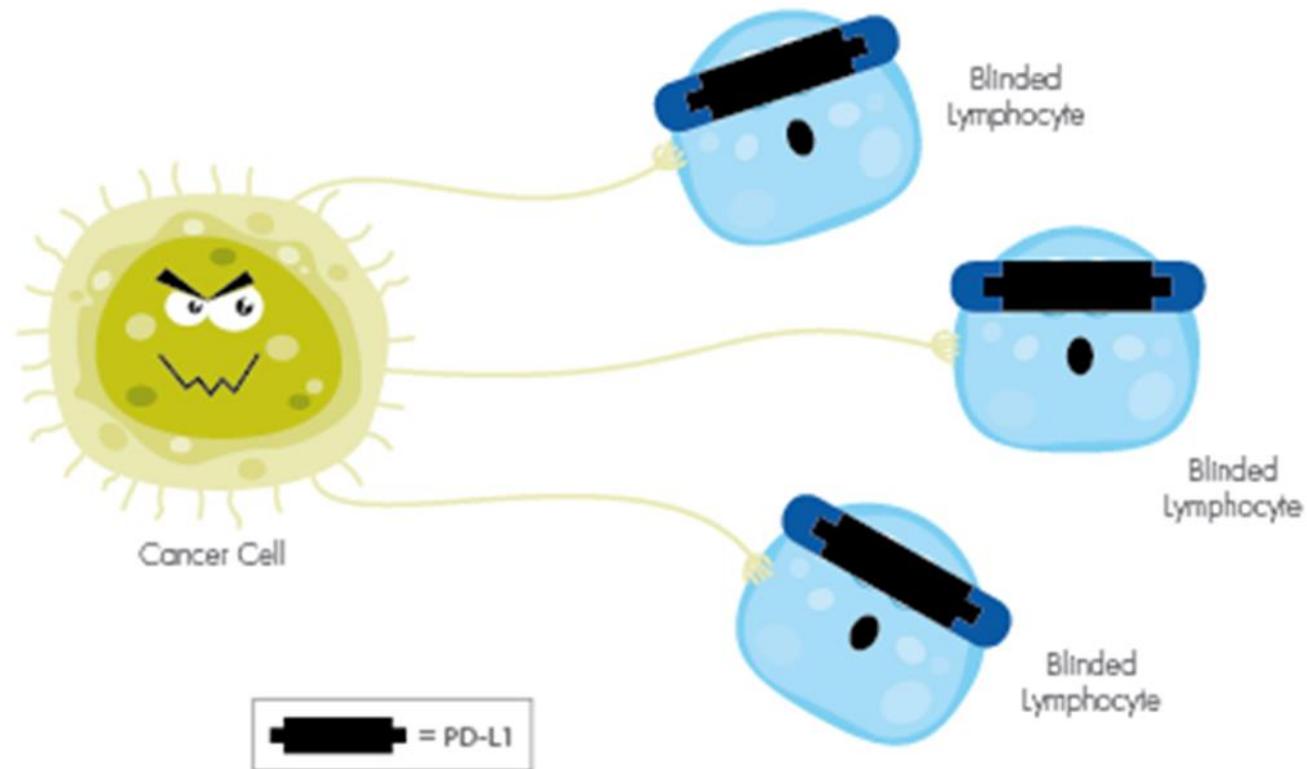
The become activated and try to destroy the cancer cell



Accessed from <http://www.freetobreathe.org/lung-cancer-info/treatment/treatment-options/immunotherapy>

- **But** ...many cancer cells can disguise themselves as normal cells in the body, making it hard for the immune system to know which cells are cancer cells
- **And...**“Off switches” located on the cancer cells can “blind” the immune system so that it can’t recognize the cancer cells as foreign
 - This may allow cancer cells to grow and spread
- These “off” switches are also called checkpoints

Cancer Cells Can Be Smart and Hide...



What are immune checkpoint inhibitors?

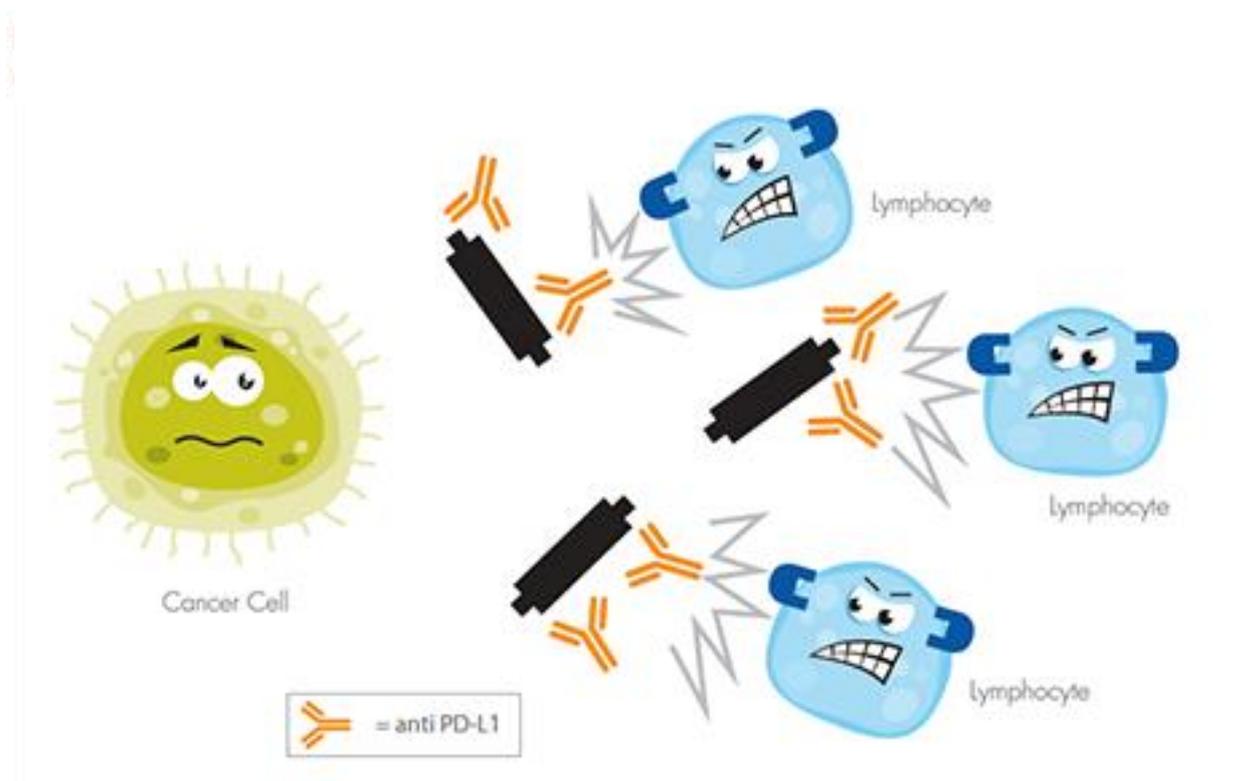


Immune Check Point Inhibitors

- Immune check point inhibitors help the immune system target cancer by allowing them to be seen as cancer by our lymphocytes
- This “unleashes” the immune system to hopefully seek and destroy the cancer cells

...But This Is How We Fight Back!

Check point inhibitors bind to the “off switch” so the immune system can attack the cancer cells



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Immune Check Point Inhibitors

- There are many different checkpoints on cancer cells and lymphocytes
- Currently the ones being targeted are called:
 - PD-1 or PDL-1
 - CTLA-4

How Is Treatment Given?

- Intravenously (IV)
- Usually over 30-90 minutes every 2-4 weeks depending on the specific medication used
- Blood work is always required before treatment
- PICC or Port-a-Cath are not required for treatment
 - If you currently have one it can be used to administer treatment

Treatment Areas



Immune Check Point Inhibitors You May Receive

PD-1/PD-L1 Inhibitors:

- Nivolumab (Opdivo®)
- Pembrolizumab (Keytruda®)
- Atezolizumab (Tecentriq®)
- Durvalumab (Imfinzi®)

CTLA-4 Inhibitors:

- Ipilimumab (Yervoy®)
- Tremelimumab

These drugs may be given alone or in combination with other checkpoint inhibitors, chemotherapy, or targeted drugs

How are Immune Check Point Inhibitors DIFFERENT than Chemotherapy?

| Chemotherapy | Immune Check Point Inhibitors |
|---|--|
| <p>How does it work?</p> <ul style="list-style-type: none">Attacks cancer cells but can also attack healthy cells because it can't tell them apart | <p>How does it work?</p> <ul style="list-style-type: none">Activates the immune system against cancer cells |
| <p>Side Effects</p> <ul style="list-style-type: none">Harming healthy cells can result in unwanted side effects such as:<ul style="list-style-type: none">Nausea, vomiting, hair loss, reduced blood counts | <p>Side Effects</p> <ul style="list-style-type: none">Activating the immune system can cause an immune reaction (inflammation) to any of your normal tissues |

Side Effects

- Immune check point inhibitor side effects happen from an over active or “hyper” immune system that can target any organ in the body
 - This does not happen to most patients but may, so it is important to know about potential side effects
 - Some parts of the body are more prone to side effects
- Side effects can be very serious and life threatening
 - Side effects may not go away on their own and must be reported immediately for assessment and treatment

When Do Side Effects Occur?

- Patients may not experience immediate side effects from immune check point inhibitors (but can)
- Many side effects are delayed and can occur after 1-3 months of treatment
- Some side effects can happen after treatment is completed or even up to 1 year afterward
- The following slides review some of the more common side effects

Diarrhea and/or Bowel Changes

- Symptoms that should be reported to the oncology team should include:
 - New diarrhea (watery stool)
 - New pain, cramping or tenderness in the belly
 - Blood in the stool
 - Fever associated with the diarrhea
- Diarrhea from immune check point inhibitors is different than chemotherapy
- Avoid taking anti-diarrhea medication (ie. Immodium™) until talking with your cancer team

Breathing Problems

- Symptoms that should be reported to the oncology team include:
 - Trouble breathing that is worse than normal
 - Dry cough that is new or getting worse
 - Fever
- Your oncology team will investigate new or worsening symptoms related to your breathing as this could be many things including
 - Side effect of immunotherapy, lung infection, clot in the lung(s), progression of cancer, etc

Skin

- Symptoms that should be reported to the oncology team include:
 - Itching that is constant or keeping you up at night
 - New rash anywhere on the body
 - Peeling skin
- Skin side effects often happen first

Other Side Effects

- **Kidney Inflammation**
 - Change in color of urine, blood in urine, decreased amount of urine, new swelling of legs.
- **Liver Inflammation**
 - Yellowing of skin or eyes, dark urine, nausea and vomiting
- **Vision Changes**
 - Changes in vision, red or irritated eyes, sensitivity to light, pain
- **Thyroid, Pituitary, or Adrenal Gland Changes**
 - Fatigue, headache, dizziness, cold or hot feeling all the time, unexplained weight changes
- **Nerve Inflammation**
 - Headache, confusion, muscle weakness, numbness

Other Side Effects

- These side effects usually aren't caused by a “hyper” immune system but can occur:
 - Fatigue and lack of energy
 - Loss of appetite
- Rarely, an allergic reaction can occur
 - If it does it would be with the 1st or 2nd dose

Safety Precautions

- It is important that you do not get pregnant or father a child while on treatment, birth control should be used
 - If you have any questions or concerns, speak with your cancer care team
- It is important for you and your caregiver/family member to wash your hands well after contact with your body fluids.

How Are Immune Related Side Effects Treated?

- Always treated based on the individual patient
- Supportive care for minor symptoms
 - e.g. Minor rash → creams, anti-itch medications, etc.
- More serious side effects are always treated with steroids (e.g. Prednisone)
 - Act as “Water on the Fire”
 - Your treatment may be delayed or stopped depending on how serious the side effect is
 - Side effects may take weeks to resolve (e.g. 4-8 weeks)

Who To Contact?

- During business hours call your oncologist/hematologist/nurse, see your contact card
 - Minor symptoms must also be reported
- After hours, weekend or holidays go to your nearest Emergency Department
 - Especially symptoms that are new and more severe
 - Bring your orange “immune check point inhibitor for cancer alert card” with you and any other information you have been given about your treatment
 - If you are a patient on a study follow the directions given by your study nurse

Advise Healthcare Providers You Are On An Immune Check Point Inhibitor

- It is important to tell all healthcare providers not involved in your cancer that you are on an immune check point inhibitor
- These are newer treatments and the side effects are treated differently than treatment they are used to seeing for cancer
- Please carry your orange alert card with you at all times

Remember the ABCs

- Awareness
 - Know what side effects to look out for
- Be alert and monitor closely for symptoms
 - Keep track of changes in symptoms
 - Early detection of side effects is **essential**
- Communication
 - Report any changes to your cancer team
 - If you go to the Emergency Department, let your cancer care team know and show the Emergency Department nurse and doctor your orange alert card

Patient Resources

Emergency Alert Card

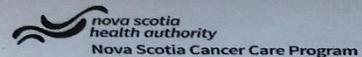
Immune Checkpoint Inhibitor for Cancer Treatment Emergency Alert Card

Instructions for Patients:

- Always carry this card, and for 1 year after you finish treatment
- Show it to any of your health care providers who are not involved in your cancer care
- If you have any of the following serious symptoms:
 - During business hours - all your cancer doctor/nurse during business hours, see your contact card
 - After hours- go to the closest Emergency Department right away and give this card to the staff
 - This card alerts Emergency Staff that you are a cancer patient on an immune check point inhibitor for cancer, and need treatment urgently
 - Although your care is a priority, you may still have to wait while other patients with more urgent concerns are treated
- **Serious Symptoms**
 - Shortness of breath
 - Severe diarrhea
 - Yellowing of the skin/eyes
 - Severe nausea/vomiting
 - Blood in urine, painful urination
 - Very weak or dizzy
 - Confusion
 - Changes in vision
 - Headache that will not go away
 - Numbness/tingling in your face, arms, legs
 - Painful rash that keeps you awake at night
- If you go to the Emergency Department, call your oncologist/nurse the next business day to tell them you have been seen in the Emergency Department

Patient Resources

A Self-Monitoring Guide for Patients



A Self-Monitoring Guide for Patients Receiving Immune Checkpoint Inhibitors (ICIs)

What are the possible Side Effects and how can you watch for these?

- The chart below lists some of the possible side effects that you may have during or after treatment.
- You may use the following questions to help guide you in monitoring these possible side effects.
 - Ask yourself these questions every day.
 - Or, you can have a family member or caregiver ask you the questions.
 - If the answer to any of these questions is “YES”, contact your Cancer Care Team.
- Your health care team should have provided you information about whom to contact if you have any questions about side effects, including after normal office hours.
- Please refer to your “Orange Alert Card “about symptoms you would that would require you to go to the ER.

| Side Effect | Yes/No |
|---|--------|
| Fever | |
| Chills or shaking | |
| Skin | |
| Are you having any redness, pain, or swelling at the infusion site? | |
| Do you have a new or worsening rash? | |
| Do you have new itchiness? | |
| Is your skin peeling? | |
| Do you have painful blisters on your body or inside your mouth? | |
| Digestive System, also called the GI System | |
| Are you having any new nausea or vomiting? | |
| Do you have any new abdominal pain or tenderness? | |

How Will I Know if My Treatment is Working?

- Your oncologist/hematologist may determine if your treatment is working by seeing you and examining you regularly, and by tests such as CT scans
- Your treatment will continue as long as the oncologist/hematologist feels you are responding to it and not experiencing any serious side effects
 - We are always learning new information on how long to treat a patient . Your doctor will discuss this with you

Your Health Care Team May Include

- Oncology/Hematology Doctors:
 - Oncologist, Hematologist or Oncology Clinical Associate
- Oncology/Hematology Nurse Practitioner
- Clinic Nurse
- Systemic Therapy Unit Nurse
- Trials Nurse
- Cancer Patient Navigator
- Social Worker
- Medication Resource Specialist
- Oncology Pharmacist
- Palliative Care
- Dietician

Your Clinic Nurse



- Provides ongoing assessment and support during your clinic visits
- Available for telephone consultation and symptom management
- Coordinates your care and treatments

Your Systemic Therapy Unit Nurse



- Works with your oncologist/hematologist to assess and plan your treatment
- Administers and monitors your treatment
- Provides support and education to help you manage side effects of your treatment

Cancer Patient Navigator



- Oncology nurse
- Support you and your family during your cancer journey including:
 - Physical
 - Informational
 - Psychological
 - Social
 - Emotional
 - Practical
- Located in community oncology clinics

Natural Health Products and Cancer Therapy

- We cannot predict the effect of taking natural health products during cancer treatment; it may cause an interaction
- It is important to discuss any questions or concerns with your oncologist/hematologist



Coping With Emotional Changes



- Share your feelings..talking.. keeping journals
- Don't be afraid to ask questions
- Maintain your network of family and friends ..ask for/accept help
- Support is available to you and your family support services

Cancer and Distress

- Being diagnosed with cancer can be difficult and stressful. Each person reacts differently
- Your nurse may ask you to complete a short Screening for Distress Questionnaire
- This will help identify the issues that are concerning you the most and help provide you with resources to help you

Use Our Support Services



- Working through cancer related side effects (anxiety, depression, fatigue, pain) education sessions
 - Ask for copy of upcoming sessions
- Support Groups
- Social Worker
- Medication Resource Specialist
- Cancer Patient Navigator
- Complimentary Therapy
- Sexual Health Clinician
- Spiritual Care
- Palliative Care
- Home Care Nova Scotia
- Canadian Cancer Society
- Look Good Feel Better

Points to Remember



- Always register with staff upon arrival
- Since long waits are possible on some days, come prepared
- Advise your oncologist/hematologist or nurse of any changes to your medications or to your health
- Bring an up-to-date list of your medications with you
- Notify your cancer care team if you have been admitted or visited emergency

Points to Remember

- Keep in contact with your family doctor
- Ensure you have contact phone numbers for the clinic
- Blood requisitions
- Return appointment
- Immunotherapy treatment schedule

Acknowledgement

- We wish to acknowledge Glenn Myers and his colleagues at Horizon Health Network, NB for giving permission to adapt their resources for our purposes
- Copyright for pictures

Questions?

