# CANCER IN CANADA[1].

**1 in 2** will develop cancer

**1 in 4** will die from cancer

**80,800** deaths in 2017

**206,200** new cancer cases in 2017

## HOW WE CAN TREAT CANCER.

- SURGERY
- CHEMOTHERAPY
- RADIATION
- IMMUNOTHERAPY

# IMMUNO-ONCOLOGY

## THE FACTS | WHAT IS IT AND HOW DOES IT WORK?

## THE IMMUNE SYSTEM.

THE HUMAN BODY'S NATURAL DEFENSE SYSTEM

IT PROTECTS AGAINST HARMFUL INVADERS...

**LIKE:**

germs, bacteria, viruses, parasites & diseases like cancer

**BY:**

Detecting foreign invaders

Finding & destroying abnormal cells

### DEFENDER CELLS

When germs are present, a small fraction of defender cells will recognize them.

These cells multiply, creating an army to fight the infection.

Special types of these cells 'remember' the invader creating an immunity to a second attack (how vaccines work).

**DID YOU KNOW...** cancer cells are quite common

When normal cells become cancer cells, an immune response activates **T, B & NK cells** (defender cells) to eliminate the cancer.

Some cancer cells can change, disguising themselves as normal cells to elude attack. This allows them to grow and spread, and is why some cancers stop responding to treatments.

**IMMUNO-ONCOLOGY** → **A type of immunotherapy treatment that uses the human body's own immune system to fight the cancer.**

- slows or stops the growth of cancer cells
- helps the immune system to better destroy cancer cells
- stops cancer from spreading

## WHY IMMUNOTHERAPY?.

- highly specific
- fewer side effects
- powerful results

- more expensive
- more work needed
- potential life threatening toxicities

over the next decade 10

**IMMUNOTHERAPIES WILL BE THE BACKBONE OF CANCER TREATMENTS IN 60% OF CANCER TYPES**[2]

| TARGETS | ATTACKS | REMEMBERS | VERSATILE |
|---|---|---|---|
| *The immune system is activated to fight the cancer* | *It recognizes & attacks on a systemic level* | *It remembers the cancer cells resulting in longer remission* | *It is used to treat several types of cancers* |

## TYPES

- IMMUNE CHECKPOINT INHIBITORS
- CELL THERAPY (CAR-T)
- VACCINES
- VIRUS THERAPY
- MONOCLONAL ANTIBODIES

CONECTed
Collective Oncology Network for Exchange, Cancer Care Innovation, Treatment Access and Education

These therapies do not work for everyone and ongoing research is trying to understand what makes a patient respond to the treatment. Treatments and results may vary by individual. Please discuss with your healthcare team to see if immunotherapy is right for you.

1 http://www.cancer.ca/~/media/cancer.ca/CW/cancer%20information/cancer%20101/Canadian%20cancer%20statistics/Canadian-Cancer-Statistics-2018-EN.pdf?la=en
2 https://www.reuters.com/article/us-cancer-immunotherapy/immunotherapy-is-not-just-for-melanoma-anymore-idUSBRE94U0SP20130531