

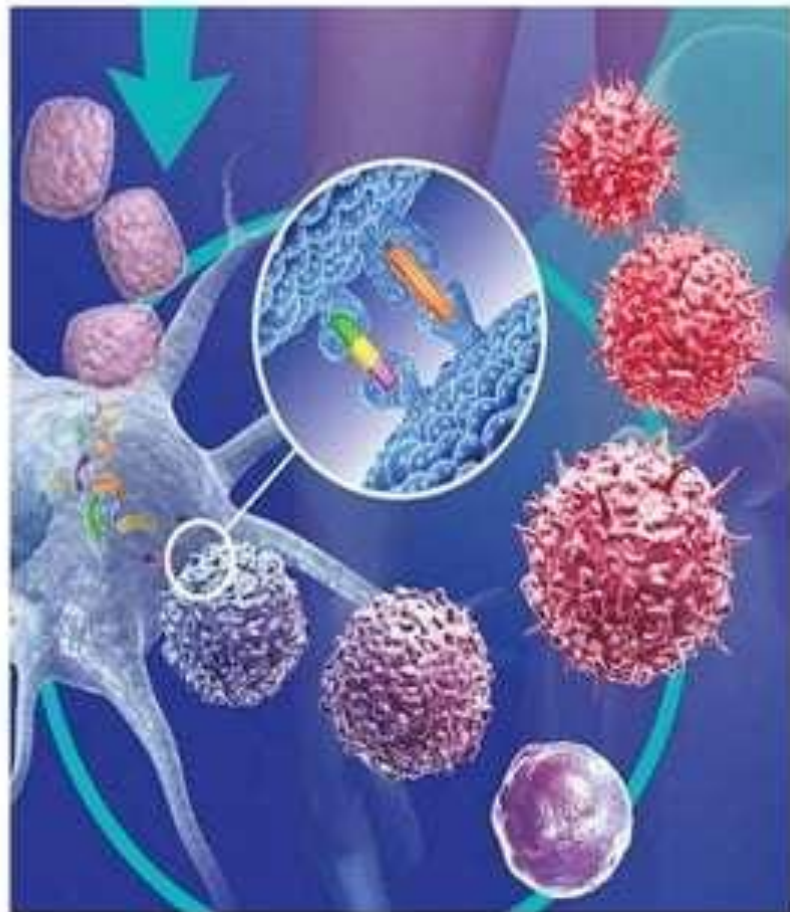
# CANCER THERAPY.....



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# ***INTRODUCTION***

- A type of treatment that uses drugs or other substances to identify and attack specific type of cancer cells with less harm to normal cells.
- These treatments includes surgeries, radiations, chemical agents, or biological therapies.





**CANCER**

A man with a shaved head, wearing a white t-shirt, is shown in a thoughtful pose. He has his right hand raised to his forehead, with his index finger pointing upwards. His eyes are looking upwards and to the left, and his mouth is open in an 'O' shape, suggesting surprise or deep thought. Above his head, a thought bubble contains the text 'What does Cancer Mean to you'. The background is a solid light blue color.

What does Cancer  
Mean to you

# *WHAT IS CANCER????*

- Cancer – it is a abnormal growth of dead cells in the body.
- It develops because the old cell do not die, instead it grow abnormally.
- The newly formed dead cells form a group called, ***TUMOR.***



Cancer

Cancer is a group of dis-  
abnormal growth of cell  
in an uncontrolled way.  
progressive disease, ar-  
rick factors for certain

# REASON FOR CANCER...



~33%

of cancer diagnoses are caused by **tobacco use.**



~20%

of cancer diagnoses are related to individuals being **obese or overweight.**



~16%

of cancer diagnoses are related to infection with one of several **cancer-causing pathogens.**



~5%

of cancer diagnoses are related to individuals getting **insufficient physical activity.**



~5%

of cancer diagnoses are related to individuals having **poor dietary habits.**



~2%

of cancer diagnoses are a result of **exposure to ultraviolet light from the sun or tanning devices.**

# **TYPES OF CANCER** **THERAPY...**

- Surgery
- Radiation therapy
- Chemotherapy
- Immunotherapy
- Targeted therapy
- Stem cell transplant
- Nano particle drug delivery system.



**TREATMENT**

**&**

**PREVENTION**



# ***TREATMENTS INCLUDES.....***

- ***Surgery:***

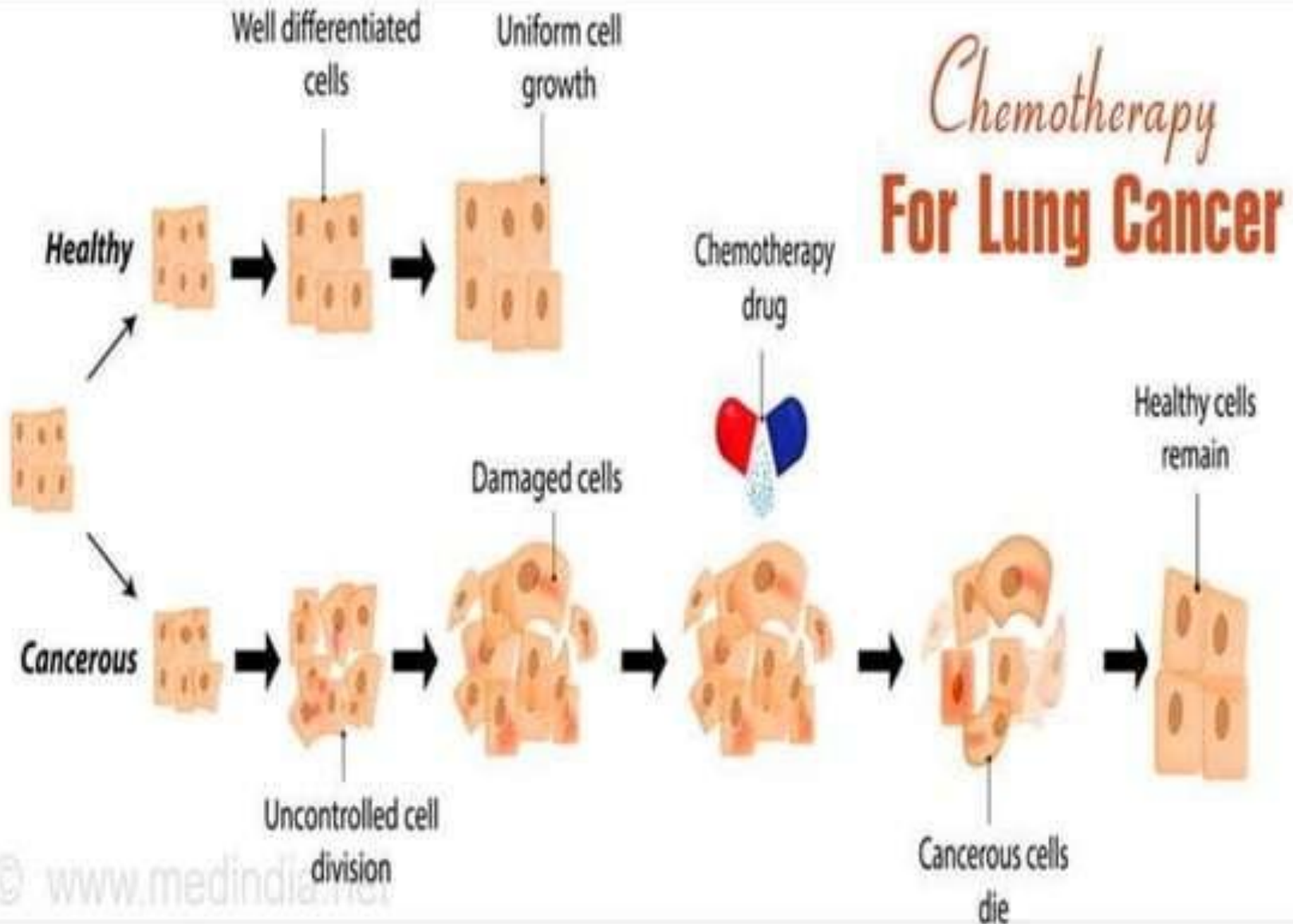
- It is the removal of cancer cells at the particular area by means of surgery.



- ***Chemotherapy:***

- It is the use of drug to kill cancer cells.
  - But it is toxic to healthy cells.
  - Side effects may occur, they include hair loss, nausea, vomiting, and reduced immune responses.

# CHEMOTHERAPY...



# ***Cont....***

- ***Targeted therapies:***

- It is the newer type of cancer treatment .

- It uses drugs or other substances to identify and attack cancer cells.

- It is a growing part of the treatment for many types of cancer.

- ***Immunotherapy:***

- It boosts up the body's natural defenses to fight the cancer.

- It uses substances made by the body or in a laboratory to improve or restore the immune system functions.

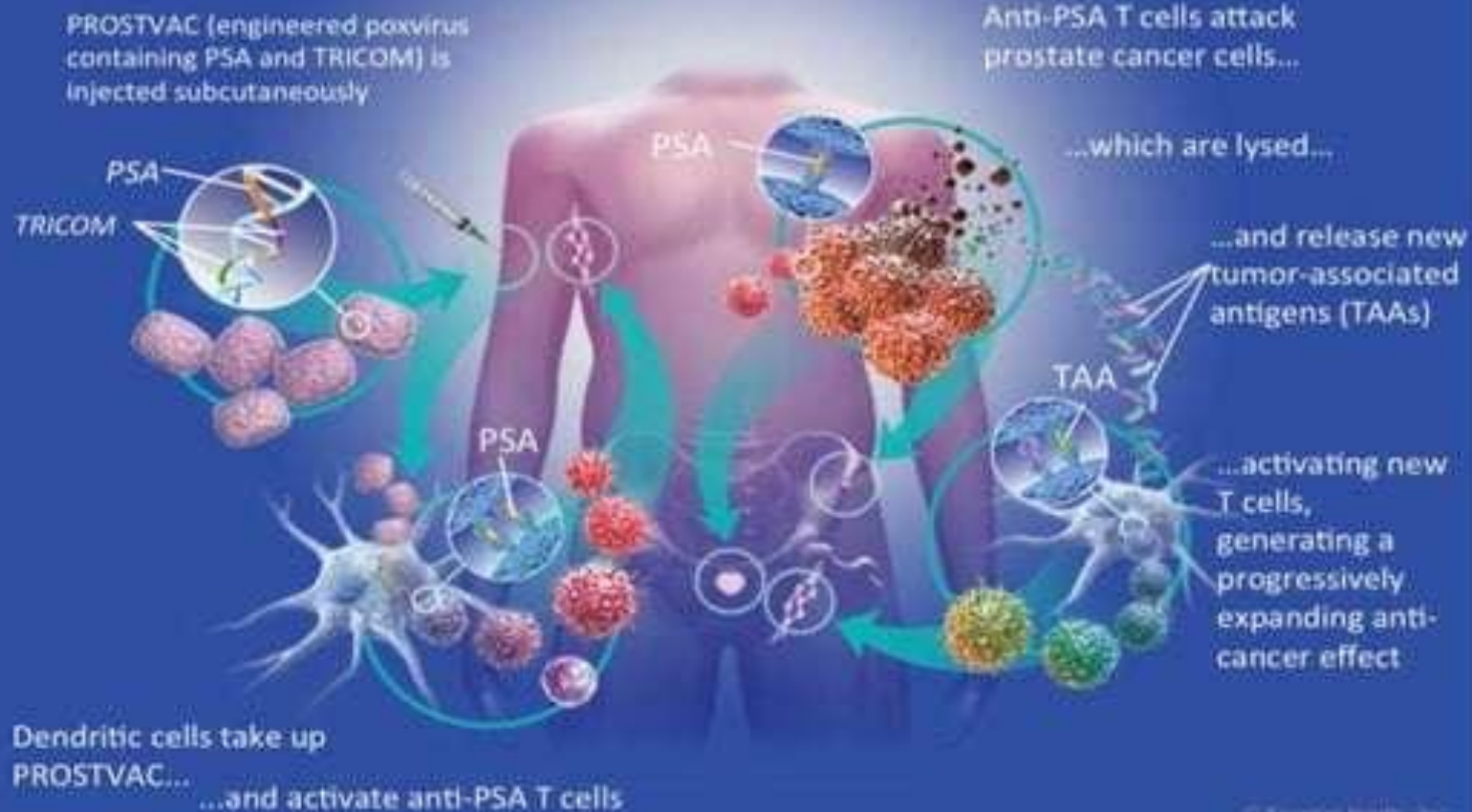
- It is also called as biological therapy

# ***PROSTVAC***

- It is a type of immunotherapy technique involved in killing cancer cells.
- It is designed to enable immune system to recognize and attack PC cells by triggering a specific and targeted T- cell immune response to cancer cells, that express the tumor- associated antigen prostate – specific antigen (PSA).

# TARGETED IMMUNOTHERAPY...

## PROSTVAC May Trigger a Progressively Expanding, Specific Immune Response Against Prostate Cancer



# Radiation Therapy

# ***RADIATION THERAPY***

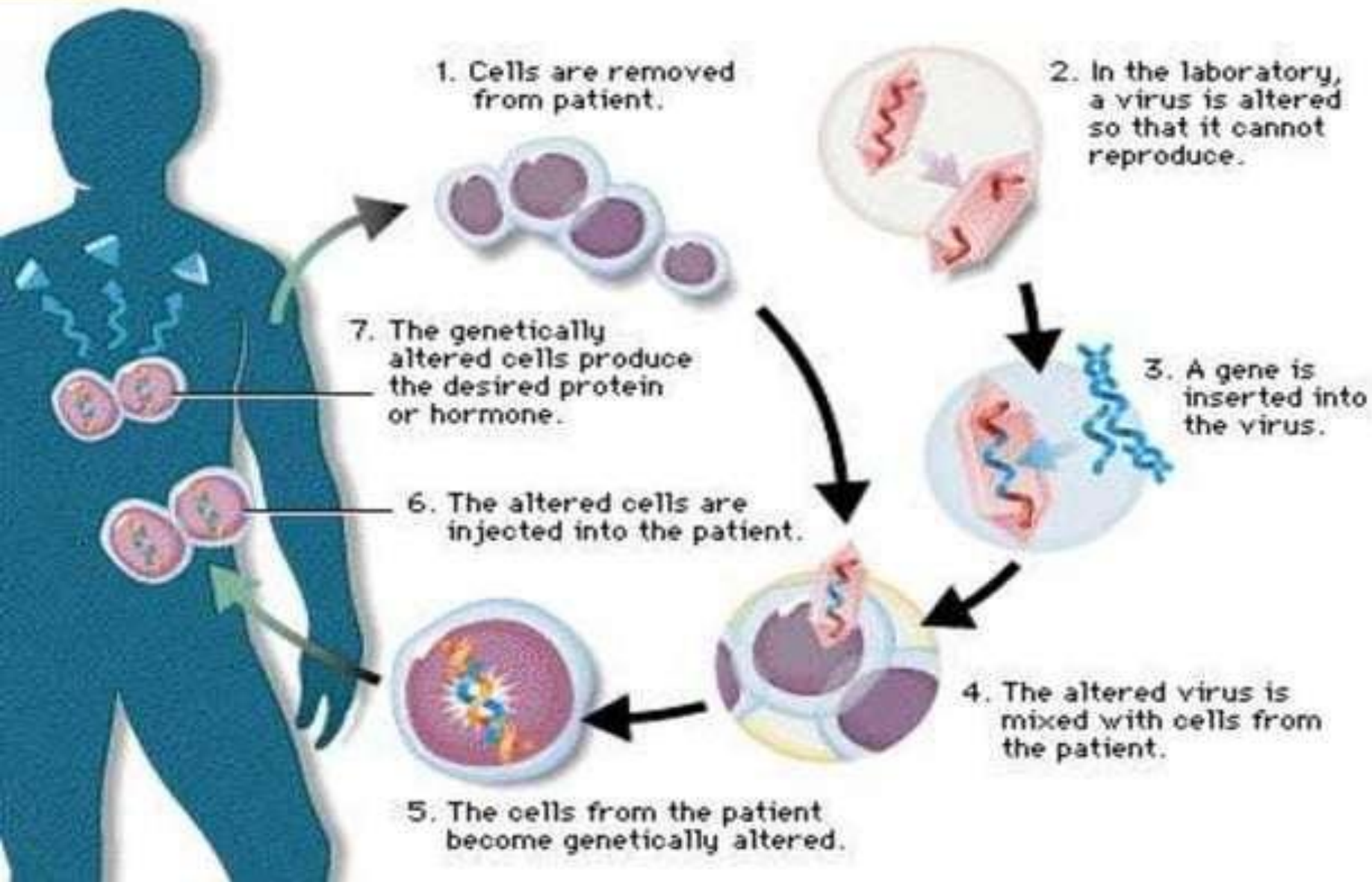
- It uses high- energy rays to kill the cancer cells.
- It stop the growth and division of the cancer cell.
- It is the local treatment ; it can affect cancer cells only in the treated area.
- Affects both cancer as well as normal cells.
- Normal tissues are usually able to recover

# ***GENE THERAPY***

- Gene therapy is a technique for correcting the defective genes that are responsible for the cancer development.
- It uses carriers to transfer the gene, called as “vectors”.
- The most common vectors that are used in gene therapy are virus vectors
- It is used in combination with the radiation therapy.

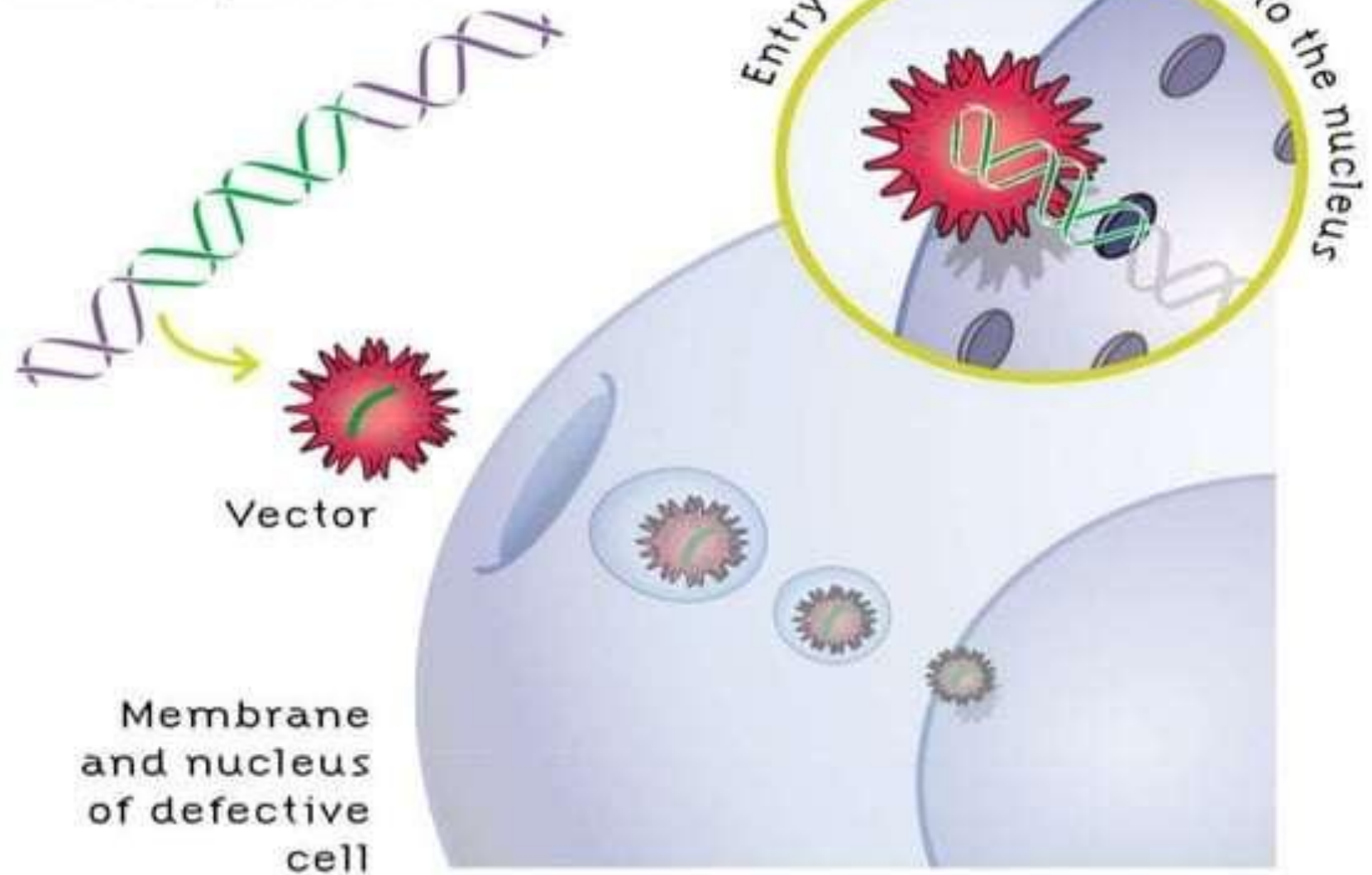


# ***GENE THERAPY!!!!***



# Action of vectors at the level of the cells of the injected organ

Gene for protein A



# ***STEM CELL TRANSPLANT***

- ✓ It aims to try and cure some types of blood cancer such as leukemia, lymphoma, and myeloma.
- ✓ It replaces the damaged or affected blood cells, with the healthy stem cells.
- ✓ These stem cells are capable of giving rise to the new different blood cells.

# ***STEM CELL TRANSPLANT:***

## **STEM CELLS TO THE RESCUE**

### **In a stem cell transplant:**

**1** Blood is drawn from you or a donor

**2** Stem cells are harvested from the blood

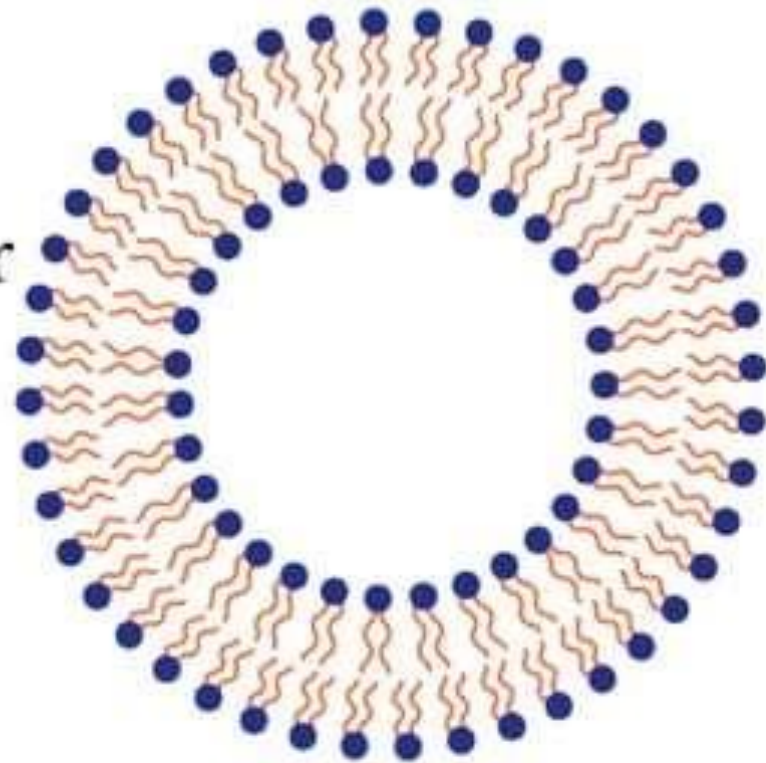
**3** Radiation or high-dose chemotherapy eliminates cancer cells

**4** Introduction of healthy stem cells into the blood replenishes the immune system



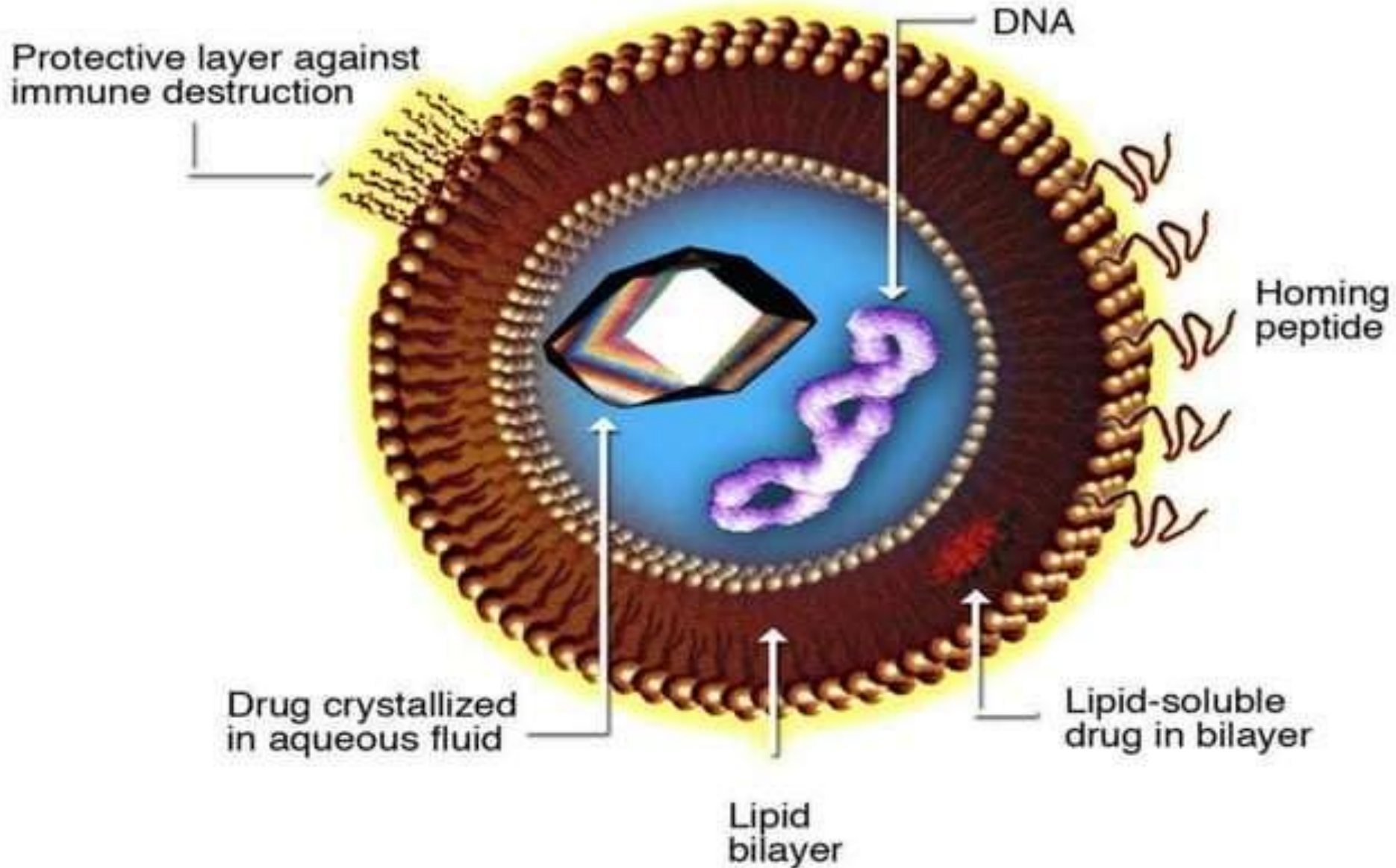
# *Drug delivery system....*

- Liposomes – a lipid based nano particle developed to act against cancer cells.
- It is widely used as anti-cancer drugs.
- Certain anticancer drugs are administered via liposomes.

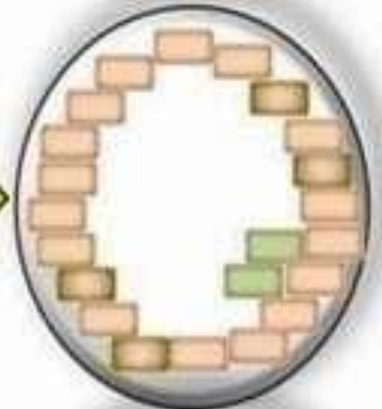
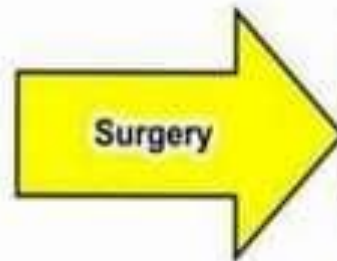
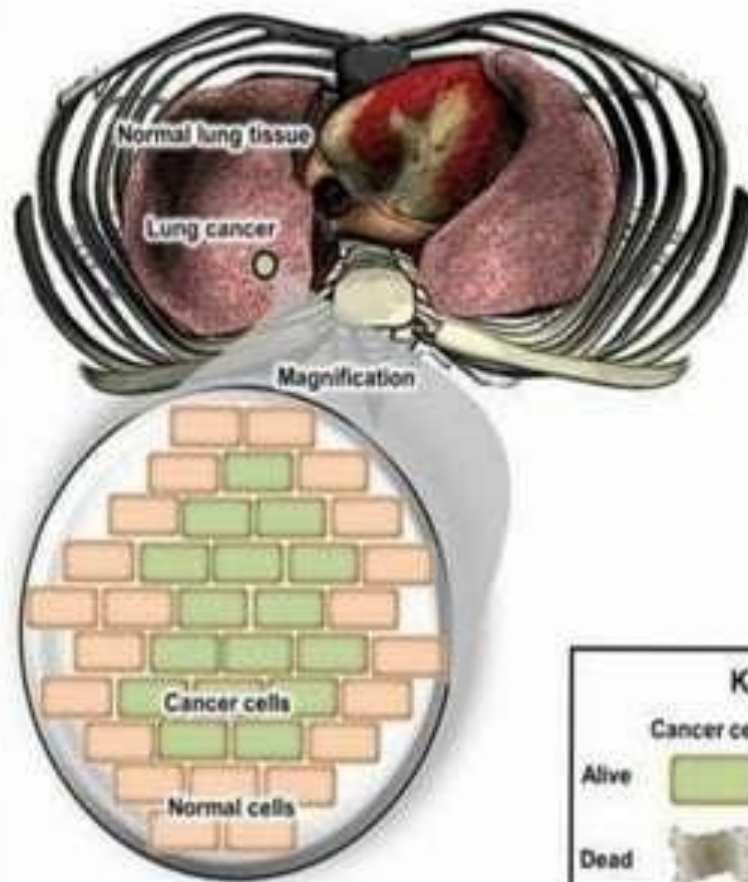


***LIPOSOME..***

# Liposome for Drug Delivery



# Cancer therapy.....



Key		
	Cancer cell	Normal cell
Alive		
Dead		

# Cancer Prevention





# ***PREVENTION...***

- Personal hygiene and birth control.
- By maintaining the healthy lifestyle and regular exercise is needed.
- Avoiding exposure to the known cancer causing substances.
- Limit consumption of calorie-dense foods.
- Eat mostly foods of plant origin.
- Avoid tobacco usage, alcohol consumption.
- Get screening test

# ***BENEFITS OF CANCER THERAPY.....***

- ✓ It is very effective in treating the breast cancer.
- ✓ Removal of large volume of tumor and removes all cancer cells in a small area.
- ✓ Ability to kill many cancer cells throughout the entire body.
- ✓ Some therapies includes the death of microscopic diseases.
- ✓ Some includes the preservation of an organ.

# ***DISADVANTAGES OF CANCER THERAPY.....***

- ✗ Damages to surrounding tissues.
- ✗ Increased wound complication and poor healing.
- ✗ Tiredness, rashes, redness, and loss of appetite.
- ✗ Sometimes the WBC level may get decreased.
- ✗ Removal of an organ.
- ✗ Pain, infection, bleeding.
- ✗ ***SIDE EFFECTS:*** fever and chills, muscles aches, weakness and diarrhea.

THANK YOU