A
"SEMINAR REPORT"
ON
"NANO-BOTS"

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Introduction

- Nanobots is the emerging technology field to creating a machines or robots.
- Performs tasks at Nano scale dimensions.
- The size of nanobots are 10^{-9}.
- Nanobots are made up of DNA of Bacteriophages.

- Also called as nanorobots, nanomachines, nanomites and nanoids.

- Nanobots are tiny machines used to cure diseases in humans or in any organism.
  ex. It is used to identify and destroy the cancer cells.

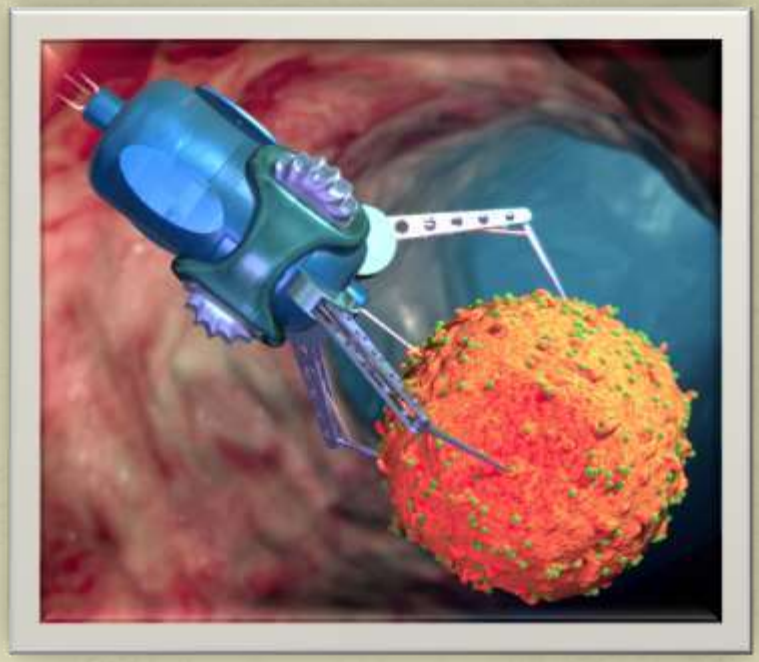
- They are need large numbers of nanobots to perform well in macroscopic and microscopic tasks.

- In future, medical nanotechnology is expected to employ nanobots injected into the patient to perform work at a cellular level.

Types of nanobots:

- **Respirocytes:**
  - It works as an artificial erythrocytes.
  - It have much more oxygen than natural RBC.
  - It is very useful for patient suffering from anemia.
- **Microbivores:**
  - Acts as an artificial WBC.
  - Also called as nanobatic phagocyte.
  - It absorbs and digest the bacteria in the bloodstream.

➢ Clottocytes:

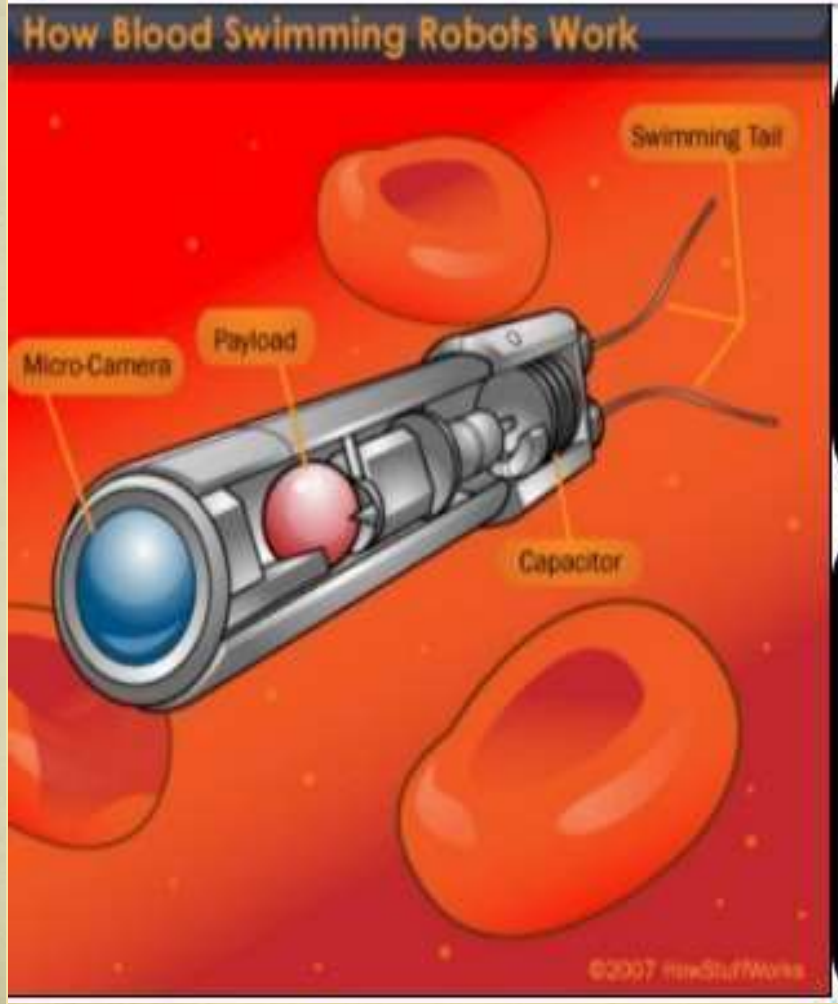


❖ It act as an artificial platelets.

❖It reduces the time for blood clotting.

❖It may allow to complete haemostatic in little as ~1 seconds, even in large wounds.

Structure and Working of Nanobot



Glyco Protein based (Ig) structure enters human blood or tissue by means of intravenous vaccination

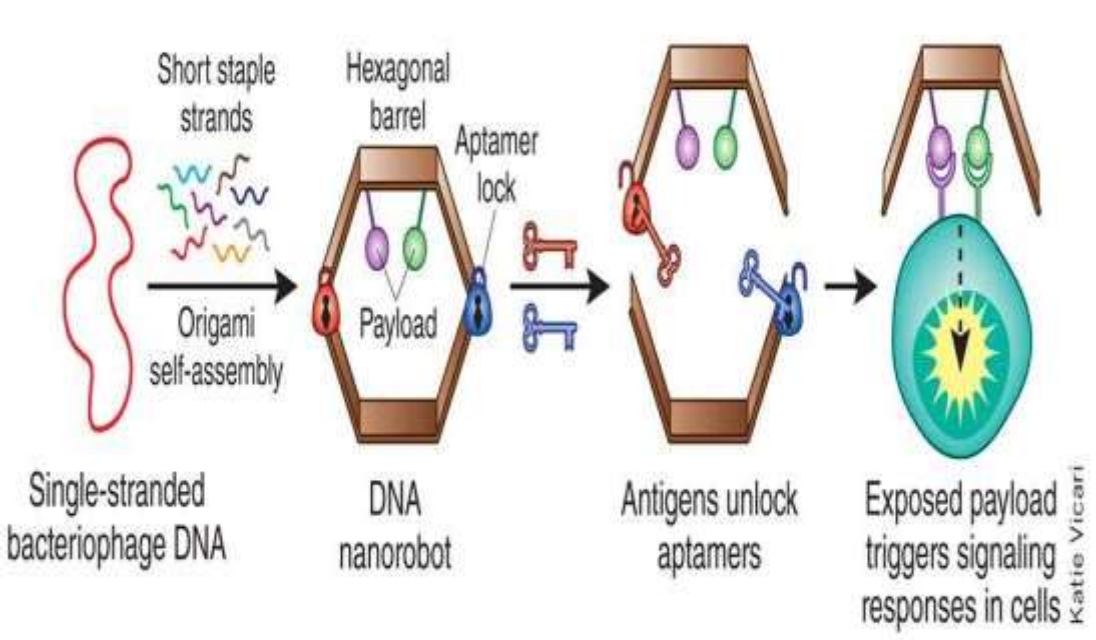
Works with the following components

- Molecular Sorting Rotor
- Propellers
- Fins
- Jet pump
- Membrane propulsion

Mechanism of nanobots:

❖Surgical nanobots could be introduced into the body through the vascular system.

❖After injection, each nanobot would travel to its target cell, enter the nucleus and replace the chromosomes, then exit the cell and leave the body.

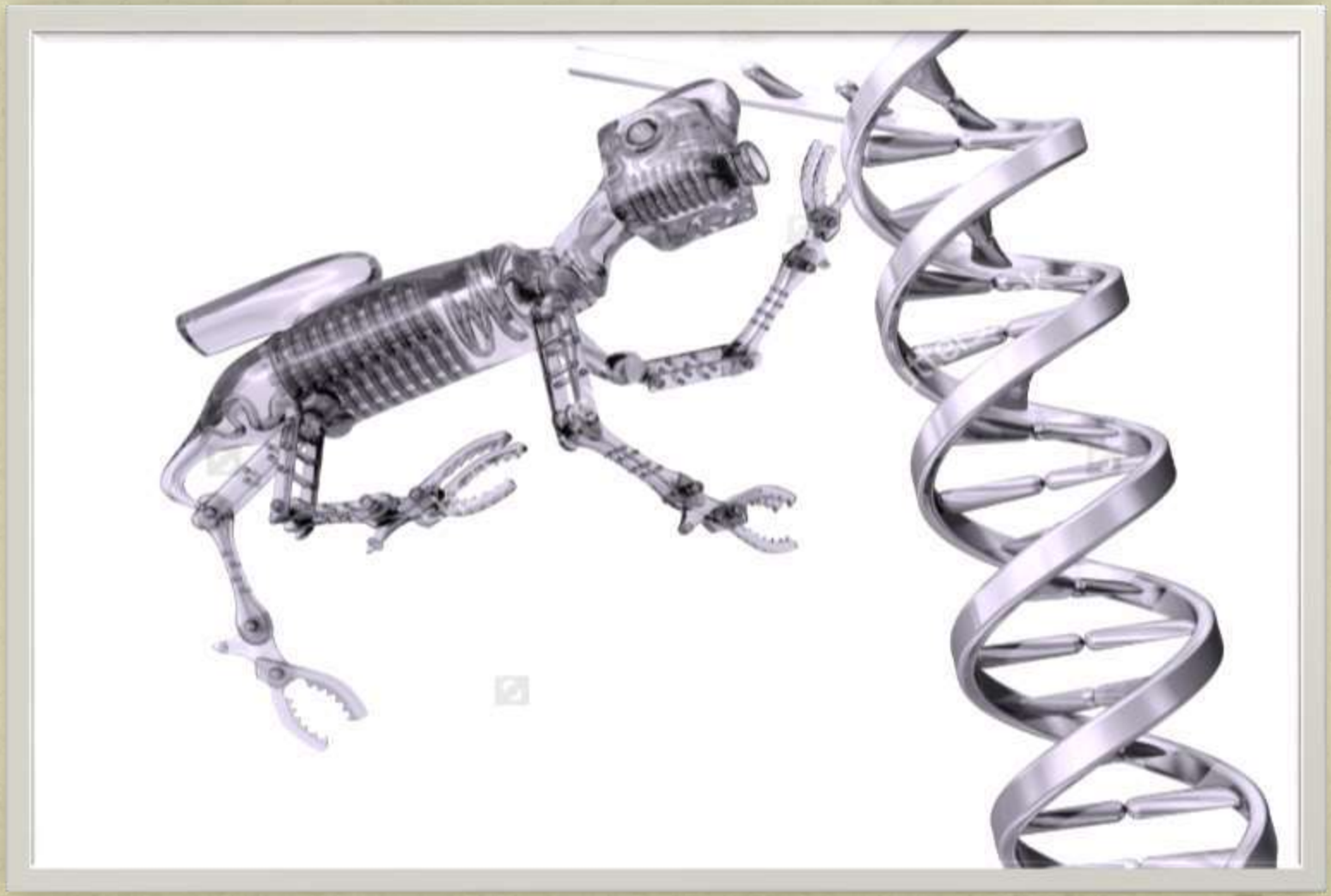


❖Inherited defective genes could be replaced with non-defective base-pair.

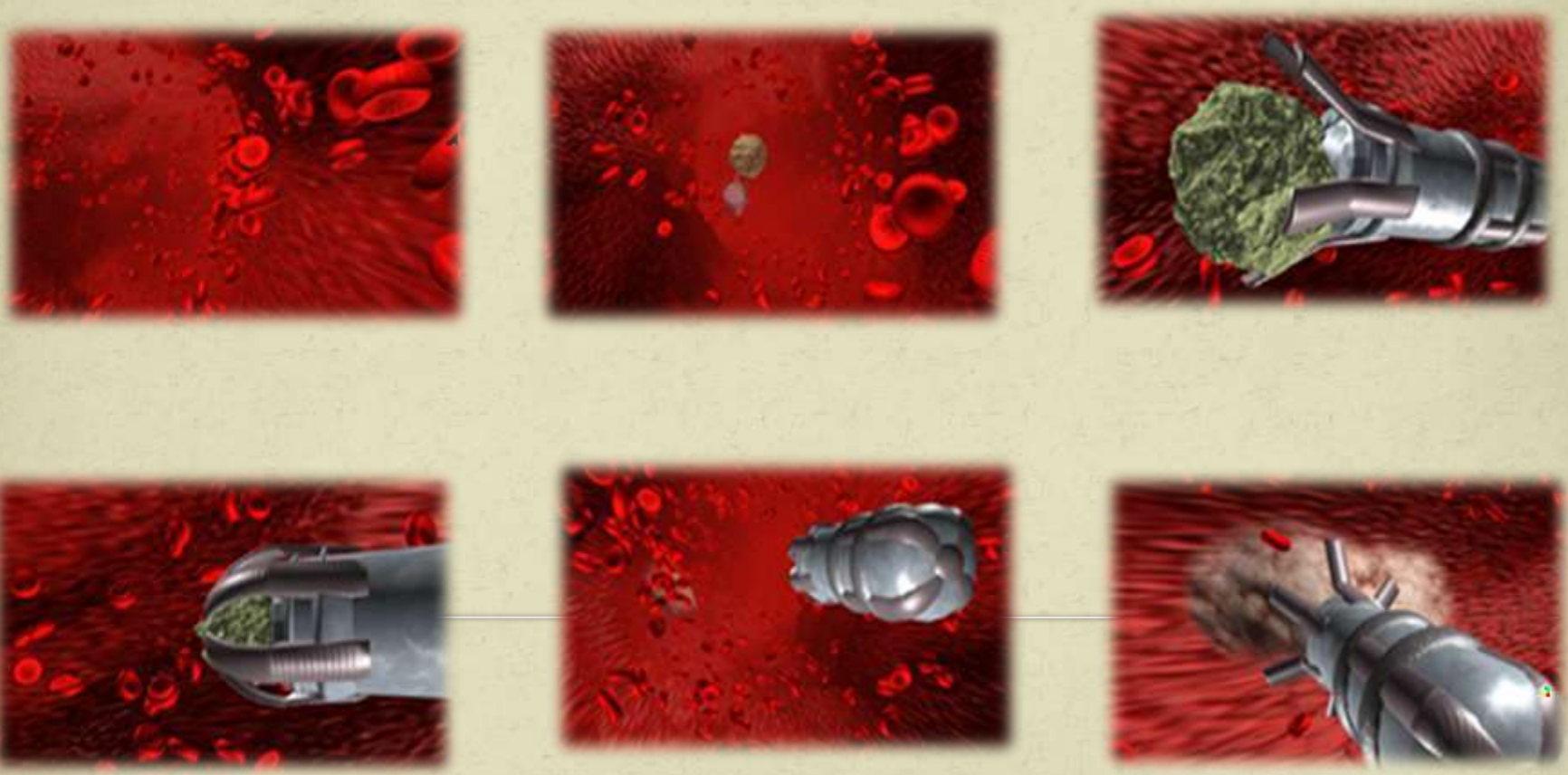
Uses:

- It can check and repair works in DNA.
- It is used to clear coronary artery blockage.
- It can also cure the problems in spinal cord regions.
- It can able to detect stenosed blood vessels.
- Nanobots are put into the act of purifying the sewer wastes and reservoir in the field of environment.

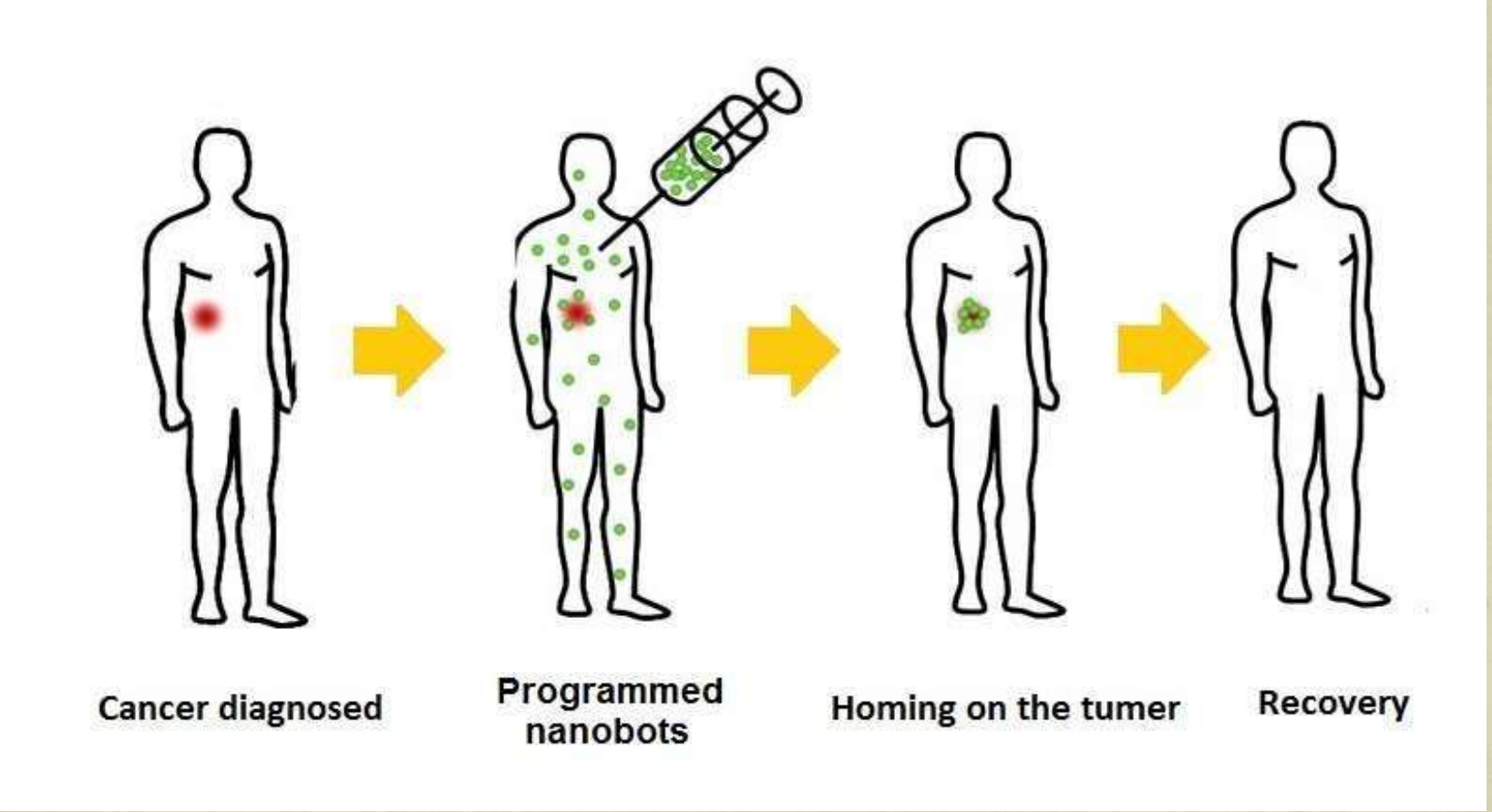
Nanobots can check and repair DNA



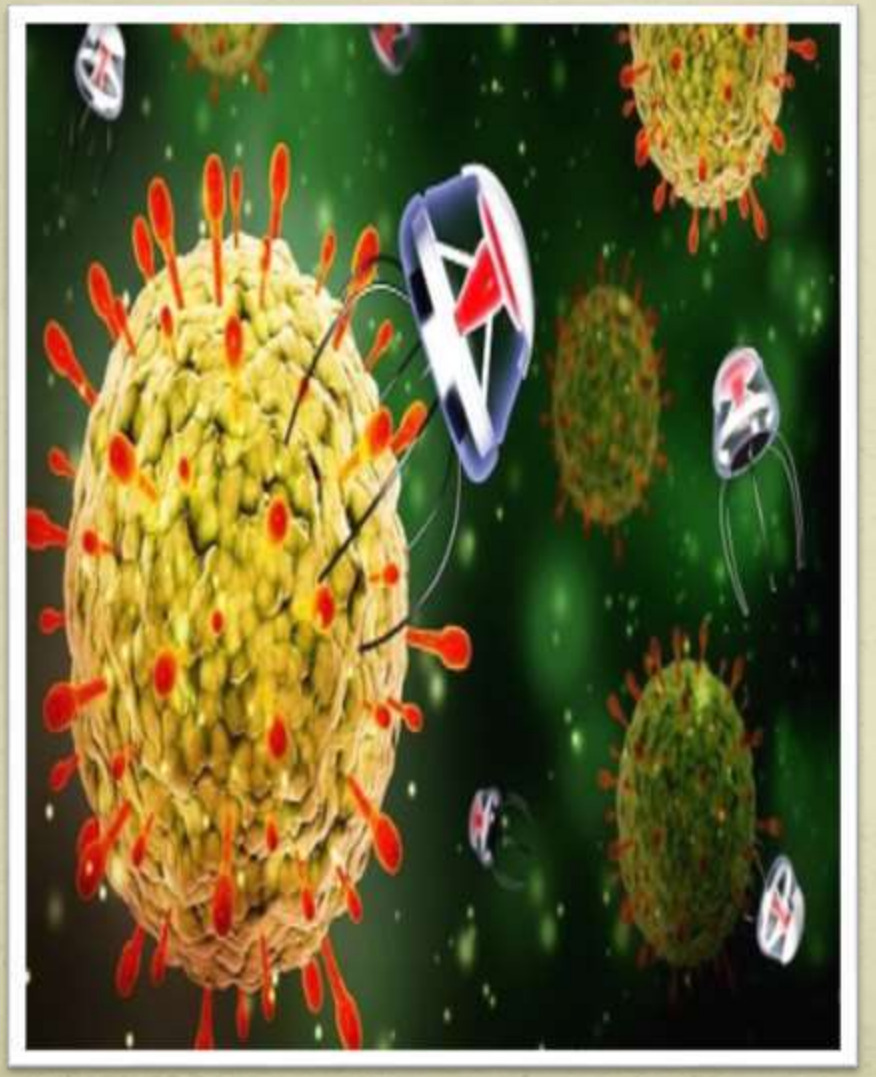
Nanobots used to detect the pathogens in blood



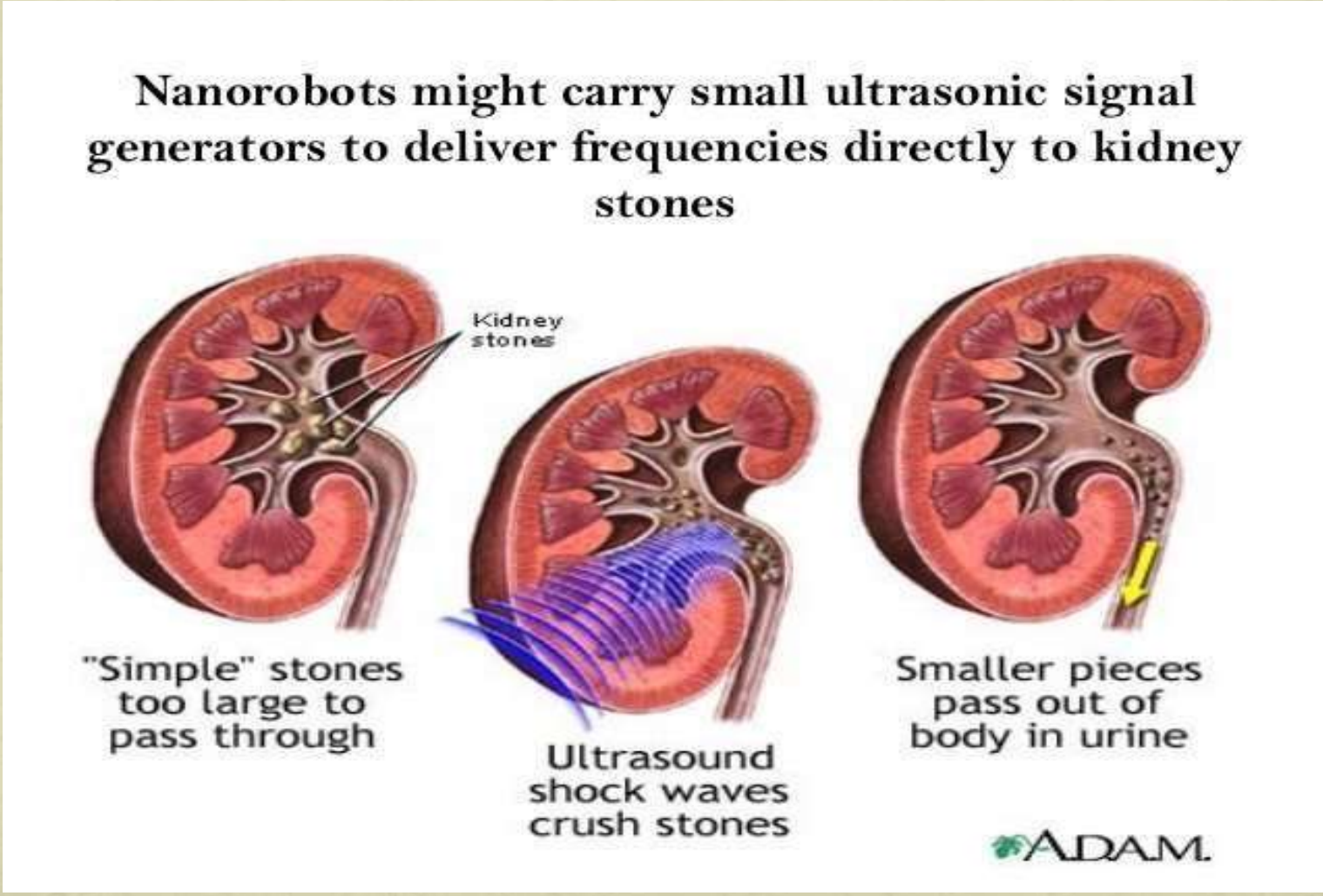
Nanobots in Cancer Treatment



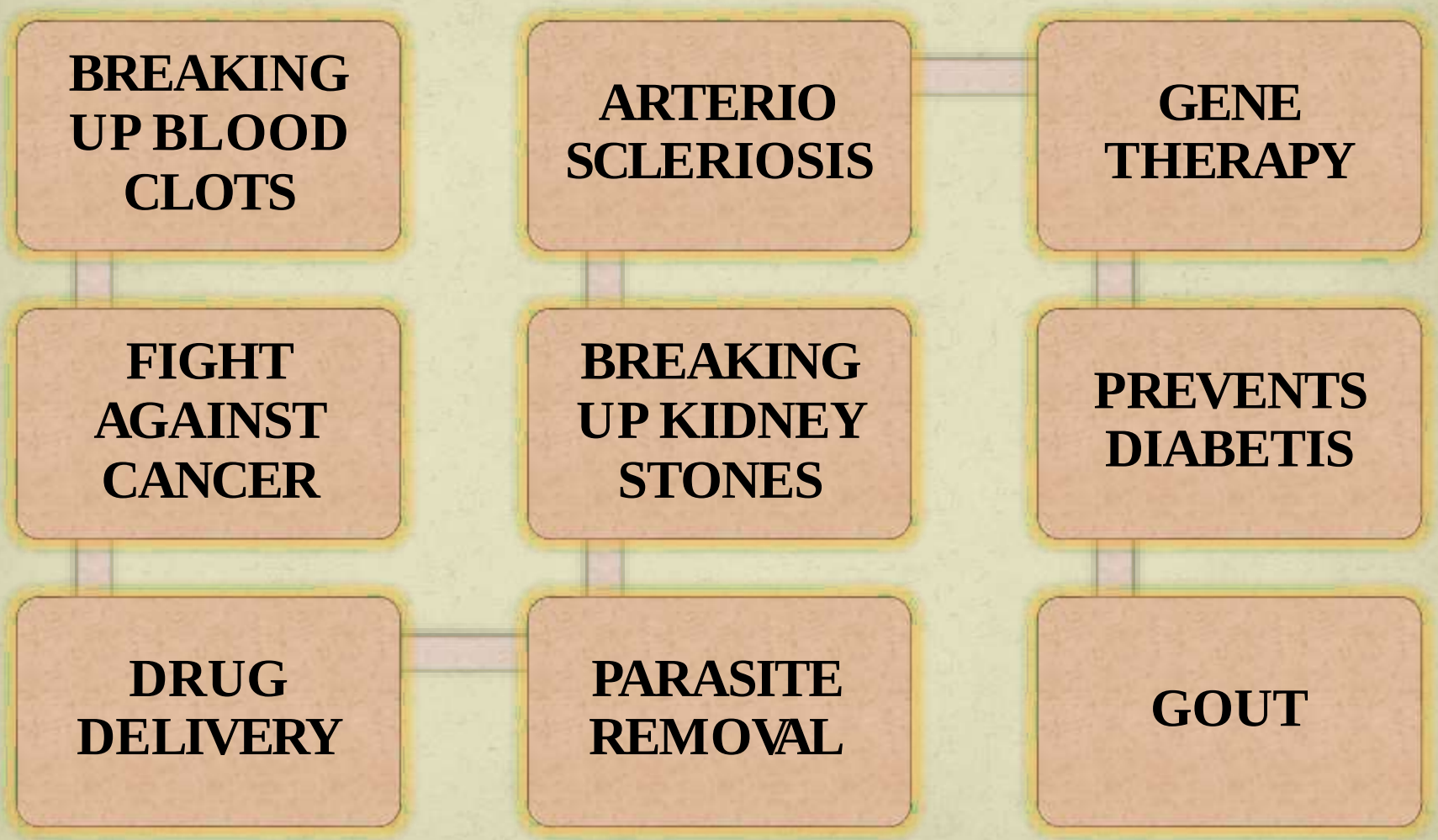
Nanobots used to Killing viruses in human body



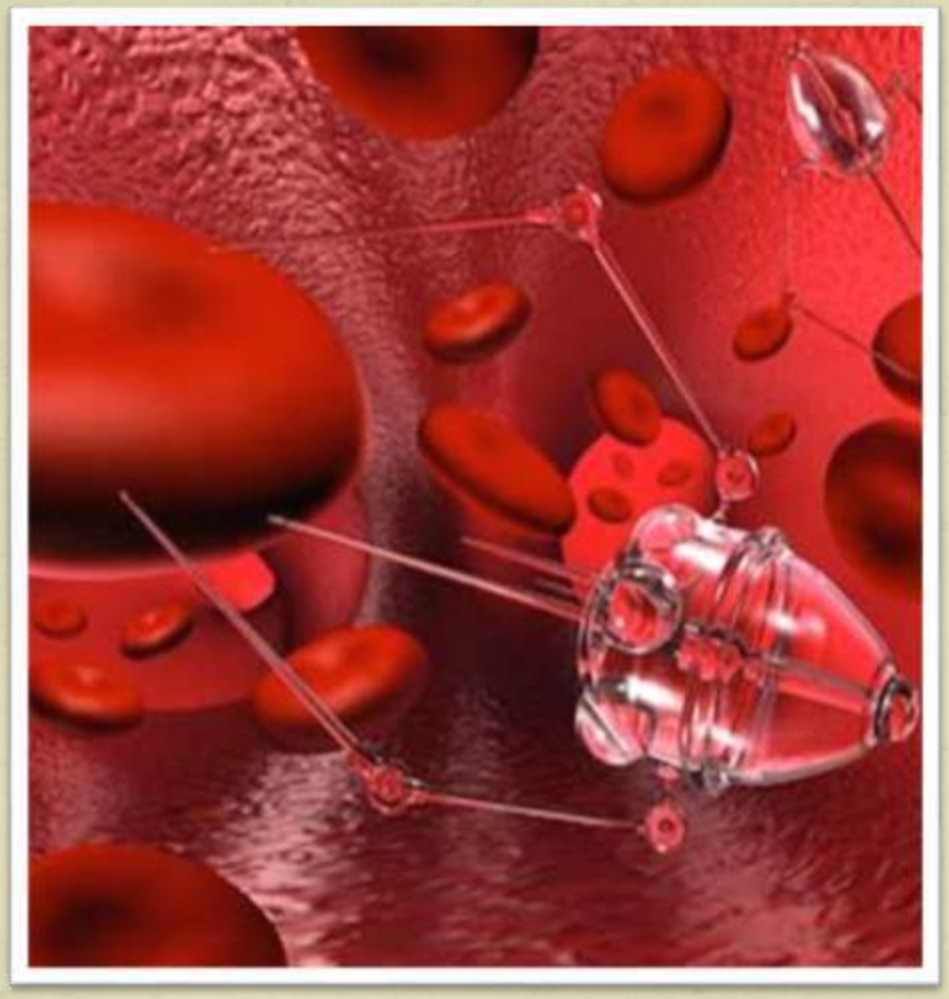
Nanobots cures kidney stones



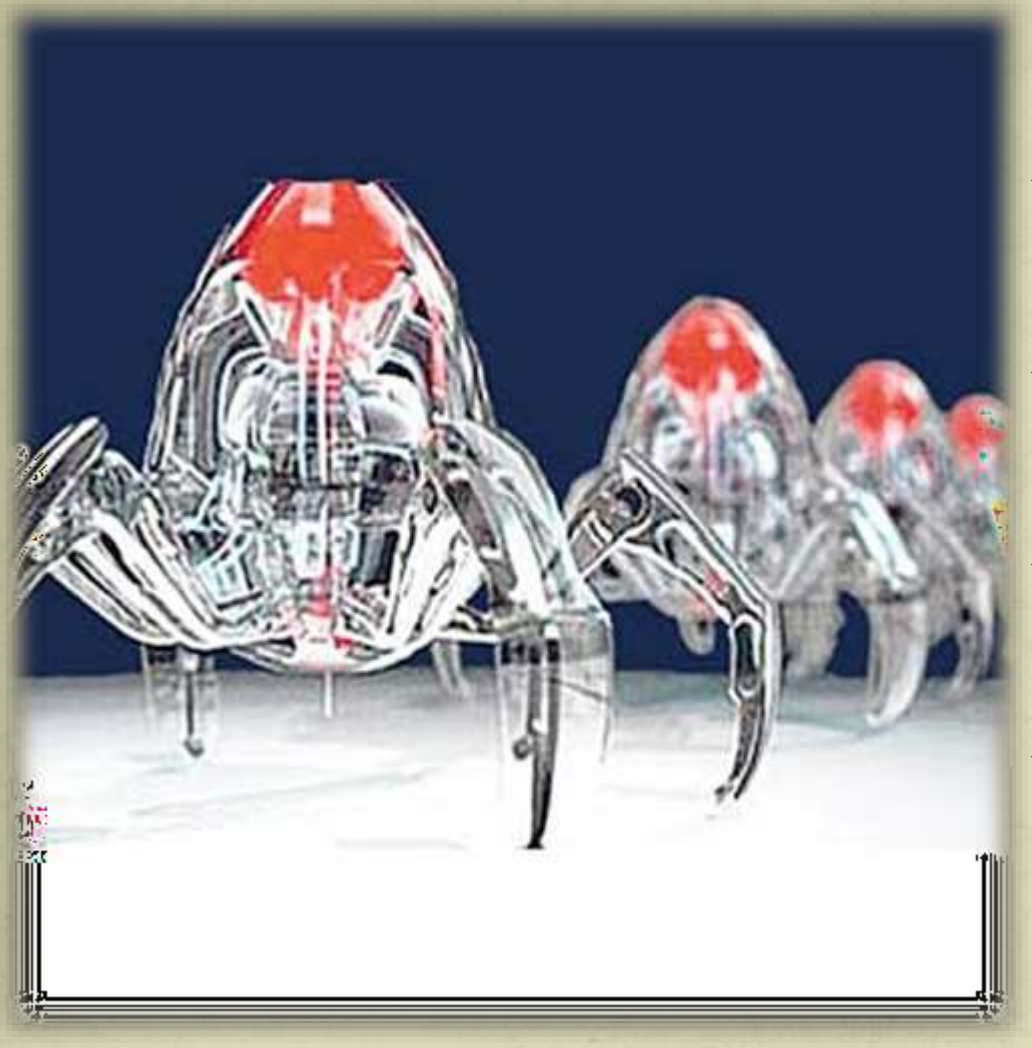
Application of Nanobots in Medical Field



Advantages of Nanobots



- Rapid elimination of disease.
- Cost of surgery is low.
- No operation failures.
- Less risk.
- Faster and more precious diagnosis.
- It might also produce copies of themselves to replace worn out.
- Speed up medical treatment.

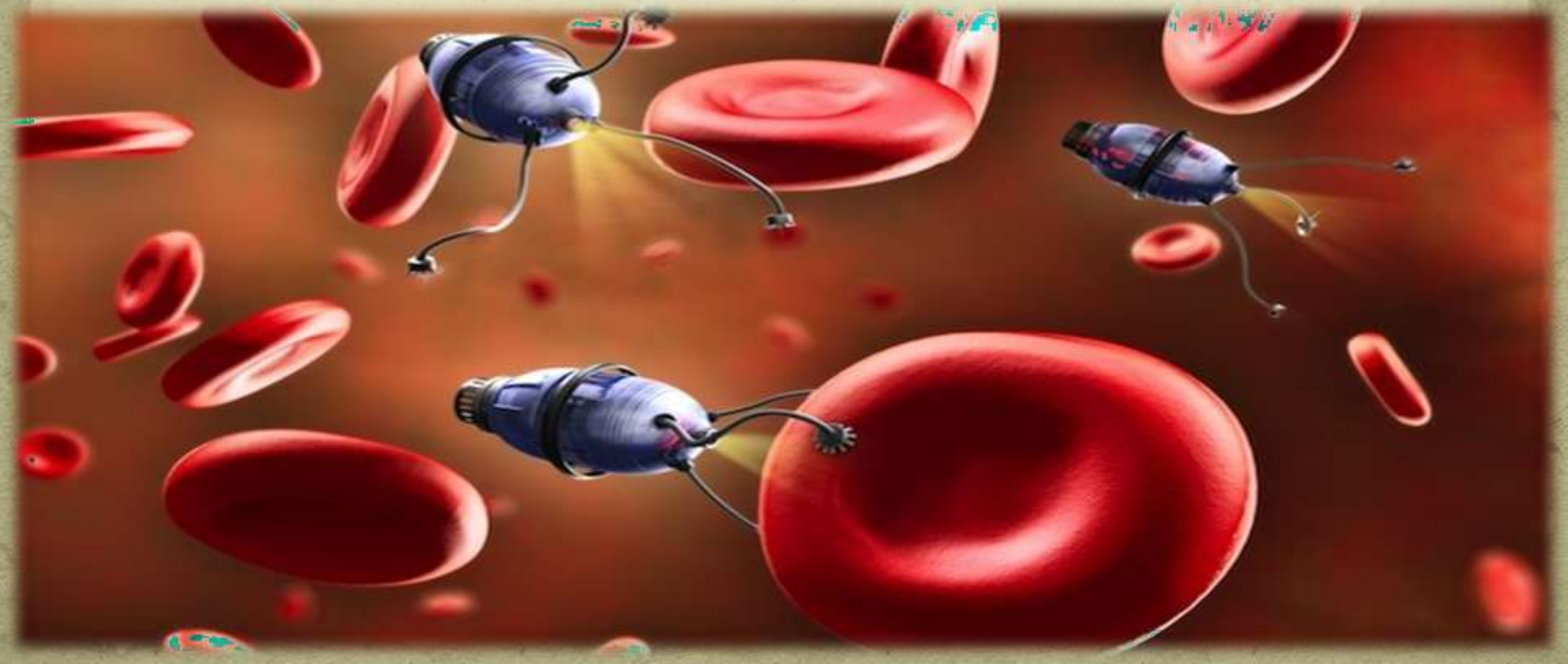


Drawbacks

- Replication may become out of control.
- Complicated maintenance.
- Very costly for installation purpose.
- The nanobots should be accurate, otherwise harmful effects may occur.
- Hard to interface, customize and design.

CONCLUSION:

The nanobots are used in medicine are predicted to provide a wealth. When the severe side effects of the existing therapies are considered, the nanobots are found to be more innovative, supportive to the treatment and diagnosis of vital disease.



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Thank
You