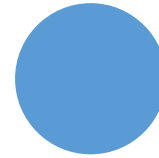


The Miracle of Your Immune System

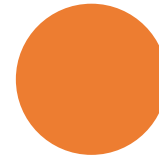
Overview



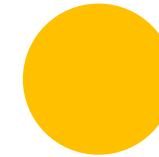
Media have been talking a lot about the VIRUS



Foundation of our Immune System –
Connections and Key Functions



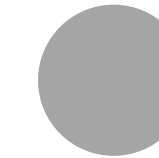
Feeling for the Biological Miracle –
Beyond the “System”



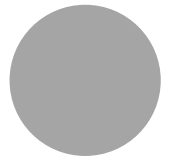
Innate and Adaptive Immune System



Key Organs and Complexity



Body-mindset and Practical Steps



Jim and the Coalition emphasized
Building a Super Immune System

Diversity of Antigens

The Attackers

Old Red Blood Cells
Invader Bacteria
Dust
Senescent Cells
Pollen
Fungi
Virus

Frontline Defense:

- Skin
- Mucosal Membranes in all Organs
- Tears (proteolytic enzymes)
- Glands in your Throat

Key Organs:

Spleen, (Thymus, Lymph Nods, Bone Marrow, Skin)

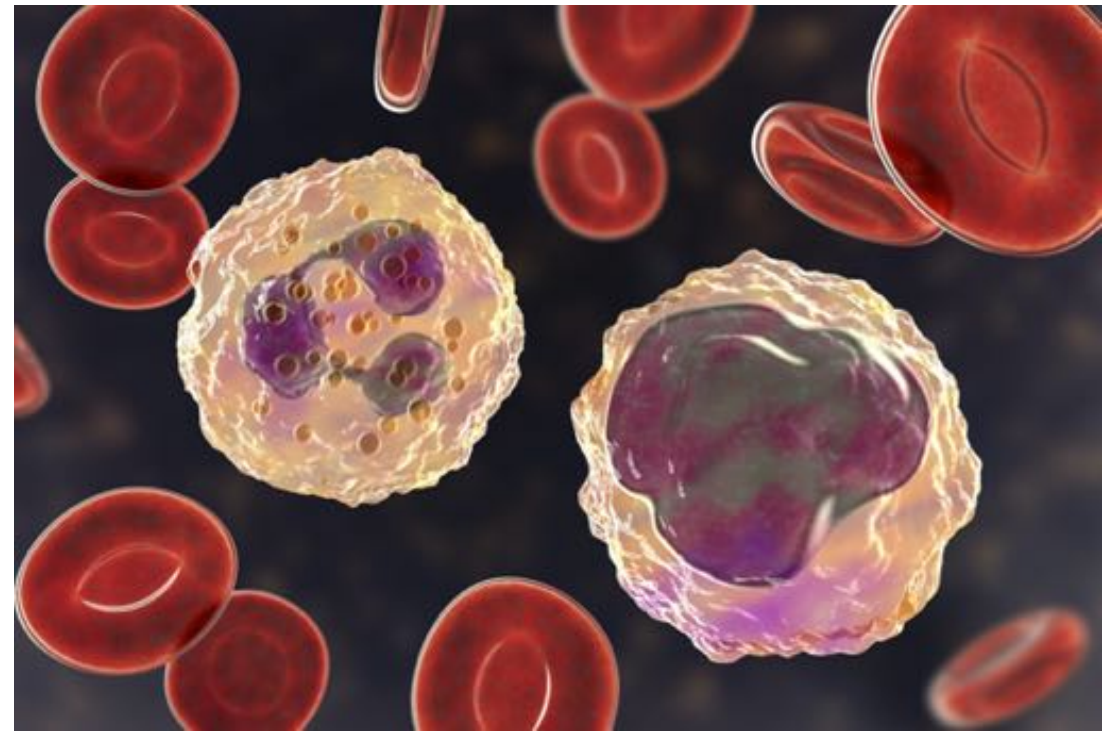
- Stores up to 1 l of blood
- Produces WBC: NK and macrophages
- Filtering blood
- Opsonization – “ID check”
- Wiping out dead and damaged cells
- Produces blood before birth
- Creates Antibodies



Innate Immune System – Quick Response

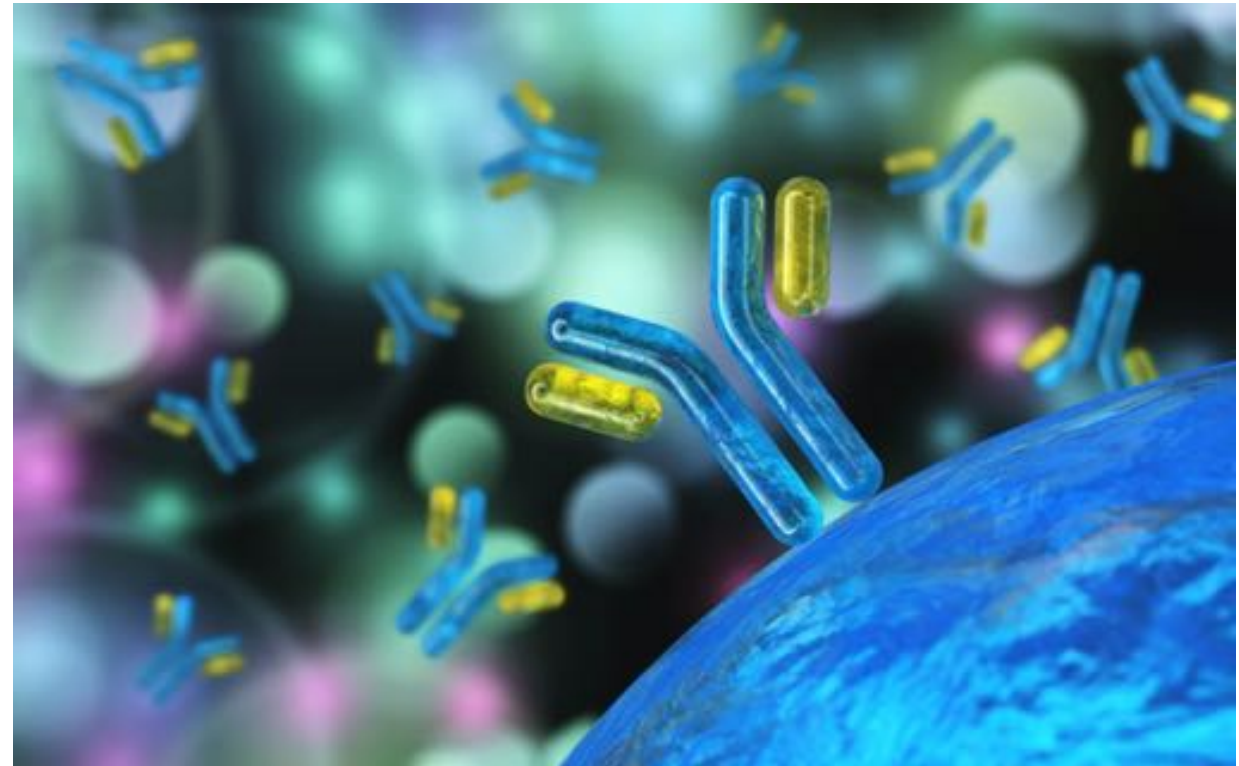
White Blood cells (WBC)

- Macrophages - Infections
- NK – Natural Killer Cells
- Eosinophil – specialized in worms
- Spleen, bone marrow and lymph nodes



Adaptive Immune System – Slow and Specific

- Response to specific new invader (Antigen)
- Pattern Recognition Receptors: Cancer, infection, foreign cells
- B- and T-Lymphocytes
- Trained in Thymus, Spleen and Lymph nodes
- Create specific antibodies in masses
- “Killer memory” - vaccine



Hijacking the Immune System - HIV

- First reported in 1981, spread around the world
- Currently 34 million people have AIDS, 35 million died from it
- HIV enters immune cells and forces them to duplicate their own RNA
- Incorporates RNA into the immune cell DNA
- Survival rates increased dramatically, no vaccine
- Truvada reduces risk of infection by 99%



Immunotherapy - CAR-T

- CAR – Chimeric Antigen Receptors
- T- cells are engineered to recognize specific protein on cancer cells
- Checkpoint inhibitors
- Attract killer cells to eliminate them
- Currently in clinical trial – most promising therapy

<https://www.cancercenter.com/community/blog/2017/05>



How to treat your Immune system well

Mindset and Body Attitude

Building up for Future

Feeling Safe and Alert

- Movement
- Supplements: Vit. A, C, D, ..
- Dry brushing
- Deep sleep
- Hormonal balance



Resources for You

- <https://www.organsofthebody.com/spleen/#SizeSpleenChange>

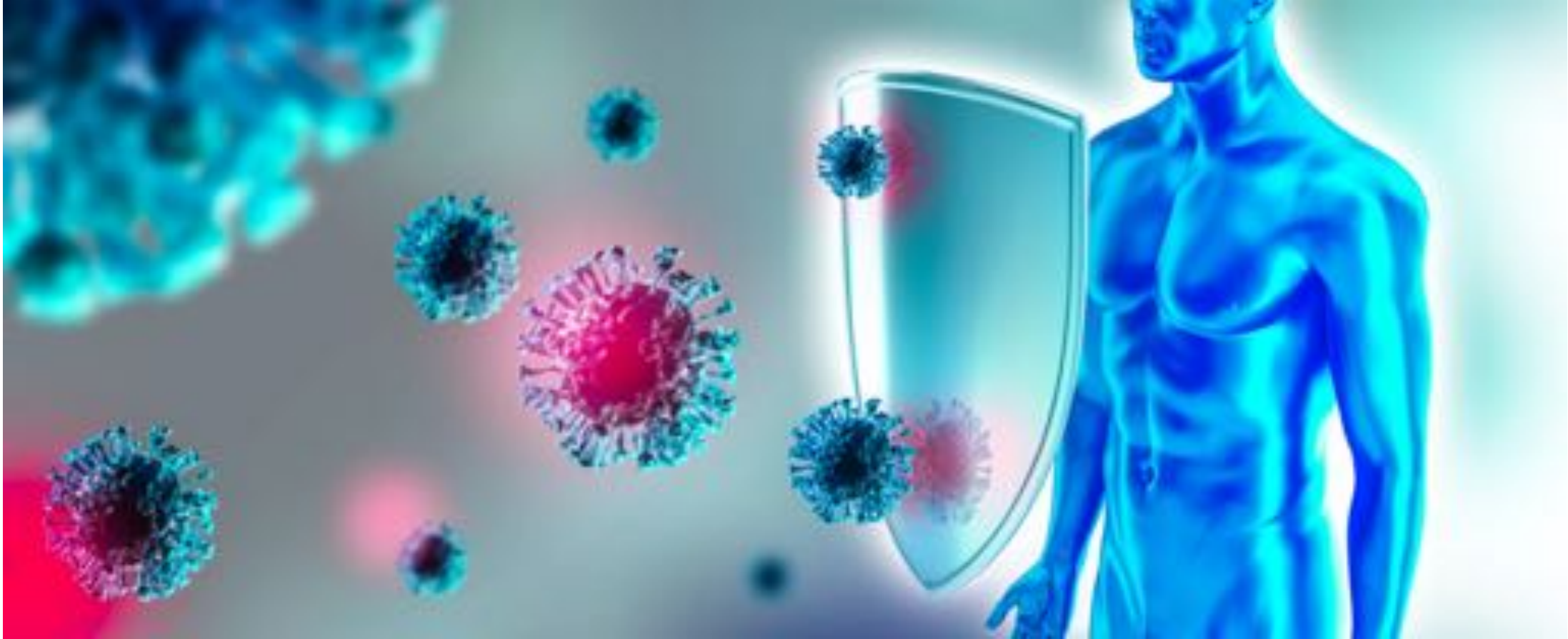
Immune System Crash Course

Part 1: <https://www.youtube.com/watch?v=GIJK3dwCWCw>

Part 2: <https://www.youtube.com/watch?v=2DFN4IBZ3rI>

Part 3: <https://www.youtube.com/watch?v=rd2cf5hVaIM>





Thank you for listening