# Eating to Improve your Immune System

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- Currently, there are no known cures for COVID-19, though research is underway to develop a vaccine. In its continuing efforts to protect consumers, the U.S. Food and Drug Administration (FDA) has been monitoring and warning companies that offer fraudulent products which claim to help prevent, diagnose, treat or cure COVID-19. Untested supplements and other products touted as a prevention or cure to COVID-19 that are not regulated by the FDA may be dangerous and potentially life threatening. The U.S. Federal Trade Commission (FTC) and FDA have jointly issued warning letters to sellers of unapproved and misbranded products claiming they can treat or prevent the virus
- Source: The Academy of Nutrition and Dietetics

## The Immune System

- The immune system is an intricate system that protects our bodies from pathogens and foreign bodies
- Immunity isn't one entity, it's an intricate system that requires everything to be balanced to function at it's best
  - There are 2 types of immunity
    - innate The part of the immune system that provides a physical barrier
      - Skin, mucus, stomach enzymes, enzymes in sweat and tears, etc
    - Adaptive the part of the immune system that is able to recognize pathogens and works to remove them. It is continually adapting to different viruses and bacteria that you are exposed to



### Factors that affect our immune system

- Age
- Environmental
- Weight
- Nutrition status/diet
- Chronic diseases
- Sleep
- Inflammation



### Ways to Keep a Healthy Immune System

- Eat a well-balanced, varied diet
- Don't smoke Or quite smoking
- Alcohol in Moderation
- Exercise Regularly
- Shoot to get at least 8 hours of sleep a night
- Manage stress



#### Exercise and sleep

#### Exercise

- Exercise activates immune cells in the body that can help identify and kill virus cells in the body
  - However, prolonged high intensity exercise can cause an increase in cortisol levels in the body
- The key is to balance high intensity and low intensity exercise to allow your body to reap the benefits of exercise without overdoing it

Sleep

- Studies have found that getting 8 hours of sleep most nights helps with immunity, focus, weight, and more
- Try to go to bed and wake up at the same time, this helps regulate your circadian rhythm which will make your sleep more restful

### Nutrition for your Immune System

- The most recommended diet is the Mediterranean diet
  - Good for heart health, weight management, diabetes, cancer, etc.
  - Promotes a well-balanced diet filled with
    - Fruits
    - Vegetables
    - Whole grains
    - Lean proteins
    - Nuts, seeds, legumes
  - Provides you with a wide array of vitamins, minerals, and antioxidants that can are good for the immune system
  - Focus is on unprocessed foods versus highly processed foods





#### Mediterranean Diet Pyramid



### Nutrition for the Immune System

- Vitamin C
  - A water soluble vitamin and powerful antioxidant
  - Your body does not produce this vitamin, you have to get it from your diet
  - Essential for tissue growth and repair
  - Aids in wound healing, crucial for bone health
  - Studies have found high dose Vitamin C can decrease the length of cold symptoms
  - Sources of Vitamin C: citrus, kiwi, tomatoes, potatoes, strawberries, bell peppers, broccoli



#### Nutrition for Immune System

- Vitamin E
  - A fat-soluble vitamin and powerful antioxidant
  - Helps your body fight off infections
  - Sources of Vitamin E: Nuts, seeds, spinach, broccoli, kiwi, mango, tomato, peanut butter
- Vitamin A
  - Helps support skin and mucosal cells that are vital for innate immunity
  - Also important in building cells that have immune function
  - Sources of Vitamin A: milk, egg, liver, dark leafy greens, carrots, tomatoes

### Nutrition for Immune System

#### Zinc

- Zinc is vital for development of cells associated to both innate and adaptive immunity
- Zinc can not be stored in the body, so an inadequate intake of zinc results in a suppressed immune system
- Sources of Zinc: meats, shellfish, legumes, nuts, seeds, eggs, whole grain

#### Protein

- Helps your body heal and recover
- Antibodies are made up of proteins
- Focus on 4-5 oz of lean protein per meal
- Chicken, turkey, fish, seafood, beans

#### Other Nutrients and Foods for Immunity

- Vitamin D
- Vitamin B6
- Selenium
- Iron
- Folate
- Garlic
- Honey
- Ginger
- Citrus fruits



### The Microbiome

- A system of millions of tiny microorganisms that exist in the body, especially in the large and small intestines
- These organisms live, for the most part, in symbiosis with the body
- Each person has a completely unique microbiome that begins from birth and is affected by things such as diet and environmental exposures
- The microbiome has been identified as a key player in building and maintaining strong immunity
  - Prebiotics Fibers that help feed bacteria in your gut
    - Fruits, vegetables, whole grains
  - Probiotics Live bacteria that live in the microbiome
    - Yogurt, kefir, kombucha, fermented foods





# Questions?

Thank you!

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