# BACTERIA & VIRUS

DEFENSE GUIDE





### **Bacteria vs. Viruses:**

Bacteria and Viruses sometimes get lumped together in common discourse. Terms like "germs," "critters," and even "cooties" are used frequently in place of both, but are they the same? We tend to lump them together because they're both microscopic and have the ability to cause infection. However, that's where the similarities end!

#### Bacteria.

Bacteria are one-celled organisms that are found naturally in our bodies, mouths, guts, and in our environment. Most are harmless and even beneficial members of our microbiome. Bacteria in our bodies help keep us healthy, digest our food, and help fight off harmful bacteria or microbes. They provide nutrients for our body! Under a microscope they look like balls, rods, or spirals and are able to multiply quickly in the perfect conditions.

Less than 1% of bacteria are harmful to us and make us sick. Strep throat, Tuberculosis, UTI's are common infections caused by bacteria. Antibiotics are commonly used to treat most bacterial infections; however, it is often best to let your body's own immune system fight them if it is able to.

#### Viruses.

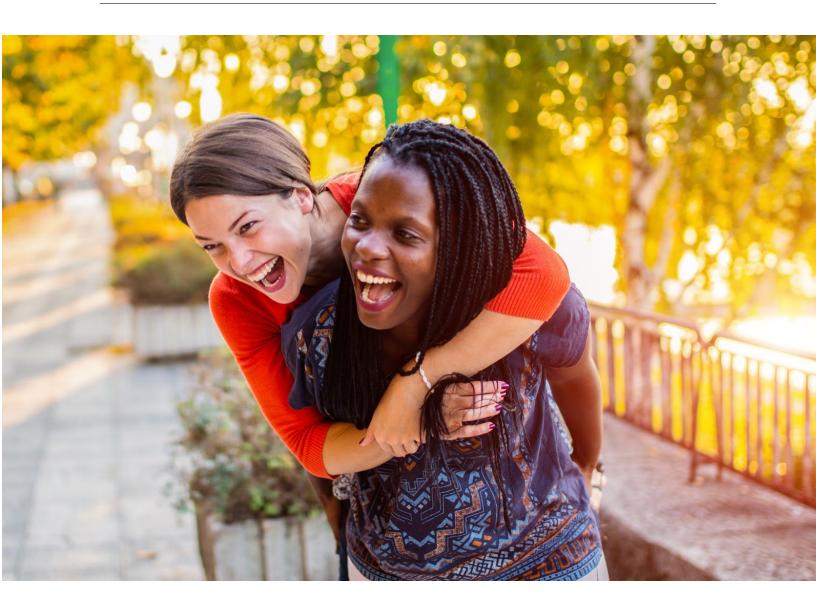
Viruses, as opposed to bacteria, are not able to live without a host. They need another living creature to help them multiply and grow. Viruses are much tinier than bacteria and attach themselves to our cells and use the genetic material inside that cell to reproduce.

Most viruses cause disease like the common cold, shingles, measles, chickenpox, and AIDS. Much like with bacterial infections, it is best to build up your immune system, oral biome, and gut microbiome to prevent getting one in the first place. Antibiotics **WILL NOT** treat a viral infection. They require either vaccinations to prevent them in the first place or antiviral drugs to inhibit their development.

#### So what should we do to defend against bacteria and viruses?

The #1 resource you have to defend against bacterial and viral infections is EDUCATION. In this guide, we will try to educate you on how to boost your immune system, keep your oral biome and microbiome healthy so they can defend you properly, and provide some natural organic recipes that will be useful in your everyday life.





# The Role of Your Immune System:

The immune system is your body's shield against all things that are out to do your body harm. Your body is constantly fighting off bacteria and viruses even when you're sleeping. It is incredibly powerful. Every time you ingest germs or bacteria, your immune system works to destroy it. It is trained to do whatever it takes to keep you from getting sick. However, with bad diet, unhealthy lifestyle choices, and neglect your immune system can become compromised and let harmful foreign entities in.

Below we've included several of the best ways to keep your immune system recharged and in check to keep bacteria and viruses at bay.

#### MICROBIOME AND YOUR IMMUNE SYSTEM

As mentioned above, the human mouth and gut houses a huge number of microbes known collectively and the microbiome. There are about 38 trillion microbes in your gut alone – this approximately the same as the amount of cells we have in our entire body.

Our body is naturally made to cope and even thrive with this many microbes in our system. We have evolved to have a mutually beneficial relationship with our microbes (a relationship called symbiosis). This close biological interaction helps us in many ways, but for our purposes in this guide we will look at how they boost our immune system.

Building up your Oral Biome and Gut Microbiome are key ways to heal/keep away bacterial/viral infections!

Science is just now starting to understand the extent of this relationship, but it is abundantly clear that if our oral biome and gut microbiome are out of check, our body is much more susceptible to illness. Our body's homeostasis—the state of balance, of dynamic equilibrium that is fundamental for our survival—depends on the health of our microbiome.

So, keeping our oral biome and gut microbiome healthy, our immune system is primed to defend us. Start with removing **SUGAR** and **ALCOHOL** from your diet. Stay away from processed foods, harmful chemical additives and eat more leafy green vegetables, stay hydrated. We also suggest adding more Alkalizing foods (list on page 11), colorful vegetables for phytonutrients, and plenty of foods with Vitamin C (list on page 11).

For more tips, review the GATEWAY TO HEALTH and INTERCONNECTED series!

#### AGING AND YOUR IMMUNE SYSTEM

Aging is a fact of life—we can't avoid it—and with aging comes a large amount of complications and worries that weren't present before. Not to add another on to the list, but getting older slows our immune system's response to foreign maladies.

This increases viruses' and bacterias' ability to break through your body's defenses. As a result, bacterial and viral infections become much more common and are even more serious in some cases. Flu shots and other vaccines may not protect you as long as they did before.

However, don't be scared! This information is not prevented to frighten you, it just means that we must become more vigilant as we age. Read through this document and take extra care of yourself. Take special caution during flu and cold season (see page 8) and protect yourself with the recipes included in this guide (starting on page 11.)



#### SLEEP AND YOUR IMMUNE SYSTEM.

Think of sleep as your body's time to recharge its batteries. Overnight your body rebuilds itself and gets ready for the next day. While sleeping more does not necessarily prevent you from getting sick, skipping a night of rest harms your immune system. Without a good night's sleep, your body literally does not have the energy to keep viruses and bacteria at bay.

While you sleep, you body creates and releases proteins called **CYTOKINES**. Cytokines target infection and inflammation, making them a powerful immune response tool. If you suffer from chronic sleep loss or pull an all nighter your body is deprived of this essential tool.

#### So what is suggested?

To keep your immune system up and working, it is recommended to get seven to eight hours of sleep every night. This is the optimal sleep time to keep you body recharged and keep your immune system in fighting shape. If your sleep schedule is interrupted, naps are recommended to make up for the lost rest-time. Taking two 30 minute naps has been shown to help offset the negative effects from the night before.

If you do become ill, listen to your body! Get rest, take the day off, stay home from work. Good rest will help your body fight off the disease quicker and bounce back!

#### **ANXIETY AND YOUR IMMUNE SYSTEM**

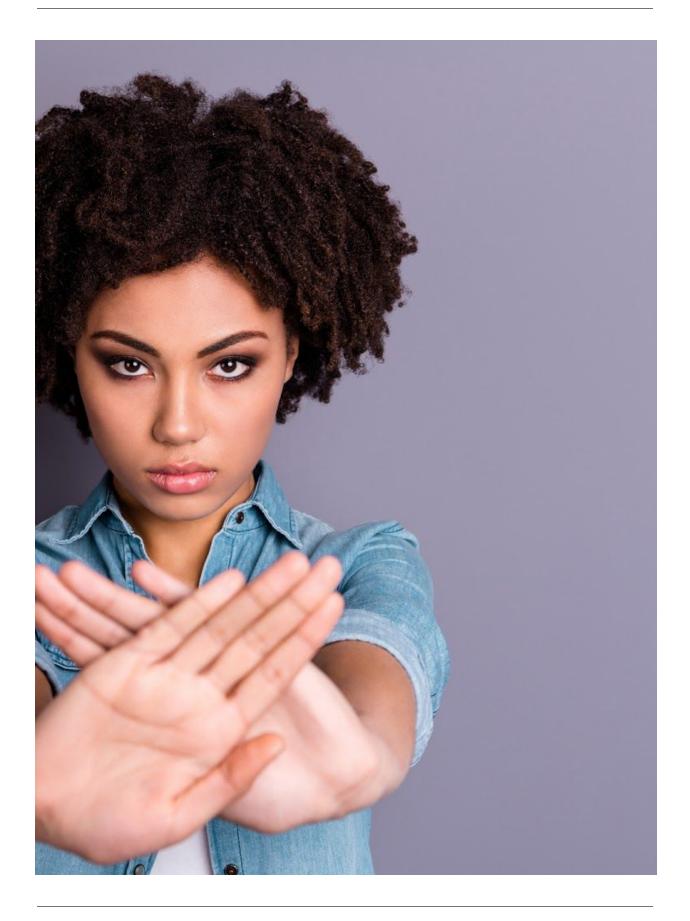
Your mental state places an intricate role in your immune system. Anxiety, specifically, has been proven to dramatically weaken the immune system and cause many physical illnesses to occur. Being overly anxious can put stress on the body which in turn releases a hormone called **Cortisol**. Cortisol is your body's natural alarm system used by your brain to relay to the rest of your body that it is in danger.

Cortisol weakens your immune system, yes, but it's for a good reason. When your body is anxious or stressed, cortisol attempts to reduce inflammation by weakening some of the antibodies that can increase inflammation. It also turns on natural immunity (the ability to fight off problems immediately) and moves resources away from specific immunities (the ability to prevent diseases your body knows how to control). But, cortisol is only helpful in short bursts. When you have prolonged anxiety, your body continues to suppress your immune system.

The result is illness and disease. You will still need to be in contact with bacteria or a virus to contract something, but with a weakened immune system you won't be able to fight it off. Our suggestion is to slow down, breathe, meditate, exercise or perform whatever mindfulness practice you prefer. Take care of your mind and you'll keep your body healthy. Get plenty of sun and fresh air, as they boost your overall mental state and immune system!

Exclusively for reader's of this guide we're providing an online meditation video by Pedram Shojai to help with anxiety and stress.

Click here to watch to the full meditation



## Rules for staying healthy during cold/flu season:

- NO HANDSHAKING! Use a fist bump, slight bow, elbow bump, etc.
- 2. Use ONLY your knuckle to touch light switches. elevator buttons, etc. Lift the gasoline dispenser with a paper towel or use a disposable glove.
- Open doors with your closed fist or hip do not grasp the handle with your hand, unless there is no other way to open the door. Especially important on bathroom and post office/commercial doors.
- 4. Use disinfectant wipes at the stores when they are available, including wiping the handle and child seat in grocery carts.
- 5. Keep a bottle of sanitizer available at each of your home's entrances. AND in your car for use after getting gas or touching other contaminated objects when you can't immediately wash your hands.
- 6. If possible, cough or sneeze into a disposable tissue and discard. Use your elbow only if you have to. The clothing on your elbow will contain infectious virus that can be passed on for up to a week or more!



# **Natural, Immune-Boosting Herbs:**

#### 1. ELDERBERRY

Packed with antioxidants and vitamins that boost immune system, tame inflammation, lessen stress, and help protect your heart, too.

#### 2. ECHINACEA

Increases the number of white blood cells, which fight infections and boosts immune system.

#### 3. GINGER

Strong antioxidant that has been shown to naturally boost the immune system. Helps kill cold viruses and combat chills and fever.

#### 4. GARLIC

Boosts the number of virus-fighting T-cells in your bloodstream

#### 5. FIRE CIDER

Boosts energy, wards off colds/ flus, and eases sinus congestion.

#### 6. ADAPTOGENS

Build the body's resistance to stress, pathogens, viruses and bacteria.

#### 7. COPTIS EXTRACT

Promotes a healthy microbial environment, which in turn supports immunity.



# **Oral Biome Healing Vitamins for Immunity:**

As we learned in **GATEWAY TO HEALTH**, by healing your oral biome, you can heal your body and boost your immune system. The below vitamins do just that!

#### 1. CALCIUM

Hardens enamel and strengthens jawbone.

#### 2. VITAMIN D

Boosts bone mineral density and modulates immune response.

#### 3. POTASSIUM

Prevents blood from becoming too acidic, which can leach calcium from your bones and teeth.

#### 4. VITAMIN K

Blocks substances that break down bone and supports bone strength.

#### 5. VITAMIN C

Strengthens your gums and soft tissue in your mouth, fights gingivitis.

#### 6. VITAMIN A

Keep mucous membranes healthy, fights dry mouth and helps your mouth heal quickly.



# List of alkaline foods:

Alkaline foods help in countering the risks of acidity in diet and help balance your microbiome and oral biome. As we know, a balanced biome = a healthy immune system.

1. SPINACH 7. ONION

2. CAULIFLOWER AND BROCCOLI 8. GARLIC

3. CITRUS FRUITS 9. GINGER

4. SEAWEED 10. AVOCADO

5. ROOT VEGETABLES 11. CELERY

6. NUTS 12. EGGPLANT



# **List of foods containing Vitamin C:**

Vitamin C is a well known for being a potent antioxidant, as well as having positive effects on skin health and immune function.

1. PEPPERS	8. BRUSSELS SPROUTS
2. GUAVAS	9. LEMONS (AND OTHER CITRUS)
3. THYME	10. STRAWBERRIES
4. PARSLEY	11. COOKED CABBAGE
5. KALE	12. TOMATO JUICE
6. KIWIS	13. POTATOES
7. BROCCOLI	14. PINEAPPLE



# Natural, Organic Homemade Sanitizer

# **Ingredients:**

- 3 tbsp aloe vera gel
- 2 tbsp witch hazel or rubbing alcohol (if using alcohol, reduce to 1 tbsp)
- 1/2 tsp vitamin E oil
- 20 drops tea tree essential oil
- 10 drops lavender essential oil

#### **Directions:**

Combine all ingredients in a bowl and transfer/store in a small jar or a squeeze bottle. Note: This recipe will make 2 fl oz.

# **Immune Boosting Bitters:**

#### **Ingredients:**

1 tbsp. honey

1 oz. dried astragalus root

1 oz. dried angelica root

1/2 oz. dried chamomile

1 tsp. dried ginger

1 tsp. dried orange peel

1 cinnamon stick

1 tsp. cardamom seeds

10 oz. alcohol (recommended: 100 proof vodka)

#### **Directions:**

Dissolve the honey in 2 teaspoons of boiling water. Let cool.

Combine the honey and the next 7 ingredients in a mason jar and pour alcohol on top. Seal tightly and store the bitters in a cool, dark place.

Let the bitters infuse until the desired strength is reached, about 2-4 weeks. Shake the jars regularly (about once per day).

When ready, strain the bitters through a muslin cheesecloth or coffee filter. Store the strained bitters in an airtight container at room temperature.

**To use:** Mix this tonic into hot tea or take a few drops as is first thing when you wake up for protection during cold and flu season.



# GATEWAY TO HEALTH



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