



# GAPS MASTERCLASS

## MODULE 3

Infections:  
Parasite, Viral, & Bacterial

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Please note that much of this guide is based on my understanding and training as a Nutritional Therapy and GAPS Practitioner, as well as personal experience. I make every attempt to ensure accuracy of the content, and I take no responsibility for errors or omissions.

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Nothing in this guide is intended to replace common sense, legal or other medical advice—it is meant to inform the reader. Apply it to your own set of circumstances with care.

Any health recommendations are based on my experience as a GAPS Practitioner and of those I trust. Any recommendations are from sources that I would use for my own family or clients but I make no guarantees about the service or rates you will receive from these providers.

I think you will receive great value from this guide. Please email me at [melanie@honestbody.com](mailto:melanie@honestbody.com) with any errors or incorrect links so that I can update the materials.



*Welcome to:*

## MASTERCLASS MODULE 3

In this workbook, we will be discussing:

1. An introduction to microbes
2. Bacterial, viral, & parasitological infections

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# MICROBES & INFECTIONS

Last week, we identified some good tests for finding what may be out of balance, or what organisms might be too numerous in your body.

Now let's move on to microbes & infections. I will first give an intro to microbes and talk about infections in a general sense. I'll then break the remaining sections of this module into QuickSheets of their own. There will be a QuickSheet for each of the following:

## **Bacterial Infections**

*For example, Lyme borealis, Clostridia & Strep.*

## **Viral Infections**

*For example, Mononucleosis, Epstein Barr, & Chicken pox.*

## **Parasite Infections**

*For example, Roundworm, Tapeworm, & Rope worm.*

Each QuickSheet will have more in-depth information, with more than one option for remedy selection.

# Amazing Microbes

As I sit here writing, I am amazed again at the diversity and wonderful community that lives in just one teaspoon of soil, or in a thimbleful of our interior microbes. Here are some fun facts about microbes:

## Microbial Fun Facts

- *Microbes can help determine whether certain drug components are toxic for your liver*
- *Our microbes weigh in at about 3–4 pounds, as compared to our 3-pound brain—you could say both have incredible influence on us!*
- *There are 2–20 million some microbial genes in our bodies, as compared to only 20,000 some human genes*
- *Microbes help digest your food (some by stealing genes from the food itself to help you digest it!)*
- *Microbes may determine if your “diet” works*
- *Microbes “school” your immune system*
- *Microbes can influence your behavior*
- *Microbes cycle nutrients, both in us, and the environment (think carbon & nitrogen cycles)*
- *Microbes can clean up toxic chemicals in water, leaving it clean again, and they can even eat oil and are used in oil spills*

Microbes affect our health in both obvious and subtle ways.

# Microbes Basics

All living things can be classified under three different organisms:

## 1. Bacteria

- Single celled & simple
- DNA not stored in a nucleus
- 3 main shapes: rods, balls, & spirals, move with “hair” or “tails”

## 2. Archaea

- Single celled & simple
- DNA not stored in a nucleus
- Similar in size & shape to bacteria, and move in similar ways
- *Archaea DNA is different from bacteria, allowing them to live in extreme conditions, like deep in the GI tract, or in salt flats, hot springs, deep sea vents, soil, seawater, or extreme cold temperatures.*
- Live on unique food sources, like sulphur

## 3. Eukaryotes

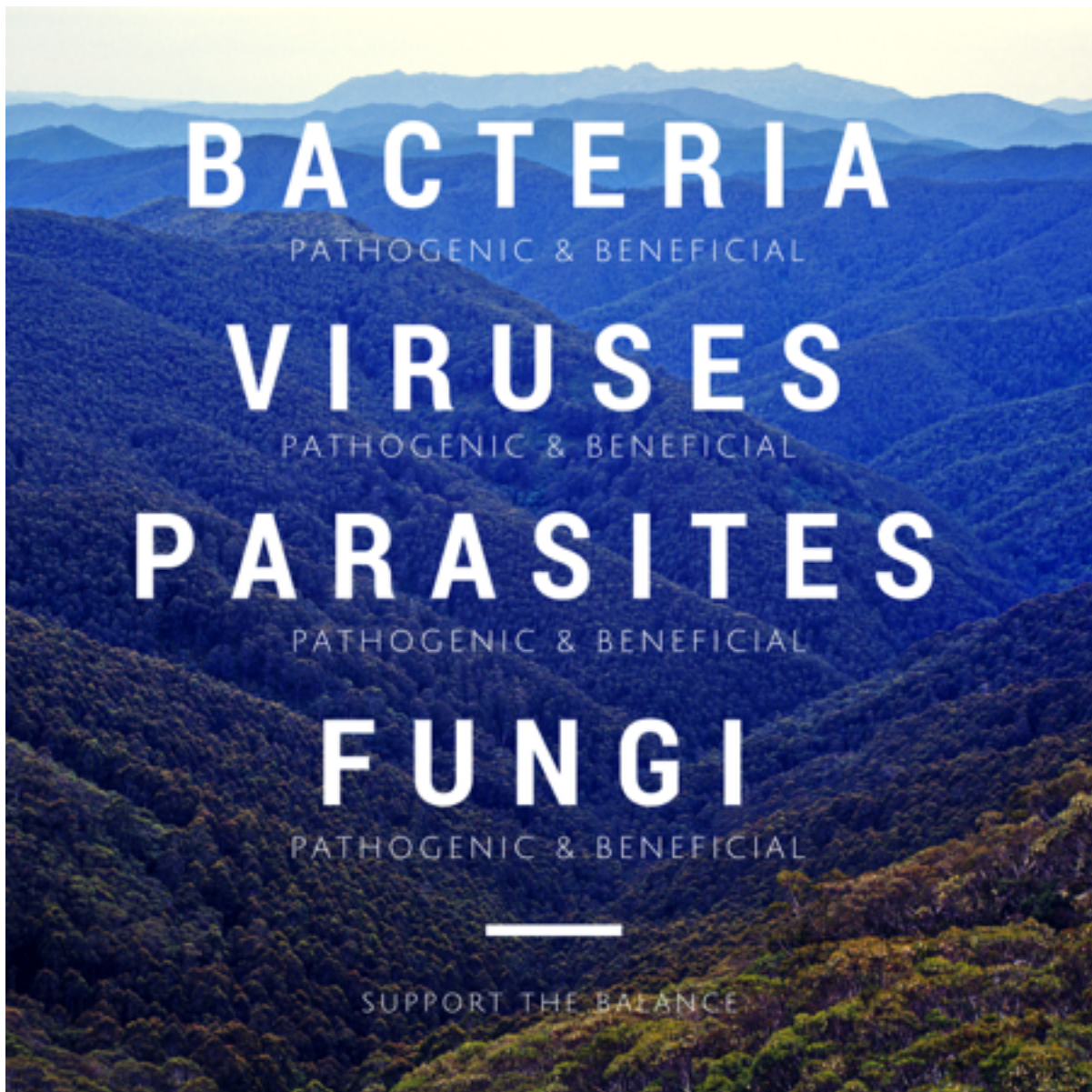
- More complex
- DNA contained in a nucleus, like our human cells
- Our cells (and many microbes) are eukaryotic
- *Parasites, yeast, and fungi fit into this category*

## Viruses

Viruses are classified somewhere on the “edge of life”...they are tinier than even bacteria and archaea and are made up of only DNA & RNA, inside a protein coat. They are also not active until in contact with their host, where they inject their genetic material, infect, and reproduce. I recommend this video by Khan Academy for understanding how they work: <https://www.khanacademy.org/science/biology/her/tree-of-life/v/viruses>

## Pathogens & Helpers

While there are an unnerving amount of pathogenic microbes and organisms (i.e., those that cause disease and make us sick), there are also many helpful microbes and organisms (that perform tasks for us and protect us). There are helpers in each category.





## Understanding Infections & Immunity

I'm not sure what to think of all the "war" and "battle" terminology we attribute to the way our immune system deals with pathogens. The immune system is intricate and is just beginning to be understood. We don't even know yet, for example, all of the mechanisms that viruses use to get in and out of cells and how many ways they can spread...we only have a tiny and partial knowledge so far.

What we do know is that **bacteria** can double every 20–30 minutes (in *optimal* conditions, 1 bacteria could become two million in 7 hours!) and that **viruses** can use our own cellular materials to make quick work of cloning themselves, and that **parasites** can make a happy home (and feed, spread, and grow) in our bodies. We also know that all this is much more likely to happen in a weakened, compromised body with a poorly nourished immune system. Pathogenic bacteria, viruses & parasites can get out of whack and overpower our immune system's ability, infecting us and making us "sick."

## Signs of an Immune Issue

As with Module 1, I'm including some self-assessment questions. These can be rated with basically the same scale, to give you an idea of where you stand.

Rate these questions on a 0 - 3 scale.

0 = Symptom does not occur

1 = Yes, minor or mild symptom, rarely occurs (monthly)

2 = Moderate symptom, occurs occasionally (weekly)

3 = Severe symptom, occurs frequently (daily)

## 1. How frequently do you have a runny or drippy nose?

If frequent, this may be a sign of chronic sinusitis, which can be traced to the GI system, and a chain of digestive events that cause an increased susceptibility to infection...low stomach acid and/or pancreatic enzyme deficiency, which would cause insufficient digestion of carbohydrates, fats & proteins.

This insufficient digestion of food would leave food molecules too big to be digested, causing the beginning of dysbiosis (abnormal intestinal flora). This leads to a classic GAPS progression:

Undigested food particles → Abnormal flora balance  
Abnormal flora balance → Intestinal barrier compromised  
Intestinal barrier compromised → Permeable intestinal membrane  
Permeable intestinal membrane → Villi irritated & inflamed  
Irritated & inflamed villi → More penetrable mucous membrane  
More penetrable mucous membrane → Reduced GALT (Gut Associated Lymphoid Tissue) & Secretory IgA  
Reduced GALT & IgA → Food particles “invade” bloodstream & immune response happens  
Immune response → Antibody/antigen complex produces allergy like symptoms = asthma/runny & stuffy nose

There is also a connection between chronic sinusitis, numerous antibiotics, and chronic fungal/yeast infections.

## 2. Do you catch colds at the beginning of winter?

Poor air quality of indoor heating can lead to yeasts & mold being circulated, as well as the above scenario presented in #1.

Also, low thyroid can suppress the immune system and make catching colds easier at the beginning of winter.

### **3. Do you have a mucous producing cough?**

You may need iodine, which can thin secretions. This is also an indication for immune strengthening. Mucous cleans and eliminates, so keep fluids and bowels moving.

### **4. Do you get frequent colds or flu?**

A cold once or twice a year is a good sign that your immune system is healthy and can be used for detoxification by the body. But if your sicknesses are frequent, that is a sign that your immune system needs support, and possibly your thyroid as well.

### **5. Do you get other infections (like ear, lung, bladder, skin, kidney, etc.)?**

As in #1, this can be traced back to the digestive system! Allergy-like symptoms, decreased immune function, and increased infections result.

### **6. Never get sick (Score like this: 3 = not in the last 7 years, 2 = not in the last 4 years, 1 = not in the last 2 years, and 0 = sick only 1 or 2 times in the last two years)**

Never getting sick is not a positive sign, and will lead to an under-active, under-exercised immune system.

### **7. Do you have adult acne?**

Usually due to allergies in adults, acne in adults also has a connection to the liver, and a need for minerals and essential fatty acids. Blood sugar dysregulation can bring it on also (another reason to stop eating those sweets & candy!). Allergies come from the GAPS digestive process outlined above.

### **8. Do you have itchy skin or dermatitis?**

### **9. Do you have rashes, boils, or cysts?**

Allergies and an immune system in need of support are usually the cause of skin issues like those above. The skin is also one of our largest detox organs, so supporting elimination through liver, kidneys (urine), and

digestive system (bowels) is key. \*\*Note: cysts and boils are the body's way of cordoning or "walling off" something.

### **10. Do you have a history of viral infections (Epstein Barr, Shingles, Mono, Herpes, Hepatitis) or chronic fatigue?**

The immune system has been compromised, at least in the past. Viruses stay in the body, lying dormant until the immune system becomes less vigilant or strong. Keep your stress low, and your immune system supported.

### **Crash Course on the Immune System**

This linked video is designed for kids, but is a great crash course & refresher for adults too: <https://www.khanacademy.org/science/biology/crash-course-bio-ecology/crash-course-biology-science/v/crash-course-biology-131>

## **NEXT STEPS**

**Going through GAPS is one of the best ways to build a strong body & immune system. If you aren't quite there, and need some support, start here:**

1. Use the pertinent QuickSheets on bacterial, parasitical, & viral infections

## **WHAT'S NEXT**

In Module 4, we will cover the exciting topics of genetics and epigenetics —and how you can have a positive impact on your genes. Also included is a QuickSheet on genetic testing.

See below for **Resources**.

## Resources

### **Bacteria:**

Video by Khan Academy explaining bacteria - [https://  
www.khanacademy.org/science/biology/her/tree-of-life/v/bacteria](https://www.khanacademy.org/science/biology/her/tree-of-life/v/bacteria)

### **Viruses:**

Video by Khan Academy explaining viruses - [https://  
www.khanacademy.org/science/biology/her/tree-of-life/v/viruses](https://www.khanacademy.org/science/biology/her/tree-of-life/v/viruses)