

Cosmic Death Fungus

A Primer On An Ancient Enemy

Document Version 1.4

Background

We are a collective of scientists, geneticists, researchers, professors and philosophers. What you are about to read may be the single most important thing you learn in regards to your health and longevity.

I am going to break this down in the simplest, most non-scientific way possible. Sources and more detail will be provided as we dig deeper.

Fungus broke our genetic code as humans approximately 15,000 years ago. We've traced it to a specific geolocation and point in time. The fungus affected our IL-17 and IL-22 cytokine pathways, CARD9 and STAT1 gene, allowing chronic systemic infection while we are still in the womb. It takes early control of our bodily systems and uses us as a food source. It is intelligent and can work in colonies or as one organized collective.

It is responsible for nearly every disease known, and allopathic (western) doctors are specifically trained to look everywhere but the root of the problem. It causes brain disorders, tooth decay, heart problems, organ problems, degrades your eyesight, slows down your brain process, is a primary cause of cancer, anxiety, depression, gout, skin disorders, myalgias, sclerosis, damages your DNA and is one of the primary hidden factors of aging itself.

The majority of the world population is predisposed to have a lifetime infection and Pass it down generationally to their children. It influences your thoughts, behaviors and eating habits. It prompts deviant and impulsive behavior. It destroys your hormone balance. It can cause a lifetime of illness, depression and anxiety.

No coordinated effort has been made to fight this hidden abomination until now. Which is why we must remain nameless, and why you need to share this information with loved ones. We can all win if we raise public awareness.

The Fall Of Man - The Grotto of Pigeons



Archaeological dig site discovered in Morocco in 1908

52 skeletons were analyzed from a period of approximately 15,000 years ago. They had one unique trait that older digs at the site did not.

First Archaeological Evidence of Dental Caries

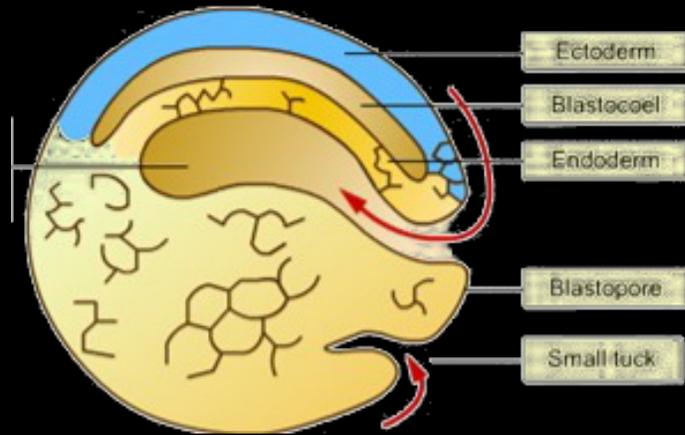


The culture that lived in the damp, dark grotto maintained a sedentary lifestyle and were known for raising pigeons from generation to generation.

Pigeon excreta is notorious for carrying many forms of pathogenic fungi. Dental caries are connected to fungal infection. After generations of handling pigeons and breathing in the spores in their confined living spaces, we believe this is the exact location where our genetic defects occurred, arising through constant DNA damage and the eventual mutation that became a dominant gene (STAT1). See link below.

<https://medlineplus.gov/genetics/condition/familial-candidiasis/>

Early Infection During Development



Early Infection of the ectoderm only 14 to 30 days after conception leads to early systemic invasion. The ectoderm later develops into the sensory and central nervous system, giving the fungus early unfettered access. Medically this is referred to as APECED, or Autoimmune polyendocrinopathy candidiasis ectodermal dystrophy.

If this is true, then shouldn't it be responsible for miscarriages?

<https://apcz.umk.pl/JEHS/article/view/4589>

It's killing our children **before they are born.**

One aspect of our protocol is NAC (N Acetyl-Cysteine). What a surprise that studies recommend NAC to prevent miscarriages.

<https://pubmed.ncbi.nlm.nih.gov/18983759/>

Now you understand that this fungus has control of us before we are even fully formed. These disgusting cosmic fleas infest everything. When you have sex, male ejaculate is full of fungus. The female vagina and uterus is full of fungus. Your mouth, nose and ears are full of fungus. Your guts, organs, brain and skin.



Oh come on! Fungi are harmless And essential to life!

It's a normal part of your gut biome! It gives plants nutrients!

It breaks down decaying matter!

These are important things!!!!

Paul Stamets, serial fungi promoter

And Now ... The Truth

All life on this planet that doesn't have antifungal defenses has already gone extinct. Everything that is alive today is in a constant struggle for survival.

Pathogenic fungi are constantly trying to consume everything. Plants only survive because they convert fungal mycotoxins into less toxic forms and store it in their tissue.

<https://pubmed.ncbi.nlm.nih.gov/30806521/>

Trees only survive because they produce powerful antifungals (turpenes) to stay alive. Yet the fungus still invades and eventually kills the tree. It mimics its cellular biology to invade and penetrate using hyphae.



Surely the most fit predators must have survived?



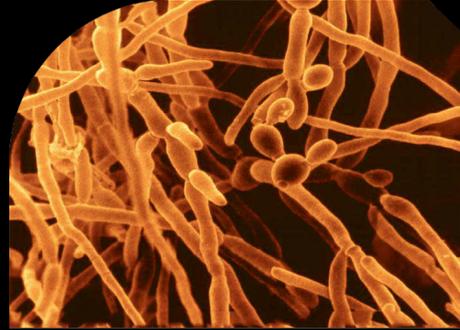
The current theory is that the dinosaurs went extinct after being exposed to fungus.

<http://www.actforlibraries.org/assessing-the-role-of-fungus-in-the-extinction-of-dinosaurs/>

Several theories attempt to explain how this happened. Transperimia claims that the cosmic fungus took a ride to our planet on a comet or meteorite. A large impact would have caused a vapor canopy effect, turning the world into a cloud covered, dark and damp environment. This would be the perfect scenario for fungus to grow out of control and kill all forms of earth life that didn't have pre-established defenses. This also explains why the spores are everywhere. Climb a plateau in the desert? You are breathing in spores.

The answer isn't to remove it from your environment.

The answer is to **change how you respond to it.**



Hyphae, Candida Albicans

Maybe you are not convinced yet. We mentioned it is the root cause of almost every disease. How it can influence your behavior, including anxiety, depression, aggression or lethargy. How it can invade your thoughts leading to deviance and risk taking. How it can drain your energy and your ability to think clearly. How it can put you in hormone imbalance and make you emotional. How it can decimate your quality of life and the happiness you could experience.

Imagine what it would be like to be a real, free human being. You've never had the opportunity, because it's always been there, controlling you from the inside out.

It seems so unbelievable that something so common such as yeast, mold, mildew or fungus could be the primary cause of human suffering. The primary cause of aging itself.

We don't want you to believe this without proof.

Let's continue.

The Cancer Link

What we call yeast, *Candida Albicans*, is not harmless and its certainly not normal. We all have it. Western medicine will tell you that it's harmless unless you are immunocompromised. This is a dangerous manipulation of the truth.

Candida in its yeast form resides primarily in your gut and your oral cavity. These single celled fleas create dangerous toxins including aldehydes and ammonia. The toxic byproducts of Candida have already been linked to cancer.

<https://www.tandfonline.com/doi/abs/10.3109/1040841X.2014.913004>

You don't have to be immunocompromised to be in danger from Candida. This is a lie. It is constantly emitting toxins, forcing the immune system to fight a battle it never wins.

Candida also emits a unique peptide toxin called Candidalysin. This has also been linked to inflammation and cancer. This toxin is similar to bee venom.

<https://onlinelibrary.wiley.com/doi/full/10.1111/imm.13255>

Through its building of biofilms, Candida can surround healthy cells and interrupt normal cell signaling, causing cancer replication.

<https://onlinelibrary.wiley.com/doi/abs/10.1111/odi.12565>

It's ability to use biofilms for protection allows it to evade normal attack vectors like antibiotics or even prescription antifungals.

The Tooth Decay Link

Fungal overgrowth is a key factor in tooth decay. Because this fungus can infect the nervous system, tooth decay can start from the inside out. Many of yesterday's outdated models are being changed now that we know the true causes.

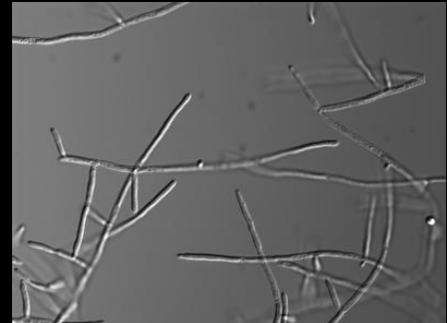


<https://www.sciencedirect.com/science/article/abs/pii/S0003996920302545>

The film or plaque we see on the teeth are biofilms created by the fungus. It creates this polysaccharide housing to protect itself.

<https://www.sciencedirect.com/science/article/abs/pii/S0003996912001835>

This fungus can infect the gums, nerve root and the dentin itself. when Candida hyphates, it turns from a single celled organism into a multi celled organism that branches off similar to blood vessels. it then releases free nuclei and they use this as a network for travel and protection. A literal super highway.



In this form it is strong enough to penetrate rock.

The answer to this specific problem is addressed in our protocol. We will give you the tools you need to fight back, but first you must truly understand your enemy.

The Brain Disease Link

Fungal Infections of the brain can cause complex issues. There is a link to Alzheimer's, Dementia and Schizophrenia just to name a few. The fungus can infect your glial cell networks, eat holes in your brain matter and cause amyloid plaque buildup, which is associated with the above disorders.

<https://academic.oup.com/ajcp/article-abstract/65/6/991/1770943>

One fungus, Cryptococcus Neoformans, is commonly misdiagnosed as Alzheimers. Since it has the exact same symptoms, let's call a fish a fish.

<https://content.iospress.com/articles/journal-of-alzheimers-disease/jad00985>

Yet another fungus, Aspergillus, is known to eat holes in your brain. Transmission is through spore inhalation. Everyone has a base measurable level of Aspergillus in their system. It can mimic asthma in the lungs and is the cause of MS and other forms of sclerosis.

<http://www.ajnr.org/content/20/9/1597.short>

Candida Albicans is able to cross the blood brain barrier, causing meningitis, seizures and even cardiac arrest.

<https://europepmc.org/article/med/792628>

Behavioral disorders due to fungal infection is documented. Recovery is possible by killing the fungus responsible.

<https://link.springer.com/article/10.1186/1757-1626-2-9084>

The Central Nervous System Link

Fungal infection of the Central Nervous System is responsible for a laundry list of serious conditions.

<https://academicjournals.org/journal/JIDI/article-abstract/98E16F23669>

From there, it can infect the cerebrospinal fluid, and has been associated with Multiple Sclerosis, ALS and other serious diseases.

<https://www.sciencedirect.com/science/article/abs/pii/S0969996117302115>

Evidence is presenting that initial fungal infections quickly move to infect the central nervous system and gain full access to the host.

<https://link.springer.com/article/10.1023/A:1006809522931>

It then begins invading your crucial body systems, including nerve endings and optical nerves, ulcerating your organs and causing inflammation.

<https://www.nature.com/articles/eye2011270>

But don't be fooled. The fungus doesn't stop there. It also infects your interstitial, the mucosa between your skin and tissue. We believe that salt intake warnings directly relate to this, since high levels of sodium are stored in the interstitial, which would kill the fungus. This would in turn harden the fungus and its biofilms, putting outside pressure on the heart, arteries and organs.

We've given examples of how it likes to spread throughout the body, causing pain and suffering. Unfortunately, this is only the beginning.

The Hormone Link

A common saying is 'men aren't like they used to be'

Have you ever wondered why?

We know about estrogenic compounds in food, and some of you know the relation to parasite infection and deviant behavior.

Let's take it a step further.

Put simply, fungal mycotoxins (their byproducts) decrease testosterone production.

<https://link.springer.com/article/10.1007/BF01973380>

Even worse, the problem is targeted towards males.

<https://www.sciencedirect.com/science/article/pii/S2405844020312810>

Quite simply, sex hormones can alter virulence of the fungus and it's ability to reproduce. Candida works in the testes to reduce testosterone for its own benefit. The fungus prefers homogeneity.

<https://scholarworks.calstate.edu/concern/theses/6682x9075>

Right now you are probably thinking, "you're acting like fungus is intelligent and doing this intentionally."

Unfortunately for us, fungus IS intelligent. Watch it solve a maze.

<https://m.youtube.com/watch?v=HyzT5b0tNtk>



Wrap Up: The Fungal Link To Disease

We've expanded on only a few of the areas we could have. To keep this pdf brief and to the point, we will summarize a few more here as an ending note.

Arthritis

<https://link.springer.com/article/10.1007/s100670050127>

Depression and behavior changes

<https://jamanetwork.com/journals/jama/article-abstract/399022>

Schizophrenia

<https://www.sciencedirect.com/science/article/abs/pii/S0889159116305219>

Chronic Fatigue Syndrome

<https://www.sciencedirect.com/science/article/abs/pii/0306987795905154>

Lung Cancer

<https://thorax.bmj.com/content/66/7/638.short>

Asthma

<https://www.atsjournals.org/doi/full/10.1164/rccm.201001-0087OC>

Let's stop there. We could go on, but I think you get the point. Also at this crossroads, you may be asking yourself, why isn't my immune system stopping this? We are going to explain that next.

The important takeaway here is that fungus is the root cause of nearly all disease. You may have heard that inflammation is, but where does all that inflammation come from? You guessed it.

Why Is My Immune System Failing?

Remember when we mentioned the Grotto of Pigeons?

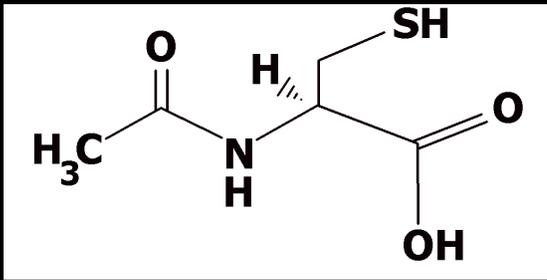
Generations of constant exposure to fungus started with a recurring cycle of DNA damage, leading to gene mutations which eventually became dominant genes, which are then passed on from generation to generation. These defects are in how the immune system responds specifically to fungus, allowing it to remain in the body unchallenged.

Three major genetic defects have caused this problem. IL-17RC, STAT1, and CARD9. Your body normally has a well established immune response to Candida using specific cytokine pathways that regulate our immune response. These genetic defects have disabled Candida specific responses, as well as the gene responsible for preventing infection of the mucous membranes.

This grouping of genetic predispositions is called **Familial Candidiasis**. Current government estimates put the percentage of the population affected at 50 to 70%. We believe the number is closer to saturation, and likely 90% or more. Since these defects are dominant genes passed on generationally, eventually we will be looking at 100% of the population.

As a result, your body never manages the infection response and only localized immune responses occur. This means that Candida has free reign over your body. It simply tricks your immune cells using melanin structures on its fungal membrane to do what it wants. If it encounters stubborn phages that want to kill it, it simply creates hyphae directly through the immune cells, killing it and using it for a food source, or uses it's peptide toxin called candidalysin.

Your immune system is in a constant battle that cannot be won. Some would say by design.



The NAC Protocol

We were confronted with this ancient enemy, and **began brainstorming ways to remove it.**

After many months of extensive research and trial and error with test groups, the solution finally took shape. There were a number of requirements that needed to be met.

First off, the protocol that was developed would need to be cheap, natural and effective. It would need to be easy to obtain and low enough in cost to roll out to third world countries and individuals on a budget.

It would have to be a synergistic combination that would not only kill the fungus in the body, but also the biofilms that it resides in. It would need to restore the correct balance to the gut, fix the gut lining, and inhibit further growth. It would need to restore immune system function to new levels so that the body could do most of the work.

The first challenge was finding the most potent antifungal that did particularly well against *Candida*, *Cryptococcus* and *Aspergillus*. Most natural compounds were strong in one area, but weak in others. They might target one of the 3 mentioned fungi well, but they might also wipe out beneficial bacteria and create an imbalance, setting the stage for an even more aggressive fungal infection.

Eventually we found the perfect balance.

NAC, Oregano Oil and Black Seed Oil

The Trinity



These three compounds in combination have everything the body needs to combat systemic fungal invasion.

Let's take a brief look over the methodology and individual components, which will be followed at the end with supporting studies and the daily protocol to follow.

Protocol Methodology

In order to halt dysfunctional cell repair and inflammation response, first the majority of the fungal colonies need to be eradicated. Not only the free moving planktonic fungal cells, but the deeply embedded fungal colonies that benefit from the protection of biofilms. The 3 components effectively disrupt and remove biofilms and kill the fungus.

Once this occurs, natural autophagy processes and the body's healing abilities restart. By halting constant mycotoxin release, the body begins repairing cells and DNA normally again. The diseased tissue including the gut barrier is repaired. The gut biome becomes rebalanced, nutrient deficiencies cease. Over time, biofilms are released and removed from the gut, central nervous system, interstitial and brain. The immune system becomes much stronger, able to fight off fungus as it arrives. Inhibition of any further biofilms gives the immune system the upper hand.

Then the maintenance phase begins, super charging mitochondrial activity and unlocking your adaptive immune response through sirtuin activation.

The NAC Protocol: Daily Regimen

Morning

1200mg NAC (N Acetyl-Cysteine)
300mg Oregano Oil (10:1 extract in gel capsule)
Black Seed Oil (4000mg or 1 teaspoon)

Night

600mg NAC
300mg Oregano Oil
Black Seed Oil (1 teaspoon)

Continue for a minimum of two months, then move to the maintenance phase after 3 or more weeks with no die off symptoms.

Fungal die off symptoms may include :

Tiredness, exhaustion, muscle soreness, increased chest or nasal discharge, cold or flu like symptoms, cold sores, headaches, irritability, change in stool frequency, volume or color; rash, bloated stomach, cramps, increased gas.

Note: It is extremely important to continue with this even after you are feeling better. Even weeks after no die off, a mature biofilm could finally release, causing yet another battle with fungal colonies that need to be cleared.

We recommend using the brushing protocol and nasal spray covered after the next few pages.

The Maintenance Phase

Morning

600mg NAC
500mg Slo Niacin (Nicotinic Acid Timed Release)
100mg Pterostilbene
Black Seed Oil (1 teaspoon)

Evening

500mg Slo Niacin
Black Seed Oil (1 teaspoon)

This phase of the protocol allows your body to begin fighting it off naturally. Oregano is no longer needed. The combination of a NAD booster, NAC and Pterostilbene activate human sirtuins 1, 3,4 and 7 and modulate the IL-17 pathway and Th17 helper cells to directly attack the fungus while preventing autoimmune response. It will also begin the process of repairing single and double strand DNA using master template transcription. Your body will begin to heal and function at new levels.

If you have nerve pain, tremors or post covid syndrome, start with a half dose of slow niacin to make sure you are not experiencing discomfort. if you do, use Nicotinamide Riboside in place of slow niacin during the maintenance phase. A dosage of 100mg will be adequate as an alternative.

If you have pre existing health issues, especially diabetes or high blood pressure, make sure to consult with your doctor. The protocol can lower blood pressure and blood glucose levels.

Managing Die Off Symptoms

As you begin killing the fungus and parasites in your body, they release toxins from cell lysis. This creates various symptoms as mentioned previously. The most common symptoms you will experience are tiredness, stomach cramps or bloating. Depending on how bad your infection is, you may experience more severe symptoms. If you begin to experience nerve pain, tingling in your extremities or headaches, this is a good indicator that the infection has spread to your central nervous system.

If you are experiencing more severe symptoms, reduce your intake of Oregano Oil to half daily, and increase to normal dosage after symptoms improve. Make sure you are well hydrated throughout the day so that you can eliminate toxins efficiently. Your body will tell you when you need rest. Good sleep is very important.

Both NAC and Black Seed Oil are liver protective during this process, but you can also add other natural supplements like Milk Thistle to support your detoxification process. Molybdenum supplementation has been shown to help with die off symptoms, specifically with the toxic byproducts of Candida.

We don't recommend activated charcoal as it decreases effectiveness of the protocol.

You will have ups and downs, potentially for months. You will experience short periods of extreme energy and wellbeing, then another layer of biofilm will be released, starting yet another battle with fungal colonies. Having ups and downs (relapses) is normal and means you are effectively clearing a lifelong infection. You will then reach the point where die off stops and your wellbeing is consistent. Stay the course, no matter how long it takes.

Break Throughs To Watch For

We've seen enough feedback from protocol users to describe some common breakthroughs you will experience as the fungus begins leaving the body.

A sudden and dramatic increase in vivid dreaming, or remembering your dreams after years of not remembering is common. Third person dreams and even lucid dreaming has been reported. Increased flexibility and lessening joint and muscle pains are common.

Random sudden bursts of energy between die off periods, short but intense periods of joy or feelings of well being, reversal of negative thoughts or brain fog, decrease in deviant thoughts or behavior and a general feeling that things are improving is also common. These are your first steps to regaining your humanity. Embrace these changes.

As you begin improving, the fungus may attempt to move into other body systems to maintain survival. Having odd pains or symptoms in uncommon areas (skin rashes, acne, headaches, eye pain, joint pain) is normal and will pass.

Focus on these short periods of increased energy and wellbeing, and remember that when you fully clear the infection you will feel that way consistently. Stay focused on the outcome and don't let setbacks defeat you. It has been controlling you for a lifetime. It's time to put the pressure on and beat it into oblivion.

What Should I Eat?

If you are coming from a lifetime of eating terrible food, going on an extreme diet is going to dramatically increase your chance of failure. Connecting this protocol with a failure to diet is a terrible idea.

Generally speaking, you want to reduce or eliminate bread and yeast containing products along with refined sugar as much as possible. If you are used to drinking soda and eating fast food, eliminate the soda for flavored seltzer (as an example) and avoid refined or leavened bread. Dropping all carbs will make you constantly exhausted and is not recommended. If you want to keep bread in your life, go for unleavened flat bread and sour dough bread.

Avoiding high fructose corn syrup, yeast bread and yeast alcohol (beer) is a big step in the right direction.

If you are already in relatively good health, the paleo diet has most of what is recommended in sound candida diets. You can add in basic carbs to supplement that. The level of strictness on your diet depends fully on how bad your level of infection is, and whether you have the genetic breaks we refer to as familial candidiasis. If you have those genetic defects and have been in a long battle with yeast and fungi, we recommend a strict diet with no bread, yeast or refined sugar.

On the other hand, if your infection level is lower (minimal die off) you may be fine without modifying your diet. Some people can continue to make progress on the protocol with no change in diet. If you are hitting a roadblock in progress, then definitely look at what you are eating.

You cannot starve candida or fungus, which is a myth, but you can slow down its replication with the above advice. Even keto diets are not bulletproof, since nearly half of protein intake will be converted to glucose anyways.

The bottom line is to reduce or eliminate where you can.

Sourcing The Compounds

We are still looking for feedback from our brothers and sisters in Europe and elsewhere on the cheapest and easiest way to source the protocol compounds. Below are cheap ways to buy the components in the United States.

Nac

Bulk

<http://www.nutravitashop.com>

Buy in bulk at least 500g for a monthly cost of a little under \$4/month. 9 month supply for \$34.95. They offer international shipping.

Capsules

The best cost will be \$8 to \$9 monthly. Vitacost, Swanson and Life Extension offer similar prices in the USA. If you buy NOW brand (250ct) through vitacost you can also buy your resveratrol there and get free shipping for a better cost.

Oregano Oil (10:1 potency in gelcap)

Carlyle, Swanson and Nature's Truth all provide 10:1 gelcaps for around \$8 per bottle for a 30+ day supply.

Black Seed Oil

Horbaach makes a 16oz bottle which is a two month supply based on the protocol for \$25.

Capsules are much more expensive and at a lower dose and questionable potency. We cannot recommend capsules for this reason.

Resveratrol /Pterostilbene

Vitacost offers transresveratrol plus at \$6 per bottle for a 60 count.
Nutricost offers pterostilbene 100mg capsules at \$19.95 for 4 months.

NAD+ Booster

Nicotinamide Riboside is available from multiple manufacturers and we can find no cheap option. Average is \$20 to \$30 monthly.

Nicotinic Acid (Pure Niacin)

Bulk

Nutrivitashop offers bulk nicotinic acid starting at 100 grams for \$6.95.
This is a six month supply.

Major makes a Timed Release nicotinic acid (slo niacin) which is 500mg per tab for \$14.99. It is a 250ct bottle and will last you many months.

Tablets (niacin flush version)

The most economical option is Plain Niacin (pure Nicotinic Acid) from Endurance Products. It's a 500mg dose, 100 capsules for \$14. This is over a 3 month supply. They are tablets that can be easily split in two.

Fennel Seed Essential Oil

SVA Fennel Sweet Oil is a large 4oz. supply for \$18. It is one of the most potent and economical we've tested.

Brushing Routine

Use a non fluoridated toothpaste twice daily and include 2 drops of fennel seed essential oil on the brush. Brush the tongue and gums as well. The FSEO will efficiently kill fungal growth deep in the gum line, nerve roots, dentin and on the tongue. It will also enter the blood stream and cross the blood brain barrier for additional clearing.

Use this routine during the initial protocol and continue indefinitely. This will also effectively halt tooth decay.

Nasal Spray

There are two options here. Xlear makes an excellent product that is efficient at killing fungus and bad bacteria in the sinus/upper respiratory. If cost is an issue, the second option is buying hypochlorous acid (what your immune system uses) and using it in a nasal spray bottle. Briotech makes a face spray at a good value that can easily be transferred to a nasal inhaler bottle.

Final Thoughts

We've seen amazing results on this protocol. IBS reversed in two weeks, back and joint problems permanently fixed, massive amounts of weight loss, increase in vitality and energy, alleviation of hypertension, diabetic symptoms, correcting hormone issues, thyroid issues, neuropathy, arthritis, being impervious to colds and flus, reversal of hair loss, fixing skin issues, vision improvement. there's too many to list. Even symptoms of anxiety and depression, invasive thoughts and elimination of deviant behaviors.

The opportunity is yours. You can reclaim control over your body, thoughts and vitality. You can become fully human, free of the control of this physical abomination.

Reference Studies

Oregano Oil *(Origanum vulgare)*

Antifungal Activity

Antifungal activities of origanum oil against *Candida albicans*

<https://pubmed.ncbi.nlm.nih.gov/11855736/>

Antifungal and Anti-Biofilm Activity of Essential Oil Active Components against *Cryptococcus neoformans* and *Cryptococcus laurentii*

<https://pubmed.ncbi.nlm.nih.gov/29163441/>

Anti-yeast activities of *Origanum* oil against human pathogenic yeasts

https://file.scirp.org/pdf/ABB20110200008_80378351.pdf

The inhibitory effect of oregano extract on the growth of *Aspergillus* spp. and on sterigmatocystin biosynthesis

<https://www.sciencedirect.com/science/article/abs/pii/S00236>

[43812001831](#)

Biofilm Activity

Oregano essential oil inhibits *Candida* spp. biofilms

<https://www.degruyter.com/document/doi/10.1515/znc-2021-0002/html>

Bactericidal Property of Oregano Oil Against Multidrug-Resistant Clinical Isolates

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6182053>

Effects of oregano, carvacrol and thymol on *Staphylococcus aureus* and *Staphylococcus epidermidis* biofilms

<https://www.microbiologyresearch.org/content/journal/jmm/10.1099/jmm.0.46804-0>

Carvacrol-rich oregano oil and thymol-rich thyme red oil inhibit biofilm formation and the virulence of uropathogenic *Escherichia coli*

<https://sfamjournals.onlinelibrary.wiley.com/doi/full/10.1111/jam.13602>

Selective Bactericidal Activity

Polyphenols from selected dietary spices and medicinal herbs differentially affect common food-borne pathogenic bacteria and lactic acid bacteria

<https://www.sciencedirect.com/science/article/abs/pii/S0956713518302652>

Effect of dietary oregano (*Origanum vulgare* L.) essential oil on growth performance, cecal microflora and serum antioxidant activity of broiler chickens

<https://www.ajol.info/index.php/ajb/article/view/94499>

The In Vitro and In Vivo Effect of Carvacrol in Preventing *Campylobacter* Infection, Colonization and in Improving Productivity of Chicken Broilers

<https://www.liebertpub.com/doi/abs/10.1089/fpd.2016.2265>

A carvacrol–thymol blend decreased intestinal oxidative stress and influenced selected microbes without changing the messenger RNA levels of tight junction proteins in jejunal mucosa of weaning piglets

<https://www.cambridge.org/core/journals/animal/article/carvacrol-thymol-blend-decreased-intestinal-oxidative-stress-and-influenced-selected-microbes-without-changing-the-messenger-rna-levels-of-tight-junction-proteins-in-jejunal-mucosa-of-weaning-piglets/06740382261B7728222487807E72D55F>

Effects of oregano (*Origanum vulgare* L.) and rosemary (*Rosmarinus officinalis* L.) aqueous extracts on broiler performance, immune function and intestinal microbial population

<https://www.tandfonline.com/doi/full/10.1080/09712119.2015.1091322>

COMPOSITION AND BACTERICIDAL ACTIVITY AGAINST BENEFICIAL AND PATHOGENIC BACTERIA OF OREGANO ESSENTIAL OILS

http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-29522012000100003

Dysbiosis and Intestinal Barrier Restoration

Protective Effect of Carvacrol against Gut Dysbiosis and *Clostridium difficile* Associated Disease in a Mouse Model

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5399026/>

Oregano Essential Oil Improves Intestinal Morphology and Expression of Tight Junction Proteins Associated with Modulation of Selected Intestinal Bacteria and Immune Status in a Pig Model

<https://www.hindawi.com/journals/bmri/2016/5436738/>

Black Seed Oil

(Nigella Sativa)

Antifungal Activity

A review on the inhibitory potential of *Nigella sativa* against pathogenic and toxigenic fungi

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4884215/>

Evaluation of antifungal activities of the essential oil and various extracts of *Nigella sativa* and its main component, thymoquinone against pathogenic dermatophyte strains

<https://pubmed.ncbi.nlm.nih.gov/25442918/>

Chemical composition and antifungal activity of *Nigella sativa* (PDF)

[http://www.ijpsi.org/Papers/Vol3\(11\)/B031109015.pdf](http://www.ijpsi.org/Papers/Vol3(11)/B031109015.pdf)

Screening of *Nigella Sativa* seeds for antifungal activity (PDF)

<https://www.scholarsresearchlibrary.com/articles/screening-of-nigella-sativa-seeds-for-antifungal-activity.pdf>

The in vivo antifungal activity of the aqueous extract from *Nigella sativa* seeds

<https://pubmed.ncbi.nlm.nih.gov/12601685/>

A STUDY ON THE IN VITRO ANTIFUNGAL ACTIVITY OF NIGELLA SATIVA (LINN.) SEED EXTRACT AND IT'S PHYTOCHEMICAL SCREENING USING GC-MS ANALYSIS

<https://www.researchgate.net/publication/282752358>

Nigella Sativa as an anti microbial drug (PDF)

<https://juniperpublishers.com/napdd/pdf/NAPDD.MS.ID.555603.pdf>

Novel antifungal defensins from Nigella sativa L. seeds

<https://www.sciencedirect.com/science/article/abs/pii/S0981942810002354>

An alternative treatment for Candida infections with Nigella sativa extracts

<https://ejhp.bmj.com/content/19/2/162.2>

Biofilm Activity

In Vitro and In Silico Approaches for the Evaluation of Antimicrobial Activity, Time-Kill Kinetics, and Anti-Biofilm Potential of Thymoquinone

<https://pubmed.ncbi.nlm.nih.gov/35052956/>

Effects of Bacterocin from MRSA and Nigella Sativa (seed oil) against Biofilm from MRSA

https://www.researchgate.net/publication/327655837_Effects_of_Bacterocin_from_MRSA_and_Nigella_Sativa_seed_oil_against_Biofilm_from_MRSA

Thymoquinone inhibits biofilm formation and has selective antibacterial activity due to ROS generation

<https://pubmed.ncbi.nlm.nih.gov/29356869/>

Immune Boosting Activity

The black seed (*Nigella sativa*) and immunity : its effect on human T cell subset

<https://ci.nii.ac.jp/naid/10011991503/>

Bioactivity-guided identification to delineate the immunomodulatory effects of methanolic extract of *Nigella sativa* seed on human peripheral blood mononuclear cells

<https://link.springer.com/article/10.1007/s11655-013-1534-3>

***Nigella sativa*: A Dietary Supplement as an Immune-Modulator on the Basis of Bioactive Components**

<https://www.frontiersin.org/articles/10.3389/fnut.2021.722813/full>

Evaluation of antimicrobial potential of *Nigella sativa* oil in a model food matrix

https://farmaciajournal.com/arhiva/201806/2018-06-art-16-Georgescu_Burcea_Georgescu_1028-1036.pdf

NAC (N Acetyl-Cysteine)

Antifungal & Anti biofilm Activity

Fungistatic Action of N-Acetylcysteine on Candida albicans Biofilms and Its Interaction with Antifungal Agents

<https://www.mdpi.com/2076-2607/8/7/980>

Role of Antibiofilm-Antimicrobial Agents in Controlling Device-Related Infections

<https://journals.sagepub.com/doi/abs/10.5301/ijao.5000024>

N-acetylcysteine inhibits and eradicates Candida albicans biofilms

<https://herniatalk.com/wp-content/uploads/attachments/NAC%20inhibits%20and%200eradicates%20candida%20albicans%20biofilms.pdf>

N-acetylcysteine as powerful molecule to destroy bacterial biofilms. A systematic review

<https://drbaddaky.com/wp-content/uploads/2018/10/N-acetylcysteine.pdf>

Maintenance Protocol : Further Information

Sirtuin activation is a major part of the maintenance protocol. There is confusion on how this interaction works because it is context specific in nature.

Homeostasis is the key. Both over regulation and dysregulation of adaptive immune response via Th17 helper cells through IL-17 receptor interactions can cause negative consequences. Upregulating IL-17 can be beneficial to clearing fungus as long as it's temporary. At the same time, underactive IL-17 response can cause chronic systemic fungal infections, which is a feature of familial candidiasis gene defects.

Resveratrol (and Pterostilbene) is a potent and unique activator of SIRT1 the human sirtuin. It can activate immune response to fungal infections in a context specific way, but also can downregulate autoimmune diseases where Th17 pro inflammatory cytokines are never turned off.

Quote:

"Dysregulation of T helper 17 (Th17) effector cells is associated with multiple autoimmune diseases, including multiple sclerosis. Here, we report that Sirtuin 1 ... increases ROR γ t transcriptional activity, enhancing Th17 cell generation and function ... Maintaining the appropriate balance between T reg and T eff cell function is critical to the maintenance of immune self-tolerance..."

<https://rupress.org/jem/article/212/5/607/41979/SIRT1-deacetylates-ROR-t-and-enhances-Th17-cell>

So what we are seeing is that SIRT1 activation with the protocol increases count and function of these Th17 cells, which are responsible for attacking the fungus directly. The FC gene defect creates the opposite effect, dysregulating IL-17 and reducing overall count of Th17 cells. The issue arises when the body never deactivates the adaptive

response, causing autoimmunity. This occurs because the fungus is never properly eradicated, causing a constant inflammatory loop. This is why the nac protocol is important prior to sirtuin activation. Without removing the source of inflammation (mycotoxins) the immune system never stops responding. Once the maintenance protocol starts, it gives the body the ability to properly modulate immune response and sets the stage for homeostasis.

The NAD pool level powers this contextual response:

"For adaptive immune cells, SIRT1 can mediate the differentiation of inflammatory T cell subsets in a NAD⁺-dependent manner."

<https://www.sciencedirect.com/science/article/abs/pii/S0304383518300089>

Correcting Mitochondrial Repair and Energy Functions

One of the key features of chronic illness, weight gain, diabetes, fatigue and immune dysfunction is mitochondrial dysfunction. Metabolic energy and proper mitophagy require functional mitochondria.

quote:

"

RSV treatment protected mice against diet-induced-obesity and insulin resistance. These pharmacological effects of RSV combined with the association of three Sirt1 SNPs and energy homeostasis in Finnish subjects implicates SIRT1 as a key regulator of energy and metabolic homeostasis. "

<https://www.sciencedirect.com/science/article/pii/S0092867406014280>

quote:

"

Resveratrol induces mitochondrial biogenesis and protects against metabolic decline ... these data indicate that SIRT1 plays an essential role in the ability of moderate doses of resveratrol to stimulate AMPK and improve mitochondrial function both in vitro and in vivo."

<https://www.sciencedirect.com/science/article/pii/S155041311200143X>

So now we understand that sirtuin activation for the purpose of immunomodulatory homeostasis requires both a NAD pool and a sirtuin activator. We also understand that for this process to work efficiently, mitochondrial function must be returned to normal through a process of mitophagy. An increased NAD pool (by using NR or NA) not only triggers this process but supports and enhances mitophagy, cellular function and energy.

quote:

"

One of the central pathways by which NAD⁺ promotes healthy ageing is through regulation of mitochondrial homeostasis via mitochondrial biogenesis and the clearance of damaged mitochondria via mitophagy."

<https://www.sciencedirect.com/science/article/abs/pii/S004763741930199X>

The maintenance protocol offers a solution to two common problems. First, by putting the adaptive immune response into homeostasis, it stops or prevents an autoimmune response. Second, it corrects the dysregulation of immune response caused by genetic breaks where the IL-17 and IL-22 receptor signaling result in lacking response or over active (autoimmune) response depending on specific genetic breaks.