How To Thrive with a Chronic Disease

A Combined Guide to Patient Empowerment, Movement & Food Therapy, with Tips for Oral Health Care

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Introduction

A Forward from Bonnie

Happy Autoimmune Awareness Month, 2019!
Since starting Your Autoimmunity Connection back in 2012, we have come a long way! Hashtags like #spooniesstrong and #autoimmunewarriors have stood hand-in-hand with new booming social media platforms such as facebook, twitter and instagram, allowing us to build strong patient communities!

After a broken hand ended my practicing dental career, I became a Wall Street analyst and business consultant, until a concern for my own diseases and the health of my grandchildren prompted me to start my own company. Thus, Your Autoimmunity Connection/DrBonnie360 was created in hopes of bringing awareness to the invisible epidemic of autoimmunity. In these callings, I am an advocate, speaker, researcher, and writer all while living as a patient with several autoimmune diseases myself.

Desperate to take charge of my own health, I have personally experimented with a number of different modalities of medicine: traditional, functional, alternative, holistic, nutrition, meditation, alternative movement therapies, physical and occupational therapies, you name it. In addition, I've also tried countless supplements, medications, probiotics, and other herbal remedies.

What I present to you here is a aggregated ebook of the most useful tools and impactful practices I have used to thrive in spite of chronic disease (don't get me wrong, I still have bad days, but I am no longer at the command of my symptoms). The content within this guide is drawn from everything I have researched, written about, learned and experimented with over the years.

Get acquainted with us

As Your Autoimmunity Connection, we empower patients with resources and community to achieve their healthiest selves, as well as consult with companies and entrepreneurs that are developing new products and services to improve all aspects of autoimmune care.

Visit www.drbonnie360.com to learn more about our work to reshape research, diagnosis, and treatment for autoimmunity.

Inside discover

- A guide to becoming CEO of your health- organizational steps and educational tips
- A guide to alternative movement therapy options- placing an emphasis on breathing and stretching
- A quick guide to food therapy- explaining food as medicine, dietary breakdowns, and important nutrient information
- Quick tips for oral health- connecting the mouth to systemic disease and how to balance your microbiome

I hope this collection can serve as a guide to you on your health journey. Remember: you are unique, there is no quick fix to being healthy, but you are not alone! Given the time and work you put in, you can successfully reach your health goals! It's time to take charge of your health! So let's get started…

Part 1:
How to Become CEO of Your Wellbeing

Getting Organized

Whether corporate life is calling to you or your interests lie elsewhere, there is one area in which we should all strive to be Chief Executive Officer– promoting personal wellbeing for disease management and optimal health!

Congratulations on the promotion boss, you are officially the one in charge! Now, when it comes to achieving your best state of health, you call the shots. Just as bosses invest in the success of their companies, you too should invest in the success of your health. Learn how to maximize your personal wellbeing, build resilience to cope with symptoms as they arise, and cultivate positivity in all areas of life.

Part 1 of this ebook, How to Thrive with a Chronic Disease, is all about the steps to take to become the CEO of your wellbeing– a necessary starting point to becoming optimally healthy.

Ready for your first project?

How to Get Organized

Do you remember when your last physical exam was? Are your immunizations up to date? Are you familiar with your own and your family's medical history? Do you remember the password to your online health account– have you even set one up?

These questions may appear simple, but many of us struggle with the answers. In order to understand your symptoms and be able to communicate them clearly to your healthcare provider, it may be helpful to gather your personal medical records in one place and review your history.

Prepare for appointments with your practitioner as you would for an important meeting at work.

Consider drafting questions and defining your immediate and long-term goals before your visit. If you use a spreadsheet or application to record data, organize it in a form that you can easily access and share. Print it out or download it to your laptop or phone. Be ready to present this information succinctly to your provider; a good CEO always comes prepared!

Getting Organized

5 Steps To Organize Your Healthcare

You can use these steps as a checklist to coordinate your healthcare, blending your conventional and functional care.

1. Organize Your Family History and Medical Records

- Gather and organize your family's medical history to the best of your abilities.
- If you have genetic data on yourself or family members, include it as part of your family history.
- Be prepared to present this information succinctly and clearly to your conventional provider.

2. Understand Your Symptoms & Communicate with Your Conventional Provider(s)

- Gather all of your personal medical records in one place.
- Consider an electronic personal health record with a hard copy backup.
- Research your past medical history and your current symptoms.
- Research any aspects of your case that you don't understand.
- Draft questions for your providers.
- Define your immediate goals vs. long-term objectives:
  - Why are you going to the doctor?
  - Reduce joint pain upon awakening vs. lose 15 lbs.

3. Find A Functional Medicine Provider

Online resources:

- Institute for Functional Medicine: Find a Practitioner
- American Holistic Health Association: Search for Holistic Practitioners
- Re-Find Health: Find a healthcare partner

Screen & interview your care team- initial questions:

- Have you treated people like me? What is your experience with them?
- Can you describe 3 previous case studies? E.g., one who got better, one who did not get better, one who got worse

Try to get a financial estimate:

- For each case study, how long were the patients in treatment and how much did they spend?

Ask futher questions:

- What is your experience coordinating with conventional doctors?
- How do you facilitate a team approach to treatment and healing?

Getting Organized

4. Try to Craft A Musculoskeletal Team

Start by finding an open-minded, experienced physical therapist (or occupational therapist, osteopath, physiatrist, etc.) with a specific passion for chronic disease cases.

- Try to get a personal referral from someone with a similar condition.
- You may also search academic resources for programs based on your specific condition(s)
  For example: USC Lifestyle Redesign for Multiple Sclerosis, offers a blend of physical and occupational therapies.
- Screen ahead of time: find out how many complex cases, with and without chronic pain, they have treated with positive results.

Expand your team to include Pilates, Gyrotonic, Feldenkrais, yoga therapy instructors, etc. based on your individual needs.

- Again, if possible, beginning with referrals to expedite the process.
- Be sure you like your chosen instructor(s).
  - Movement therapy is long-term!
  - Consider asking for a discount!
- Aside from 1:1 sessions, you may explore small classes of people with similar conditions in order to reduce cost.

5. Coordinate Your Providers

- Effective care requires coordinating your team: each provider should be an open minded and willing member of your care team.
- Aim to schedule quarterly team meetings to review your progress.
  - Keep each provider informed about any relevant work you are doing with the others.

In addition to coordinating your care providers, incorporating digital tools may help you effectively self-manage and track your goals. It will feel good to be back in control!

Understand Your Uniquness

Now that you are all organized, the next thing for you to do as a CEO is to expand your education! We begin with the uniqueness of you. A better and broadened understanding of what makes you unique is one of the first steps to reaching achieving optimal health.

Understanding your uniqueness

You are not defined by one single thing, diagnoses included. Although individual humans share some 99% of their DNA, that ~1% makes all the difference (1). Downstream from that 1% lie many phenotypic variants, the visible aspects of your genetic heritage and history. Gene interactions and epigenetics add additional levels of complexity making you, uniquely you, even if you are an identical twin or triplet. Your microbiome, the microbial ecosystem that lives in and on you, represents another key aspect of your body and health adds to the fuller picture of your uniqueness. So let's break this down...

Your genetics

Although humans share the vast majority of our genes, your specific genome, the particular combinations of alleles you express has never existed before and will never exist again. Your kids share only parts of your DNA, just like you do with your parents. Inside every cell, your DNA double helices loop together as chromosomes, which control cells' everyday functioning and protein expression. Humans as a species have 23 pairs of chromosomes (22 autosomal and one pair of sex chromosomes). You inherited half of these from your mom and half from your dad. Through the magic of meiosis, each germ cell (sperm or ovum) only has one chromosome that you can pass on to your children, with your spouse providing the other half. Because of this sexual reproduction and the miracle of independent assortment, unless you have an identical twin (one ovum + 1 sperm = 2 embryos) you are a completely unique combination of your parents' DNA - one of a kind.

What's the deal with epigenetics?

It used to be thought that your genes and environment were the only factors contributing to the makeup of you. Thus, identical twin studies have been important because they take the genetics out of the equation (twins being copies of the same fertilized cell), allowing one to look solely at environmental influences. But there's more to environment than what goes on outside your body.

Epigenetics, the study of heritable changes in gene activity and expression that do not change the underlying DNA sequence yet change the expressed phenotype, looks at how disease, age and even lifestyle can change DNA expression. Such changes can affect how stem cells differentiate, often leading to cancer or producing tissue symptoms such as those in autoimmune diseases.

Epigenetics matters in autoimmune diseases because differences in expression may explain why two people with the same genes have different disease profiles (2). This is a mechanism by which environmental influences can have an impact at the gene expression level that can trigger tissue damage. This also suggests a mechanism for how what we eat could influence our cells' behavior beyond providing macro- and micronutrients for cell energy needs.

The cause and progression of diseases such as Alzheimer's, Crohn's, and even autism, may be influenced by different epigenetic changes in multiple genes. New insights from the field have started to illuminate our understanding of complicated diseases, such as those classified as autoimmune, although this research is still in the early stages and implications continue to change and grow.

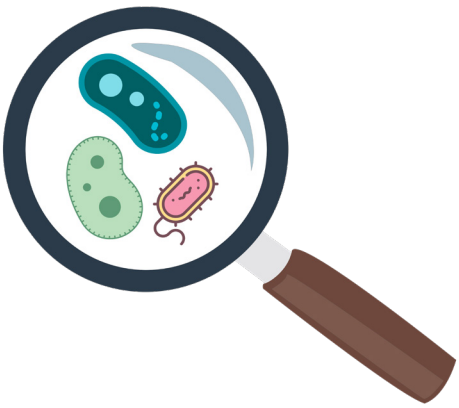
Understand Your Uniqueness

What is the microbiome?

Your microbiome is the population of microbes that live inside your mouth, nose, gastrointestinal tract, and genitals, as well as on your skin and hair. These microbial ecosystems differ from person to person, affected by things such as, the microbes that share your home, who you live with (family and pets), what you eat, and even who you are dating!

The discovery of the microbiome and our growing realization of its importance to systemic health has fed many new fads. Many products, including foods, now advertise that they contain pre- and/or probiotics. Every grocery store is swimming in dozens of different kombucha brands; even many pet foods now contain probiotics!

There are 38 trillion bacteria making up your microbiome community (3). Not only do microbiomes vary from person to person, but each region— mouth, gut, skin, all have distinct, differentiated populations of microbes. Animals of course, have their own microbiomes, and living with a pet can alter yours (often in a positive way)! The microbiome is an important player in metabolism, regulation and overall body function. It mediates between the food you eat and how your body uses it, providing an important layer of protection against disease organisms, and may even influence behavior.



We are going to focus on the oral and GI microbiomes, which are the ones directly involved in eating and digesting, which may play a particularly important role in autoimmune diseases.

Oral microbiome:

- A community of oral bacteria, happiest when species diversity is low.
- Affected by the food you eat, what you drink, oral hygiene, and is crucial in maintaining oral health.

Gut microbiome:

- An ecosystem of GI tract bacteria, happiest when species diversity is high.
- A key player in metabolism, insulin and immunological regulation, and can even affect food cravings.

Disruption of these balanced communities can lead to dysbiosis, an unbalanced microbial ecosystem. This state of unbalance can then trigger negative short and long-term effects, such as GI discomfort, diarrhea, the overgrowth of harmful microbes and even serious infections or immune flares.

Long term dysbiosis has been linked to developing certain diseases such as dental caries and peridontal disease and may have a big role in developing other systemic diseases (4). More on this later!

Using Digital Health

The phrase "*you can't teach an old dog new tricks*" long predates the modern digital age. After educating yourself on your uniqueness and staying up to date with new technology and the latest in scientific research can hugely expand the reach of your resources and deepen your understanding of yourself and your disease(s).

From apps for your cell phone to wireless devices you can wear, an abundance of digitial health tools are now accessible to help you understand and track your symptoms, collect data, analyze your progess and personalize your care.

But first, what is digital health?

Digital Health is the convergence of:

- Genomics, microbiomics, epigenetics, and other -omics.
- Digital technology (mobile phones/apps, wireless devices, Internet, cloud computing, etc.)
- Health, healthcare, and lifestyle.

Digital health tools can help you in many ways!

- Collect your data
- Track your progress
- Modify your behavior
- Personalize and improve your care

There are many benefits of digital health. According to Goldman Sachs' 2015 equity research (5)

- 8 in 10 dollars spent on healthcare goes towards chronic disease
- $300 billion in healthcare savings may come from the widespread use of digital therapies

Self-managing your own health trajectory and symptoms is now more convenient than ever with the availability of health-related applications for download.

But self-management does not mean you are alone in this process. Many of these apps still allow for oversight from your own providers, or connection with patient communities! Explore some of the existing options to see which you find most helpful...

Useful Digital Health Tools

Personalized Coaching: *Find your symptom triggers & keep motivated between appointments*

- MyMee: choose a practitioner, track your symptoms & food intake, and receive personalized data-driven coaching.
- Vida: pair up with a health coach handpicked based on your health goals (e.g., healthier eating, reduced stress levels).

Medication Adherence & Pricing Transparency: *Stay on schedule with medications, for the best price*

- Mango Health: customized reminders to take your medication & supplements, drug interaction info, health history, refill alerts.
- GoodRx: compare prices for every FDA-approved prescription drug at more than 70,000 US pharmacies.

Cognitive Behavioral Therapy for Sleep: *Overcome your sleep problems to get the rest you deserve*

- Sleepio: remove sleep interruptions and establish a healthy sleep pattern with this cognitive-behavioral therapy program built on your personal goals.

Using Digital Health

Nutrition & Fitness Trackers: *Finetune your optimal plan for daily exercise and food intake*

- Myfitnesspal: track your daily food/beverage intake & receive calculations for your optimal nutrients, calories, and vitamins.
- Mapmyfitness: track and share your exercise routes, workouts, and food intake.
- MealLogger: create a photo food journal & connect with dieticians, trainers, or health coaches.
- HealthyOut: choose healthier foods while eating out; search by calories, diet, cuisine, etc.
- My Water Balance: track your daily water intake, with reminders to regularly drink water.

Meditation, Balance, Breathing & Stretching: *Find inner balance & lower stress levels to improve overall health*

- Headspace: a personal meditation guide with hundreds of themed sessions, ranging from sleep to relaxation, focus, and more.
- 10% Happier: a 7-day introduction to meditation with video lessons, guided audios, and online coaches.
- Heartmath's Inner Balance: a biofeedback heart rhythm sensor helps you align your heart, breath, and mind for a sense of calm & balance.
- Serenita: a "stress test" breathing exercise helps you record & manage stress level and treatment data.
- Spire: an activity tracker "stone" that attaches to your belt or bra. It tracks physical activity, fitness, and breathing patterns through an app. It guides you through breathing exercises that aim to decrease stress.
- Stretch it & Start Stretching: are both apps that provide and guide you through stretching exercises you can do anywhere!

Women's Health Apps: *Explore specific women's health issues and product transparency*

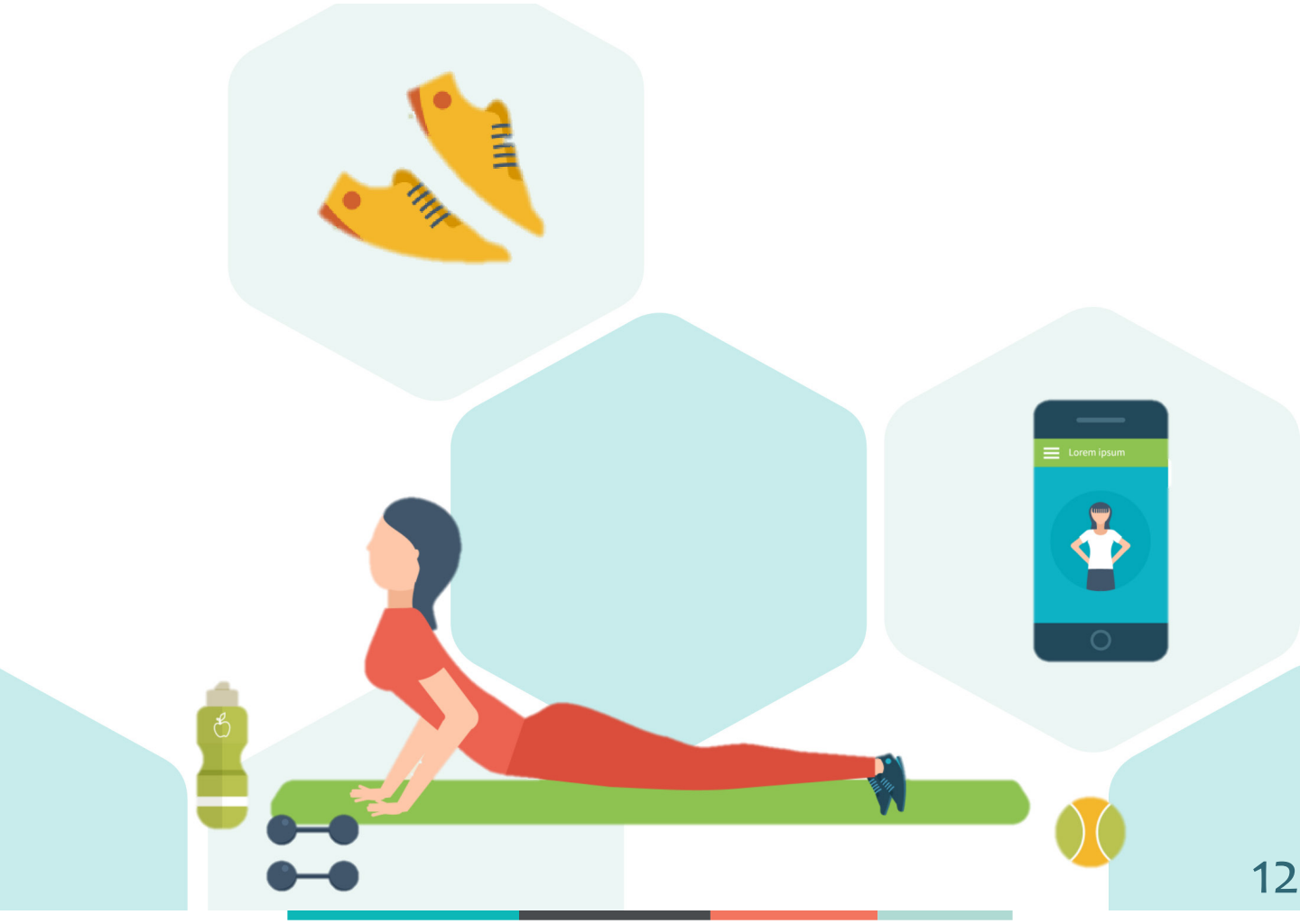
- Glow: online community space with over 40 million discussions on women's health.
- Skin Deep: database of personal care products that allows you to check for toxicity, ingredients, and more.

Community Building: *Increase positive emotions to influence your physical health*

- Smart Patients: online community where patients may learn from each other.
- MyHealthTeams: social networks for patients living with chronic conditions.
- Inspire: share and learn about medical conditions, treatment, and support.

This concludes part 1 of the ebook. Don't forget to also be assertive, get collaborative, and don't be scared to experiment. Just because you are the one in charge of your health does not mean you are alone in the effort. Support is all around you, in friends, family, providers, and patient communities nearby or online.

Part 2:
Experiment with Movement Therapies



Breathing Optimally

We begin this section with a focus on breathing, an essential foundation for all metabolism and movement, from microbes to ourselves. It is the only autonomic physiological function that we can also voluntarily control in real time. This makes breathing a unique target for conscious control, meditation and therapy.

What's the problem?

Healthy babies breathe naturally with their diaphragms and accessory muscles. But as we learn to sit up, walk and talk, we inconspicuously develop poor breathing habits that often worsen as our bodies change throughout childhood and adolescence. In fact, children often pick up poor breathing habits by modeling their parents, learning to speak and sing without good feedback, and having bad posture when sitting, walking, running and playing.

The problem is most people have no idea they are breathing wrong. How can you tell? Inhale deeply: do your neck and shoulders rise vertically when you inhale? This is termed "vertical breathing" and although many of us breath in this manner, it can lead to a variety of negative health consequences, including permanent changes in the neck muscles and cervical spine that place stress on our necks and heads, constricting our airways. There seems to be a common misconception that "vertical breathing" coresponds to deeper breathing. As we move away from this misconception, we can train ourselves to breathe optimally again.

How can we benefit from optimal breathing?

Conscious breathing can modify our bodies' reactions to stressful situations and dampen the production of stress hormones, such as cortisol. Stress plays an immense role in autoimmune disease development and progression, so breathing is a promising target for alleviating many symptoms associated with such chronic conditions (6).

In fact, research has shown that just 20 minutes of focused breathing can positively affect your immune system by lowering stress levels (7). In addition, controlled breathing may restore a sense of self-control over emotional reactions to symptom flares and is the basis for many of the movement therapies we will discuss.

How can we learn to breath optimally again?

Correct breathing does not overly rely on the neck and shoulders. Rather, the focus should be on diaphragm expansion and contraction, also known as "horizontal breathing." To practice breathing optimally, start by sitting up straight, and inhale through your nose. Pay attention to your upper abdomen– it should expand along with your chest, not your shoulders! Breathe slowly and fully in through your nose and out through your nose or mouth. If you find it challenging to remain aware of your breathing throughout the day, an array of digital health tools are available to help you on your journey towards optimal breathing.

Stretching

How should we stretch?

Emerging research is continually expanding our understanding of the purpose and benefits of stretching. There are a wide variety of stretching techniques, including dynamic, static, myofascial release, ballistic, active isolated stretching, and more. Each technique offers unique health benefits and multiple methods may be combined to obtain maximal results.

What are the key benefits of stretching?

One target of stretching is fascia, the densely-woven, soft tissue layer of the connective tissue system. Disruptions in fascia have been linked to various chronic conditions such as chronic lumbar backache, fibromyalgia, dermatomyositis, rheumatoid arthritis, and many others. Dr. Robert Schleip, a leading researcher in the field of fascia and movement therapy, has discovered that many stretching techniques positively influence connective tissue and alleviate symptoms associated with joint stability and musculoskeletal pain (8). Additionally, Specialists at Mayo Clinic have found that stretching is connected to stress relief, which is a major contributor to the symptoms of autoimmune conditions (9). Thus, stretching presents many benefits beyond increased flexibility.

What are some stretching options?

Stretching classes: Studios offering stretch-only classes are opening all around the United States. A variety of options are available, ranging from group classes to personalized one-on-one stretching sessions. One key benefit of these classes is that they provide hands-on stretching aid from experts, who can provide you with information and helpful advice personally tailored to your conditions.

Online classes: If you find yourself struggling to find time for studio workout classes, there are other methods for incorporating stretching into your daily routine– consider registering for online stretching, yoga, and pilates classes, or even watching free tutorials online. One great resource is PsycheTruth, a wellness channel on YouTube. This channel has hundreds of videos and tutorials for at-home stretching options, including videos targeted toward alleviating pain in specific parts of the body, such as the neck, lower-back, and hips.

No matter which way you choose to stretch, implementing some sort of stretching into your busy schedule can really help promote positive changes in your life.

An Intro to Yoga

What is yoga?

Many of us likely have an idea of what yoga is, after all, yoga practices seem to be everywhere we look these days. For those who have tried yoga, you have most likely tried a variant of hatha (physical) yoga, popularized in the US from the 1960's-80s (especially in California!) But there are many styles of yogas: physical, mental and spiritual practices developed over many centuries in India. Yoga schools have developed an enormous body of techniques: physical (asanas, bhandas), pranayama (breathing exercises), meditation with mantras (sounds) or mudras (gestures), study of written materials (sutras and tantras), creation and contemplation of mandalas and other yantras.

What are the benefits?

One major benefit, common amongst all yoga practices, is reduction of stress levels. A study from the University of Chile found that practicing Kundalini yoga correlated with decreased immediate and longitudinal stress (10). Similarly, this movement therapy has also been shown to eliminate fatigue and provide emotional aid to combat anxiety and depression. In addition to these benefits, yoga has also been shown to increase lung capacity and spine flexibility, strengthen immune and nervous system function, normalize endocrine function, and promote joint health (11).

Different Yoga Practices

The key to gaining the most benefits from yoga practices is to pick the style that is right for you and your body!

Bikram

Bikram yoga is a style of hatha yoga, a traditional branch of yoga that combines postures and breathing, involving a standardized series of asanas performed to an instructional dialogue in a heated environment. Each class features the same 26 set poses, takes place in a 105-degree room, and is taught by a Bikram-certified instructor. Classes are typically 90 minutes long.

Because the heat can be hard on the body, it's important to plan ahead. You should start hydrating 24 hours before the class, and avoid eating for 1-2 hours prior to a yoga class to prevent nausea.

Restorative

This style of yoga is great for individuals who are seeking to begin their experimental journey, or anyone who is seeking a mild form of exercise. The practice focuses on slowing down and opening your body through passive stretching. Restorative yoga seeks to achieve physical, mental and emotional relaxation.

A sequence typically involves only five or six poses, supported by props (provided by the studio) that allow you to completely relax and rest. Held for 5 minutes or more, restorative poses include light twists, seated forward folds, and gentle backbends. These classes place an emphasis on breathing throughout the poses. Because this form of yoga also places a large emphasis on relaxation, you can expect the room to be dimly lit with soft music playing in the background.

Kundalini

Kundalini practice, as it is currently taught in the West, combines physical postures (asanas) with breathing exercises (pranayamas) and meditation with mantras (sounds). It is typical for participants to practice in all white: modest, graceful, and comfortable pants, tunics, dresses, and turbans made of cotton that allow freedom of movement.

Basic Kundalini yoga classes are generally comprised of three parts. The first is a warm up that involves stretching and chanting, designed to allow you to tune into the practice and calm your mind. Participants are then led through a series of asanas and bhandas, grouped into sets (Kriyas), each set with a specific physiological or psychological purpose. The class concludes with a meditation and wind-down period.

An Intro to Tai Chi

What is Tai Chi?

The mind-body practice of Tai Chi stems from Ancient Chinese tradition, combining martial arts exercises and meditative practice to achieve harmony of mind, body, and spirit. It is a graceful form of exercise, which encompasses a series of slow and focused movements accompanied by deep breathing...

What can you expect?

Tai Chi takes different forms, with shorter and longer variations. The shorter forms are usually 13 to 40 moves long and take about 3 to 20 minutes to complete. The more advanced longer forms may consist of upwards of 80 movements and can take over an hour to complete. No special equipment is required for this method of exercise, meaning it can be performed anywhere, whether alone or in an organized group class. Although the practice of Tai Chi looks rather simple, it actually targets a variety of different muscles. It is typical to experience muscle soreness after the first few sessions.

What are the benefits?

According to the Mayo Clinic, more than 2.5 million Americans practice Tai Chi to reduce stress and anxiety, to increase energy, stamina, flexibility, muscle strength definition, and balance (12). Additionally, research from Harvard Medical School supports that Tai Chi exercises may lead to greater muscle strength and flexibility (13). Additionally, Tai Chi has been connected with increased balance control and lessened chronic pain, particularly for cases of osteoarthritis, fibromyalgia, and lower back pain.

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An Intro to Qi Gong

What is Qi Gong?

Qi Gong, also known as Chi-Kung, is another Ancient Chinese exercise that consists of meditation, controlled breathing, and movement. Roughly translating to "mastering your energy", Qi Gong aims to cultivate physical, spiritual, and emotional health. It can take many different forms ranging from active, flowing movements to more passive and still poses, emphasizing external and internal elements, respectively.

What can you expect?

Qi Gong utilizes five techniques in its practice: intentional movement, rhythmic breathing, visualization, awareness, and chanting. These techniques are utilized to evoke the principles of relaxation, softness, and balance. Most classes include a warm up prior to breathing and strength exercises. However, because there is a wide range of different Qi Gong practices, there is a large variation in the movements you can expect to experience in a class. It is this variation that allows the practice to be suitable for individuals of all ages, with varying physical abilities. It can be tailored and practiced to fit your direct needs and desired intensity level.

How can it help you?

Qi Gong has been shown to provide many benefits for alleviating symptoms that arise from chronic conditions. Like many other movement therapies, it has been shown to reduce stress and increase energy (14). It also incorporates exercises that have been linked to increased strength and flexibility. An additional benefit of Qi Gong stems from its focus on breathing, which aids in meditative practices and relaxation. Harvard Medical School has also shown that meditation-based interventions such as Qi Gong are beneficial in reducing inflammation and promoting immune responses (15).

Qi Gong vs. Tai Chi

Qi Gong consists of simple, slow, repeated movements, often more straightforward than those of Tai Chi. Qi Gong forms may consist of one consistently repeated movement. In contrast, the more complex forms of Tai Chi consist of a series of many moves and can take months to learn. Movements of Tai Chi place greater emphasis on martial arts and self-defense. However, research trials have shown that both Tai Chi and Qi Gong can be used collectively for bone health, cardiopulmonary fitness, falling prevention, immunity, anxiety, depression, and overall quality of life (16).

An Intro to Feldenkrais

What is Feldenkrais?

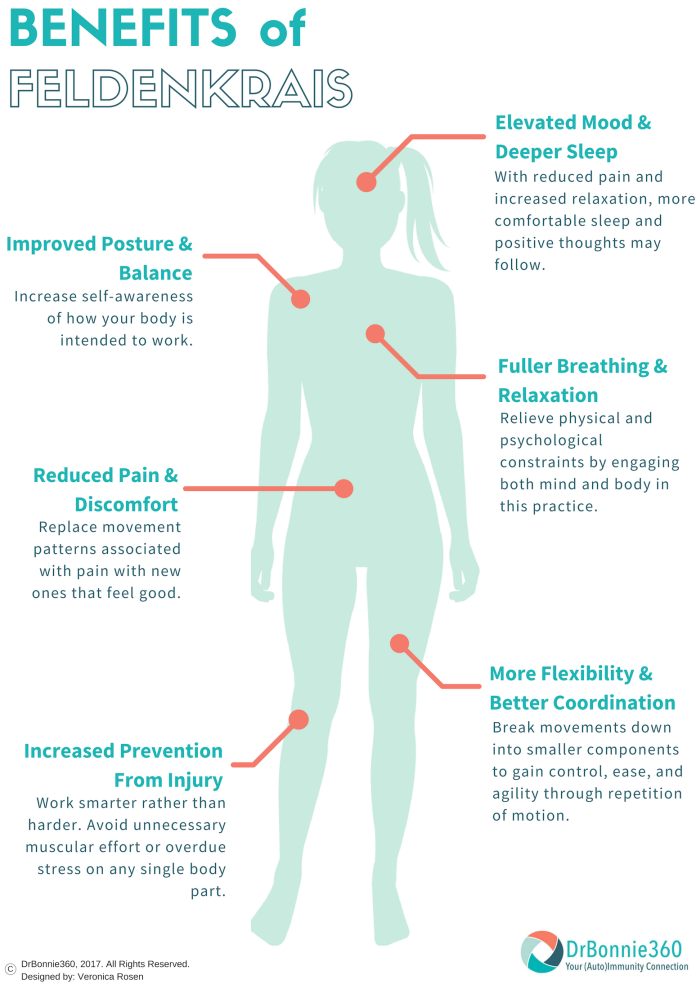
The Feldenkrais Method has two approaches. Both use slow, gentle movements to retrain the body, but one approach is passive (performed by a practitioner on the student's body), while the other is active (performed by the student).

Functional Integration (Passive) - In this 1:1 session, a practitioner guides the client's body through precise manipulation and passive movements personalized for the client's needs, from ordinary aches and pains to more serious musculoskeletal problems. Through gentle touch and movement, the practitioner invites the student's body to change the way it moves by engaging in more efficient movement patterns. For example, a practitioner may engage a student's spinal cord through touch, guiding them from lying down to sitting upright. The student's body may eventually learn to automatically correct posture.

Awareness Through Movement (Active) - Similar to gentle yoga and Tai Chi, Awareness Through Movement group classes focus on slow, mindful movements. Clients actively engage in guided movements as a practitioner leads them in reducing unnecessary muscular effort and improving awareness of the whole self. Slow movement is encouraged and students may repeat each movement as many times as desired within the allotted time. Practioners provide verbal instructions for sequences of movements and allow students to kinesthetically explore these movements without demonstration. This strategy allows for a greater mind-body connection; students are enabled to learn, rather than be taught.

What are the benefits?

The Feldenkrais Method has many beneficial effects. It has been linked to improved posture and balance, reduced pain, elevated moods and increased flexibility (17)(18). Additionally, a recent research study from the University of Rome examined a group of 53 individuals and the effects of their participation in Feldenkrais. The researchers found that this movement therapy was effective in the alleviation of chronic lower back pain, a common symptom of many chronic conditions (19). Collectively, this data shows major health benefits derived from utilizing the Feldenkrais Method.



An Intro to Gyrotonic

What is the Gyrotonic Method?

Gyrotonic is a training method that emphasizes the mind-body connection by integrating elements of dance, gymnastics, swimming, yoga, and Tai Chi. Specialized equipment is used to guide wide-range, circular movements, based on natural movement patterns and is adjustable to individual needs. These movements are fluid and connected with your breathing patterns. Each movement flows into the next and focuses on exploring the natural range of motion for joints and guiding the body beyond current limitations. Gentle movements harness rhythm, repetition, and flow.

What can you expect?

Experienced trainers offer both group classes and personalized sessions adapted to fit the needs of all ages and abilities. You can wear casual clothing to the classes, and it is often customary to wear socks. The classes utilize an array of machines focused on strengthening the body's core muscles from the inside out. The exercises typically begin by targeting your spine and gradually progress to your neck, shoulders, and arms.

What are the benefits?

There are many benefits to practicing Gyrotonic. This movement therapy is believed to increase range of motion, core strength, flexibility, coordination and balance. Additionally, the movements and inversions in gyrotonic target the fascia, helping to calm the Central Nervous System. The gentle stretches of gyrotonic also decompress the spine, consequently reducing back pain. Furthermore, as with previously discussed movement therapies, gyrotonic places an emphasis on coordinated breathing. This increases oxygen levels in the body, nourishing muscles and tissue while lowering stress levels.

An Intro to Pool Therapy

What is Pool Therapy?

Pool therapy or aquatic therapy is physical therapy that takes place in a pool or other aquatic environment under the supervision of a trained healthcare professional.

The buoyancy of the water allows movement with less required effort than on land, while the resistance gives patients an opportunity to build muscle strength.

What are the benefits?

Pool therapy can be particularly good for those autoimmune patients with chronic pain, limited mobility, fatigue, and muscle wasting. A study conducted in 2007 found that pool exercise can be an effective intervention for fibromyalgia patients (20).

In general, pool therapy can help:

- Improve flexibility
- Improve balance and coordination
- Build muscle strength and endurance
- Enhance aerobic capacity
- Assist with gait and locomotion
- Reduce stress and promote relaxation

Yoga and Pilates exercises, which focus on building core strength and increasing range of motion, can also be adapted to aquatic therapy.

How to Budget

Experimenting involves a substantial amount of trial and error, and the cost of each studio and class may add up quickly. Fortunately, many budget-friendly options are available for individuals looking to improve their health and symptoms, so there is no need to fret.

Get Class Pass

With the Class Pass App, you pay a base monthly fee for a set number of classes per month, and gain access to hundreds of exercise studios across the city. It provides you with the flexibility of trying different workout methods and experimenting to find the movement therapy that works best for you.

However; this option is only available in select cities. If it is not offered in yours, local gyms typically offer a variety of classes, packages and discounts for members, so signing up for this type of membership may be another method for exploring a variety of exercise options at a good price.

Try exercises at home

Many of the movement therapies we have discussed can be done at home. In this way, you can practice these different therapies at any time that fits your schedule. However, getting started by taking some studio classes may still be beneficial for forming an initial understanding of the practice and mastering the basics. Most exercise studios offer a trial period at their facility, presenting an opportunity to learn about the styles of movement therapy you enjoy most without long-term commitment or payment. After this trial, you may choose to practice in your own home– or continue with your favorite studio!

Insurance

One final tip we can offer is to consult with your health insurance company and find out which physical therapy options are covered by your plan. Some studios may be eligible for classification as physical therapy, meaning that your insurance may cover some of these movement therapies. The only way to find out is by taking charge of the investigation and experimenting with your options.

This concludes part 2 of the ebook. Remember, as CEO of your health, part of your job is to try and fearlessly experiment! By keeping an open mind for trying new therapies and tracking how you feel as you go, you'll be able to pick out your positive patterns. Just remember to switch up the combination once in awhile– who knows, even when things are already going well, they might get even better!

Part 3:
Explore Your Food

Redefining the “diet”

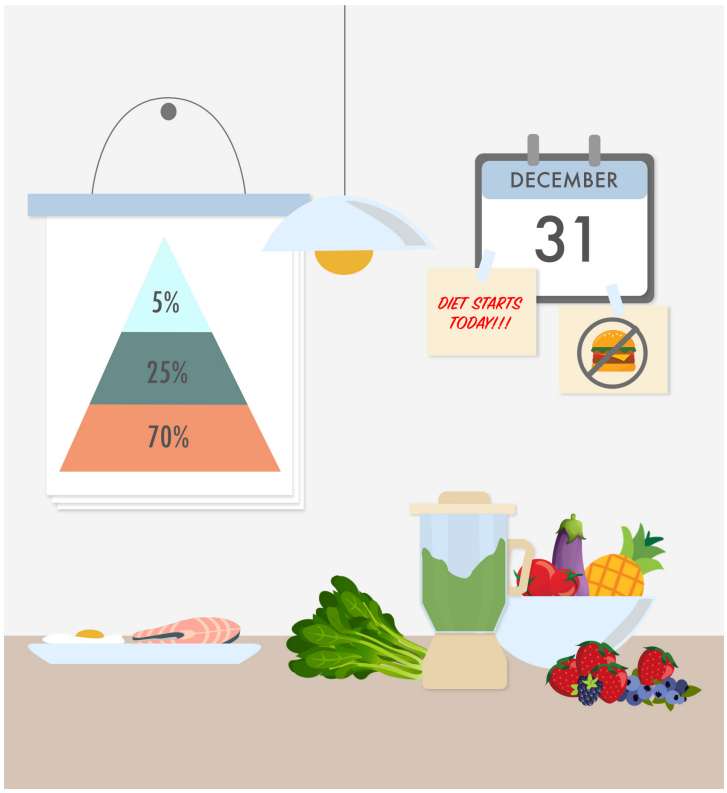
We start this section by decoding the term “diet”.

How most people define “diet”

Google defines the word diet in a couple of ways, one being:

> *“A special course of food to which one restricts oneself, either to lose weight or for medical reasons.”*

This is the more common use of the word, which often carries a negative connotation.



How we want you to define “diet”

This less well known definition is the one we want you to focus on:

> *“The kinds of food that a person, animal, or community habitually eats.”*

We make this point to break the boundaries around the way we use the term “diet”. We want to help you find your best diet, meaning eating the food that helps you reach your optimal health! That “diet” could be following a strict protocol like the Wahls diet, or simply eating everything in moderation, or maybe even a combination of both! The point is this is your life and you can use any and all tools to figure out what works best for you.

Comparing Different Diets

The gradual rise in autoimmune and other inflammatory diseases over the last century has resulted in a more recent focus on using nutrition and diet to mediate symptoms. The increase in popularity of food therapy offers many options for autoimmune-suggested protocols. To help you sort through the confusion, let's dive deep into these different dietary options, to get you on your quickest path to crafting the best autoimmune diet for you!

Let's start with the basics…

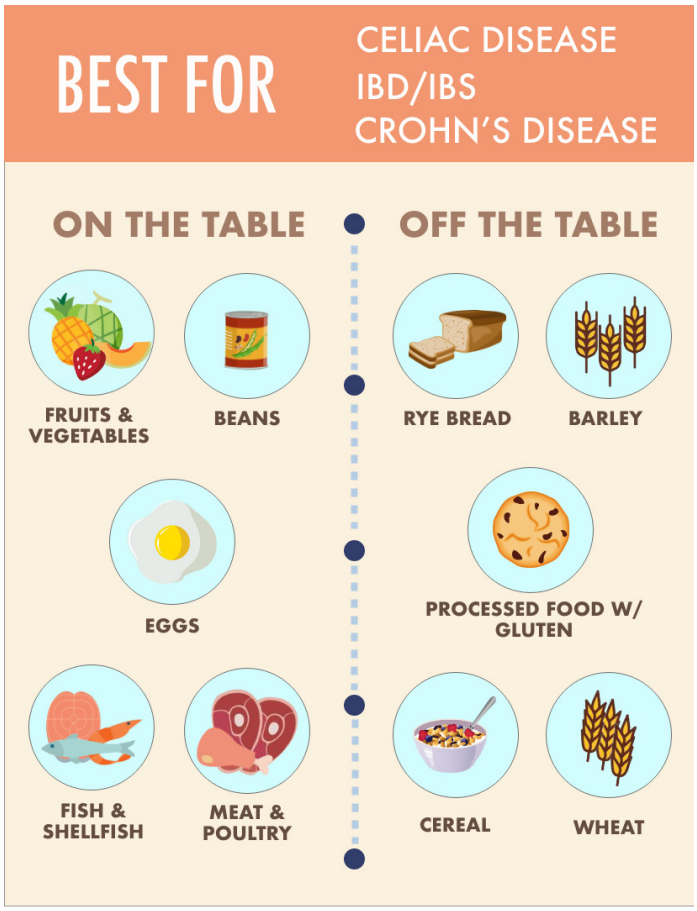
Gluten Free:

Gluten is a protein found in wheat, barley, and rye grains, prized for its ability to help leavened bread rise. It is ubiquitous in European diets of both the Mediterranean and the North, as well as North China, North India, Central Asia, the Middle East and other countries in which people from these cultures live (20).

WWII hugely decreased wheat production all over Europe, producing severe shortages of a daily staple. During the war, Dutch pediatrician Dr. Willem-Karel Dicke observed that Celiac rates plummeted, but rose again after the war ended. This was the first clue linking Celiac disease to gluten (21). In the 1940's and 50's, further research found that a diet eliminating gluten provided complete remission to Celiac patients (22). With an increase in awareness, gluten-free has become fundamental in helping people diagnosed with Celiac.

Recently, gluten-free diets have spread far beyond Celiac patients and have become widely popular today. Gluten-free foods now flood grocery stores and are even available in many restaurants, making this diet one of the most accessible.

As most of you know, this diet eliminates the protein gluten. This means avoiding all foods containing any wheat, barley or rye ingredients. That can be tough, as gluten naturally occurs in most breads, many cereals, and is often added to processed foods. Luckily, there are many non-gluten grains and starch substitutes that you can eat, such as rice, quinoa, potato, soy, oats, tapioca, coconut and others. If you have Celiac or want to follow this diet strictly, you will need to look carefully at seemingly gluten-free foods, as gluten can hide in many sauces, grain-sourced alcohols, and even imitation crab.



Read more about it: diet outline
Meal plans & recipes: Celiac.org, Allrecipes, FoodNetwork
Meal kits & delivery services: HelloFresh-gluten free, SunBasket, GreenChef

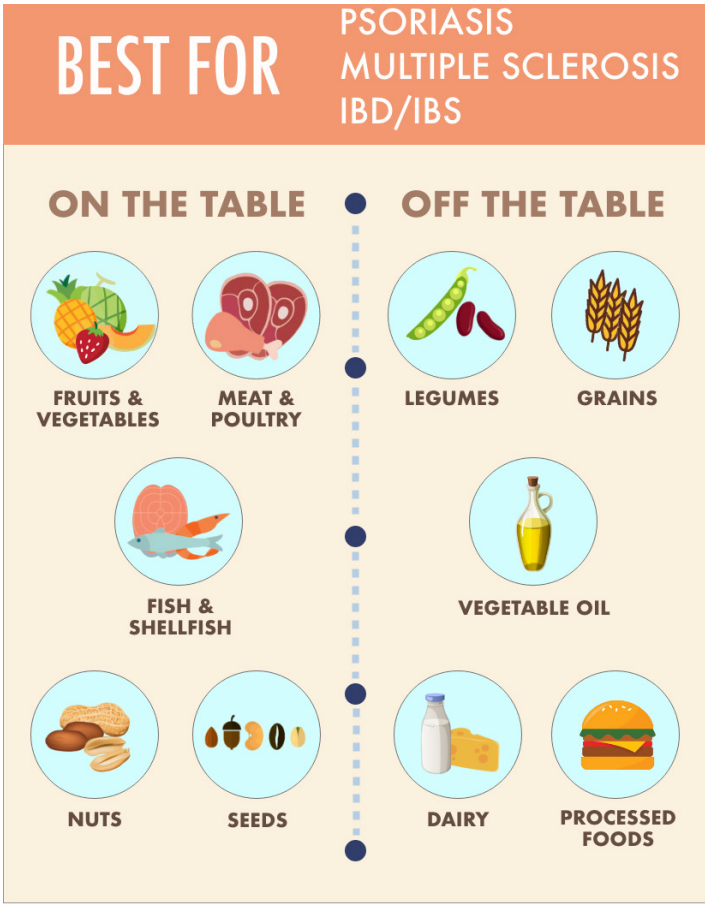
Comparing Different Diets

Paleo Diet:

The popular nickname for the Paleolithic Diet, based on following a diet more like that of our pre-agricultural ancestors. These people lived during the Paleolithic or Stone Age period, also known as cavemen or hunter-gatherers. The Paleolithic era precedes the Neolithic, when *Homo sapiens* first began farming some 10-14,000 years ago (23,24). The agricultural revolution enabled civilizations to form around centralized towns and cities, key precursors to modern life, which still today rely on grains for most of peoples' caloric intake.

The Paleo diet builds on the idea that for hundreds of thousands, even millions of years, our hominin ancestors hunted meat and gathered nuts and fruits for food in contrast to planting and harvesting grains and legumes like we do today (23,24). Therefore, our genes have not yet caught up with our dietary changes, so that food sensitivities to agricultural products remain common in the population. Some Paleo dieters also avoid dairy, on the grounds that while animal domestication is an older practice of meat consumption, consuming animal milk and milk products is a more recent development, dependent on the emergence of adult lactose tolerance in two populations less than 10,000 years ago. This evolved ability to consume lactose is not universal, which is why so many of us suffer while eating ice cream.

Motivations among Paleo dieters vary. Some are avoiding grain proteins (like gluten) that are suspected of triggering sensitivity reactions. Others believe that grain-based and refined food diets are major causes of the epidemics of obesity, diabetes, and other inflammatory diseases. Some bodybuilders have adopted it as a way to reduce caloric intake while increasing protein for weight loss and muscle building. Many people with autoimmune diseases have discovered that versions of the Paleo diet can reduce flares and help manage other symptoms.



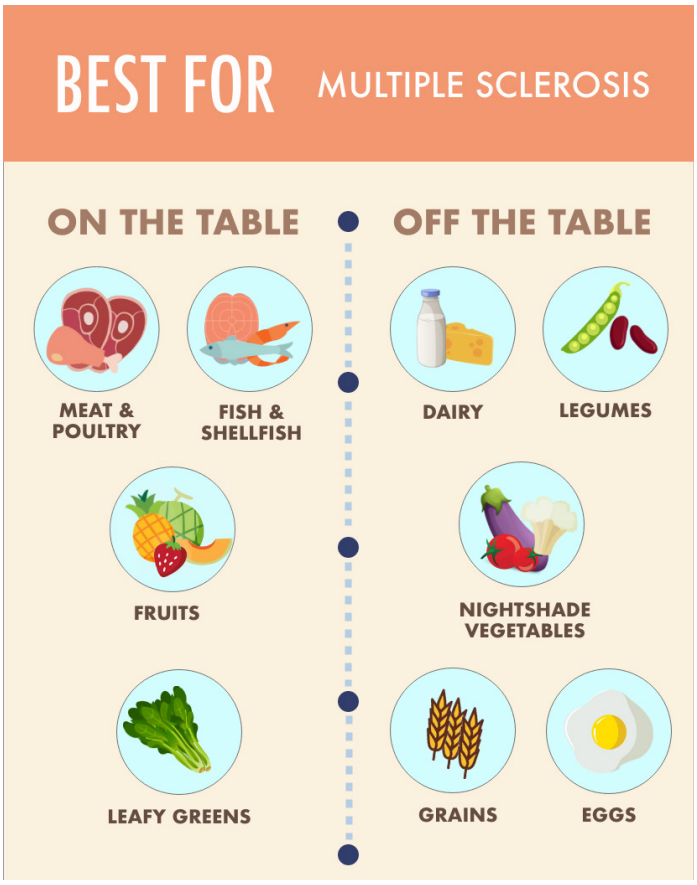
Read more about it: diet outline
Meal plans & recipes: PaleoGrubs, Paleoleap
Meal kits & delivery services: onepaleodelivers, paleohacks

Comparing Different Diets

And now for the more complicated…

Wahls Diet:

Dr. Terry Wahls designed the Wahls diet after she was diagnosed with multiple sclerosis (MS). Her tale is a classic road to recovery through dieting that many of us are familiar with. It is broadly based on the Paleo diet with some modifications. She emphasizes leafy greens and brightly colored fruits, high in antioxidants. She also recommends obtaining fat from animal and plant sources with an emphasis on Omega-3 fatty acids, and has a long list of foods to avoid.



Read more about it: diet outline
Meal plans & recipes: terrywahls.com

Low FODMAP:

FODMAP is short for Fermentable Oligo-, Di-, Monosaccharides, And Polyols. These short-chain carbohydrates are poorly digested and absorbed in the small intestine, thus they are a big source of food for our microbes in the large intestine. As your microbes digest certain FODMAPs, they can trigger a multitude of GI-related symptoms such as gas, bloating, diarrhea and cramping. Different people have different trigger FODMAPs, so in order to figure out which ones you're sensitive to, the diet starts as an elimination diet–cutting all possible trigger FODMAPs, followed by a reintroduction phase.

The first phase is extremely restrictive but temporary, allowing your immune system and microbiome to reset. The reintroduction phase helps you pinpoint which specific FODMAPs are triggers for you. Once the reintroduction phase is complete, you should have a better understanding of which ones to avoid and which ones are OK for you going forward.

On the table: (low FODMAP foods) brown rice, buckwheat, oats, maize, arugula, kale, spinach, green beans, carrots, eggplant, tomato, zucchini, low-fructose fruits (blueberries, kiwi, oranges, strawberries), tofu, eggs, seeds, nuts, maple syrup, low-lactose dairy (dry and aged cheeses, yoghurt, etc). (complete list)

Off the table: (high FODMAP foods): wheat, onions, garlic, high-fructose fruits (apples, apricots, bananas, cherries), asparagus, brussels sprouts, cauliflower, baked beans, agave nectar, high-lactose dairy (cottage and cream cheese, etc.) (complete list)

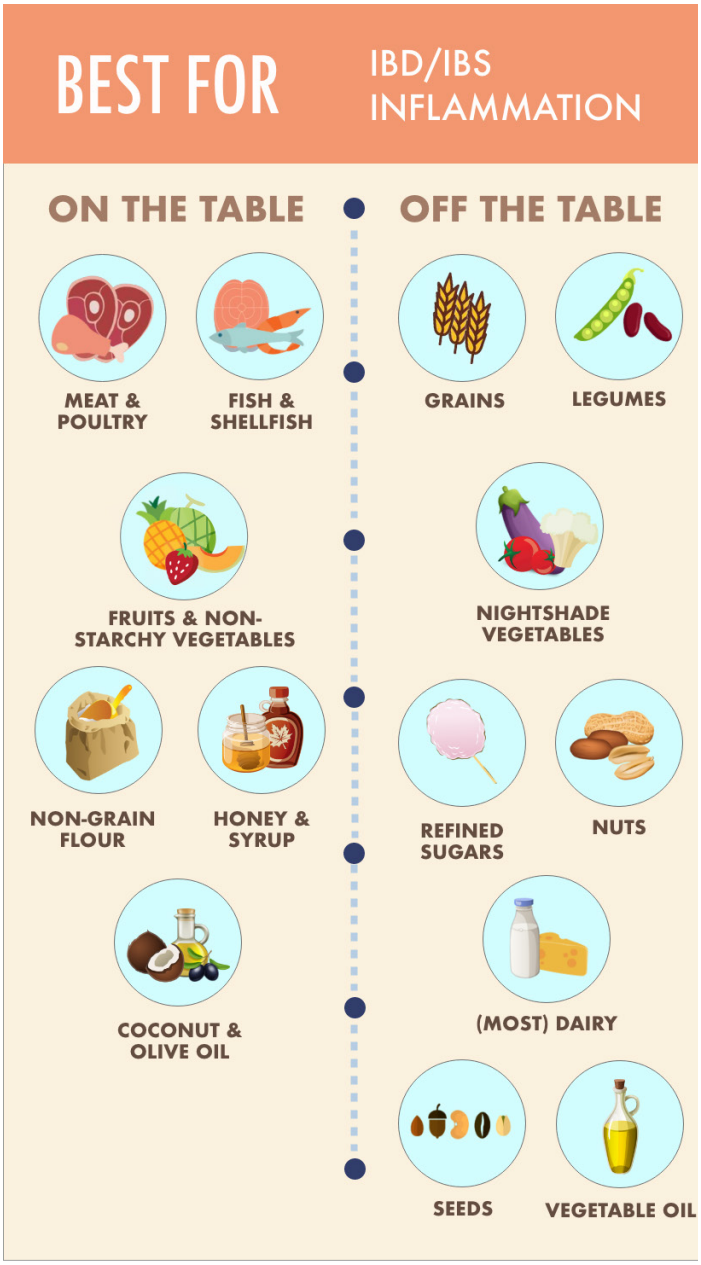
Best for: IBS, recommended for IBD, eczema, MS, fibromyalgia, and rheumatoid arthritis.
Read more about it: diet outline
Meal plans & recipes: dietingwell, alittlebityummy, grocerylist

Comparing Different Diets

AIP:

AIP is short for AutoImmune Protocol, and is another variation of the Paleo diet designed specifically for autoimmune patients. This protocol follows a version of the Paleo diet with the addition of a 30-day elimination and reintroduction phase for certain foods. It was originally developed by Dr. Loren Cordain, who discovered that certain foods allowed on Paleo could trigger inflammation in people with autoimmune disease.

Both Dr. Robb Wolf and Dr. Sarah Ballantyne (The Paleo Mom) have written articles and books on AIP, popularizing the diet. AIP focuses on consuming nutrient-rich foods as well as eliminating likely problem foods for autoimmune patients.

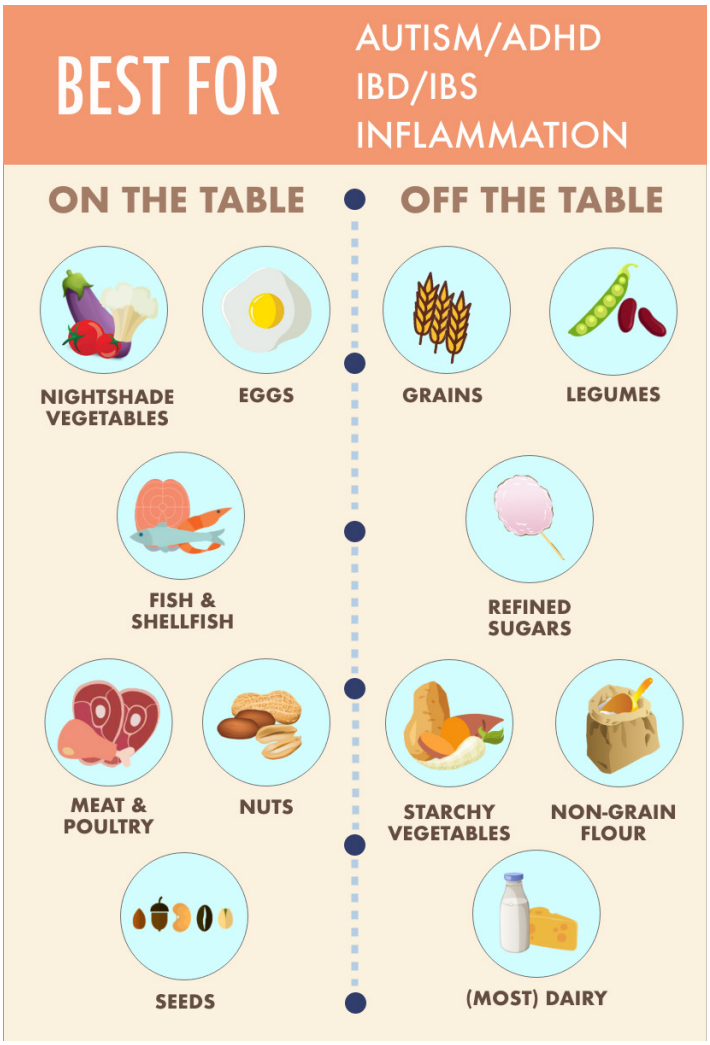


Read more about it: diet outline, The Paleo Mom, phoenixhelix
Meal plans & recipes: meatified, Paleo Mom Recipes, unboundwellness
Meal kits & delivery services: Paleoonthego

Comparing Different Diets

GAPS diet:

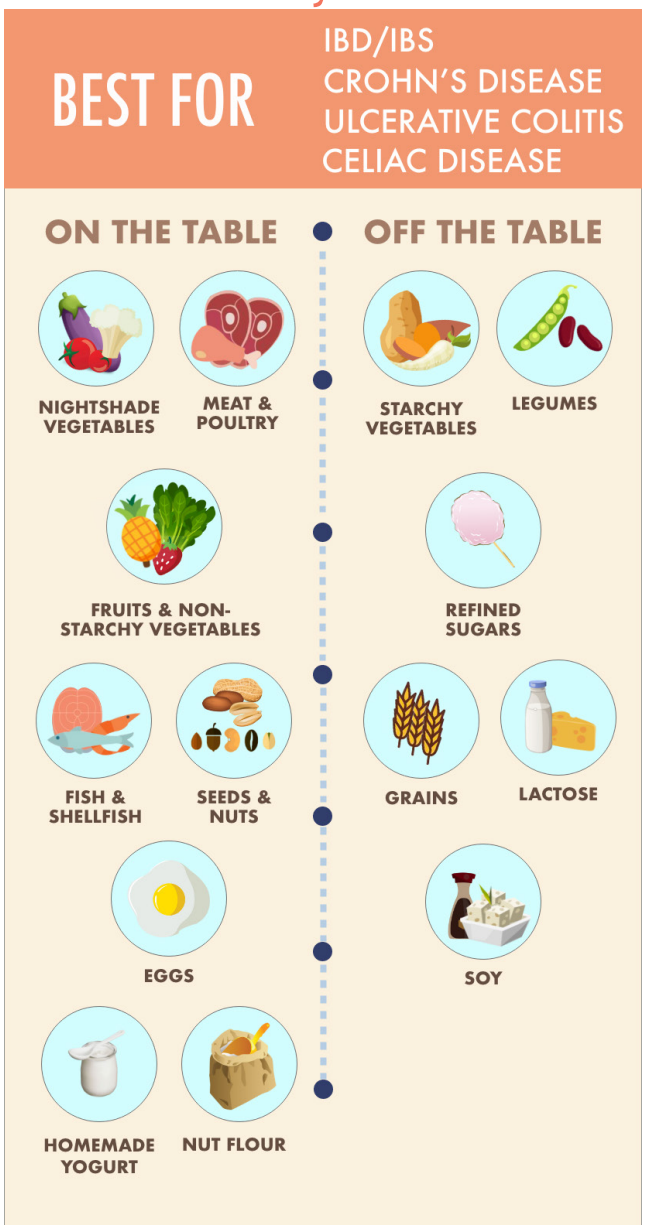
Dr. Natasha Campbell-McBride developed the GAPS (Gut And Psychology Syndrome) diet in the hope of creating a nutritional lifestyle protocol for healing (25). In her book, she explains how autoimmunity develops, and discusses the psychology around the diet and how it works. The GAPS diet is designed as a three-part progression diet, starting with an introductory phase, to the full GAPS diet that eliminates many foods, followed by a small reintroduction phase.



Read more about it: diet outline
Meal plans & recipes: purposefulnutrition, deliciouslyorganic, draxe.com
Meal kits & delivery services: mypaleos.com

Comparing Different Diets

Specific Carbohydrate Diet:



Read more about it: diet outline
Meal plans & recipes: nomorecrohns, elanaspantry
Meal kits & delivery services: mypaleos.com

The Specific Carbohydrate Diet is an older carb-limiting diet, initially created by Sidney Haas in 1951. It was made popular by the book Breaking the Vicious Cycle: Intestinal Health Through Diet written by Elaine Gottschall. SCD has been clinically shown to help people with IBD (26). Unlike Atkins or other low-carb diets, it doesn't focus on reducing the intake of all carbohydrates, but instead on eliminating disaccharides and most polysaccharides, in favor of monosaccharides. Homemade yogurt fermented for at least 24 hours is a major component of this diet, in order to introduce probiotics to correct the gut dysbiosis experienced by many IBD patients.

Intermittent Fasting (IF):

Fasting, although not really a diet, is a hot new eating pattern fad. It's not about what you eat, but rather when you eat it. IF is based on the idea that our ancestors had to survive periods of little to no food when crops failed, hunting was scarce, or seasonal foods unavailable. It has been argued that IF, like the Paleo diet, is more like our ancestral patterns of eating. Deliberate fasting is also a time-honored religious practice whether weekly, annually, or as part of monastic or shamanic practice.

Goals of IF include weight control, CNS reset, improved glucose tolerance and reduction of risk factors for certain diseases such as obesity, diabetes, and dementia. IF increases human growth hormone, lowers insulin levels, increasing sensitivity, while kick starting cellular repair. You can practice IF many ways, but fasting 12-16 hours a day is the most common. IF is a way to potentially induce cellular repair while giving your immune system a rest.

Click here to get our full diet comparison infographic!

Food as Medicine

Food for immune heath:

Over two thousand years ago, Greek physician Hippocrates said:

"Let thy food be thy medicine and thy medicine be thy food"- 460 BC.

Unlike western medicine, eastern medicine relies heavily on foods with medicinal properties based on thousands of years of knowledge.

Eastern medicine uses herbs, spices, vitamins, and certain foods as medicine to tackle all sorts of diseases, sickness, and infections. Entire books have been published on these foods and their properties (Food as Medicine, and The A-Z Guide to Food as Medicine). While many foods have beneficial health qualities, there are some that act as strong anti- inflammatories and are therefore useful and important for autoimmune patients (27).

Some examples of these include:

- Turmeric
- Ginger
- Green leafy vegetables
- Berries
- Flax & chia seeds
- Almonds & walnuts
- Olive oil
- Salmon

In general, foods that are rich in Omega-3 fatty acids, key vitamins, conatin dietary fiber, and act as antioxidants are good candidates for decreasing inflammation in the body.

Antioxidant & Anti-inflammatory

After our introduction to food as medicine, you may have some questions: What makes these foods beneficial for immune health? What are the key components that make up these foods? What even is the difference between anti-inflammatory and antioxidants? What makes a vitamin different than a mineral? What exactly are fibers, fats and polyphenols and why are they important?

So let's dive right in...

Antioxidant vs. Anti-inflammatory

An **anti-inflammatory** is any substance that helps reduce inflammation. This can happen either by halting the chemical pathways that trigger inflammation, by reducing (down-regulating) the number of inflammatory molecules, or by increasing (up regulating) signaling molecules that reduce inflammation. You are probably most familiar with the NSAIDS (Non-Steroidal Anti-Inflammatory Drugs), drugs such as ibuprofen and aspirin that reduce inflammation and swelling. There are also naturally occurring anti-inflammatory components found in many foods and spices.

Antioxidants are substances that reduce cellular damage by binding to reactive oxygen species, making them inactive. The downstream effects of antioxidants can reduce inflammation. Because of this, many antioxidants act as anti-inflammatories. There are plenty of foods and spices that contain antioxidants, and therefore may have anti-inflammatory properties as well (28).

Avoiding pro-inflammatory foods:

In addition to the anti-inflammatory foods we talked about earlier, there are many pro-inflammatory foods. These include processed meats, sodas, salty snacks, packaged sweets, refined carbohydrates, etc, which are easy to grab when stress eating. If you suffer from an autoimmune disease, these types of food are likely to intensify any symptoms you're already experiencing.

Vitamins & Minerals

Minerals vs. Vitamins

While both are essential to human health, there are major differences. **Minerals** are inorganic elements that are not broken down further in your body. They maintain their chemical structures through the digestive process and are used by cells in their ionic or elemental forms. There are thirteen essential elements, divided into macronutrients and micronutrients. **Vitamins**, on the other hand are fat or water-soluble organic compounds that are broken down by the body into smaller components or used as enzymes to support biochemical reactions.

We will discuss a selective group of vitamins and minerals that are particularly important for people with autoimmune conditions.

Vitamins important in Immune Health

Vitamin A: An essential, fat-soluble nutrient that is important to forming mucus membranes, maintaining our immune system and ensuring it functions properly, and the health of our eyes, skin, and vision. Found in animal foods such as dairy, fish and meat (esp liver). Beta-carotene is a precursor molecule from which the body can make Vitamin A. It is found in orange and yellow vegetables and fruits (29).

Vitamin B: A group of water soluble chemical compounds that are essential nutrients. They are important in many body functions and reactions, especially the nervous system, eyes and skin, blood and mitochondria (energy producing cell organelles). They are important in many bodily functions and reactions, but differ slightly chemically depending on the subgroup (30).

Vitamin B6, pyridoxine: One of the larger subgroups of B vitamins. It is important in over 100 body functions but is most important in protein metabolism and brain development. It is a water soluble nutrient found naturally in many foods, such as fortified cereals, poultry, fish, dark leafy greens, oranges, and cantaloupe (31).

Folate, folic acid, Vitamin B9: Are different names for similar B vitamins. It is necessary in forming DNA and also important in cellular division. Found in foods: oranges, asparagus, broccoli, legumes, and fortified cereals.

Vitamin B12, cobalamin: An essential nutrient, needed in many body reactions, important in DNA synthesis and red blood cell formation. Vitamin B12 deficiencies are common in chronic illnesses and old age. It is found naturally in many foods such as meats, fish, dairy, and fortified products like cereals and milks (32).

Vitamin C: An essential nutrient that acts as a powerful water soluble antioxidant. It is found naturally in many fruits and vegetables and is involved in immune functions and tissue repair. Many fruits and vegetables are rich in Vitamin C: strawberries, oranges, kiwis, kale, tomatoes, and broccoli (33).

Vitamin D: A group of fat soluble compounds that increase the intestinal absorption of many key minerals, like magnesium, calcium, and phosphorus. Vitamins D2 and D3 are the most important to humans. They are essential for maintaining bone health because they promote the absorption of calcium. Besides UV rays, it is found naturally in some foods: tuna, salmon, egg yolks and added to others: dairy, orange juice, and cereals.

Vitamin E: A group of fat-soluble compounds with antioxidant properties. They are important in immune activities, as well as eyes and skin healing damage. Vitamin E (alpha-tocopherol) is the form that is most useful to us. It is found in many foods, but is most abundant in green leafy vegetables, almonds, sunflower seeds, peanuts, and spinach (34,35).

Vitamin K: A group of structurally similar, fat-soluble compounds that play a key role in blood clotting and bone metabolism. Vitamin K1 and K2 are the most abundant in our diet, but come from different sources. K1 is found in green leafy vegetables, whereas K2 is most abundant in butter, egg yolks, lard and animal based foods (36).

Vitamins & Minerals

Minerals important in Immune Health

Calcium: An essential chemical element that is particularly important for the growth of bones and teeth. Another essential electrolyte, magnesium works together with Calcium in a 2:1 ratio in bones and blood. It is found naturally in many foods such as dairy products, green leafy vegetables, fish, nuts and seeds (37).

Copper: An essential trace element that helps enzymes move energy in cells. Too much copper can be toxic and certain diseases such as Wilson's and Menkes' can affect the ability of the body to use copper. Many foods contain copper, including shellfish, whole grains, nuts, beans, dark leafy vegetables, animal liver, black pepper and yeast (37).

Iron: The most abundant chemical element on Earth. Iron is an essential component of hemoglobin (the molecule that carries Oxygen in red blood cells), and is therefore found in foods that have blood in them. This form is referred to as heme iron and is more easily absorbed than the non-heme iron found in some vegetables and legumes. It is found in meats such as beef, lamb, ham, turkey, veal, chicken, liver; in seafood like shrimp, clams, scallops, tuna, mackerel; and vegetables such as spinach, sweet potatoes, kale, collards, string beans, broccoli (38).

Magnesium: The fourth most abundant chemical element in your body, necessary for over 300 different physiological reactions. It can help reduce the effects of oxalates (found in many foods), which can sometimes exaggerate autoimmune symptoms in addition to inflammation. It is one of the four electrolytes that the body uses in large quantities for water management and blood pressure regulation. Magnesium deficiency is common in the chronically ill and the elderly, especially women. It is found in many foods including, cashews, dark chocolate, green leafy vegetables, salmon, and avocado (37).

Phosphorus: An essential element that forms the sugar-phosphate backbone of DNA and RNA. It plays a key role in the transfer of energy in cells during ATP synthesis and is key to proteins. It is found naturally in both plant and animal foods, but most easily used by our body when consumed from animal products. Animal products high in phosphorus include beef, ham, turkey, chicken, dairy products, fish, scallops. Plant products include sunflower seeds, whole grains, beans, and nuts (37).

Potassium: An essential element to life found in all cells in the body. It is important for maintaining fluid and electrolyte balance. Found in many fruits and vegetables, including bananas, oranges, cantaloupe, prunes, sweet potatoes, spinach, broccoli, and mushrooms. Certain foods can contain an above average amount such as coffee, nuts, sardines and chocolate (37).

Selenium: An essential trace element that must be obtained from diet. Evidence shows that it acts as an antioxidant and increases anti-inflammatory properties. It is also important in fertility and cognitive function and could potentially have anti-cancer effects. It is naturally found in certain foods but is most prevalent in some nuts and fish such as walnuts and tuna (37).

Sodium: Is essential to all living things. Although sodium is needed for many body functions, we often get too much sodium from our diet, which can contribute to high blood pressure. That being said, too little sodium can negatively affect the body as well. The FDA sets the upper daily intake at 2,300 milligrams. Sodium is found in high amounts in many processed, smoked, and canned foods (39).

Zinc: An essential trace element necessary in forming active sites for over 20 metallo-enzymes, which promote many biological reactions. It is important in immune function, blood clotting, and thyroid function. Zinc is found in higher amounts in beef, lamb, sunflower seeds and cheese (37).

Fibers, Fats, & Polyphenols

What is dietary fiber?

There are two types of fiber, soluble and insoluble. **Soluble fiber** can be digested, while **insoluble** cannot. Both are extremely important in digestion. Many fibers act as prebiotics, meaning even if we cannot digest them, our beneficial microbes can. Fiber that acts as prebiotics are important in promoting the growth of beneficial microbes, which are necessary for maintaining a healthy microbiome and therefore overall health. Learn more about fiber, pre- and probiotics in an age of antibiotics here!

As the name implies, you get dietary fiber from your diet (or at least you are supposed to). Processed foods remove most of the fiber to increase shelf life, so most people don't get enough fiber naturally from processed or fast foods.

High-fiber foods include vegetables, fruits, legumes, seeds, and nuts. You can also take supplemental fiber, like bran or psyllium husks, prebiotic pills or powder, mixed with foods or liquids to help ensure you are getting enough fiber intake. One of our favorite prebiotic supplements is from Hyperbiotics. Read more about their prebiotic powder here!

Let's talk about fat

Fats: are they good, bad, or both? For some time now, excessive fat intake has been considered a bad thing, but more recently the conversation has been about which types of fat can be bad instead of all fats in general. Fats are an essential macronutrient, meaning they are necessary for our body to function and we need to get them from our diet. They are an important source of energy, a key component in cell membranes and certain hormones.

There are three main types of fats: **triglycerides, phospholipids,** and **sterols**. Triglycerides are by far the most common and the only one of the three that are essential, meaning our body cannot create them. Phospholipids and sterols are important as well, but they are not essential because they can be created in our body.

Triglycerides are composed of one glycerol and three fatty acids. The glycerol molecule remains constant, but the fatty acids can change. The type of fatty acids that make up the triglycerides is how we determine whether a fat is good or bad.

Saturated vs. unsaturated fatty acids

Fatty acids are made up of carbons and hydrogens. There are two broad types of fatty acids that you are probably familiar with, saturated and unsaturated.

Saturated fatty acids are characterized by the maximum number of hydrogens per carbon, resulting in all single carbon-carbon bonds. The term saturated comes from the fact that the carbons are fully saturated with hydrogens. These saturated fats are chains that can stack easily and therefore are of solid composition at room temperature. Because of this, they are also harder to digest and are considered not as healthy in comparison.

Unsaturated fatty acids on the other hand are not fully saturated with hydrogens. They have at least one carbon-carbon double bond. Fatty acids with only one double bond are monounsaturated and ones with more than one double bond are polyunsaturated. The double bond is very important because it causes a kink or bend to form in the chain and therefore prevents the stacking of multiple fatty acids. This results in their liquid state at room temperature, making them easier to digest, which is better for your health.

What about trans fat?

In nature, unsaturated fat has a chemical structure that is called "cis" and has the "bulky groups" on the same sides, keeping them liquid at room temperature. Through a lab process called hydrogenation, we can artificially add hydrogens and therefore create a "trans" version of the unsaturated fatty acid that has the bulky groups on opposite sides. This "trans" conformation allows the fatty acids to stack easier, resulting in their solid state at room temperature. These products are used a lot in processed foods because they increase the stability of the products. Trans fat, although still considered an unsaturated fat, is not a natural fat and should be avoided.

Omega-3, Omega-6 & Omega-9 fatty acids

Remember that triglycerides have one glycerol molecule and three fatty acids. Triglycerides can be made of both essential and non-essential fatty acids. The carbon at the very end of the fatty acid chain is called the omega carbon. How far away the double bond is from the (omega) carbon end determines how we name it. Our body can only make fatty acids with the double bond on the 9th carbon onward. Therefore our body can only produce **Omega-9** fatty acids and so on. But we are unable to synthesize **Omega-3** and **Omega-6** fatty acids, making them essential. We must get these from our diet.

Due to the obesity epidemic, Omega-3 and Omega-6 fatty acids have gotten a lot of attention in relation to weight gain. Because of this, Omega-3 fatty acids have a good connotation and Omega-6 have a bad one. The takeaway on this point is not to eliminate all Omega-6 completely from the diet, but to get closer to a 1:1 ratio of consuming Omega-3 to Omega-6. Obesity has been linked to the increase of this ratio in typical diets to almost 20:1 in favor of Omega 6. While these are both still healthy fats, be mindful of your ratio of consumption (40).

Fats important in Immune Health

Omega-3 FA: Polyunsaturated fatty acids that have immune benefits by acting as anti-inflammatories (41). They are found in fatty fish such as salmon and mackerel, as well as many nuts, seeds and oils like walnuts, flax seeds, chia seeds, olive oil and avocado oil. Some vegetables have them as well, such as brussel sprouts and basil.

Omega-6 FA: Polyunsaturated fatty acids that help lower cholesterol and support healthy skin. They are found in many foods such as meats, seafood and vegetables.
Meats: beef, lamb, ham, turkey, veal, chicken, liver.
Seafood: shrimp, clams, scallops, tuna, Mackerel.
Vegetables: spinach, sweet potatoes, kale, collards, string beans, broccoli.

Omega-9 FA: Oleic acid is the most common form of Omega-9 fatty acids. This is a monounsaturated fatty acid that has important anti-inflammatory functions. Unlike Omega-6 and Omega-3, they are not essential, and can be made in the body. They can be obtained easily from the diet as well, found in many oils, nuts, dairy and meats.

In summary, as long as we don't over consume fats, certain fats are not only beneficial but also essential to our bodies. These essential fats are those rich in Omega-3 and Omega-6 fatty acids because we cannot produce them in our bodies they must be obtained from our diet. While essential fats are imperative, saturated and trans fats should be avoided as much as possible, as these are considered unhealthy fats.

Fibers, Fats, & Polyphenols

What are Polyphenols?

Polyphenols are a subgroup of a large and broad category of plant chemicals called phytochemicals. There are many types of phytochemicals such as phytoesters, terpenes, and polyphenols. We are going to zoom into polyphenols. Within the group of polyphenols there are also multiple subgroups, but let's focus on the Flavonoids and Lignans (sometimes referred to as non-flavonoids).

Phytochemicals → Polyphenols → Lignans
→ Flavonoids
→ Beta-carotene
→ Curcumin
→ Anthocyanins

Polyphenols important in Immune Health

Flavonoid Polyphenols:

Curcumin: Is a yellow-pigmented chemical that acts as a powerful antioxidant and anti-inflammatory. It may even hold anti-tumoral properties as well and is the main active substance in turmeric (42).

Beta-carotene: Is an orange-pigmented chemical that our body can convert into vitamin A. This is important because vitamin A is a key nutrient in many body functions in addition to having an important role in immune health (43). It can be found naturally in many fruits and vegetables such as cantaloupe, apricots, sweet potatoes, carrots, squash and green leafy vegetables.

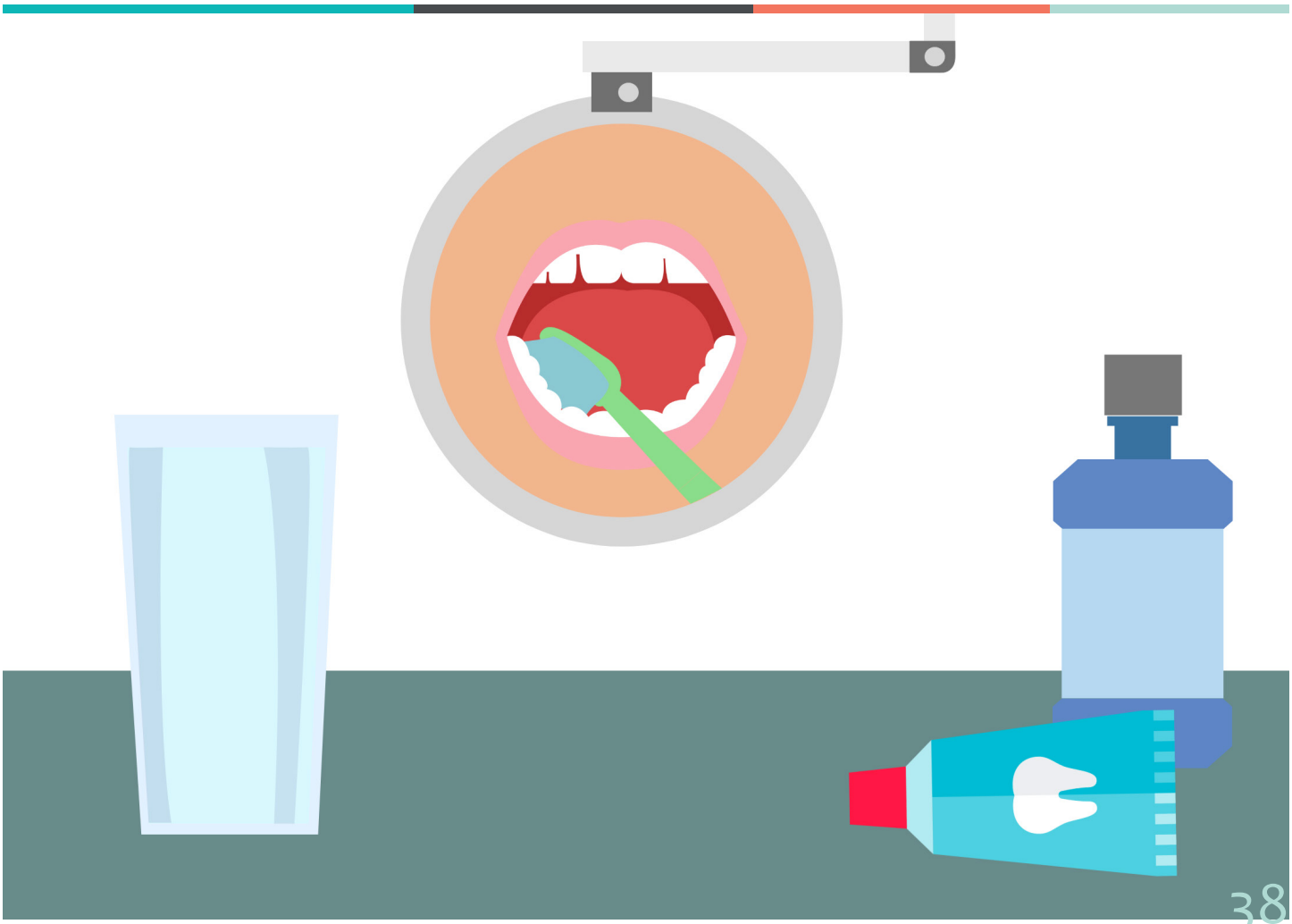
Anthocyanins: Are blue, red or violet flavonoid pigments that interact with other phytochemicals and can have complex reactions that are believed to be important in human health (44). It is found in many fruits, particularly berries such as pomegranates, blueberries and cherries. It is also found in some vegetables including eggplant, red cabbage and radishes.

Lignans/ Non-flavonoids Polyphenols:

Lignans: Are a type of polyphenol found in plant-based foods such as legumes, vegetables, fruits, seeds and nuts. They are organic chemicals that are made up of more than 500 micronutrients, act as phytoestrogens and can help mediate immune function and decrease inflammation by acting as a strong antioxidant (45). There has also been some research describing it as having anti-tumoral and anti-diabetic properties (46). While lignans are most abundant in flax seeds, they are also found in lower amounts in whole grains, other seeds, legumes, apricots, berries and peaches.

This concludes part 3 of the ebook. We hope this information eases your journey through navigating the massive world of food and nutrition. Remember, don't get discouraged if you haven't found your optimal diet yet. As CEO, continue to fearlessly experiment with food and listen to your body!

Part 4:
Tips for Oral Health



The Oral Microbiome

Recall that the **oral microbiome** is:

- A community of oral bacteria, happiest when species diversity is low.
- Affected by the food you eat, what you drink, oral hygiene, and is crucial in maintaining oral health.

New understanding of the oral microbiome is shaping how we think about dental caries, periodontal and systemic diseases. While the traditional view held that these diseases were caused by a small number of pathogens, we now consider the oral microbiome to be a finely tuned ecosystem, a balanced (or unbalanced) community of microorganisms that mediates not only oral health and disease, but also some systemic diseases (4).

So far, three pathways that link oral infections to secondary systemic effects have been proposed:

1. Metastatic Infection: Transient bacteria from oral infection or dental procedures can gain entrance into the blood and circulate throughout the body. Such disseminated microorganisms may find favorable conditions, settle at a given site and after a certain time lag, start to multiply, colonize, and infect.

2. Metastatic Injury: Certain bacteria can produce toxins that, when excreted or introduced into a host body, trigger tissue damage, trigger an immune response or produce other pathological manifestations.

3. Metastatic Inflammation: Soluble molecules that enter the bloodstream may react with circulating antibodies to produce large complexes that give rise to acute and chronic inflammatory reactions (47).

A number of autoimmune diseases have been linked to multiple pathogenic factors, including genetic susceptibilities, environmental triggers and dysregulated immune responses. Dysregulated immune responses may involve over-activated B-cells stimulated by toll-like receptors (TLRs), pattern recognition receptors (PRRs) that have evolved to detect proteins on or secreted by pathogens, production of various autoantibodies to nuclear and cytoplasmic autoantigens, and the presence of anti-citrullinated protein antibodies (ACPA) (48,49). Such dysregulated immune responses can trigger progressive inflammation of certain tissues that manifests in particular autoimmune diseases such as Sjogren's syndrome, Systemic Lupus Erythematosus, and Rheumatoid Arthritis.

If you want to read more on the topic click here!

Balancing Your Oral Microbiome

After reading all about how oral dysbiosis can lead to systemic diseases, you may be wondering: "How do I balance my oral microbiome and how can I keep it balanced?"

We've done a lot of research in addition to personally experimenting with different options. Here are some tips to maintain long lasting oral health!

Avoid the chemicals

This may seem obvious, but what most people don't realize is that some chemicals are hiding in everyday products. These products include popular brands of toothpaste and mouthwash that may contain the following chemicals that you should try to avoid.

Triclosan: A broad spectrum antimicrobial agent. This chemical is added to many consumer products to reduce or prevent bacterial contamination. Recent studies have shown that TCS may have endocrine disrupting effects. TCS was recently banned by the FDA, but only from certain soap products. The chemical still remains in many other consumer products such as toothpaste (50,51).

Diethanolamine (DEA): is typically used as a foaming agent in toothpastes. The Environmental Working Group (EWG) rates DEA as a 10 on its hazardous scale (52). Not only is DEA a hormone disruptor, but it also reacts with other toothpaste ingredients to form nitrosamines— a compound that is a widely-accepted carcinogen.

Fluoride: The debate on whether or not fluoride is beneficial or harmful to oral health has been ongoing in the dental community for years now. Fluoride has been championed as the key ingredient for 'fighting cavities' even before the 1940's when the United States began to fluoridate water supplies. However, recent research has raised concern over fluoride as a potential risk for cancer and impaired brain development (53, 54, 55).

While these studies have not yet found any definitive links between fluoride, cancer, and impaired brain development, they do all conclude that fluoride is safe and effective in appropriate amounts.

Our individual susceptibilities to dental caries differ; those who are more cavity-prone or those with weak enamel may consider the risk tradeoffs of fluoridated toothpaste worthwhile, whereas those with little susceptibility to caries and especially those with chronic inflammatory conditions or high cancer risk may choose to eschew fluoride.

Then why is fluoride on our list of chemicals to avoid?

In the United States fluoride levels in the water supply differs greatly from state to state, or even from municipality to municipality, depending on the occurrence of natural minerals in the water supply and supplemental fluoride added (along with chlorine and chloramines) as part of sanitary water treatment. This means that, in some locales, you may be drinking fluoride every day, and fluoridated water is used for showering, watering crops, or added to multivitamins. While safety regulations ensure that there are no health risks for water fluoridation, these regulations do not take into account fluoride accumulation from the food we eat, the toothpaste we use, and the vitamins we take. We are already getting enough fluoride from other sources besides oral care products. So it is best to play it safe and try out some natural, fluoride-free toothpastes altogether. This suggestion, though based on the lack of substantial research, takes into account the additive intake of fluoride.

Balancing Your Oral Microbiome

A toothpaste brand we recommend…
Hyperbiotics' Activated Charcoal Probiotics Toothpaste emphasizes the use of natural ingredients that work cohesively with the innate defenses of the oral microbiome. The toothpaste's formula contains activated charcoal and coconut oil to polish and whiten teeth and diatomaceous earth as a source of calcium to strengthen teeth. The formula uses xylitol– a natural sweetener originally discovered in birch tree bark. Unlike sugar, xylitol can't be fermented by pathogenic bacteria and starves them out of the oral microbiome (56).

Use probiotics & prebiotics

Probiotics: Previously, broad-spectrum antibiotics were used to eliminate harmful microflora. The problem is that many symbiotic and commensal bacteria that actually promote health are also killed by these treatments, creating dysbiosis– an imbalanced microbiome that triggers many symptoms. This is where probiotics are different. Probiotic products from companies such as Hyperbiotics and BLIS Technologies incorporate bacterial strains *Streptococcus salivarius K12* and *S. salivarius M18* in their formulas. These species minimize disruption within the oral microbiome, while targeting particular bacterial species associated with oral disease. Research has shown that oral probiotics can address common oral problems such as halitosis (bad breath), dental caries, periodontal disease, and even ear, nose, and throat issues.

Prebiotics: Prebiotics are nutritional non-digestible molecules (mostly fiber carbohydrates) that actively promote the growth of resident microbiota (57). They do this by acting as food for our beneficial bacteria, supporting their growth, while hindering the growth of pathogenic bacteria. If you are interested in trying out prebiotics, we recommend Daily Dental Care. Daily Dental Care's product utilizes advanced Selective Microbial Metabolism Regulation Technology (SMMRT) developed by founder Dr. Emily Stein. Research conducted on their prebiotic formula has been been shown to address the microbes that cause issues such as inflammation, cavities, gum disease, and bad breath.

Drink well & eat well

As you already know, what you eat and drink heavily affects your oral microbiome. Certain foods and drinks can help promote a healthy balance or encourage mouth dysbiosis. So what to do…

Water, yes! Soda, no!
Water helps to normalize the pH of your mouth– if you can remember from middle school science, the pH scale runs from 0-14 with neutral hovering close to 7, acids falling on the lower end and bases hitting the upper end of the scale. Healthy human saliva has a pH of 7.4. When you eat acidic foods and beverages such as soda, fruit juices, and sugary processed foods, your oral pH is thrown out of balance. When the pH in our mouth falls below 5.5, demineralization can occur. This, in turn, can create dysbiosis in your mouth and makes you more susceptible to oral diseases such as dental caries and periodontal disease. Drinking plenty of water throughout your day can help maintain a healthy mouth pH. Drink water alongside all meals, snacks, and even when you are drinking other things such as tea or coffee, to keep your mouth happy!

Balancing Your Oral Microbiome

Food: What to eat

In addition to all the antioxidant and anti-inflammatory food we talked about in part 2, there are also alkaline foods (alkaline is another word for basic), which can help balance the mouth and keep it from getting too acidic!

Based upon The Mouth Body Connection, by Dr. Gerald P. Curatola, DDS.

Some highly alkaline foods to eat:

- Himalayan salt
- Cucumber
- Kale
- Kelp and sea vegetables
- Spinach
- Parsley
- Broccoli
- Sprouts
- Green drinks containing some or more of these foods

Food: How to eat it

Chewing your food thoroughly and slowly is the first and easiest step to mindful eating. It is recommended to chew each bite about 15-20 times before swallowing. Challenge yourself, count your bites when you eat and see how off target you may be, and then work on it! By chewing your food, you engage your jaw muscles and activate your robust oral microbiome, which we already know is so important in oral health!

This concludes part 4 of the ebook. Remember, oral care is so much more than straight teeth. The connections between the mouth and systemic health and disease reveal the need to practice proper oral care that goes beyond cleaning out all the bacteria in the oral cavity and instead, finding ways to nourish the beneficial bacteria that support microbial balance and overall well being.

Conclusion

Take charge!

Remember, as CEO, you have the power! You now have a lot of tools to experiment with and customize your own tool kit to achieve your health goals! Get organized and educated, experiment with different movement and food therapies, and don't forget about your mouth!

Fearlessly experiment

If there is one takeaway from this guide, it is the importance of being a fearless experimenter. By keeping an open mind and trying new movement therapies, diets, and products, you can find your positive patterns to work towards your best health. Just remember, you are never alone on your journey and can always find a supportive community at Your Autoimmunity Connection!

Pay it forward

If you found this guide helpful for navigating the complex world of digital health, alternative therapies, nutrition, oral health, and autoimmunity, pass the resources along to your friends, family or community! We want to spread the knowledge surrounding these topics, to help people harness their resources to alleviate their symptoms. Let's work together to create a legacy of health for not only autoimmune patients today, but also all future generations!

References

1. People Are Not as Alike as Scientists Once Thought | Understanding Genetics. https://genetics.thetech.org/original_news/news38.

2. Quintero-Ronderos, Paula, and Gladis Montoya-Ortiz. "Epigenetics and Autoimmune Disease" Autoimmune Diseases, 2012, doi: 10.1155/2012/593720.

3. Sender, Ron, et al. "Revised Estimates for the Number of Human and Bacteria Cells in the Body." PLoS Biology, vol. 14, no. 8, Aug. 2016. PubMed Central, doi: 10.1371/journal.pbio.1002533.

4. Zhang, Xuan, et al. "The Oral and Gut Microbiomes Are Perturbed in Rheumatoid Arthritis and Partly Normalized after Treatment." Nature Medicine, vol. 21, no. 8, 2015, pp. 895–905., doi:10.1038/nm.3914.

5. Roman, D. H. et al. "The Digital Revolution comes to US Healthcare (5th ed., Internet of Things)". Goldman Sachs Investment Research. (2015). <http://massdigitalhealth.org/digital-revolution-comes-us-healthcare>.

6. Stojanovich, Ljudmila et al. "Stress as a trigger of autoimmune disease." Autoimmunity Reviews. Elsevier. Jan 2008.

7. Twal, Waleed O., Amy E. Wahlquist, and Sundaravadivel Balasubramanian. "Yogic Breathing When Compared to Attention Control Reduces the Levels of pro-Inflammatory Biomarkers in Saliva: A Pilot Randomized Controlled Trial." BMC Complementary and Alternative Medicine 16 (2016): 294. PMC. Web. 20 Nov. 2017.

8. Schleip, Robert et al. "Training principles for fascial connective tissues: Scientific foundation and suggested practical applications." Journal of Bodywork and Movement Therapies. Jan 2013.

9. "Flexibility: Stretch your way to better health." The Mayo Clinic Diet. Mayo Foundation for Medical Education and Research.

10. García-Sesnich, Jocelyn N et al. "Longitudinal and Immediate Effect of Kundalini Yoga on Salivary Levels of Cortisol and Activity of Alpha-Amylase and Its Effect on Perceived Stress." International Journal of Yoga10.2 (2017): 73–80. PMC. Web

11. Hewett, Zoe L. et al. "The Effects of Bikram Yoga on Health: Critical Review and Clinical Trial Recommendations." Evidence-based Complementary and Alternative Medicine : eCAM 2015 (2015): 428427. PMC. Web.

12. Mayo Health Clinic Staff. "Tai Chi: A Gentle Way to Fight Stress." Mayo Health Clinic. Mayo Foundation for Medical Education and Research (MFMER). "The Health Benefits of Tai Chi." Harvard Health Publishing. Harvard Medical School. December 2015.

13. Wang, Chong-Wen et al. "Managing Stress and Anxiety through Qigong Exercise in Healthy Adults: A Systematic Review and Meta-Analysis of Randomized Controlled Trials." BMC Complementary and Alternative Medicine14 (2014): 8. PMC. Web. 15 May 2018.

14. Denninger, John. Lazar, Sara. Vago, David. "Now and Zen: How Mindfulness can Change Your Brain and Improve Your Health." The Longwood Seminars at Harvard Medical School. Harvard Medical School.

References

15. Jahnke, Roger et al. "A Comprehensive Review of Health Benefits of Qigong and Tai Chi." American journal of health promotion : AJHP 24.6 (2010): e1–e25. PMC. Web. 15 May 2018.

16. Hillier, Susan, and Anthea Worley. "The Effectiveness of the Feldenkrais Method: A Systematic Review of the Evidence." Evidence-based Complementary and Alternative Medicine : eCAM 2015 (2015): 752160. PMC. Web. 15 May 2018.

17. Robert Webb, Luis Eduardo Cofré Lizama, and Mary P. Galea, "Moving with Ease: Feldenkrais Method Classes for People with Osteoarthritis," Evidence-Based Complementary and Alternative Medicine, vol. 2013, Article ID 479142, 12 pages, 2013.

18. Paolucci, Teresa. "Improved interoceptive awareness in chronic low back pain: a comparison of Back school versus Feldenkrais method." Disability and Rehabilitation. Pub Med. May 2017.

19. Seo, Kook-Eun, and Tae-Jin Park. "Effects of Gyrokinesis Exercise on the Gait Pattern of Female Patients with Chronic Low Back Pain." Journal of Physical Therapy Science 28.2 (2016): 511–514. PMC. Web. 15 May 2018.

20. "What is Gluten?" Celiac Disease Foundation. https://celiac.org/live-gluten-free/glutenfreediet/what-is-gluten/.

21. "A Brief History of the Gluten-Free Diet: Where Do We Stand?" CeliAct. https://celiact.com/blogs/the-celiact-blog/a-brief-history-of-the-gluten-free-diet-where-do-we-stand .

22. "The Origins of Celiac Disease: Willem-Karel Dicke: Pioneer in Gluten-free Diet in the Treatment of Celiac Disease." https://www.celiac.com/articles.html/the-origins-of-celiac-disease/willem-karel-dicke-pioneer-in-gluten-free-diet-in-the-treatment-of-celiac-disease-r1601/ .

23. "The Development of Agriculture." National Geographic. https://genographic.nationalgeographic.com/development-of-agriculture/ .

24. "Hunter Gatherers." History. https://www.history.com/topics/hunter-gatherers.

25. "Autoimmune Diets: SCD vs. GAPS vs. AIP." Empowered Sustenance. 2012. https://empoweredsustenance.com/scd-vs-gaps-which-is-right-for-you/.

26. Kakodkar, Samir et al. "The Specific Carbohydrate Diet for Inflammatory Bowel Disease: A Case Series." Journal of the Academy of Nutrition and Dietetics. Vol 115. 1226-1232. 2015. https://www.sciencedirect.com/science/article/pii/S2212267215005043 .

27. "Anti-inflammatory Diet: Road to Good Health?" WebMD. https://www.webmd.com/diet/anti-inflammatory-diet-road-to-good-health#.

28. Palanisamy Arulselvan et al. "Role of Antioxidants and Natural Products in Inflammation." Oxidative Medicine and Cellular Longevity. Vol. 2016. 2016. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5075620/

References

29. Health Information. "Vitamin A." National Institutes of Health: Office of Dietary Supplements. 2018. https://ods.od.nih.gov/factsheets/VitaminA-HealthProfessional/

30. The Nutrition Source. "Three of the B Vitamins: Folate, Vitamin B6, and Vitamin B12." Harvard T.H. Chan. School of Public Health. 2018. https://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/vitamins/vitamin-b/

31. Health Information. "Vitamin B6." National Institutes of Health: Office of Dietary Supplements. 2018. https://ods.od.nih.gov/factsheets/VitaminB6-HealthProfessional/

32. Fenech, M. "Folate (vitamin B9) and vitamin B12 and their function in the maintenance of nuclear and mitochondrial genome integrity." Mutation Research. Vol 2011.11. 2012. https://www.ncbi.nlm.nih.gov/pubmed/22093367

33. Padayatty, S et al. "Vitamin C as an Antioxidant: Evaluation of Its Role in Disease Prevention." Journal of the American College of Nutrition. Vol. 22:1. 2003. https://www.tandfonline.com/doi/abs/10.1080/07315724.2003.10719272

34. Health Information. "Vitamin E." National Institutes of Health: Office of Dietary Supplements. 2018. https://ods.od.nih.gov/factsheets/VitaminE-HealthProfessional/

35. Medical Encyclopedia. "Vitamin E." US National Library of Medicine, MedlinePlus. 2018. https://medlineplus.gov/ency/article/002406.htm

36. Schwalfenberg, G. "Vitamins K1 and K2: The Emerging Group of Vitamins Required for Human Health." Journal of Nutrition and Metabolism. Vol 2017. 2017. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5494092/

37. "Periodic Table." The Royal Society of Chemistry. 2018. http://www.rsc.org/periodic-table

38. "Iron Rich Foods." American Red Cross. 2018. https://www.redcrossblood.org/donate-blood/blood-donation-process/before-during-after/iron-blood-donation/iron-rich-foods.html

39. For Consumers. "Lowering Salt in Your Diet." U.S. Department of Health and Human Services: U.S. Food and Drug Administration. 2018. https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm181577.htm

40. Simopoulos, Artemis. "An Increase in the Omega-6/Omega-3 Fatty Acid Ratio Increases the Risk for Obesity." Nutrients. Vol. 8(3). 2016. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4808858/

41. Wall, Rebecca et al. "Fatty acids from fish: the anti-inflammatory potential of long-chain omega-3 fatty acids." Nutrition Reviews. Vol.68(5). 2010. https://academic.oup.com/nutritionreviews/article-abstract/68/5/280/1829259

42. Aggarwal, Bharat, Harikumar, Kuzhuvelil. "Potential therapeutic effects of curcumin, the anti-inflammatory agent, against neurodegenerative, cardiovascular, pulmonary, metabolic, autoimmune and neoplastic diseases." The International Journal of Biochemistry & Cell Biology." Vol 41(1). 2009. https://www.sciencedirect.com/science/article/pii/S1357272508002550

43. Burton, GW, Ingold, KU. "Beta-Carotene: an unusual type of lipid antioxidant." Science. Vol 224(4649). 1984.

References

44. Stintzing, Florian et al. "Color and Antioxidant Properties of Cyanidin-Based Anthocyanin Pigments." Journal of Agricultural and Food Chemistry." Vol 50(21). 2002. https://pubs.acs.org/doi/abs/10.1021/jf0204811

45. Eklund, Patrik et al. "Chemical studies on antioxidant mechanisms and free radical scavenging properties of lignans." Organic & Biomolecular Chemistry. Vol 2005(18). 2005. https://pubs.rsc.org/en/content/articlelanding/2005/ob/b506739a/unauth#!divAbstract

46. Takasaki, Midori et al. "Anti-tumor-promoting activity of lignans from the aerial part of Saussurea medusa." Cancer Letters. Vol 158(1). 2000. https://www.sciencedirect.com/science/article/pii/S0304383500004997

47. Babu, Nchaitanya, and Andreajoan Gomes. "Systemic Manifestations of Oral Diseases." Journal of Oral and Maxillofacial Pathology, vol. 15, no. 2, 2011, pp. 144–147., doi:10.4103/0973-029x.84477.

48. Nikitakis, Ng, et al. "The Autoimmunity-Oral Microbiome Connection." Oral Diseases, vol. 23, no. 7, 2016, pp. 828–839., doi:10.1111/odi.12589.

49. Browne, Edward P. "Regulation of B-Cell Responses by Toll-like Receptors." Immunology, vol. 136, no. 4, Feb. 2012, pp. 370–379., doi:10.1111/j.1365-2567.2012.03587.x.

50. Feng, Yixing, et al. "Endocrine Disrupting Effects of Triclosan on the Placenta in Pregnant Rats." PLOS ONE, vol. 11, no. 5, 5 May 2016, doi:10.1371/journal.pone.0154758.

51. Weatherly, Lisa M, and Julie A Gosse. "Triclosan Exposure, Transformation, and Human Health Effects." Journal Toxicology and Environmental Health, vol. 20, no. 8, 2017, doi:10.1080/10937404.2017.1399306.
52. "NITROSAMINES." EWG Tap Water Database, www.ewg.org/skindeep/ingredient/726336/NITROSAMINES/.

53. Levy, Michael, and Bernard-Simon Leclerc. "Fluoride in Drinking Water and Osteosarcoma Incidence Rates in the Continental United States among Children and Adolescents." Cancer Epidemiology, vol. 36, no. 2, 2012, doi:10.1016/j.canep.2011.11.008.

54. Mahoney, M C, et al. "Bone Cancer Incidence Rates in New York State: Time Trends and Fluoridated Drinking Water." American Journal of Public Health, vol. 81, no. 4, 1991, pp. 475–479., doi:10.2105/ajph.81.4.475.

55. Choi, Anna L., et al. "Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis." Environmental Health Perspectives, vol. 120, no. 10, 2012, pp. 1362–1368., doi:10.1289/ehp.1104912.

56. Miyasawa-Hori, H., et al. "Difference in the Xylitol Sensitivity of Acid Production among Streptococcus Mutans Strains, and Its Biochemical Mechanism." International Congress Series, vol. 21, no. 4, 2006, pp. 187–188., doi:10.1016/j.ics.2005.06.049.

57. Marsh, Philip D. "Ecological Events in Oral Health and Disease: New Opportunities for Prevention and Disease Control?" CDA Journal, vol. 45, no. 10, Oct. 2017.

1 Month Calendar to Health

WEEK 01

MONDAY

Understanding Your Disease

- Know the symptoms
- Connect with resources

FIND YOUR DISEASE SPOTLIGHT HERE

TUESDAY

Organize Your Health Records

- Acquire records from health providers & doctors

WEDNESDAY

Build a Personal Health Record (PHR)

- Combine health records in a format that is best for you
- Physical files vs. digital

BUILD A DIGITAL PHR

THURSDAY

Get to Know Your Unique Genes

- Better understand what makes you... well, you!

GET ORGANIZED

GET EDUCATED

FRIDAY

Utilize Digital Tools

- Technological advances are making it easier to gather & share information & create new knowledge about autoimmune disease.

DISCOVER DIGITAL

SATURDAY

Trust Your Gut

- Your gut microbiome plays a bigger role in disease than you may think.

SUNDAY

Find an Online Community

- Join a Facebook page to find patients just like you!

You Are Not Alone ♥

NOTES

Discover how to be the CEO of your own health by downloading our free

PATIENT GUIDE EBOOK

WEEK 02

MONDAY

Know Your Exercise Options

- From Tai chi to Yoga to Pilates...get to know the range of benefits

DISCOVER MOVEMENT THERAPIES

TUESDAY

Center Yourself with Yoga Therapy

- Regain balance in your daily life – good for the mind, body & soul

WEDNESDAY

Experiment with Gyrotonics

- Gyrotonic integrates elements of dance, gymnastics, swimming, yoga, and Tai Chi.

LEARN MORE ABOUT GYROTONIC

THURSDAY

Feel it Out with Feldenkrais

- Feldenkrais aims to improve self-awareness of the way our bodies move.

GET MOVING WITH

MOVEMENT THERAPY

FRIDAY

Breathe... It's Friday

- Take 15 minutes in your day to sit someplace quiet and focus on your breath.

SATURDAY

Give Tai Chi a Try

- Reduce stress and learn some martial arts with this low-impact exercise.
- Meditation in motion

WHY TO TRY TAI CHI

SUNDAY

Create a Routine Workout Plan

NOTES

Experiment with these movement therapies to find the exercise that is best for **YOU,** based on your conditions and your capabilities.

MOVEMENT THERAPY EBOOK

1 Month Calendar to Health

WEEK 03

EXPERIMENT WITH FOOD

MONDAY

Food is Medicine

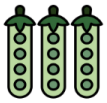
- Keep track of what you eat with a food diary.

EXERCISE ~1 HOUR

TUESDAY

Use Tech to Personalize Food Therapy

- Experiment with food apps.



WEDNESDAY

Discover Foods For You

- Some foods are better for your disease symptoms than others.

FIND YOUR DISEASE FOOD SPOTLIGHT HERE

EXERCISE ~1 HOUR

THURSDAY

Support Your Gut Microbiome

- Try out a supplement or probiotic to aid digestion.

FRIDAY

Know the Superfoods

- Experiment cooking with foods that boost your immune system.

8 IMMUNE BOOSTING FOODS

EXERCISE ~1 HOUR

SATURDAY

Try a New Recipe

- Reduce inflammation with a delicious meal.

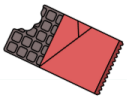
TURMERIC RECIPES

EXERCISE ~1 HOUR

SUNDAY

Treat Yo'self

- Paleo Date Pumpkin Bars
- Mango Coconut Turmeric Cupcakes



NOTES

Learn more on how to alleviate disease suffering through food therapy by downloading our free

FOOD THERAPY EBOOK

WEEK 04

TAKING CARE OF YOUR MOUTH

MONDAY

Get to Know Your Oral Microbiome

- Your mouth is filled with 700 different species of bacteria...

WHY THE MICROBES MATTER

EXERCISE ~1 HOUR

TUESDAY

Out with the Chemicals

- Many popular brands of toothpaste and mouthwash contain harmful chemicals.

CHEMICALS TO AVOID

WEDNESDAY

It's All About Balance

- When it comes to good oral health, it is more important to balance the oral microbes than eliminate all of them.

EXERCISE ~1 HOUR

THURSDAY

Try an Oral Probiotic

- Maintain proper balance in the oral microbiome through probiotics.

FRIDAY

Food for Thought

- Go for greens & minimize intake of acidic foods.

FOODS TO EAT FOR BETTER ORAL HEALTH

EXERCISE ~1 HOUR

SATURDAY

A Few Other Tips

- There is no one thing that works for everyone, but here are some things to try:

7 MUST DO'S WITH AN AUTOIMMUNE DISEASE

EXERCISE ~1 HOUR

SUNDAY

Find What Works Best For You

- Build a routine or a weekly plan based on what has worked best for you.

NOTES

Be patient with yourself. Not everyday will be a good day, and that's okay.

Trust in the methods that work best for you.

You Are a Warrior