



Received: 22-08-2026
Accepted: 02-10-2026

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Home Alone 2020: A First-Person Case Study on Surviving Modern Pandemics and their Aftermath of Illnesses

Sharleen A Harty

Swedenborg Library, Chicago, United States

Corresponding Author: Sharleen A Harty

Abstract

Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) and long COVID share symptoms, and both may involve reactivated or persistent viruses, yet patients are often slow to be diagnosed and/or believed. This first-person case study reports my path (2010 to 2026), drawn from my own health records, laboratory results and HOME ALONE written during the 2020 COVID-19 lockdown. After a polio booster (2010) and exposure to pathogens abroad (2011-2013), I developed ME/CFS with an off-the-charts Epstein-Barr virus (EBV) load, declined to very severe illness, and was close to death in May 2017. Four years of Western treatment, including valacyclovir (Valtrex), did not lower my viral loads. Weekly acupuncture and Chinese Medicine (2018-2019) coincided with a return from bedridden to

dancing, next to my bed. From July 2019 on, I added Lomatium dissectum, a Native American plant remedy, and the EBV load fell from over 600 to normal in three months and to zero, with antibodies, in six months. Other protocols were stem cell phototherapy patches, concentrated oxygen and xylitol nasal spray. I did not contract COVID-19 during the 2020 extended lockdowns, but I did succumb in June 2022. Because several protocols were used together, none can be credited alone, and the evidence for most of them is limited to laboratory studies and personal experience. Viral reactivation (along with other pathogens) deserves testing in ME/CFS and long COVID. This study offers questions for controlled research alongside an urgent need for pandemic preparedness, especially during Climate Change.

Keywords: ME/CFS/Long COVID, Epstein-Barr Virus (EBV), Lomatium Dissectum, Traditional Chinese Medicine (TCM), Climate Change, Pandemic Preparedness

1. Introduction

In the beginning: An archbishop from South Africa shared words of wisdom with me in 2019 that still comfort me in times of trouble: “Only two things bring about transformation: great love or great suffering.” This case study is about the latter, and about the people, remedies and intense research that helped sustain life. My healing journey began, against all odds, at the end of 2017. For years I had (unknowingly) been ill with two reactivated viral infections: Epstein-Barr virus (EBV), which most people carry for life. I later came to believe my “mumps” was an atypical form of polio that I caught at the University of Cape Town (UCT) while studying for finals ^[1, 2]. Anecdotally, I was told by doctors that many of them can no longer identify and diagnose viruses that have been “prevented” by vaccines. The polio vaccines covered only the three known poliovirus types, but about a hundred other enteroviruses exist, some of which also cause paralysis ^[1].

Chinese Medical Practitioner (CMP) highlights: I fired my Western doctors and set out to try acupuncture, or die with dignity. My first CMP, in Seattle, had extensive experience and results with his protocols. In a single session he diagnosed me with reactivated latent pathogens and was delighted that I was a “text book case.” I was too weak to commute to Seattle for treatment, so I also saw a second CMP weekly on Vashon Island, where I lived. It was this skilled and petite practitioner who brought me back to life. After six weeks of acupuncture I went, in my case, from being bedridden and dying to dancing. Previously any exercise was deadly. Dancing was not the end of it. I had to re-learn basic human functions like walking, because the viruses retained in my body had migrated everywhere. I was both physically and mentally fragile. *Dr. Lerner reported that in some patients the heart was also affected: abnormal heart wall motion on stress testing in about a quarter of one group, and cardiomyopathy on biopsy in three of them* ^[3]. Infectious disease specialist Dr. John Chia believes that many patients with chronic fatigue syndrome have ongoing viral infection which he describes as being “under the radar” i.e. the immune system does not seem to see it. This is a little bit like HIV infection, where the virus tucks itself away inside cells, again

so the immune system cannot 'see' it. [4] Weekly acupuncture over eighteen months revived me, but did not kill the viruses. I was still too weak to tolerate stronger herbs, other than Xue-Fu-Zhu-Yu-Tang. My Seattle CMP cautioned me to keep doing what I was doing until I was 110 percent better. Previously I had been too weak to brew a cup of herbs, and island retirees had run circles around me. After six months of weekly acupuncture I survived a short flight to a family reunion in Chicago and reported back: "I dance like a twenty year old, have the metabolism of a fifteen year old and the muscle tone of a nine year old." These improvements resembled what is claimed for stem cell patches, which made me suspect that acupuncture stimulates our own stem cells, which in turn trigger rejuvenation. That is a question, not a conclusion.

Arizona's dry heat, Lomatium, TCM, Patches, Oxygen: Weekly acupuncture gave me enough "chi," or electricity, to move to the dry desert town of Cottonwood, Arizona, near Sedona. There I exhaled in the Verde Valley, surrounded by mesas and Native American tribes. The new environment seemed to keep in check the mycotoxins, viruses, genetic pre-diabetes and creeping arthrosis, probably triggered by viruses. All had flared up after three years of global travel followed by the damp Pacific Northwest weather. In July 2019 a third CMP in Arizona spent three hours diagnosing me. She told me that if I did everything she suggested I would be well within two years. I began with Lomatium, a Native American anti-viral plant tincture, under her supervision and with the knowledge of my Arizona general practitioner. In my case, a lifelong EBV load, which had risen to off the charts at over 600, fell to normal (1 to 20) within three months and to negative (zero), with antibodies, within six months. Because I was also receiving Traditional Chinese Medicine (TCM) and Western medicine, I cannot say how much of that change was due to Lomatium alone. Other protocols definitely supported my recovery. Acupuncture helped me wean off competing Western medications whose side effects, for me, were worse than the viruses. They do not benefit if the host dies. Phototherapy stem cell patches placed on specific points or painful areas restored energy. Ninety minutes a day of concentrated oxygen over six months coincided with improvements in my pre-diabetes, allergies, arthrosis and breathing. I was recently diagnosed with a deviated septum that impacts eighty percent of people. This may have made mandatory pandemic mask-wearing genuinely difficult for them. Eighteen months in Arizona's dry desert sunshine worked wonders. I built strength and stamina by walking, dancing or swimming daily. The three CMPs who treated me, in Seattle, on Vashon Island and in Cottonwood, can attest to this recovery.

Western doctors, genetics and perfect timing: I have not been able to convince Western doctors, specialists or researchers to consider acupuncture and Chinese herbs, whose use goes back some 5,000 years, or a Native American remedy with a history of use that may reach back 15,000 years, but I continue to share the information. * DNA ancestry and health tests suggested that I may share a genetic vulnerability with Native Americans to viruses, diabetes, assorted allergies and food intolerances. It took six years of being homebound or bedridden, doing a massive amount of research and playing Russian roulette with doctors and specialists, to find the path out of this typical

ME/CFS nightmare. In the seventh year, armed with Lomatium, I faced a pandemic of epic proportions.

HOME ALONE 2020 written during lockdowns: During the COVID-19 lockdown I began to document how to survive pandemics, because disasters survived, plus time, transform into learning and adventures. I documented everything to share with family and friends scattered around the world, especially those in South Africa, who seemed at highest risk. There was no vaccine on the horizon. Doctors told me in private that they had not studied viruses in medical school and had been told not to prescribe antivirals. I was lucky to have been in a healing, dry desert environment in addition to six months on Lomatium. Thus I was strong enough to visit South African family in 2019 before COVID-19 caused lockdowns. I did not contract COVID-19 during the 2020 lockdown. Instead I wrote the first version of my book, before vaccines were available.

Why this case study?: This case study condenses HOME ALONE 2020. It tells my story as a single case, in my own voice, and sets alongside it the research that helped me make sense of my illness and my recovery. It is not medical advice. It describes what I did and what followed, and it points to questions that I hope others, including patients, researchers, scientists, doctors or specialists, will find worth investigating.

** DNA (deoxyribonucleic acid) is the fundamental molecule that carries the genetic instructions used in the growth, development, functioning, and reproduction of all known living organisms. It acts as a biological instruction manual or recipe book for your cells.*

2. Materials and Methods

Design: This is a single-person case study written in the first person, with a narrative review of related literature. I am both the subject and the author. It covers 2010 to 2026 because I continue to use daily protocols, even now, in order to stay healthy and travel abroad to visit family.

Sources: I drew on four kinds of source: my own experience and research; the laboratory results I was given, including Epstein-Barr viral load and antibody tests in 2019 plus COVID-19 antibodies in 2022; my 2020 book HOME ALONE 2020 (written during lockdowns and frequently updated with breaking news), from which this case study is condensed [5]; published studies, clinical guidance and news reports that I reviewed during my illness or confirmed while preparing this case study.

Checking claims: I did not carry out a systematic review. Where I rely on a manufacturer, a news report or another source that is not peer reviewed, the text says so. Wherever possible, I double checked claims about Lomatium against the original publications and data in my book.

Measures: The recovery measures described here (Chinese herbs, weekly acupuncture, Lomatium, phototherapy patches, concentrated oxygen, xylitol nasal spray and mild movement including physical therapy) were chosen by me and shared with my general practitioners. None was assigned by a study protocol. I report what I used and what followed, using the laboratory results above and my own observations, not a validated symptom scale.

Ethics and privacy: This case study describes my own experience. No other participants were involved. Other

people appear only in general terms, and I include no testimonials from other patients.

Limitations: This is one case, told in retrospect, with several measures used at the same time, no control and no blinding. It cannot show that any measure caused any change. I offer it to describe a lived course, to raise questions for controlled research, and to set one patient's successful experience beside the ever growing body of evidence since the pandemic. I do not claim that any measures I used would help others with long COVID or ME/CFS.

3. Results and Discussion

3.1 My illness before 2020

After three years of studying anthropology and teaching in South Africa and the Middle East, I returned to America in January 2014 and settled on Vashon Island in the Pacific Northwest. My dream was to work for the Bill and Melinda Gates Foundation in Seattle, so that I could live and work between Seattle and South Africa, my new and old homes. Instead, to my disbelief, physical and mental energy was cut in half each year from 2014 to 2018. Increasing body aches and pains came with it, first in my hands and feet. In hindsight, early symptoms had begun in 2011 to 2013: increasing fatigue and brain fog in Africa and the Middle East, with explosive diarrhea and projectile vomiting; an inability to climb stairs or dance in Greece, and apparent food poisoning in Turkey. My first diagnosis, which was incorrect, was rheumatoid or psoriatic arthritis, and then fibromyalgia or depression. It took me eighteen months of researching every symptom for my doctors to arrive at a full diagnosis of myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). A simple blood test showed an off-the-charts Epstein-Barr virus (*EBV, also known as glandular fever, mononucleosis, the kissing disease and yuppie flu*). There was no qualified ME/CFS doctor or specialist near me and my extended family was abroad, so I was on my own. When I asked whether I was contagious or infectious, I was told to keep the reactivated EBV diagnosis "under my hat," and that EBV is ubiquitous.

3.2 Confusing terminology

The name "chronic fatigue syndrome" (CFS) is widely considered misleading. Fatigue is a symptom of countless illnesses, and a label built around it can be given to people whose exhaustion has very different causes. I use ME/CFS in this case study because it is the diagnosis I was given and the term most of my sources use. I keep CFS in the name for a practical reason too: many people with long COVID have symptoms that look like ME/CFS, and a doctor quoted in 2020 said that COVID-19 was shining a light on this often ignored patient group [6]. In 2015 a US Institute of Medicine committee concluded that the term CFS is misunderstood and easily dismissed. They proposed renaming the illness systemic exertion intolerance disease, after its core feature, post-exertional malaise, a worsening of symptoms after exertion [7]. The new name was not widely adopted [8]. The older name, myalgic encephalomyelitis (ME), is itself disputed: the same committee judged it inappropriate, because muscle pain is not a core symptom and evidence of brain inflammation is inconclusive [7]. Dowsett has traced how the illness has been renamed again and again, the "*Disease of a Thousand Names*" [2], and Hyde calls it a fallacy that ME is just another name for CFS [1]. What the

sources agree on is that fatigue alone is not enough. In a 2001 study of 2,073 patients with prolonged fatigue, 97 percent of those who met the Fukuda criteria had post-exertional malaise [9, 10], and the 2021 NICE guideline requires it for a diagnosis of ME/CFS [11]. *This is very confusing for everyone*. A patient advocate, Colleen Steckel, interprets her understanding of both names in her Substack, based on extensive research [12, 13].

3.3 Four harmful years of Western medicine

Over four years of Western medicine I declined from moderate to very severe ME/CFS. I spent six months trying naturopathic medicine while researching antivirals. When I was finally approved to take Valtrex (valacyclovir) throughout 2016, my viral loads never dropped, and eight tablets a day (plus many other medications) made me very ill [14]. On May 26, 2017, I was at death's door. My body had begun to reject everything along with vital food and water. Struggling to breathe and swallow, I was told that I was abusing sleep aids and a suicide risk. No doctor would make a house call five minutes away. I could hardly leave my bed, let alone my condominium, so I updated my will, including funeral instructions. After emailing family and close friends, I unlocked the front door and waited in bed so that we could say our goodbyes. Thanks to the intervention of a few friends and family, I pulled through and limited future medications to three, only. With little or no fight left, I saw a Social Security Disability psychiatrist, increased or changed medications, saw more specialists, attended weekly doctor appointments and, most damaging of all for me, exercised. The pain I felt during exercise was, I now understand, a warning to stop overexertion. I was not alone in this: health agencies now warn that standard exercise recommendations for healthy people can be harmful for patients with ME/CFS [6]. *Top causes of death are: heart failure; suicides; mysterious cancers* [15]. The 2011 PACE Trial, a £5 million clinical trial, tested cognitive behavioural therapy and graded exercise therapy (GET) as treatments for "chronic fatigue syndrome" [16]. In October 2021 the UK's National Institute for Health and Care Excellence (NICE) published a new ME/CFS guideline stating that GET should not be offered [11]. For patients (especially children), the global priority was to avoid being hospitalized or institutionalized, often as mental patients or malingers. I would also point readers to the 2024 inquest into the death of Maeve Boothby O'Neill [17]. In April 2024 a US Senate committee put the number of Americans affected by long COVID at some 22 million [18].

3.4 Disability courts where the judge matters most

My first priority was Social Security Disability Insurance (SSDI), which I had paid into for three decades. It would expire soon due to my long illness and unemployment. I tried four times because it was critical. Without disability or terminal status I was denied property tax exemptions, in-home care, hospice or death with dignity, not to mention basic living expenses. As a result I spent down all my retirement savings. Per SSDI court requirements, I tried every Western medicine recommended by multiple doctors and specialists in Washington and Arizona, in spite of extreme exhaustion and pain. It is said that a good lawyer knows the law, but a great lawyer knows the judge. I was told I had only a five percent chance of success with a Washington judge versus seventy percent with an Arizona

judge. A day before America's January 6, 2021 Capitol riots, I endured a COVID-style court appearance by phone. The judge, the lawyer and the "witnesses" (a random doctor and work specialist) could not see that I was curled up on the floor, shivering under a blanket. That year I finally received a lump sum of back payments, minus twenty-five percent in legal fees. These funds dated from 2014, the year I first became disabled and unable to work. *Disability representation within the courts is a long, slow process so I started as soon as I had a diagnosis.* US Social Security Administration direct fee payments to representatives were about \$1.2 billion in 2019 (from SSA-funded research slides) [19].

3.5 ME/CFS research, while very ill, to educate doctors

In January 2018, utterly exhausted, I stumbled across the research of the Canadian physician Dr. Byron Hyde and the British microbiologist Dr. Elizabeth Dowsett [1, 2]. Hyde describes atypical polio, a disease of enteroviruses, as a cause of ME/CFS that is often misdiagnosed as mumps; it affects the nervous system above the brain stem, whereas paralytic polio does so below it. *Hyde estimates that more than twenty-five percent of ME/CFS is caused by atypical polio, and Dr. Martin Lerner estimated that another twenty-five percent or more is caused by EBV* [1, 14]. According to my reading, both men had personal experience of these illnesses, which may be why they researched them. I had what was called mumps in 1977 (at age 20), while at the University of Cape Town (UCT). Dowsett describes subacute thyroiditis, a virus-induced infection of the thyroid gland, as a common trigger of ME that is often misdiagnosed as mumps because of the pain it causes in the thyroid, jaw, ears, head and neck [20]. From this I concluded that I indeed had contracted atypical polio as well as reactivated EBV. The spread of viruses in schools and on campuses seems to be a common theme amongst ME/CFS patients: fluctuating grades, sudden dropouts and becoming bedridden soon follow. A documentary and movie released in 2017, *Unrest and Breathe*, highlighted the difference between two common types of ME/CFS [21, 22]. Watching them led me to crash badly in the winter of 2018. In earlier days a crash meant twenty hours of coma-like sleep each day, lasting one week. Now a crash meant projectile vomiting, liquid diarrhea and virtual paralysis for one week. Knowing that no doctor would make a home visit (they suggested an expensive concierge doctor), and that a helicopter ride, ferry ambulance or hospital stay might kill me, I managed alone. That meant waiting to see whether I could survive my body turning into cement once more. I organized everything in case I did not.

3.6 Surviving in a dark, quiet, cold, damp environment

Life required round-the-clock dark, quiet and cold 24/7 to counteract inflammation, breathe and rest, but sleep was eventually only thirty minutes to two hours per day. On the small, rural island of Vashon, twenty minutes from Seattle by ferry, I could not get oxygen approved for the summer months. Ironically, island veterinarians stored it for their animal patients. I used ice packs and fans on either side of the bed, blowing on damp pajamas (a tip that is also useful during global warming). My family suggested a simpler solution: an air conditioner set at 62°F, day and night. In my experience, dry heat and sunlight help to "control" viruses if one can relocate before becoming too ill.

3.7 Critical turning points

In October 2017, after only two weeks of Chinese herbs, I had a brief and remarkable reprieve, which I describe in a poem later in this case study. I shared the good news with my lead island doctor, whose response was to drug-test me. A specialist off the island had asked me, "Do you even want to live?" I fired all of them, and the first SSDI lawyer, who had sat silent in court. By early 2018 I was going downhill rapidly again. The words of my first CMP still resonated: "If you lived in Seattle I would treat you with weekly acupuncture." Delirious, I also heard whispers in French: "Calme toi, je suis ici." I was too weak to commute off the island, so I googled acupuncture, and a new business popped up: BECALM (Calme Toi). A skilled island CMP was now just five minutes from my condominium. Her hands, needles and hour-long treatments worked on me weekly for eighteen months. My "chi" started to return after only six weeks. Dancing daily with a deep-bass headset triggered my brain and body to work together again, after being homebound and then bedridden. The last question that I asked myself before seeking weekly acupuncture was: *What helped me, or fellow ME/CFS patients?* That question, more than any single remedy or medication, is at the heart of this case study.

3.8 What helped: Traditional Chinese Medicine, Lomatium and other protocols

3.8.1 Acupuncture and Chinese herbs

Three CMPs were central to my recovery. The first, in Seattle, diagnosed latent pathogens in a single session. The second, at BECALM Acupuncture and Massage on Vashon Island, treated me weekly for eighteen months with various healing protocols. The third, in Cottonwood, Arizona, introduced me to Lomatium on the first day. The British acupuncturist and emergency physician Dr. Daniel Keown argues that acupuncture can be linked to Western medicine through the study of fascia and embryology [23], and he develops the argument for doctors in a later textbook [24]. I mention this as one hypothesis, not as proof of how acupuncture worked for me. *Dr. Keown also emailed me (circa 2020) that he personally believes ME/CFS is triggered by latent viruses becoming reactivated.* This could explain why long COVID patients often test positive for reactivated EBV too. Cost mattered. In my case I budgeted at least USD \$5,000 a year for weekly acupuncture sessions, because most insurance plans do not pay for alternative medicine. Some do cover at least twelve sessions of essential physical therapy after years of inactivity. Lomatium and stem cell patches are more affordable and accessible than Chinese herbs and acupuncture, especially for those who can no longer leave home or bed.

3.8.2 A poem about the first exciting herbal formula

The first herbal formula that was prepared specifically for me, and helped immediately, was Xue-Fu-Zhu-Yu-Tang. This is the poem I wrote about the remarkable change.

Xue-Fu-Zhu-Yu-Tang:

a doctor asked me skeptically
how my life had shifted
in less than 2 weeks of chinese herbs?
i said for the first time
in two summers
i wore a dress reserved for swim days only
because the hem had come undone

but i had not been able to thread a needle, let alone
 pick it up or hold steady to thread that minute hole
 or sew a black hem with black thread in poor light,
 with weak eyes.
 yet i did it as if riding a bicycle
 after years of not riding
 and then, too, instead of shuffling between my bed, a
 car, a couch and sitting
 motionless, pain-free as possible
 for (dream) therapy
 because doctors demand something of the sort,
 i got out at the beach, walked gently and then stooped
 to my amazement,
 over and over again,
 looking for the perfect shell and pebble,
 risking the few steps to the sand –
 still not blue-purple or breathless.
 just as i had earlier sped up a flight of daunting stairs
 with a parcel
 not wanting to take it on my travels.
 i am still in bed daily
 because 4 years of illness does not evaporate
 overnight,
 but i want to bathe in chinese herbs,
 drink them in through every pore, orifice.
 the furnace viral heat, and fierce battle against it,
 against doctors, endless disbelieving doctors who
 almost killed me,
 is ebbing from my body as suddenly as it came
 - now i must see how much of me is left to heal: *Deep
 Bows.*

Note: In my weakened state I could not tolerate certain herbs or tablets. If I could have, healing might have been quicker and complete: Oxymatrine is from the Sophora plant in China, part of the pea family (or Equilibrant which contains oxymatrine and a number of immune modulators). Like the anti-viral Valtrex, it may have been too late to help my advanced ME/CFS. Instead they both added to medication overload, elimination and withdrawal. Laboratory studies of oxymatrine, an alkaloid from Sophora, report anti-inflammatory, antiviral (notably against hepatitis B) and immune-regulating effects [25]. In a 2021 podcast interview, Dr. John Chia, an infectious disease specialist, discusses chronic enterovirus infection in ME/CFS [26]. *Anecdotally, an ME/CFS patient shared with me that Dr. Chia laboratory tested Lomatium in summer 2019 and found that it killed all pathogens.*

3.8.3 Lomatium as an anti-viral

Rapid response to Lomatium: I started Lomatium in July 2019 under the supervision of my Arizona CMP and with the knowledge of my Arizona general practitioner. I never had the one-time rash that some people report from Lomatium, but in summer 2019 I had an immediate emotional response that I called a pathogen “die-off”. It left me feeling lighter in body and spirit, because it was the first time I had ever experienced lifelong pathogens being eliminated. As described in the introduction, my EBV load fell from over 600 to normal in three months and to zero, with antibodies, in six months. Lomatium dissectum, known as fernleaf biscuitroot, is a plant of the parsley family native to western North America.

History of this traditional remedy: Its root has long been used by Native peoples, including the Washoe of the

Nevada-California region. A 2024 herbal field guide co-written by the manufacturer’s owner covers Lomatium among its healing plants [27], but it is not independent of the manufacturer [28]. Per the family based manufacturer, repeated in a 2018 case report, during the 1917-1918 influenza pandemic two Washoe communities near Carson City were free of respiratory deaths, and that the contract physician, Dr. E. T. Krebs Sr., gave a crude preparation to patients elsewhere and reported that they stopped dying [28, 29]. I treat this as a historical anecdote, not as evidence.

Laboratory evidence: The laboratory evidence is thin, but real. I believe that more than five universities have studied Lomatium dissectum, as its manufacturer states [28]. The earliest study I could verify is from 1948. Two researchers at Western Reserve University School of Medicine in Cleveland steam-distilled an oil from the root of *Leptotaenia dissecta*, an older botanical name for the plant now classified as *Lomatium dissectum*, and tested it on 62 strains and species of bacteria, molds and fungi. They reported that the oil’s heat-stable active agent killed gram-positive bacteria at higher dilutions than gram-negative bacteria, and that it was highly effective against various fungi and molds [30]. That was a laboratory study of an oil, not an antiviral test or a human trial. In the same paper, a 1:3 dilution of the oil injected into mice was lethal, while a 1:100 dilution caused no deaths, which is why I do not call it harmless; injection also tells us little about taking a tincture by mouth. Studies of an extract from the related *Leptotaenia multifida* followed in 1949 and 1953 [31, 32]. Later, a 1995 screening found that a Lomatium dissectum root extract completely inhibited the cytopathic effects of rotavirus in cell culture [33], and work at the University of North Carolina at Chapel Hill isolated suksdorfins, a compound from a related species, *Lomatium suksdorfii*, with anti-HIV activity in cell lines [34]. No double-blind, placebo-controlled study has tested Lomatium in people, and reviewers describe the evidence for its antiviral effect as weak and mostly based on preliminary test-tube work [35]. Claims that Lomatium is nontoxic and eliminates all viruses and bacteria are therefore not established, and I do not make them here.

Side effects and safety: Lomatium can also cause side effects. A 2018 case report describes a patient who developed a rash after taking a Lomatium extract, and notes that this reaction had not previously appeared in the peer-reviewed literature [29]. Suppliers describe a one-time itchy rash, sometimes severe, in some first-time users, and advise starting with very small doses. Because it is a powerful antiviral, anyone taking it for a long period should have their liver and kidneys tested regularly, under the supervision of a qualified practitioner.

COVID-19 vaccines versus daily Lomatium: I finally did contract COVID-19 in June 2022 while tutoring a neighbor’s three grandsons outdoors in Mexico. It lasted ten days, and a blood test after fifteen days showed that I had antibodies. I cannot say what part Lomatium played: antibodies show that my immune system responded to the virus, not why the illness lasted only ten days. Both EBV and COVID-19 antibodies are easy to measure with blood tests, which is why I could track them. I have chosen not to have COVID-19 or other vaccines, because during my isolation on Vashon Island I noticed that even winter influenza vaccines made me sicker. That is a personal decision based on my own history, not a recommendation, and readers should discuss vaccination with their own

clinicians. I carry MTHFR gene variants (discussed later), so I may still get sick when I travel or mingle in crowds. I then take pandemic precautions. I also take Lomatium daily and increase the dose as needed. In December 2023 a trip to congested and polluted, yet magnificent, Mexico City had me editing HOME ALONE 2020 in bed.

3.8.4 Stem cell patches in lieu of expensive stem cell injections

I have used X39 phototherapy patches since summer 2020. When I first tried this patch I suddenly felt like running at high noon in Arizona's desert heat. They are triggered by body heat and light, and remind me of portable acupuncture. Removing the patch stops the signal unlike ingested medications. Hydration and alternating days on and off the patches is required. The manufacturer, LifeWave, says that its inventor, David Schmidt, developed the patch technology after a decade of intense research for US Navy projects. X39 seems to activate a person's own stem cells into a more healthy or energised state [36]. That claim comes from the manufacturer, and I have not cited independent clinical trials for it. I describe the patches only as something I still use successfully.

3.8.5 Xylitol nasal spray: A clean nose + well washed hands

Since winter 2020 I have used xylitol nasal spray, with or without a natural antihistamine (capsicum), for allergies and disease prevention. The importance of nasal hygiene was researched and documented by Dr. Lon Jones, who argues that keeping the nose clean matters because respiratory infections often begin there, and that xylitol stops bacteria from attaching to cells in the nose. Xylitol is a sugar alcohol (related to, but not the same as, xylose, or "wood sugar"). It occurs naturally in small amounts in plums, berries and other plants, and the human body also makes some [5]. He reports that this spray also prevented about 92 percent of ear infections, against 42 percent for xylitol gum in a Finnish study [37]. Those are his own reported figures, not independent trial results. An environmental doctor shared a free alternative with me: daily gargling and snuffling with a warm salt-water solution, using very clean water. This protocol is as important as frequent hand washing.

3.8.6 Ancient roots of Lomatium

Lomatium's long history among North America's First Peoples is part of why I trusted it. In 2008 the archaeologist Dennis Jenkins reported human coprolites 14,000 to 15,000 years old from the Paisley Caves in Oregon, which contained seeds of desert parsley, a plant of the Lomatium group [38]. This shows that people knew the plant very long ago, probably as food, not necessarily as medicine. I therefore treat the 15,000-year figure as evidence of familiarity with the plant, not as proof of medical use.

3.8.7 What I am, and am not, claiming

I am not claiming that, Lomatium, patches or xylitol cured my illness, or that they will work for anyone else. I am reporting what I used, when I used it, what was measured and what followed. Because I used several measures at once, none of them can be given full credit, and the evidence for several of them is limited to laboratory studies, manufacturers' claims and my own experience. A controlled study would be needed to say more.

3.9 MTHFR results as personal history, not as the cause of ME/CFS

I took a DNA test covering health and ancestry (assess

privacy risks before any DNA test). I treat the results as my personal medical map. My maternal and paternal haplogroups are T2a1a and R-CTS241, and my results showed food intolerances and variants in the MTHFR gene, which I believe affect how I fight viruses and other pathogens. Many Western doctors doubt that ME/CFS patients are physically sick, which is one reason objective results matter to me. Human genetics is known to influence whether a person is infected and how severe the disease becomes. Variants in HBB make malaria less likely, a CCR5 variant protects against HIV, and variants in FUT2 make norovirus infection less likely [39, 40]. For COVID-19, early studies pointed to variants near the ACE2 gene and to blood group as possible influences, but these observations were preliminary and needed larger studies [40, 41]. MTHFR is an enzyme in the folate cycle. One Australian naturopath's account describes the A1298C variant as reducing enzyme activity and affecting detoxification and neurotransmitter pathways [42]. The clinical importance of common MTHFR variants is disputed, and the American College of Medical Genetics and Genomics found a lack of evidence for routine MTHFR testing [43].

3.10 A perfect storm of genetics, hormones, lifelong viruses and travels abroad

My history is one of repeated viral episodes. I have always lacked sustainable energy. A glandular fever diagnosis from EBV infection, meant: no sports; few friends; daily naps and studying in bed. I believe EBV reactivated after a first kiss (at age 15), and again during pregnancy (at age 35) when the immune system goes off line. This became a high-risk pregnancy with pre-term labor and delivery. It took five years to recover, and I was misdiagnosed and treated for chronic postpartum depression. *During pre-term labor in 1993 I was given terbutaline for three weeks, in hospital and at home. In 2011 the U.S. Food and Drug Administration added a boxed warning against using it for prolonged treatment of preterm labor (beyond 48 to 72 hours) because of the risk of serious maternal heart problems and death, and advised against oral terbutaline for this use* [44]. *Combined with reactivated EBV, it may have contributed to undiagnosed ME/CFS.* What was called mumps at university 1977 (at age 20) was, I came to believe, atypical polio, that first reactivated as Bell's palsy in 1985 (at age 28). In 2010 (at age 53), I needed a polio booster in order to study in South Africa. I believe that booster, together with latent EBV, travel and exposure to pathogens abroad, triggered ME/CFS. Women appear to be affected more often: an internist quoted in 2020 said that post-viral fatigue is documented about twice as often in women as in men [6]. My own vulnerable periods followed hormonal changes at puberty, pregnancy and menopause. For years I was told that my symptoms were long-term grief and depression after the death of my only son in 2010. Over-medication during rushed fourteen-minute consults seemed easier for doctors and specialists than dealing with all of my symptoms. This is a common ME/CFS patient complaint. Dr. K. N. Hng, a British physician with ME/CFS, tells her own story in a book written for both clinicians and patients [45].

3.11 Is long COVID yet another name for ME/CFS?

In July 2020 Dr. Anthony Fauci said that brain fog, fatigue and difficulty concentrating after COVID-19 might well be a *post-viral syndrome* that needed serious study, and doctors

quoted in the same report described the condition as an *ME-like illness* [6]. One of them, Dr. Robert Glatter, proposed that inflammatory cytokines crossing the blood-brain barrier could explain the fevers, sleep disruption, cognitive problems and fatigue that characterize ME/CFS, much as after the 2002 to 2003 SARS outbreak, and he cited a study in which eighty-seven percent of people who had recovered from COVID-19 still had at least one persistent symptom [6]. By 2023 there were biological findings. A study in Nature compared 275 people with and without long COVID and found abnormal immune cell populations, lower cortisol, and higher antibody responses against other viruses, particularly Epstein-Barr virus, in people with long COVID [46]. News coverage described it as among the first studies to show that *long COVID is a biological illness*. The researchers did not find strong evidence of an autoimmune cause, and they could not say whether the reactivated viruses cause symptoms or only flag a problem in the immune system [47]. The symptom profiles look alike (Fig 1). In the 2001 study of 2,073 patients with prolonged fatigue, reproduced in the International Consensus Primer for ME, patients who met the Fukuda criteria reported fatigue (100 percent), post-exertional malaise (97 percent), attention deficit (93 percent), sleep disturbance (92 percent) and memory disturbance (86 percent) [9, 48]. Those are the same complaints: unremitting fatigue; post-exertional malaise and cognitive dysfunction, that the Nature study uses to describe long COVID [46].

3.12 Defining “mystery” diseases by symptoms

In my case only, an EBV load that was off the charts before treatment, and long COVID literature that now reports raised EBV antibodies, make me think that tracking viral load and antibodies could help patients with ME/CFS and long COVID. That is a hypothesis for controlled study.

Notes about long COVID followed by an ME/CFS chart for comparison:

- World Health Organization (WHO): Defines long COVID as symptoms occurring in individuals with a history of probable or confirmed SARS-CoV-2 infection, usually 3 months from the onset of COVID-19, lasting for at least 2 months and not explained by an alternative diagnosis [49].
- National Academies of Sciences, Engineering, and Medicine (NASEM): Characterizes Long COVID as a chronic condition occurring at least 3 months post-infection that can be continuous, relapsing, or progressive [50].
- Clinical Guidelines (NICE): Distinguish the phases into acute COVID-19 (up to 4 weeks), ongoing symptomatic COVID-19 (4 to 12 weeks), and post-COVID-19 syndrome (beyond 12 weeks) [51].
- Common Categorized Symptoms:
 - Systemic & Neurological: Severe fatigue, brain fog (cognitive impairment), headaches, and post-exertional malaise (PEM).
 - Cardiorespiratory: Shortness of breath (dyspnea), chronic cough, chest pain, and heart palpitations or postural orthostatic tachycardia syndrome (POTS).
 - Other Manifestations: Gastrointestinal disruption, sleep disorders, and loss of smell or taste.
- Diagnosis and Documentation. When coding or writing medical histories, clinicians use specific terminology

depending on the context:

- Medical Term: Post-COVID-19 condition or PASC.
- Diagnostic Criteria: Relies on clinical evaluation, patient history, and ruling out other underlying illnesses, as there is no single approved laboratory test for Long COVID [50].

Carruthers et al.

101

APPENDIX 2. ME/CFS Symptom Prevalence and Severity

(These prevalence and severity figures are from A definition-based analysis of symptoms in a large cohort of patients with chronic fatigue syndrome, P. De Becker, N. McGregor, and K. De Meirleir. *Journal of Internal Medicine* 2001;250:234-240.) A total of 2,073 consecutive patients with major complaints of prolonged fatigue were assessed. Among them 1,578 met the Fukuda criteria and of those, 951 met the Holmes criteria. The figures indicate the differences in prevalence and severity of symptoms between these patient groups.

SYMPTOM	PREVALENCE (%)		SEVERITY (range 0-3)	
	HOLMES	FUKUDA	HOLMES	FUKUDA
Fatigue	100	100	2.8	2.8
Post-exertional malaise	98.8	97.3	2.8	2.7
Attention deficit	95.9	93.0	2.4	2.2
Sleep disturbance	94.8	91.9	2.5	2.4
Headache	92.0	87.8	2.3	2.1
Myalgia	90.1	87.1	2.4	2.3
Memory disturbance	89.3	85.6	2.2	2.0
Muscle weakness	88.3	84.3	2.3	2.1
Gastrointestinal disturbance	85.6	81.8	2.2	2.0
Sore throat	84.1	74.1	2.1	1.9
Exertional dyspnea	83.5	79.2	2.2	2.0
Recurrent flu-like symptoms	80.9	69.7	2.1	1.7
Difficulty with words	80.4	75.5	1.9	1.7
Personality change	77.2	74.4	1.2	1.1
Cold hands and feet	77.2	72.2	2.0	1.8
Arthralgia	77.1	73.3	2.0	1.9
Photophobia	75.8	70.7	1.8	1.6
Difficulty with calculations	75.1	71.6	1.7	1.6
Light headedness	74.6	69.6	1.7	1.6
Visual acuity	74.2	70.9	1.7	1.6
Dysequilibrium	73.7	69.1	1.5	1.4
Hot flushes	72.6	64.8	1.9	1.7
Numbness/parasthesia	69.1	66.4	1.6	1.5
Swollen/tender lymph nodes	67.9	57.7	1.6	1.3
Spatial dysfunction	64.5	59.9	1.4	1.2
Muscle fasciculations	64.1	58.5	1.5	1.4
Alcohol intolerance	63.7	59.5	1.7	1.5
Symptom exacerbation in extremes of temperature	58.7	53.9	1.5	1.4
New sensitivities to food/drugs	54.8	48.5	1.3	1.2
Urinary frequency	53.9	47.9	1.3	1.2
Tinnitus	52.1	48.5	1.0	0.9
Diarrhea	45.6	40.8	1.2	1.1
Rashes	45.3	40.0	1.0	0.9
Altered taste, hearing, or smell	42.4	38.0	0.9	0.8
Persistent cough	39.2	35.2	0.8	0.7
Speech difficulties	36.2	31.8	0.7	0.6

Fig 1: ME/CFS symptom prevalence (%) and severity (range 0-3) in 2,073 patients with prolonged fatigue, by Holmes and Fukuda criteria. Reproduced from the International Consensus Primer for ME [48], Appendix 2, which reports data from De Becker *et al.* [9]

3.13 Lessons from 1918 and the case for preparedness

Contagion spreads exponentially so two infect four; four infect 16; 16 infect 64 and so on. Olga Jonas, who spent 33 years at the World Bank coordinating pandemic preparedness, told the Harvard Gazette in May 2020 that *the lesson is never to forget*: governments that act early, with quarantines, school closures and bans on mass gatherings, keep death rates lower, and they should invest in core public-health systems, including veterinary surveillance, because about seventy-five percent of new infectious diseases begin in animals. She added that the world is far more crowded and mobile than in 1918, so viruses spread faster [52]. The microbiologist Elodie Ghedin had warned in 2017 that AIDS, which had killed some 35 million people, had a death toll roughly equal to that of the 1918 pandemic [53]. My own lesson from the 2020 lockdown is smaller and more personal. A person who is already ill, alone and doubted by doctors is among the first to be hurt when a

health care system is overwhelmed. The knowledge and records that a person keeps may be the most reliable resource available. I wrote this case study so that others can benefit from what I learned and take it further with a team of their own chosen professionals.

Questions: Why are blood donations screened for several viruses, but not for EBV, which most people carry? And do we test human organ donations?

Answers: *Blood donations and EBV:* blood is screened for several viruses, including HIV, hepatitis B and C, HTLV, West Nile and syphilis (plus Chagas and Babesia in some cases) ^[54]. EBV is not on the list because most adults carry it for life, so screening would reject most donors. It rarely harms recipients, and removing white blood cells from donated blood, where EBV hides, lowers the risk further. *Organ donations:* US organ-transplant rules (OPTN Policy 2.9) require deceased donors to be tested for HIV, hepatitis B and C, syphilis, CMV and EBV, plus West Nile and other tests in some cases ^[55]. EBV and CMV are tested to match donors and recipients and plan prevention, not to exclude donors.

4. Conclusion

This study describes one person's journey through ME/CFS: a near-death crisis in 2017; a recovery that began with weekly acupuncture in 2018; and further measures from 2019, including Lomatium, stem cell patches, concentrated oxygen and xylitol nasal spray. In my case, an Epstein-Barr viral load fell from over 600 to zero within six months of starting Lomatium. I did not contract COVID-19 during the 2020 lockdown so I wrote the first version of this account before vaccines were even available. I cannot say which protocol mattered most, because I used several at once, and I cannot say that anyone else would respond as I did. Four points seem worth the attention of clinicians and researchers. *First*, ME/CFS and long COVID overlap in symptoms, and the 2023 finding of raised Epstein-Barr antibodies in long COVID makes viral reactivation a question worth testing in both. *Second*, post-exertional malaise is central, and in my case exercise was harmful, as the 2021 NICE guideline now recognizes. *Third*, the name "chronic fatigue syndrome" alone is misleading and has led to dismissal, so precise criteria matter. *Fourth*, plant remedies and acupuncture, whose use goes back thousands of years, deserve controlled study, with honest reporting of harms, such as the Lomatium rash, as well as benefits. Two patterns in my history may matter more than any remedy. *My mother had the same mystery symptoms for decades until her death at age 67.* I suspect viruses such as EBV, which most people carry, run in families because EBV can be transmitted via the placenta and there are no vaccines. I raise that as a question, not an answer. Repeated misdiagnosis, such as mumps, postpartum depression and grief, delayed the search for a viral cause. Even in near death moments I had dreams of what I would do with my life if I miraculously recovered. Such positive thinking is not possible during depression. In 1993 a popular US Presidential campaign slogan was: "It's the economy, stupid." In my case, with EBV (and what I came to believe was atypical polio, as well as later exposure to COVID), the message to perplexed doctors, specialists, researchers, scientists, disability lawyers and judges is: "*It's the virus, stupid.*" For me, removing the virus was the first step to healing. That is a hypothesis drawn from one case, not a

proven rule. Being a "canary in a coal mine" is both a blessing and a curse, because it forces one to know oneself. Recovery means that I am healthier in my Mexican retirement than I was at birth, as a child and young adult in Africa, or as an adult working and parenting in America.

5. Recommendations

For researchers: test whether tracking viral load and antibodies helps people with ME/CFS and long COVID, run controlled trials of the safety and effect of antiviral plant remedies such as Lomatium and Traditional Chinese Medicine, and report harms as well as benefits. *For clinicians:* ask about post-exertional malaise, avoid prescribing graded exercise for people who have it, as the 2021 NICE guideline advises ^[11], and listen for earlier viral episodes in the history. *For patients:* keep dated records of symptoms, laboratory results and treatments, and discuss any plant remedy with a qualified practitioner and your own doctor, especially if you plan to take it for a long time. *For governments:* keep investing in public-health systems, including the animal-health surveillance that detects new viruses early ^[52]. *For Climate Change:* the challenge to be investigated is a warming planet that is now releasing new pathogens not seen in millennia. Highly regulated Artificial Intelligence (AI), programmed and governed by a broad spectrum of human experts, is suggested as one possible solution in an earlier 2026 paper by this author: *At the speed of light: Can fleeting human leadership confront climate change, alone?* ^[56] *Section 3.5.2:* "Thawing ground and ancient pathogens: Consider the recent deadly floods in Tibet caused by a single melting glacier, or the ground itself turning against us. In 2016, anthrax spores that had lain dormant in a frozen reindeer carcass for a century resurfaced as Siberian permafrost thawed in an unusually hot summer, infecting over 2,000 reindeer and killing a twelve-year-old boy. Ice cores from the Tibetan Plateau have also yielded dozens of previously unknown ancient viruses, yet the most comprehensive recent review concludes that pathogens thawing out of permafrost are, on current evidence, no more dangerous than those already present in ordinary soil and water." *Section 3.5.4* "Vaccines and antibodies: Medicine tells the same story. AstraZeneca (for better or for worse) has used AI to cut the time needed to identify a target antibody lead from three months to three days. The Coalition for Epidemic Preparedness Innovations (CEPI) has partnered with Houston Methodist Research Institute to apply AI to the virus families most likely to produce the next pandemic, aiming to pre-identify the targets a future vaccine would need."

6. Acknowledgements

I thank Chinese Medical Practitioners, Altschuler, Nelson and Fisher, for restoring my "chi"; the Pacific Northwest and Southwest desert tribes for discovering Lomatium; and my global African family for loving me back to life. Deep bows to fellow ME/CFS patients who shared learned experience, both successes and failures, on social media while confined to beds and homes. Many suffered from two or more debilitating pathogens, yet they were often misdiagnosed and treated as mentally ill. I used an AI assistant at current restricted levels: it checked sources; formatted the manuscript; condensed and edited my 2020 short book into this study because of the imminent crisis of Climate Change pathogens. I approved the content, checked

the final text and take full responsibility for it.

7. Declaration of interests

I have no financial or other relationship with any manufacturer, supplier or practitioner mentioned in this case study, including LifeWave, Xlear and Barlow Herbal. I paid Chinese Medical Practitioners, doctors, specialists and pharmacists for my own treatment and medication when it was not covered by American Affordable Health Care (AHC) starting in 2014. I have received no payment for this case study or for the book it is based on, which I wrote, promoted and shared, free of charge. I do not claim that any measures I used would help others with long COVID or ME/CFS.

8. References

- Hyde B. What is myalgic encephalomyelitis? 2017. Reproduced in: Harty S. HOME ALONE 2020, 2024.
- Dowsett E. A rose by any other name. 2004. Reproduced in: Harty S. HOME ALONE 2020, 2024.
- Lerner AM, Dworkin HJ, Sayyed T, Chang CH, Fitzgerald JT, Beqaj S, *et al.* Prevalence of abnormal cardiac wall motion in the cardiomyopathy associated with incomplete multiplication of Epstein-Barr virus and/or cytomegalovirus in patients with chronic fatigue syndrome. *In Vivo*. 2004; 18(4):417-424. Retrieved from: <https://iv.iarjournals.org/content/18/4/417>
- Myhill S. Valacyclovir in the treatment of post viral fatigue syndrome [Internet]. DoctorMyhill [Updated 2026 May 21; Cited 2026 Oct. 7]. Retrieved from: https://www.drmyhill.co.uk/wiki/Valacyclovir_in_the_treatment_of_post_viral_fatigue_syndrome
- Harty S. HOME ALONE 2020, 2024 [Cited 2026 Oct. 5]. Retrieved from: https://drive.google.com/file/d/1o4lxF2-fv1Z5mmzDN0X6TzY_jlFCpwh/view
- Citrone G. Fauci warns about 'post-viral' syndrome after COVID-19. Healthline [Internet], Jul 16, 2020.
- Institute of Medicine. Beyond myalgic encephalomyelitis/chronic fatigue syndrome: Redefining an illness. Washington (DC), National Academies Press, 2015.
- Jason LA, Johnson M. Solving the ME/CFS criteria and name conundrum: The aftermath of IOM. *Fatigue Biomed Health Behav*, Apr 28, 2020 [Published Online]. Doi: <https://doi.org/10.1080/21641846.2020.1757809>
- De Becker P, McGregor N, De Meirleir K. A definition-based analysis of symptoms in a large cohort of patients with chronic fatigue syndrome. *Journal of Internal Medicine*. 2001; 250(3):234-240.
- Carruthers BM, Van De Sande MI, De Meirleir KL, Klimas NG, Broderick G, Mitchell T, *et al.* Myalgic encephalomyelitis: International consensus criteria. *Journal of Internal Medicine*. 2011; 270(4):327-338.
- National Institute for Health and Care Excellence. Myalgic encephalomyelitis (or encephalopathy)/chronic fatigue syndrome: Diagnosis and management. London, NICE, 2021 Oct. 29. Report No: NICE guideline NG206. Retrieved from: <https://www.nice.org.uk/guidance/ng206>
- Steckel C. ME/CFS is an umbrella term [Internet]. Substack [Cited 2026 Oct. 5]. Retrieved from: <https://colleensteckelmeiccinio.substack.com/p/mecfs-is-an-umbrella-term>
- Steckel C. The meaning of CFS depends on who [Internet]. Substack [Cited 2026 Oct. 5]. Retrieved from: <https://colleensteckelmeiccinio.substack.com/p/the-meaning-of-cfs-depends-on-who>
- Lerner AM, Beqaj SH, Gill K, Edington J, Fitzgerald JT, Deeter RG. An update on the management of glandular fever (infectious mononucleosis) and its sequelae caused by Epstein-Barr virus (HHV-4): New and emerging treatment strategies. *Virus Adaptation and Treatment*. 2010; 2:135-145. Doi: <https://doi.org/10.2147/VAAT.S6749>
- Jason LA, Corradi K, Gress S, Williams S, Torres-Harding S. Causes of death among patients with chronic fatigue syndrome. *Health Care for Women International*. 2006; 27(7):615-626.
- White PD, Goldsmith KA, Johnson AL, Potts L, Walwyn R, DeCesare JC, *et al.* Comparison of adaptive pacing therapy, cognitive behaviour therapy, graded exercise therapy, and specialist medical care for chronic fatigue syndrome (PACE): A randomised trial. *The Lancet*. 2011; 377(9768):823-836.
- Virology Blog. Trial by error: A deeper dive into the inquest's findings and conclusions [Internet], Aug 15, 2024 [Cited 2026 Oct. 3]. Retrieved from: <https://virology.ws/2024/08/15/trial-by-error-a-deeper-dive-into-the-inquests-findings-and-conclusions/>
- U.S. Senate Committee on Health, Education, Labor, and Pensions. Press release: Draft legislative proposal to address the Long COVID crisis. Washington (DC), U.S. Senate, Apr 9, 2024.
- Hoynes H, Maestas N, Strand A. Legal representation in disability claims [slides]. Retirement and Disability Research Consortium, Apr 2022 [Cited 2026 Oct. 7]. Retrieved from: <https://hilarityhoynes.com/s/Hoynes-Maestas-Strand-SSDI-Attorneys-042422.pdf>
- Dowsett E. Statement on subacute thyroiditis and mumps. 2002. Quoted in: Harty S. HOME ALONE 2020, 2024.
- Brea J, director. *Unrest* [film]. Shella Films, 2017.
- Serkis A, director. *Breathe* [film]. Imaginarium Productions, 2017.
- Keown D. The spark in the machine: How the science of acupuncture explains the mysteries of Western medicine. London, Singing Dragon, 2014.
- Keown D. The uncharted body: A new textbook of medicine. Tunbridge Wells UK. Original Medicine Ltd, 2018.
- Chen XS, Wang GJ, Cai X, Yu HY, Hu YP. Inhibition of hepatitis B virus by oxymatrine *in vivo*. *World Journal of Gastroenterology*. 2001; 7(1):49-52. Doi: <https://doi.org/10.3748/wjg.v7.i1.49>
- Proal A, interviewer. Interview with Dr. John Chia: ME/CFS and chronic enterovirus infection [podcast]. The PolyBio Podcast. PolyBio Research Foundation, Oct 2021 [Cited 2026 Oct. 3]. Retrieved from: <https://open.spotify.com/episode/4R1QN2xer2BRXci8w3ShzE>
- Christensen JB, Christensen BR. Be your own shaman: A field guide to utilize 101 of the world's most healing plants. New York, Skyhorse, 2024.

28. Barlow Herbal. The super natural power of Lomatium [Internet]. Barlow Herbal [Cited 2026 Oct. 3]. Retrieved from: <https://barlowherbal.com/blogs/blog/the-super-natural-power-of-lomatium>
29. Marshall KD, Thornton SL. Worse than the disease? The rash of Lomatium dissectum. *Kansas Journal of Medicine*. 2018; 11(2):54-55. Doi: <https://doi.org/10.17161/kjm.v11i2.8688>
30. Carlson HJ, Douglas HG. Antibiotic agents separated from the root of lace-leaved Leptotaenia. *Journal of Bacteriology*. 1948; 55(5):615-621. Doi: <https://doi.org/10.1128/jb.55.5.615-621.1948>
31. Matson GA, Ravve A, Sugihara JM, Burke WJ. Antibiotic studies on an extract from Leptotaenia multifida. *Journal of Clinical Investigation*. 1949; 28(5):903-908. Doi: <https://doi.org/10.1172/JCI102176>
32. Marcus S, Esplin DW. Studies on an antibiotic extract of Leptotaenia multifida. *Antibiotics and Chemotherapy (Northfield)*. 1953; 3(4):393-398.
33. McCutcheon AR, Roberts TE, Gibbons E, Ellis SM, Babiuk LA, Hancock REW, *et al.* Antiviral screening of British Columbian medicinal plants. *Journal of Ethnopharmacology*. 1995; 49(2):101-110.
34. Lee TT, Kashiwada Y, Huang L, Snider J, Cosentino M, Lee KH. Suksdorfii: An anti-HIV principle from Lomatium suksdorfii, its structure-activity correlation with related coumarins, and synergistic effects with anti-AIDS nucleosides. *Bioorganic & Medicinal Chemistry*. 1994; 2(10):1051-1056.
35. EBSCO CAM Review Board. Lomatium's therapeutic uses. EBSCO Research Starters [Internet]. EBSCO Information Services [Cited 2026 Oct. 3]. Retrieved from: <https://ebSCO.com/research-starters/health-and-medicine/lomatiums-therapeutic-uses>
36. LifeWave. Stem cell patch phototherapy X39: David Schmidt, inventor and founder [Internet]. LifeWave [Cited 2026 Oct. 3]. Retrieved from: <https://www.lifewave.com>
37. Jones L. No more allergies, asthma, or sinus infections. Freedom Press, 2010.
38. The first Americans. *National Geographic*, Jan 2015, 137.
39. Chapman SJ, Hill AVS. Human genetic susceptibility to infectious disease. *Nature Reviews Genetics*. 2012; 13(3):175-188.
40. 23andMe Research. Could genetics play a role in the severity of COVID-19? [Internet]. 23andMe Blog, Apr 8, 2020 [Cited 2026 Oct. 5]. Retrieved from: <https://blog.23andme.com/articles/genetics-and-covid-19-severity>
41. Cao Y, *et al.* Comparative genetic analysis of the novel coronavirus (2019-nCoV/SARS-CoV-2) receptor ACE2 in different populations. *Cell Discovery*. 2020; 6:11.
42. Bense HJ. What is MTHFR A1298C gene mutation? *Insight Naturopathy* [Internet]. [Cited 2026 Oct. 3].
43. Hickey SE, Curry CJ, Toriello HV. ACMG practice guideline: Lack of evidence for MTHFR polymorphism testing. *Genetics in Medicine*. 2013; 15(2):153-156.
44. U.S. Food and Drug Administration. FDA Drug Safety Communication: New warnings against use of terbutaline to treat preterm labor [Internet]. Silver Spring (MD), FDA, Feb 17, 2011 [Cited 2026 Oct. 8]. Retrieved from: <https://www.fda.gov/drugs/drug-safety-and-availability/fda-drug-safety-communication-new-warnings-against-use-terbutaline-treat-preterm-labor>
45. Hng KN. Doctor with M.E.: My journey with "chronic fatigue syndrome". Independently Published, 2019.
46. Klein J, Wood J, Jaycox JR, Dhodapkar RM, Lu P, Gehlhausen JR, *et al.* Distinguishing features of long COVID identified through immune profiling. *Nature*. 2023; 623(7985):139-148. Doi: <https://doi.org/10.1038/s41586-023-06651-y>
47. Edwards E. Long Covid blood test offers first clues into what causes the mysterious condition. *NBC News* [Internet], Sep 25, 2023 [Cited 2026 Oct. 6]. Retrieved from: <https://www.aol.com/news/long-covid-blood-test-possible-150129244.html>
48. Carruthers BM, Van De Sande MI, De Meirleir KL, Klimas NG, Broderick G, Mitchell T, *et al.* Myalgic encephalomyelitis: Adult & paediatric: International consensus primer for medical practitioners, 2012. Appendix 2, p. 101 [Cited 2026 Oct. 3]. Retrieved from: <https://www.investinme.org/Documents/Guidelines/Myalgic%20Encephalomyelitis%20International%20Consensus%20Primer%20-2012-11-26.pdf>
49. Soriano JB, Murthy S, Marshall JC, Relan P, Diaz JV. WHO Clinical Case Definition Working Group on Post-COVID-19 Condition. A clinical case definition of post-COVID-19 condition by a Delphi consensus. *The Lancet Infectious Diseases*. 2022; 22(4):e102-e107. Doi: [https://doi.org/10.1016/S1473-3099\(21\)00703-9](https://doi.org/10.1016/S1473-3099(21)00703-9)
50. National Academies of Sciences, Engineering, and Medicine. A long COVID definition: A chronic, systemic disease state with profound consequences. Washington (DC), National Academies Press, 2024 [Cited 2026 Oct. 5]. Retrieved from: <https://nap.nationalacademies.org/resource/27768>
51. National Institute for Health and Care Excellence. COVID-19 rapid guideline: Managing the long-term effects of COVID-19. London, NICE, Dec 18, 2020 [Updated 2024 Jan.; Cited 2026 Oct. 5]. Report No: NICE guideline NG188. Retrieved from: <https://www.nice.org.uk/guidance/ng188>
52. Mineo L. The lesson is to never forget: Harvard expert compares 1918 flu, COVID-19. *Harvard Gazette* [Internet], May 19, 2020.
53. The Next Human. *National Geographic*, Apr 2017, 54-58.
54. Centers for Disease Control and Prevention. Clinical testing guidance for blood safety [Internet]. Atlanta (GA), CDC [Cited 2026 Oct. 8]. Retrieved from: <https://www.cdc.gov/blood-safety/hcp/diagnosis-testing/>
55. Organ Procurement and Transplantation Network. Policy 2.9: Required deceased donor infectious disease testing (June 2023 policy notice) [Internet]. Richmond (VA), OPTN [Cited 2026 Oct. 8]. Retrieved from: https://optn.transplant.hrsa.gov/media/lrxfreqj/dtac_endemics_policy-notice_june23bod.pdf
56. Harty SA. At the speed of light: Can fleeting human leadership confront climate change, alone? *International Journal of Advanced Multidisciplinary Research and Studies*. 2026; 6(5):865-873. Doi: <https://doi.org/10.62225/2583049X.2026.6.5.6935>