

TRADITIONAL HOME REMEDIES FOR VIRAL INFECTIONS

8 steps to strengthen your immune system and traditional home remedies you can use to relieve the symptoms of viral respiratory infections

By Maria Jose Hummel, MPH, MS



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BE PREPARED

Know what to do in case of a pandemic

As you probably know, very few infectious diseases have a rate mortality of 100% (to see a list [click here](#)). Even AIDS, without treatment, has a mortality rate of 80 to 90%, Ebola (depending on the strain) between 60 to 90%, and bubonic plague around 60%. This means that there are people who get infected and yet **survive** these infections, despite how dangerous and lethal they are.

What is the difference between those who survive these diseases and those who succumb to them? It is very likely that the difference between these individuals is the ability of their **immune system** to fight and defeat the microorganisms causing the disease. After all, THAT is the job of our immune system. Our white blood cells, or leukocytes, are the cells of the immune system responsible for the defense of our body against foreign substances and infectious agents.



SIMPLE REMEDIES YOU CAN USE AT HOME

The problem is that there are several lifestyle factors that can weaken our immune system. Among them are stress and lack of sleep, including going to bed too late. And one of the things that has the potential to affect immune function the most is the amount of sugar in the diet. In this guide I will give you the seven steps you can take starting today in order to improve and strengthen your immune system. Also, I will show you some of the natural remedies that you can use at home in case you have a mild to moderate infection of coronavirus (Covid-19), influenza or other respiratory diseases that can stimulate the immune system to fight the infection more effectively.

NOTE: If you have shortness of breath seek medical attention immediately.

**4 keys to be ready
in case of an
infectious disease
epidemic or
pandemic**

Unfortunately, there's already quite a bit of misinformation circulating on the internet and in social media about "cures" for the coronavirus infection (Covid-19). Please, don't believe everything you hear or read unless it is backed by solid science or reputable sources. The advice you will find in this guide is evidence-based and backed by solid scientific principles, not hearsay or quackery.

**EASY PREPARATION
AND PREVENTION
STEPS**

**I. Eight steps to strengthen
your immune system**

People with a weak immune system have higher chances of a serious infection or of dying. Learn how to strengthen your natural defenses.

II. Emergency preparedness

We always need to be ready for emergencies such as natural disasters or some other crisis, including possible infectious disease pandemics.

III. Transmission prevention

General common sense guidelines we all need to be aware of to know what to do in case of possible epidemic or pandemic to prevent contagion.

**IV. Natural remedies for
respiratory infections**

In case of contagion, what type of simple remedies you can use at home to help the immune system to fight an infection.



STEP 1: DIET

A whole-food plant-based diet has more fiber and more micronutrients (vitamins, minerals, phytochemicals, and antioxidants) than the standard American diet. These nutrients are vital for maintaining our cells in good shape and our body in balance so our immune system can work at full capacity. We need these nutrients in large enough quantities to fight infections. Dietary fiber, in particular, feeds certain friendly bacteria in our microbiome that stimulate the cells in our immune system which are in charge of destroying viruses and bacteria (1).

Research has shown that sugar intake reduces the activity of the immune system, and this effect can last for several hours (2). People with diabetes or prediabetes, since their blood sugars are higher than normal, are also at a high risk of immune system dysfunction and of getting infections that don't easily heal. Even obesity is another important risk factor that can suppress the immune system from functioning adequately to protect us from infectious diseases (3).



I. EIGHT EVIDENCED-BASED STEPS TO STRENGTHEN YOUR IMMUNE SYSTEM

MICRONUTRIENTS, FIBER AND AVOIDING SUGAR ARE ESSENTIAL

A whole-food plant-based diet has TWO main characteristics:

1. It is made up of **whole** foods, that is, foods that are **not highly processed**. Things such as sugar, white flour, oil, and foods that contain high amounts of chemical preservatives and additives are not whole foods. Whole grains, beans, nuts, fruits and vegetables are whole foods.
2. It is made up of **plant** foods, that is foods that are **not of animal origin**. In other words, it minimizes or eliminates foods such as meats, eggs, fish, dairy, animal fats, etc.



BENEFITS OF A PLANT BASED DIET FOR THE IMMUNE SYSTEM

A plant based diet is vital for immune system health for the following reasons:

- People who consume a plant-based diet may have higher natural killer cell activity (4) and fruits and vegetables may decrease the risk of respiratory tract infections (5).
- A whole-food plant-based diet is generally a low-fat diet, and low-fat diets have been found to increase the activity of the immune system (6).
- It provides micronutrients (vitamins, minerals, phytochemicals and antioxidants) in sufficient quantities to strengthen the immune system (7-9).
- It provides enough fiber, which feeds the microbiome and stimulate the immune system to work properly (1). Fiber supplements do not provide this benefit.
- It is free of refined sugars and other processed foods (refined sugar in particular suppresses immune function).
- It is the only diet that provides natural, safe and effective long-term weight loss (obesity can also suppress the immune system), and that also helps prevent or reverse other diseases associated with obesity and lifestyle that can impair immune function.

To try a plant-based diet for 10 days download my 10-day challenge or get my cookbook at www.healthfortoday.net

STEP 2: EXERCISE

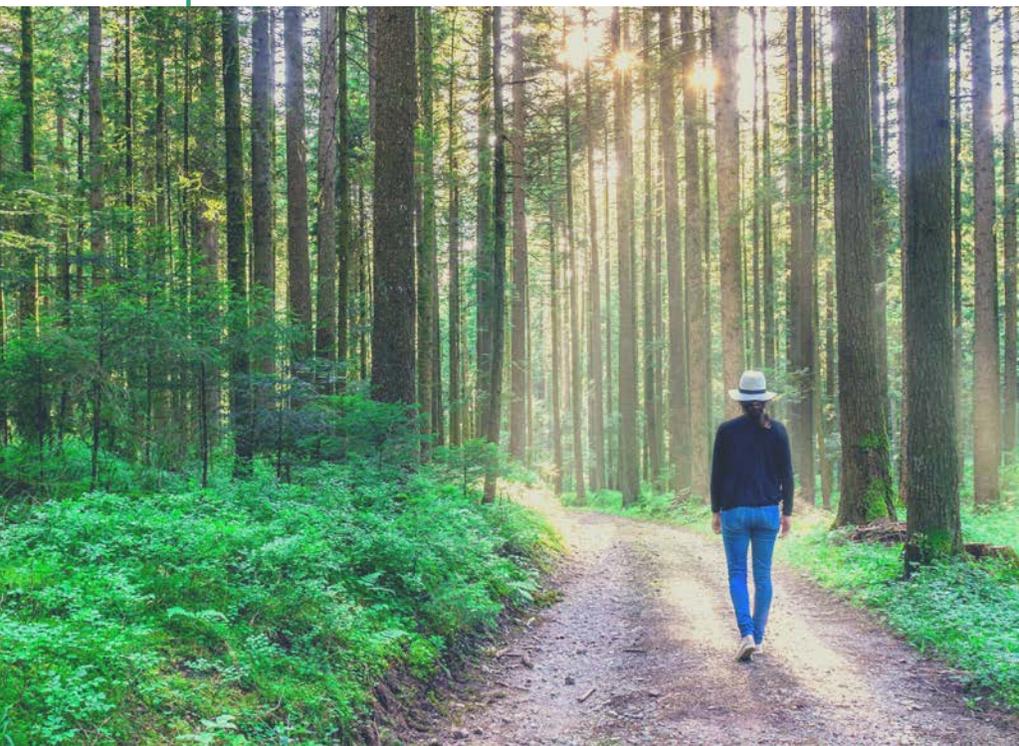
Engaging in moderate exercise helps to increase the function of the immune system. In general, exercise is considered an important immune system adjuvant to stimulate the ongoing exchange of distinct and highly active immune cell subtypes between the circulation and tissues (10). An additional benefit of exercise is that it can help as a simple strategy to stimulate immune cells in charge of eliminating infected cells in the body (particularly those infected with a virus). Metabolically, moderate exercise induces small, acute elevations in IL-6 that exert direct anti-inflammatory effects, improving glucose and lipid metabolism over time. Yet another benefit of exercise may include an enhanced antibody-specific response when vaccinations are preceded by an acute exercise bout, but more research is needed with better study designs to control for potential confounding influences.

Immunosenescence is defined as immune dysregulation with aging. Emergent data support that habitual exercise is capable of improving regulation of the immune system and delaying the onset of immunosenescence.

Several epidemiological studies suggest that regular physical activity is associated with a decrease in mortality rate and incidence of influenza and pneumonia.

What kind of exercise can I do to strengthen my immune system?

You can start with walking or some other moderate cardiovascular exercise 3 to 7 times a week for 30 minutes or more, and strengthening exercise 2 to 3 times a week.



THE IMPORTANCE OF SLEEP FOR THE IMMUNE SYSTEM

According to research, sleep supports the initiation of an adaptive immune response (11). In both the central nervous system and the immune system, sleep specifically supports the consolidation stage of long-lasting immunological memory. Insufficient sleep increases the risk of respiratory infections (12).

Slow Wave Sleep (SWS), which is the type of sleep you get in the early part of the night (roughly between 9 or 10 pm to about 1 am), is especially important since it promotes the release of growth hormone which in turns promotes the proliferation of certain immune cells, while the anti-inflammatory actions of

STEP 3: SLEEP getting enough

cortisol and catecholamines are at the lowest levels. Prolonged sleep deprivation and the accompanying stress response invoke a persistent unspecific production of pro-inflammatory cytokines, best described as a chronic low-grade inflammation, and also produce a deficiency of the immune system. Both have detrimental effects on health.

What should I do about sleep?

For the best effect to your immune system, try to get at least 7 to 7-1/2 hours of sleep or more and try to go to bed early (around 10 pm) if possible.



STEP 4: STAY HYDRATED

It is believed that an individual's immune system may be compromised when in a state of lowered hydration (13). It is possible that membrane barriers that protect us from viruses could become weakened when we are dehydrated. Also, being properly hydrated may reduce the stress on the nervous system, which affects general inflammation and immune system responsiveness.

Dehydration can also promote oxidative damage, including DNA damage of lymphocytes (a type of immune system cells). Presumably, this occurs because of alterations that could promote inflammatory responses that affect the function of the immune system.

What should I do to stay properly hydrated?

Make sure you drink enough water every day. This could be anywhere between 6 to 10 cups of water a day depending on weather, age, height and weight, physical activity and other factors. Avoid dehydrating drinks such as coffee, tea, soda and alcohol.

Drinking enough water is vitally important for many body functions including your immune system



STEP 5: AVOID STRESS

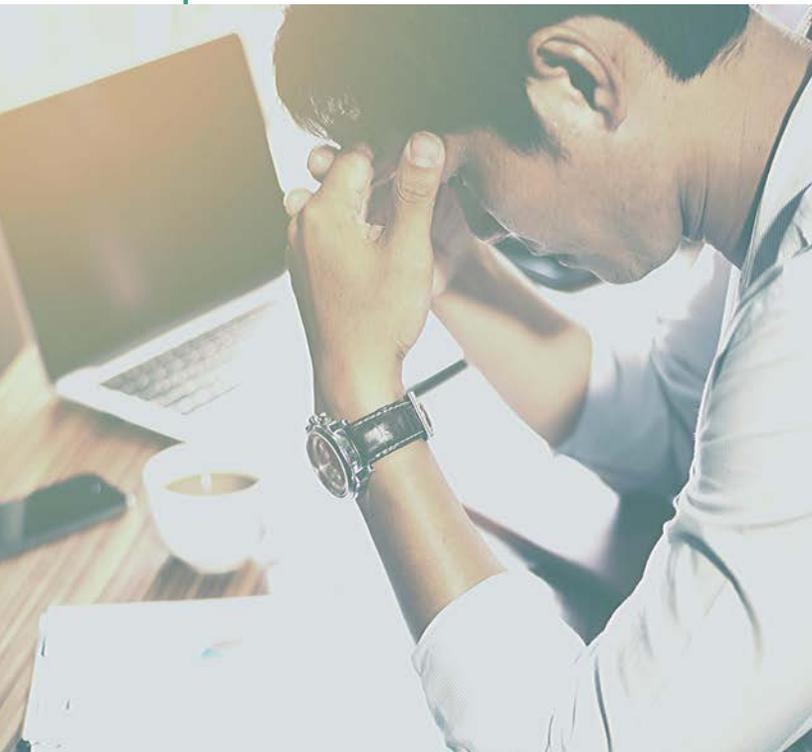
People who experience chronic stress have less effective immune functioning, as has been demonstrated by their increased susceptibility to the common cold, impaired immune response to vaccination, and delayed healing after wounds (14). They can also experience low-grade, nonspecific inflammation. Negative emotional responses such as rumination, suppression of emotional expression, and perceived psychological stress are generally associated with poorer immune functioning. However, when psychological stress is brought on by more objective causes, it may not be associated with the same negative immune outcomes.

On the other hand, being able to regulate one's emotions and cope, having optimism, and having positive emotions are generally associated with better immune functioning and may ultimately be protective for health during times of heightened stress (14,15).

CHRONIC STRESS IS THE MOST DETRIMENTAL FOR THE IMMUNE SYSTEM

What should I do about stress?

Try stress management techniques such as deep breathing, regular moderate exercise, keeping a positive attitude, accepting events you can't control, implementing time management techniques, making time for relaxation, setting boundaries, and not relying on alcohol, drugs or compulsive behaviors to manage stress. If you are a spiritual person, rely on prayer and faith to overcome stressful situations.



In order to improve your chances of fighting any infectious disease, you need to not only limit but possibly completely avoid these addictive substances:

1. **Alcohol:** Drinking alcohol affects the immune system and increases the susceptibility to pneumonia. Alcoholic drinks may alter the gut microbiome and disrupts communication between gut organisms and the intestinal immune system. Alcohol also disrupts ciliary function in the upper airways, impairs the function of immune cells and increases the risk of pulmonary diseases (16-18).

2. **Cigarettes:** Tobacco smoke increases the susceptibility to infections such as pneumonia and influenza, causes more severe and longer-lasting illnesses, and lowers the amount of protective antioxidants in the blood (19).

3. **Vaping:** E-cigarette vapor boosts the production of inflammatory chemicals and disables key immune cells in the lung that keep the air spaces clear of potentially harmful particles (20).

STEP 6: AVOID ADDICTIVE SUBSTANCES

4. **Drugs of abuse:** Abused drugs increase the susceptibility to infections directly (by damaging immune cells) and indirectly (by increasing stress hormones such as cortisol). Addictive drugs increase the risk of several infectious diseases including pulmonary infections, microbial infections, sexually transmitted diseases and AIDS (21).

Addictive toxic substances such as tobacco, alcohol and drugs of abuse suppress the immune system



STEP 7: GET MODERATE SUNLIGHT

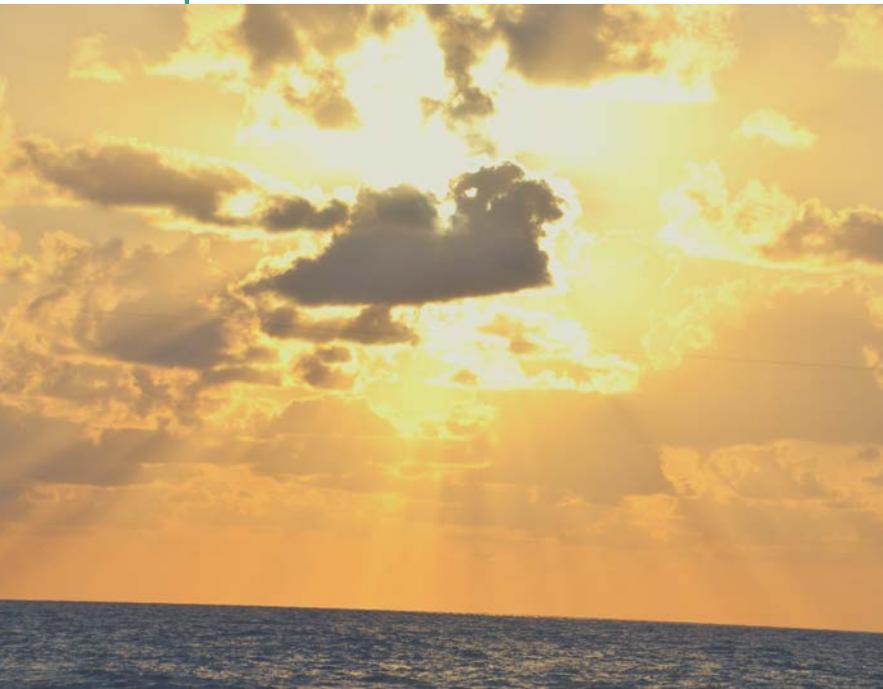
Moderate sun exposure has many benefits including production of vitamin D and boosting the immune system by energizing infection-fighting T cells. These instrumental cells, produced by the thymus gland, actively participate in the body's immune response. T cells produced during the adaptive immune response access body surfaces, including the skin, to protect against invading pathogens. It is in the skin that T cells could be exposed to sunlight (22).

Vitamin D has been used (unknowingly) to treat infections such as tuberculosis before the advent of effective antibiotics. Tuberculosis patients were sent to sanatoriums where treatment included exposure to sunlight which was thought to directly kill the tuberculosis.

More recently there has been several studies associating lower levels of vitamin D with increased infection risk, including respiratory tract infections (23). Also, vitamin D deficiency is prevalent in autoimmune disease (24).

What can I do to get enough vitamin D?

Whenever possible, get your vitamin D directly from the sun through **moderate** sun exposure. Moderate means no sunburns, so usually between 10 to 30 minutes a day, depending on skin color. In the winter or when it's not possible to get sun exposure, use a vegan vitamin D supplement.



STEP 8: AVOID AIR POLLUTION

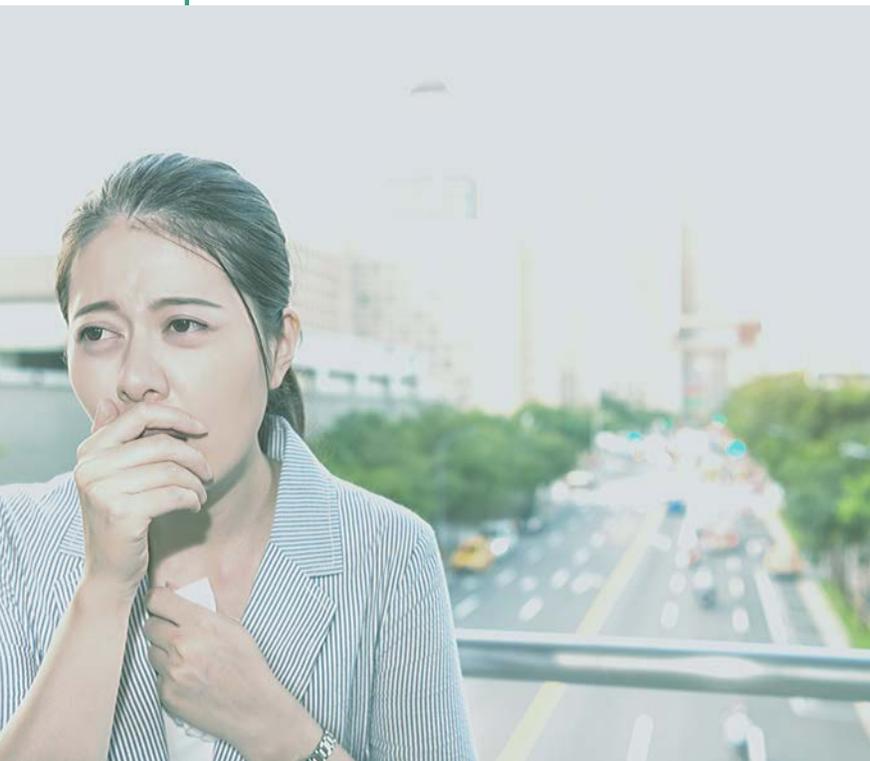
Air pollution has been shown to impair regulatory T-cell function in people with asthma (25). Researchers have found that exposure to air pollution suppresses the immune system's regulatory T cells (Treg), and that the decreased level of Treg function was linked to greater severity of asthma symptoms and lower lung capacity. These cells are responsible for regulating the immune system so that it doesn't react to non-pathogenic substances in the body that are associated with allergy and asthma. When Treg function is low, the cells fail to block the inflammatory responses which then results in asthma symptoms.

Also, exposure to ambient air pollutants has been shown to increase the susceptibility to pathogens or severity of infection (26).

Historical records as well as recent research have shown that natural ventilation in a hospital offers protection from transmission of airborne pathogens, and the modern practice of designing healthcare buildings for comfort instead of exposure to fresh air and sunlight is being questioned (27).

What can I do to get fresh air?

Try to spend time outside, such as during exercise, going for walks, gardening, visiting parks, etc. Avoid living in polluted areas and spending too much time indoors.



II. EMERGENCY PREPAREDNESS

COMMON SENSE PREPARATIONS FOR A POSSIBLE PANDEMIC

1. Food and supplies for two weeks

With the new coronavirus, it is possible that some individuals could be quarantined for one to two weeks. In that case, you would need to have enough shelf-stable foods and necessities such as toilet paper for that amount of time. It might be advisable to have drinking water also just in case.

2. Prescription medications

If you take prescription medications try to stock up on them, and also have basic medical supplies such as a first aid kit, a thermometer and the usual over-the-counter medications on hand.

3. Cleaning supplies

In case of a coronavirus epidemic or pandemic, it is wise to keep cleaning supplies such as disinfectant wipes, alcohol and even good old-fashioned soap, which can kill the virus. Hand sanitizer can be used when away from home.

4. Grow your own food

It's always good to have a garden in case of emergencies. People who did better during the Great Depression of the 1930s were resilient and self-sufficient. Not a bad idea in times of emergencies or unexpected difficulties.

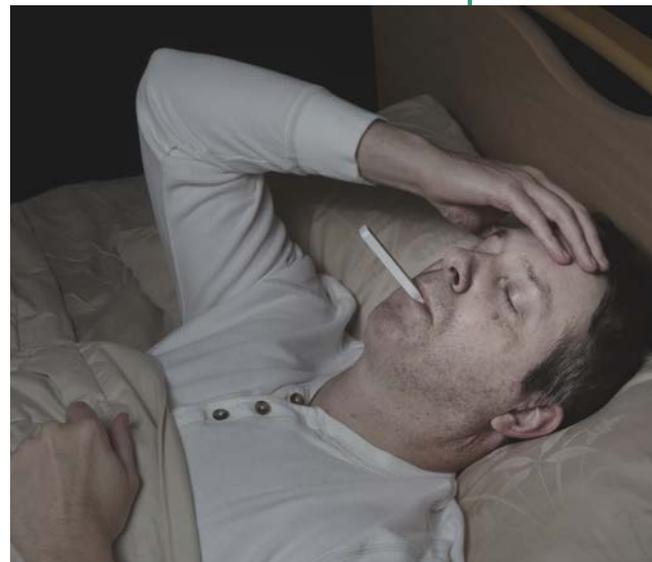


III. TRANSMISSION PREVENTION

Common sense prevention measures that work with any infectious disease epidemic

These are precautions that are recommended by public health authorities in any infectious disease epidemic, including influenza, that are also relevant for a coronavirus epidemic or pandemic:

- **Washing hands** for 20 seconds with soap, or use an alcohol-based hand sanitizer (60%) several times a day, especially before touching your face, and after being in contact with other people.
- Use **disinfectant wipes** when you travel to clean surfaces such as seats, tray tables, or other surfaces you are in contact with.
- **Avoid touching your face**, especially your eyes, nose and mouth. This allows germs that cause respiratory infections to enter the body. When we touch people who are sick, or touch dirty surfaces, we contaminate our hands with germs. We can then infect ourselves with those germs by touching our face.
- Practice proper **coughing and sneezing** etiquette. If possible, cough and sneeze into a disposable tissue and discard. Do not cough or sneeze into your hands. Use your elbow when there is no tissue available.
- **Avoid handshaking** or hugging during a contagious disease epidemic.
- Wear a mask **ONLY** if you're infected and are going out in public, although in that case do everything possible to stay home. Regular masks are **not** very effective to keep the virus from infecting you.
- If you are sick, do not go to work. Telecommute if possible. Do not send a sick child to school.



**IV. NATURAL
REMEDIES THAT
CAN BE USED AT
HOME IN CASE OF
A VIRAL
INFECTION**

**TRADITIONAL
HYDROTHERAPY**

Traditional hydrotherapy treatments have been used effectively in the past to help those with respiratory and other types of infections to recover faster. They are considered simple remedies but they do require a bit of skill and training to apply effectively. However, any person can be easily taught how to use hydrotherapy treatments at home. These treatments can be used in case there is a viral infection, such as coronavirus (Covid-19), where the infected individual has a mild to moderate infection and has been told to stay home to recover. They can also be helpful in cases of influenza, pneumonia or the common cold. In these situations, hydrotherapy can speed recovery and ease respiratory symptoms.

Traditional hydrotherapy is not as commonly used today since it can be inconvenient compared with taking a prescription medication. However, despite the time and preparation required, they can be effective and useful because they stimulate the immune system by increasing the circulation of white blood cells around the body, and allow lymph (the immune system fluid) to move throughout the body more effectively. They reduce stress, pain and inflammation so they can also be helpful for a variety of other ailments.

For more detailed information on traditional hydrotherapy treatments, consult the book *Home Remedies* by Agatha Thrash, MD and Calvin Thrash, MD, and the book *Home Health Care* by Richard Willis and John Wilby. You can also consult a naturopathic doctor familiar with traditional hydrotherapy or a hydrotherapy practitioner.



HYDROTHERAPY FOR RESPIRATORY INFECTIONS

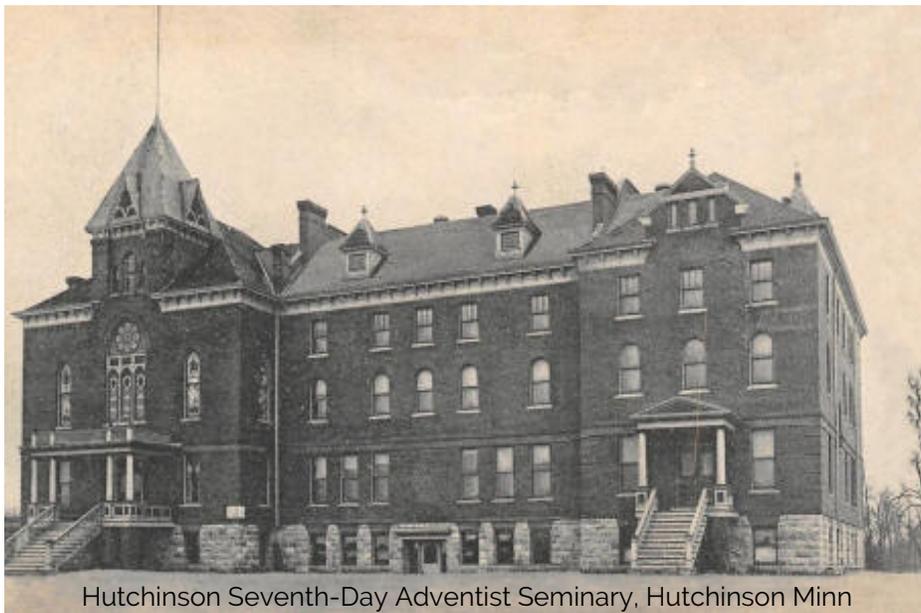
Before the advent of antibiotics and vaccinations, hydrotherapy treatments were well known and respected as effective treatment for respiratory conditions. Later, newer treatments were favored not so much because of higher rates of cure were achieved but rather because the newer treatments liberated the patient from close physician and nurse supervision (28) (and of course, they liberated the physician as well).

To illustrate how well this can potentially work, there is an anecdotal story from the Spanish Influenza pandemic of 1918-1919 that can give us an idea of the usefulness and even life-saving potential of hydrotherapy treatments combined with other simple measures.

A news report appeared in the Hutchinson Leader, the local newspaper of Hutchinson, Minnesota, around the time of the Spanish influenza pandemic.

The news story described the experience of the Hutchinson Seventh-day Adventist Seminary when a large percentage of their students became infected with the influenza virus. Of the 180 students at the seminary, 120 lived under one roof inside the seminary and 90 of the 120 became infected with the influenza virus that at the time was already causing a large number of fatalities.

The 90 patients who had the disease were required to stay in bed and were not given any drugs. Instead, they were given a "carefully regulated diet and fomentations applied to the throat, chest and abdomen." This treatment reduced the fever in almost every case, and in about a day those who received the treatment appeared better already. They were still required to stay in bed for two to five days after they appeared fully recovered to prevent a "relapse."



Hutchinson Seventh-Day Adventist Seminary, Hutchinson Minn

The news story goes on to report that as a result of this protocol, there were **no cases** of influenza that could be "considered serious **or a single death** in the seminary although there were more than 90 persons infected."

This is a remarkable record, considering that the Spanish influenza had a high mortality rate, especially in the 20 to 40 year age group. Statistically, one could have expected to see many serious cases, or at last a few fatalities. The story in the Hutchinson Leader (later reprinted in the Northern Union Reaper, a Seventh-day Adventist publication) credits the simple system used at the seminary for it making a "record combating the disease." The images shown here are from the article as it appeared in the Northern Union Reaper in December of 1918 (highlight was added).

OVERCOMING THE EPIDEMIC

We believe our readers will be interested in the following account of the influenza epidemic at the Seminary which appeared in the Hutchinson Leader of December 13, written by its editor.

SEMINARY CINCHES FLU

HUTCH. INSTITUTION MAKES A
RECORD COMBATting
DISEASE.

120 EXPOSED, 90 PATIENTS, NO
DEATHS, NONE VERY
SICK.

On the authority of Dr. Fred Shepard, health officer of Hutchinson city, it may be stated that no public institution in the state of Minnesota has up to date made a record in handling influenza, the worldwide epidemic that has swept millions into their graves, like that to the credit of the

Hutchinson Seventh-day—Adventist Seminary.

The Seminary with 120 of its 180 students and teachers housed under one roof, was invaded by the malady three weeks ago. Symptoms of the malady developed with some 90 of these and, under the direction of Dr. H. E. Larson, a graduate physician, member of the Seminary faculty, every person showing indication of sickness was at once put to bed with a trained nurse taking temperature and watching for symptoms of the epidemic. If those symptoms developed the patient was required to remain in bed. There were no drugs to be given but, with complete rest and quiet went a carefully regulated diet and fomentations applied to the throat, chest and abdomen. This treatment in almost every case reduced the temperature of patients and in a day or so they were apparently well. But that did not end the matter with them. The next danger was that of relapse. To guard against this every patient was required to remain abed from two to five days after apparent full recovery, according to the "state of their flu affliction."

As a result of this system of handling a disease that is scoring thousands of victims every day there has not been one case that could have been called serious or a single death in the Seminary although there were more than 90 persons affected.

The record is remarkable. It makes the ordinary methods of dealing with flu appear irrational.

We will add that we are indeed thankful to God for His protecting care and for the untiring efforts of Sister Louise Knudsen, our Seminary nurse, and for the assistance of the other nurses and helpers. The hydrotherapy treatments under the blessings of God are indeed helpful, as is recognized by this article.

N. P. Neilsen.

HYDROTHERAPY FOR RESPIRATORY INFECTIONS

Of course, the above story doesn't provide scientific evidence for the effectiveness of hydrotherapy, or evidence that it will help with a coronavirus infection. But given that we do not currently (as of the time of publication) have a vaccine or antiviral medications, or any other treatment for that matter, for the coronavirus infection (Covid-19) hydrotherapy is definitely worth considering. Traditional hydrotherapy is based on the simple scientific fact that heat applied to the body stimulates blood flow to the area, and moist heat is more effective at this than dry heat. Heat therapy also stimulates lymphatic circulation (29,30), and heat is known to increase the capacity of lymphocytes to destroy pathogens (31). By alternating heat with cold the blood vessels are made to expand and contract, stimulating circulation of blood and lymph, which can aid in recovery and speed the healing process.

As noted in the article from the Hutchinson Leader, the treatment used at the Hutchinson Seminary to speed the recovery from the 1918 influenza was **complete bed rest**, a "carefully regulated **diet**" and "**fomentations** applied to the throat, chest and abdomen."

As far as the diet, the Seventh-day Adventist church has historically emphasized the importance of consuming a plant-based diet. Since in 1918 there were no ultra-processed foods in the market like we have today, we can assume the sick individuals were given a whole-food plant-based diet. See pages 4 and 5 for evidenced-based advice on how to follow a plant-based diet to help boost your immune system.

The fomentations mentioned in the article involve the use of moist heat. Large wet, hot applications, known as fomentation packs, steam packs or hot packs, are placed on different parts of the body to produce hyperemia or increased blood flow. The packs are usually made out of wool or wool-mix cloths, but other materials can be used such as cotton, terry cloth or a towel. A mix of 50% wool to retain heat and 50% cotton to retain moisture and be more durable works great. These hot packs are then covered with another cloth or towel to prevent burning the skin. Nowadays you can even purchase electric moist heat pads that can work as well, but since the parts might wear out, they might need to be replaced every few years.



HOW TO PREPARE FOMENTATIONS

- Boiling water method
- Steaming method
- Microwave method

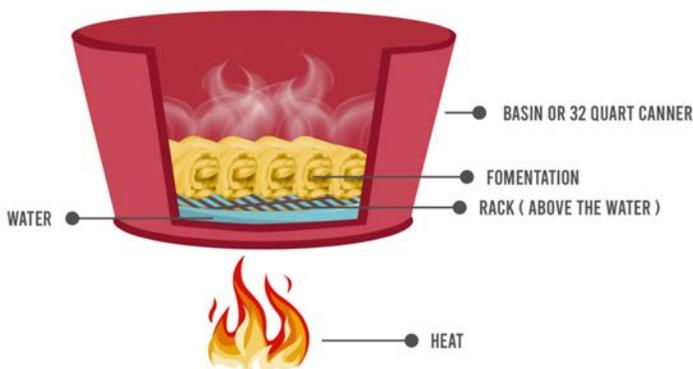


Fig. 3. Impacco al tronco (aperto).

To heat the fomentations you can either use the boiling water method, the steaming method or the microwave method. For the **boiling water** method, simply dip 3/4 of a towel or cloth folded lengthwise and twisted as much as possible into boiling water (holding both ends one in each hand and forming a U) until the bottom of the U thoroughly soaked. Then lift it out and pull hard to wring out all the water possible. Let it untwist by dropping one end and hold the other end. Lay it over a big cloth or towel and cover it. You may need to use more towels or place over the person's clothing to avoid burning the skin.

The **steaming** method involves soaking and wringing the towels, then rolling them up and placing them in a big steamer or canner with a rack. Let them steam for 20 minutes and then proceed as above, by placing one fomentation at a time in a larger towel and covering it (leave the others in the steamer until needed). You can also **microwave** the fomentations by soaking them and wringing them first, then putting them in a thick plastic bag and microwaving on high for 5 minutes. Proceed as above, using enough towels or cloth to avoid burning.

HEATING OF FOMENTATIONS



PREPARATION OF FOMENTATIONS

REMOVE THE HOT PADS FROM THE CANNER OR MICROWAVE AND THEN WRAP WITH A WOOL COVER OR TOWEL



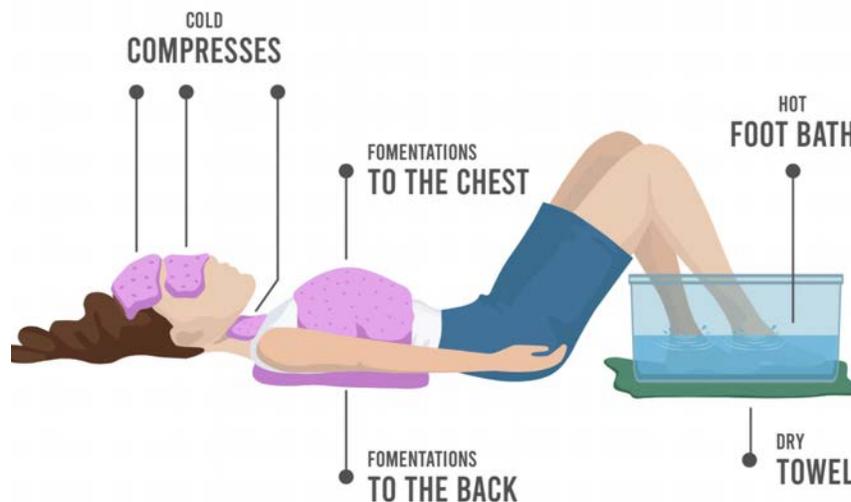
HOW TO APPLY THE FOMENTATIONS

Once prepared following the methods in the previous page, the fomentations are then applied on the chest of a person with a respiratory infection. The hot fomentations are placed on the chest for about 3 to 5 minutes and alternated with a cold compress. For the cold compress soak a towel in ice cold water and wring. Then apply directly to the skin for 30 to 60 seconds. Dry the skin after the cold compress. Repeat the application of a hot fomentation and cold compress three times. The rest of the body should be covered and protected from drafts or chilling. Make sure the room is warm.

A **full fomentation** involves applying a hot fomentation to the back, a series of three hot fomentations to the chest alternated with a cold compress, a hot foot bath, and cold compresses applied to the face, head and neck after 3 to 5 minutes or when sweating begins. These cold compresses might need to be replaced every 2 to 3 minutes to keep them cold.

The full fomentation has the advantage of stimulating sweat production, which can help to increase toxin elimination. It also further mobilizes white blood cells to fight an infection.

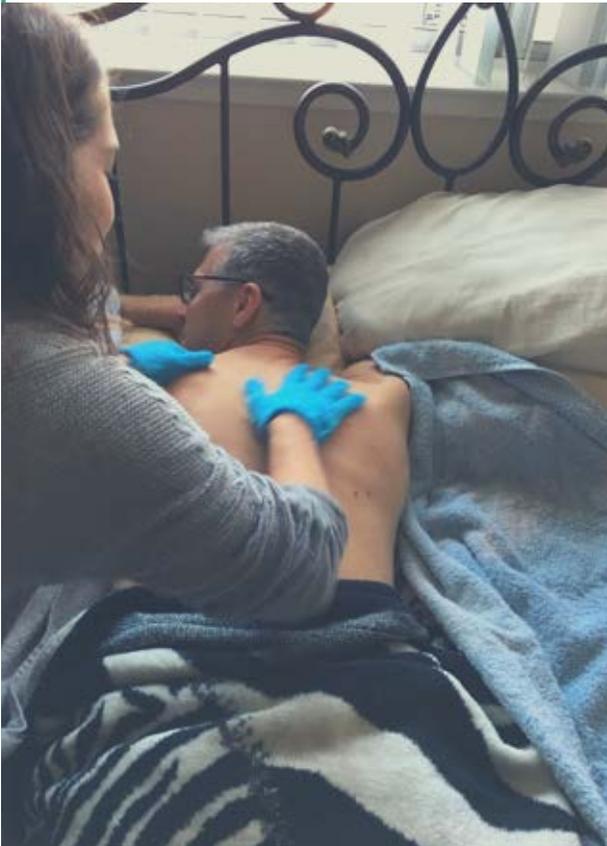
You will need to cover the bed with a plastic sheet to protect it from getting wet. Then cover the plastic with a blanket, sheet or large towel. The hot foot bath is kept at 105°F to 110°F (40°C to 43°C) taking all the precautions necessary not to burn the skin of the feet but keeping it hot enough to produce sweating. You may need to add more hot water to keep it at the right temperature. The fomentation to the back does not need to be changed, but do protect the skin from burning. After placing the chest fomentation, cover the person with a sheet to avoid drafts or chilling (not shown in the illustration). Have the person drink water during the procedure. Keep towels under fomentations dry, since moisture will increase the chance of burning the person receiving the treatment.



HOW TO END THE FOMENTATIONS

If you do a full fomentation changing the chest fomentation three times, finish with a cold compress to the chest for 30 to 60 seconds. Before removing the hot foot bath, pour cold water over the feet and dry well, including between the toes.

At the end, you can cool the person with a cold mitten friction, or simply by rubbing a cold compress vigorously against their skin. Exfoliating bath gloves work well for this. Dip the towel or gloves in cold but not ice cold water and rub each body part separately. Do not expose more than one body part at a time to avoid chilling too quickly. This procedure has the advantage of stimulating circulation in the skin.



Do not do the cold mitten friction over parts of the body that have skin lesions. Dry the skin very well and cover the person with a gown or other warm clothing and a blanket. The person should be comfortable and free of perspiration. Have the person rest in bed for at least 30 minutes afterwards.

Do not use hydrotherapy treatments with people who have lost skin sensation due to unconsciousness, paralysis or on the feet and legs of a person with type 2 diabetes. Avoid using in those with leg or feet edema, varicose veins, advanced vascular disease, malignancy, tendency to hemorrhage, and stomach or bowel ulcers.

For a person with a respiratory infection such as influenza or pneumonia, it is vitally important to avoid exposure to cold air and chilling. The room should be kept at around 72°F (22°C) when giving a hydrotherapy treatment. Use the fomentation applications one or twice a day for several days until the person feels better.

**WHEN NO ONE IS
AVAILABLE TO
HELP YOU WITH
HYDROTHERAPY,
TRY CONTRAST
SHOWERS**

CONTRAST SHOWERS

Traditional hydrotherapy is quite effective in possibly reducing fever and relieving symptoms of a respiratory infection. But it does require for someone to administer the treatment to the affected individual. When no help is available, a contrast shower is an acceptable substitution.

A contrast shower consists of using hot water first (as hot as you can withstand without burning the skin) for about 2 to 3 minutes. Then change to cold water (as cold as possible) for 30 to 60 seconds, and rub your skin using a washcloth or just your hands. Repeat this three times and finish off with cold water. Dry off quickly and lay down for 30 minutes after the shower.

Cold showers can be used as a preventive measure to reduce illness (32) boost your immune system (33), improve metabolism and the function of several body systems (34) and increase endorphins, possibly preventing depression (35).

The good news is that you don't need to use cold water for the whole duration of your shower. Start out by lowering the temperature for the last 5 to 10 seconds, and increase the time gradually, using a little bit colder water each time. Using cold water the last 30 to 90 seconds might be sufficient to obtain good results. Once the practice becomes a habit, you will appreciate how well you feel and will look forward to it!



OTHER NATURAL REMEDIES

- Steam inhalation
- Foods and herbs
- Sunlight and fresh air
- Homemade antiviral remedy



Steam inhalations can also be useful for respiratory infections. The warm moist air directed toward the mucous membranes of the upper respiratory tract will often help to ease the dry cough or stuffiness which is commonly felt. Therefore steam inhalations can be very helpful to relieve the chest and throat symptoms of colds (36) and influenza infections (and also possibly the coronavirus infection Covid-19).

To apply warm, moist air to congested mucous membranes put boiling water in a pot or kettle. You can use a hot plate to keep it hot.

Optionally, you can add pine oil, eucalyptus, or menthol to the water for a medicated steam inhalation. Place a towel over the head and catch the steam with the towel. Do not completely enclose the person with the towel. Have the affected person breathe slowly and deeply and continue for 10 to 15 minutes. Care should be used to avoid burns. You can also use a vaporizer or a kettle over a hot plate to produce enough steam to saturate the whole room. After the treatment have the person rest for at least 30 minutes for best effects.



FOODS AND HERBS

Keep in mind that NOT all herbs that are commonly recommended for colds and the flu have been researched thoroughly for safety and effectiveness. Avoid taking supplements whenever possible since they can be contaminated, altered or not provide the ingredients listed on the label. This is because the supplement industry is woefully unregulated. If you decide to use them, use whole herbs and only those for which there is sufficient evidence. Choose foods, lifestyle measures and hydrotherapy above herbs whenever possible. The following are foods and herbs that may help you recover faster from a respiratory infection, possibly including a coronavirus infection (Covid-19), but keep in mind that this particular virus has not been researched yet.

- **Garlic:** There is good amount of scientific evidence to support the antimicrobial, antifungal and antiviral properties of garlic (37,38). Garlic contains several helpful compounds, including allicin, that have beneficial effects to prevent colds and the flu. Raw garlic may be helpful for viral respiratory infections as well.
- **Onion:** Onion is a close relative to garlic and has been found to have similar antiviral properties (39). Organosulfur compounds in onions are associated with inhibition of viral infections.
- **Ginger:** Fresh ginger contains both antibacterial and antiviral properties. Ginger has been found to have antiviral properties against several types of respiratory viruses (40,41).
- **Citrus fruits and foods high in vitamin C:** Vitamin C has been found to be effective in reducing the duration of the common cold and acute respiratory infections such as pneumonia and bronchitis (42). One can take a vitamin C supplement, but consuming foods high in vitamin C has the additional benefit of providing other vitamins, minerals and phytochemicals that strengthen the immune system.
- **Echinacea:** There are some studies published that show evidence that echinacea may be helpful for treating upper respiratory infections (43). However, trials with negative results are known to have not been published (44), therefore the evidence for its use is not strong.
- **Elderberry:** Although there is evidence that elderberry can be protective against influenza and the common cold (45), it is not known whether it would be effective against a coronavirus infection. Since coronavirus infections involve high levels of inflammatory cytokines that can lead to a "cytokine storm" (46) and elderberry appears to increase these same cytokines (47), it is possible that it may be detrimental instead of helpful, but we don't know until more research is done.



FRESH AIR AND SUNLIGHT

**TRADITIONAL
"OPEN-AIR-
THERAPY" WAS
EFFECTIVE IN
REDUCING
FATALITIES IN THE
1918 PANDEMIC**

During the 1918-1919 Spanish influenza outbreak, health officials started noticing that severely ill patients who were nursed outdoors recovered more quickly than those who were kept indoors (48). It seemed like a combination of fresh air and sunlight was able to help patients stay alive and prevented medical staff from becoming ill. This was known as the "**open air method**" advocated first the English physician John Coakley Lettsom (1744-1815). During the 1918 pandemic, overcrowded conditions and poor ventilation were known to increase the risk of infection and later complications (49). Open-air-treatment was found to be "the most valuable factor in reducing mortality" by the Massachusetts State Health Department (50), reducing "fatality of hospital cases **from 40 percent to about 13 percent.**" Open-air therapy was a well known therapy, widely used, and became the treatment of choice for another deadly respiratory infection; tuberculosis. The open-air regimen remained popular until antibiotics replaced it in the 1950s (51).

Fresh air and sunlight not only help prevent an infection by boosting the immune system as mentioned in pages 8 and 9, but have also been shown to have germicidal properties and be effective disinfectants (51). Sunlight can reduce the rate of influenza transmission (52), and, along with natural ventilation, has been found to boost resistance to infection and reduce the transmission of airborne pathogens (53). Vitamin D, which is synthesized from the sun, also reduces susceptibility to influenza (54).

In case of an infection, it is recommended to allow the sick individual to spend time outdoors every day in the fresh air and sunlight (if weather permits) for some "open-air-therapy," especially when no pharmaceutical therapeutics are available.



HOMEMADE ANTIVIRAL REMEDY

**I HAVE USED THIS
REMEDY WITH MY
FAMILY FOR YEARS
AND IT'S VERY
EFFECTIVE FOR
COLDS AND THE
FLU**

Here is a recipe of an antiviral remedy you can make at home to help your body recover from infectious respiratory diseases such as the common cold, the influenza virus, and possibly a coronavirus infection. Onion, garlic and ginger are known to have antiviral and antibacterial properties (see the previous page). Lemon juice provides ample amounts of vitamin C, which can also help decrease the severity of respiratory infections. Honey can help soothe a sore throat and a cough (55-57). Since this remedy contains honey, do not give to children under one year of age, but for children one year old and above it could be quite effective.

Ingredients:

1/2 cup chopped onion
4-5 garlic cloves
The juice of 4 big lemons (at least 1/2 cup)
2-3 tablespoons of honey (raw and local honey if possible)

Blend all ingredients together really well. Keep refrigerated in an airtight container. Take 2 tablespoons or more every 2 hours for at least two days or until the remedy is all gone. Make more if you need to!



REFERENCES

1. James, K.R., Gomes, T., Elmentaite, R. et al. (2020) Distinct microbial and immune niches of the human colon. *Nat Immunol.* 21, 343–353 . <https://doi.org/10.1038/s41590-020-0602-z>
2. Sanchez A, et al. (1973) Role of sugars in human neutrophilic phagocytosis. *Am J Clin Nutr* 26:11,1180-1184.
3. Neiman D, et al. (1999). Influence of Obesity on Immune Function. *Journal of the American Dietetic Association*, 99(3), 294–299. doi:10.1016/s0002-8223(99)00077-2
4. Malter, M., Schriever, G., & Eilber, U. (1989). Natural killer cells, vitamins, and other blood components of vegetarian and omnivorous men. *Nutrition and Cancer*, 12(3), 271–278. doi:10.1080/01635588909514026
5. Li, L., & Werler, M. M. (2009). Fruit and vegetable intake and risk of upper respiratory tract infection in pregnant women. *Public Health Nutrition*, 13(02), 276. doi:10.1017/s1368980009990590
6. Barone, J., Hebert, J. R., & Reddy, M. M. (1989). Dietary fat and natural-killer-cell activity. *The American Journal of Clinical Nutrition*, 50(4), 861–867. doi:10.1093/ajcn/50.4.861
7. Beck, M. A., & Levander, O. A. (1998). Dietary oxidative stress and the potentiation of viral infection. *Annual Review of Nutrition*, 18(1), 93–116. doi:10.1146/annurev.nutr.18.1.93
8. Cunningham-Rundles, S., McNeeley, D. F., & Moon, A. (2005). Mechanisms of nutrient modulation of the immune response. *Journal of Allergy and Clinical Immunology*, 115(6), 1119–1128. doi:10.1016/j.jaci.2005.04.036
9. Naithani, R., Huma, L., Holland, L., Shukla, D., McCormick, D., Mehta, R., & Moriarty, R. (2008). Antiviral Activity of Phytochemicals: A Comprehensive Review. *Mini-Reviews in Medicinal Chemistry*, 8(11), 1106–1133. doi:10.2174/138955708785909943
10. Nieman, D. C., & Wentz, L. M. (2018). The compelling link between physical activity and the body's defense system. *Journal of Sport and Health Science*. doi:10.1016/j.jshs.2018.09.009
11. Besedovsky, L., Lange, T., & Born, J. (2011). Sleep and immune function. *Pflügers Archiv - European Journal of Physiology*, 463(1), 121–137. doi:10.1007/s00424-011-1044-0
12. Prather, A. A., & Leung, C. W. (2016). Association of Insufficient Sleep With Respiratory Infection Among Adults in the United States. *JAMA Internal Medicine*, 176(6), 850. doi:10.1001/jamainternmed.2016.0787
13. Horswill, C. A., & Janas, L. M. (2011). Hydration and Health. *American Journal of Lifestyle Medicine*, 5(4), 304–315. doi:10.1177/1559827610392707
14. Reed, R. G., & Raison, C. L. (2016). Stress and the immune system. In *Environmental Influences on the Immune System* (pp. 97-126). Springer-Verlag Wien. https://doi.org/10.1007/978-3-7091-1890-0_5
15. Vedhara, K., Bennett, P. D., Clark, S., Lightman, S. L., Shaw, S., Perks, P., ... Shanks, N. M. (2003). Enhancement of Antibody Responses to Influenza Vaccination in the Elderly following a Cognitive-Behavioural Stress Management Intervention. *Psychotherapy and Psychosomatics*, 72(5), 245–252. doi:10.1159/000071895

REFERENCES

16. Sarkar, D., Jung, M. K., & Wang, H. J. (2015). Alcohol and the Immune System. *Alcohol Research : Current Reviews*, 37(2), 153–155.
17. Szabo, G. (1999). Consequences of alcohol consumption on host defence. *Alcohol and Alcoholism*, 34(6), 830–841. doi:10.1093/alcalc/34.6.830
18. Díaz, L., Montero, A., González-Gross, M., Vallejo, A., Romeo, J., & Marcos, A. (2002). Influence of alcohol consumption on immunological status: a review. *European Journal of Clinical Nutrition*, 56(S3), S50–S53. doi:10.1038/sj.ejcn.1601486
19. Sopori, M. (2002). Effects of cigarette smoke on the immune system. *Nature Reviews Immunology*, 2(5), 372–377. doi:10.1038/nri803
20. BMJ. (2018, August 13). E-cigarette vapor disables key immune cells in the lung and boosts inflammation: Effects similar to those seen in regular smokers and patients with chronic lung disease. *ScienceDaily*. Retrieved March 3, 2020 from www.sciencedaily.com/releases/2018/08/180813190148.htm
21. Friedman, H., Newton, C., & Klein, T. W. (2003). Microbial infections, immunomodulation, and drugs of abuse. *Clinical microbiology reviews*, 16(2), 209–219. <https://doi.org/10.1128/cmr.16.2.209-219.2003>
22. Phan, T., Jaruga, B., Pingle, S. et al. Intrinsic Photosensitivity Enhances Motility of T Lymphocytes. *Sci Rep* 6, 39479 (2016). <https://doi.org/10.1038/srep39479>
23. Martineau, A. R., Jolliffe, D. A., Hooper, R. L., Greenberg, L., Aloia, J. F., Bergman, P., ... Camargo, C. A. (2017). Vitamin D supplementation to prevent acute respiratory tract infections: systematic review and meta-analysis of individual participant data. *BMJ*, i6583. doi:10.1136/bmj.i6583
24. Aranow C. Vitamin D and the immune system. *J Investig Med*. 2011;59(6):881–886. doi:10.2310/JIM.0b013e31821b8755
25. Nadeau, K., McDonald-Hyman, C., Noth, E. M., Pratt, B., Hammond, S. K., Balmes, J., & Tager, I. (2010). Ambient air pollution impairs regulatory T-cell function in asthma. *The Journal of allergy and clinical immunology*, 126(4), 845–852.e10. <https://doi.org/10.1016/j.jaci.2010.08.008>
26. Bauer, R. N., Diaz-Sanchez, D., & Jaspers, I. (2012). Effects of air pollutants on innate immunity: the role of Toll-like receptors and nucleotide-binding oligomerization domain-like receptors. *The Journal of allergy and clinical immunology*, 129(1), 14–26. <https://doi.org/10.1016/j.jaci.2011.11.004>
27. Hobday, R. A., & Dancer, S. J. (2013). Roles of sunlight and natural ventilation for controlling infection: historical and current perspectives. *The Journal of hospital infection*, 84(4), 271–282. <https://doi.org/10.1016/j.jhin.2013.04.011>
28. Thrash, A., & Thrash, C. (1981). *Home Remedies*. Seale, Alabama: Thrash Publications.
29. Campisi, C., Boccardo, F., & Tacchella, M. (1999). Use of thermotherapy in management of lymphedema: clinical observations. *International Journal of Angiology*, 8(1), 73–75. doi:10.1007/bf01616849
30. Yasuda, A., & Ohshima, N. (1984). In situ observations of spontaneous contractions of the peripheral lymphatic vessels in the rat mesentery: Effects of temperature. *Experientia*, 40(4), 342–343. doi:10.1007/bf01952541

REFERENCES

31. Roberts, N. J., & Steigbigel, R. T. (1977). Hyperthermia and human leukocyte functions: effects on response of lymphocytes to mitogen and antigen and bactericidal capacity of monocytes and neutrophils. *Infection and Immunity*, 18(3), 673–679. doi: 10.1128/iai.18.3.673-679.1977
32. Shevchuk, N. A., & Radoja, S. (2007). Possible stimulation of anti-tumor immunity using repeated cold stress: a hypothesis. *Infectious agents and cancer*, 2, 20. <https://doi.org/10.1186/1750-9378-2-20>
33. Buijze, G. A., Sierevelt, I. N., van der Heijden, B. C., Dijkgraaf, M. G., & Frings-Dresen, M. H. (2016). The Effect of Cold Showering on Health and Work: A Randomized Controlled Trial. *PLoS one*, 11(9), e0161749. <https://doi.org/10.1371/journal.pone.0161749>
34. Mooventhan, A., & Nivethitha, L. (2014). Scientific evidence-based effects of hydrotherapy on various systems of the body. *North American journal of medical sciences*, 6(5), 199–209. <https://doi.org/10.4103/1947-2714.132935>
35. Shevchuk, N. A. (2008). Adapted cold shower as a potential treatment for depression. *Medical Hypotheses*, 70(5), 995–1001. doi:10.1016/j.mehy.2007.04.052
36. Singh M. (2004). Heated, humidified air for the common cold. *The Cochrane database of systematic reviews*, (2), CD001728. <https://doi.org/10.1002/14651858.CD001728.pub2>
37. Bayan, L., Koulivand, P. H., & Gorji, A. (2014). Garlic: a review of potential therapeutic effects. *Avicenna journal of phytomedicine*, 4(1), 1–14.
38. Wallock-Richards, D., Doherty, C. J., Doherty, L., Clarke, D. J., Place, M., Govan, J. R. W., & Campopiano, D. J. (2014). Garlic Revisited: Antimicrobial Activity of Allicin-Containing Garlic Extracts against *Burkholderia cepacia* Complex. *PLoS ONE*, 9(12). doi: 10.1371/journal.pone.0112726
39. Sharma, N. (2019). Efficacy of Garlic and Onion against virus. *International Journal of Research in Pharmaceutical Sciences*, 10(4), 3578–3586. doi: 10.26452/ijrps.v10i4.1738
40. Chang, J. S., Wang, K. C., Yeh, C. F., Shieh, D. E., & Chiang, L. C. (2013). Fresh ginger (*Zingiber officinale*) has anti-viral activity against human respiratory syncytial virus in human respiratory tract cell lines. *Journal of Ethnopharmacology*, 145(1), 146–151. doi:10.1016/j.jep.2012.10.043
41. Imanishi, N., Andoh, T., Mantani, N., Sakai, S., Terasawa, K., Shimada, Y., ... Ochiai, H. (2006). Macrophage-Mediated Inhibitory Effect of *Zingiber officinale* Rosc, A Traditional Oriental Herbal Medicine, on the Growth of Influenza A/Aichi/2/68 Virus. *The American Journal of Chinese Medicine*, 34(01), 157–169. doi:10.1142/s0192415x06003722
42. Hemilä, H., & Douglas, R. M. (1999). Vitamin C and acute respiratory infections. *The International Journal of Tuberculosis and Lung Disease*, 3(9), 756–761.
43. Hudson, J., & Vimalanathan, S. (2011). Echinacea—A Source of Potent Antivirals for Respiratory Virus Infections. *Pharmaceuticals*, 4(7), 1019–1031. doi:10.3390/ph4071019
44. Rotblatt, M., & Ziment, I. (2002). Evidence-based herbal medicine. Philadelphia: Hanley & Belfus.
45. Tiralongo, E., Wee, S., & Lea, R. (2016). Elderberry Supplementation Reduces Cold Duration and Symptoms in Air-Travellers: A Randomized, Double-Blind Placebo-Controlled Clinical Trial. *Nutrients*, 8(4), 182. doi:10.3390/nu8040182

REFERENCES

46. Channappanavar, R., & Perlman, S. (2017). Pathogenic human coronavirus infections: causes and consequences of cytokine storm and immunopathology. *Seminars in Immunopathology*, 39(5), 529–539. doi:10.1007/s00281-017-0629-x
47. Barak, V., Halperin, T., Kalickman, I. (2001). The effect of Sambucol, a black elderberry-based natural product, on the production of human cytokines: I. Inflammatory cytokines. *European Cytokine Network*. 12(2):290-6.
48. Hobday, R. A., & Cason, J. W. (2009). The open-air treatment of pandemic influenza. *American journal of public health*, 99 Suppl 2(Suppl 2), S236–S242. <https://doi.org/10.2105/AJPH.2008.134627>
49. Aligne C. A. (2016). Overcrowding and Mortality During the Influenza Pandemic of 1918. *American journal of public health*, 106(4), 642–644. <https://doi.org/10.2105/AJPH.2015.303018>
50. "WEAPONS AGAINST INFLUENZA." *American Journal of Public Health*, 8(10), pp. 787–788
51. Hobday, R. A. (2019). The Open Air Factor, and Infection Control. *Journal of Hospital Infection*. doi:10.1016/j.jhin.2019.04.003
52. Schuit, M., Gardner, S., Wood, S., Bower, K., Williams, G., Freeburger, D., & Dabisch, P. (2020). The Influence of Simulated Sunlight on the Inactivation of Influenza Virus in Aerosols. *The Journal of infectious diseases*, 221(3), 372–378. <https://doi.org/10.1093/infdis/jiz582>
53. Hobday, R. A., & Dancer, S. J. (2013). Roles of sunlight and natural ventilation for controlling infection: historical and current perspectives. *The Journal of hospital infection*, 84(4), 271–282. <https://doi.org/10.1016/j.jhin.2013.04.011>
54. Gruber-Bzura BM. Vitamin D and Influenza-Prevention or Therapy?. *Int J Mol Sci*. 2018;19(8):2419. Published 2018 Aug 16. doi:10.3390/ijms19082419
55. Ashkin, E., & Mounsey, A. (2013). PURLs: a spoonful of honey helps a coughing child sleep. *The Journal of family practice*, 62(3), 145–147.
56. Oduwole, O., Udoh, E. E., Oyo-Ita, A., & Meremikwu, M. M. (2018). Honey for acute cough in children. *Cochrane Database of Systematic Reviews*. doi:10.1002/14651858.cd007094.pub5.
57. Lal, A., Chohan, K., Chohan, A., & Chakravarti, A. (2016). Role of honey after tonsillectomy: a systematic review and meta-analysis of randomised controlled trials. *Clinical Otolaryngology*, 42(3), 651–660. doi:10.1111/coa.12792

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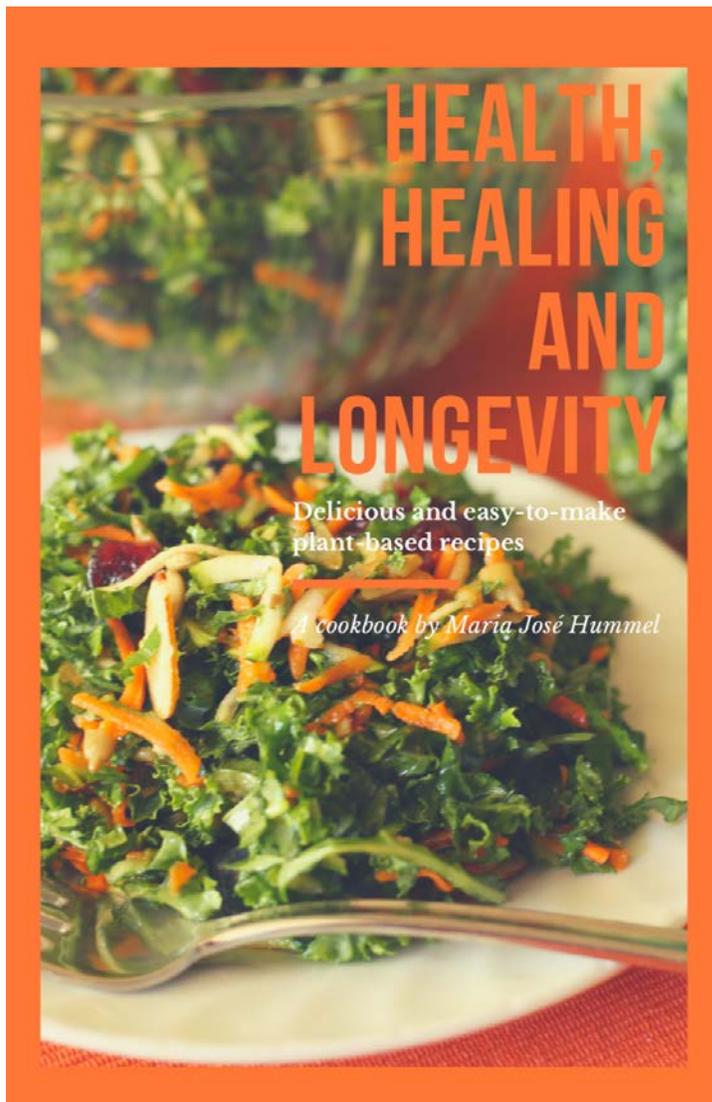
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