

Nasal Irrigation May Help Prevent COVID Hospitalizations

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STORY AT-A-GLANCE

- › A recent preprint study demonstrated that people who used normal saline nasal irrigation were 19 times less likely to be hospitalized for COVID-19 than the national rate; the study used pressure-based nasal irrigation systems
- › In one group, the intervention included povidone-iodine, which some physicians have been using as oral solutions, and nasal irrigation to protect against COVID infection; other health care professionals are using nebulized hydrogen peroxide, and some are using both
- › Since early 2020, some physicians have encouraged individuals and organizations to include hydrogen peroxide in their treatment protocols. In an interview with Dr. David Brownstein, he discusses his protocol that includes vitamins, hydrogen peroxide and iodine
- › In another short video, Dr. Thomas Levy and I discuss the advantages of using nebulized hydrogen peroxide to your gut microbiome, which is essential to supporting your immune health

A recent preprint study¹ demonstrated that people who used a normal saline nasal irrigation were 19 times less likely to require hospitalization for treatment of COVID-19 than the national rate of hospitalizations. You may be familiar with nasal irrigation when it's referred to as using a Neti Pot.

According to a 2009 article in the American Family Physician,² nasal irrigation has been an adjunctive therapy for upper respiratory conditions and is currently prescribed after nasal and sinus surgeries.³ Nasal irrigation with a neti pot instills normal saline into your nasal passages with a small device that resembles a teapot.

After inserting the end of the pot in one side of your nose, the solution moves around the sinuses and out the other nostril. For example, by flushing out pollen in the nose and sinus cavities, it helps to manage the symptoms of mild to moderate allergic rhinitis.

While using a neti pot is probably the most-recognized over-the-counter method of deep nasal irrigation, one study⁴ evaluated other irrigation techniques to discover which would more effectively reach the maxillary sinus and frontal recess after an endoscopic sinus surgery. They analyzed the results of a metered nasal spray, nebulization and nasal douching "while kneeling with the head on the floor."⁵

Nasal douching is a procedure in which you "sniff" saline into your nostrils,⁶ and researchers found that it was more effective than a metered nasal spray or nebulized normal saline to reach the sinus cavities.⁷

If you want to try a nasal irrigation with a neti pot, and you're thinking of making your own saline solution, it's important to remember to use only distilled, sterile or cooled, boiled water. Tap water can contain bacteria and protozoa that may be safe in the gastrointestinal tract⁸ but not in your nasal passages, where a free-living microscopic amoeba called *Naegleria fowleri* can trigger a devastating brain infection that is usually fatal.⁹

Nasal Irrigation With Normal Saline Reduced Hospitalizations

The most recent study¹⁰ compared the clinical outcomes in patients with COVID-19 using normal nasal saline irrigation. The researchers engaged patients who were 55 years or older who tested positive with a PCR test in a community testing site.

They began with a group of 79 patients who were randomized into two groups. The data were then compared against outcomes from the Centers for Disease Control and

Prevention's national database. In this study the participants used one of two pressure-based nasal irrigation systems: the NAVAGE or the NeilMed Sinus Rinse.

The participants were then randomly selected to use either one-half teaspoon of sodium bicarbonate (alkalinization) with the standard saline rinse twice a day for 14 days, or to include 2.5 milliliters (roughly a half-teaspoon) of povidone-iodine 10% solution (antimicrobial) for the same period. The researchers then followed up with each group 14 days after their final intervention.

The primary outcome was hospitalization for COVID-19 within the first 28 days after the intervention began. Secondly, they tracked symptom resolution, adherence to the intervention and the side effects that the intervention may have had on the participant. At the end of 28 weeks, 62 patients had completed their research diaries and averaged 1.79 irrigations each day.

After analyzing the results, the researchers found there were no statistical differences in outcomes when the participants used the povidone-iodine antimicrobial wash or alkalinized the nasal cavity with sodium bicarbonate. None of the patients assigned to the povidone-iodine wash and only one assigned to the alkalinized group had a COVID-19 related hospitalization.

However, resolutions of symptoms in those using the povidone-iodine were more likely. The researchers concluded that the isotonic saline nasal irrigation had a positive effect on reducing hospitalization and "Further research is required to determine if adding povidone-iodine to irrigation reduces morbidity and mortality of SARS-CoV-2 infection."¹¹

Further study may also be necessary to determine if alkalinizing the nasal cavity had an impact on killing the virus and preventing hospitalization as the body's natural pH is slightly alkaline,¹² and most pathogens prefer an acidic environment.¹³ Clearing the oral cavity of SARS-CoV-2 is also part of the outpatient IMASK protocol from the Front Line COVID-19 Critical Care Alliance.¹⁴

Addition of Povidone Iodine May Improve Efficacy

In the 4th century B.C., a student of Aristotle discovered that using iodine-rich seaweed could help sunburn pain.¹⁵ One of the first iodine preparations used in the care and treatment of open wounds was Lugol's solution that contained elemental iodine and potassium. This was used to treat wounds during the American Civil War.

The two most commonly used iodine solutions today are povidone-iodine (PVP-I), which is also known as Betadine, and cadexomer iodine, which is used in wound care to fill cavities. The exact way iodine kills microbes is not well understood but believed to be associated with the ability to penetrate the microorganisms' cell wall, which then affects the structure and function.

At the start of 2020, some doctors began using PVP-I in the oral and nasal cavity to shield against COVID-19. Dr. Mostafa Arefin,¹⁶ from Dhaka Medical College and Hospital in Bangladesh, published a paper in early 2021 detailing use of PVP-I for himself and more than 50 other doctors and other health care workers.

During a five- to nine-month period he performed airway surgeries in which SARS-CoV-2 could be expected to be aerosolized, such as tracheostomies, endoscopic sinus surgeries, laryngeal biopsies and tonsillectomies. At the conclusion, he recommended that doctors, health care workers, COVID-19 patients and others use oral and nasal spray to reduce the transmission and as a potential treatment modality.

One study¹⁷ published in JAMA in early 2021 investigated nasopharyngeal application of povidone-iodine to reduce the viral load of people who had COVID-19. Adult outpatients who tested positive with a PCR test cycle threshold less than 20 in the past 48 hours were included.

The group was split into two factions. The control group underwent no intervention. The intervention group used a mouthwash and gargle of 25 milliliters (a little over 5 teaspoons) of 1% povidone-iodine solution and then 2.5 milliliters (one-half teaspoon) of nasal solution sniffed into each nostril using a mucosal atomization device.

The participants followed this procedure four times a day for five days. The researchers followed up and found that no one required hospital admission and all but one of the

patients had a negative viral titer by the end of Day 3. Thyroid dysfunction did occur in 42% of the patients, but it resolved spontaneously when the treatment was stopped.

It is interesting to note that the study published in JAMA¹⁸ used 1% solution, while Arefin and his colleagues used a 0.23% concentration, having found that PVP-I had 99.99% virucidal efficacy at that concentration.¹⁹

Hydrogen Peroxide May Reduce Hospitalization, Complications

In early 2020, a joint research team from Italy and the United Kingdom published a paper in *Infection Control and Hospital Epidemiology*.²⁰ In April they recognized that "the virus resides in the mucous membranes and is transmitted through the saliva and respiratory droplets" to facilitate viral spread.

The paper recounts how in February 2020, the Italian government recommended sanitizing the environment with 0.5% hydrogen peroxide as it was already in use for both disinfect purposes and to treat of oral gingivitis. They cited a 2016 study with the SARS coronavirus,²¹ which showed the virus stays in mucous membranes up to two days before moving to the lower respiratory tract.

The team²² identified this delay as a window of opportunity to prevent the onset of symptoms. Because hydrogen peroxide efficiently inactivates coronavirus on inanimate surfaces and since it has been tested in, and is in use, in human health, they proposed that hydrogen peroxide could reduce hospitalization and severity of illness when it was used in the oral and nasal mucosa.

They postulated that gargling three times a day and using a nasal wash and nebulizer twice a day could be safe and effective. In March 2020, a retired professor from the University of Ghana Medical School wrote in a letter to the editor to the *BMJ* that²³ "there is evidence that even 0.5% hydrogen peroxide could inactivate the SARS-CoV-2 on surfaces."

And, since hydrogen peroxide has been in use in dental practice for nearly 100 years and in view of its safety, he proposed the World Health Organization add hydrogen peroxide

mouthwash and gargling to their preventive protocols.

By May 2020, word about hydrogen peroxide reached the ears of the Federal Trade Commission, which then began issuing warning letters to those who dared to suggest that hydrogen peroxide was an at-home treatment that may be effective against SARS-CoV-2.²⁴

Nebulized Hydrogen Peroxide Helps Stop Respiratory Infections

In this interview with Dr. David Brownstein, we discussed the protocol he has been using for over 25 years for patients with cold and flu. He is using the same protocol for patients with COVID-19 and at the time of the recording had successfully treated over 220 patients without any deaths and only a few hospitalizations.²⁵

In an open letter²⁶ physician and attorney Thomas Levy attributes the original concept of nebulizing hydrogen peroxide to Dr. Charles Farr, who "championed" it in 1990. In the letter, he discusses how the extra oxygen atom in hydrogen peroxide is deadly for viruses and how under normal circumstances, your immune cells produce their own hydrogen peroxide.

Yet, when your immune system is overwhelmed with viral replication, it may not be able to produce enough hydrogen peroxide. The original therapy used intravenous administration, which made the process unavailable for most people.

Dr. Frank Shallenberger, known for his research in mitochondrial function and oxygen utilization,²⁷ went on to propose and use nebulize hydrogen peroxide, finding it had an additional advantage since the intervention went directly to the area of the body that was most affected by a virus.

Although Levy recommends using 3% hydrogen peroxide off the shelf and undiluted, I prefer food grade hydrogen peroxide²⁸ that does not have the additives and stabilizers you find in the products sold at big box stores.

In the interview, Brownstein talks about the change he pioneered to the treatment – which was to add iodine to the nebulized hydrogen peroxide.²⁹ Interestingly, he used nebulized iodine first with his patients and then added hydrogen peroxide to the treatment protocol.

Nebulized Hydrogen Peroxide May Help Your Gut Microbiome

In this video, Levy and I talked about the benefits of using nebulized hydrogen peroxide three to four times a week to improve your gut microbiome. He addresses this as well in his open letter when he writes:³⁰

"As it is a completely non-toxic therapy, nebulization can be administered as often as desired. If done on a daily basis at least once, a very positive impact on bowel and gut function will often be realized as killing the chronic pathogen colonization present in most noses and throats stops the 24/7 swallowing of these pathogens and their associated toxins.

If daily prevention is not a practical option, the effectiveness of this treatment is optimized when somebody sneezes in your face, or you finally get off of the plane after a trans-Atlantic flight. Don't wait for initial symptoms. Just nebulize at your first opportunity."

As you know, when your gut microbiome is out of balance, it can severely impact your body's immune system,³¹ which in turn influences your potential risk for getting sick with a viral illness. To see how to make the hydrogen peroxide solution and how to use the nebulizer, see the video below. Be sure to bookmark this video and the others on this page as this article will not be available after 48 hours.

Sources and References

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