

## Scientific basis for some Yoga practices in Sinusitis

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*Recent American 'news' reports are [warning](#) that nasal irrigation -- known as Jala Neti in its country of origin -- could be fatal due to the presence of a brain eating amoeba in American drinking water! We have often wondered what they put in American drinking water to create such a fear ridden, socially paralysed (indefinite detention without trial or charge) CLEARLY enslaved, imbecilic population! The existence of this amoeba, among other things, in American drinking water may not surprise many so I would add a cautionary provision to the practice of jala neti; if in any doubt whatsoever regarding the safety of water supplies simply BOIL all water thoroughly and clean all utensils ('neti pots') before utilisation for nasal irrigation. There ya go, you dumb, frightened, Americans. **[Please note this is an editorial comment and in no way reflects the opinion or sentiments of the author, though the health/safety warning applies!]***

Yoga, the ancient cultural heritage of India has recently become popular as a therapeutic adjuvant to modern scientific medicine. A lot of research has been done on various aspects of Yoga in relation to health and disease and the physiological and psychological benefits of Yoga have given rise to various potentialities as an adjuvant therapy for numerous psychosomatic disorders. We must not forget however that Yoga is primarily focused on prevention and can be said to be the original preventive medicine.

This paper attempts to focus on the scientific basis of some Yoga practices that may help in the prevention and management of sinusitis. A bird's eye view of recent studies in this regard, published in international and indexed journals of modern medicine helps us to understand the mechanism by which these Yoga practices can help as an adjuvant therapy in preventing and managing sinusitis.

### SINUSITIS

Sinusitis is an inflammation of the membrane lining of any sinus, especially one of the paranasal sinuses of the skull that include the maxillary, frontal, ethmoidal and sphenoidal sinuses.

Rhinosinusitis is a common clinical problem with considerable morbidity and often, refractory symptoms, accounting for millions of patient visits to medical practitioners. It is estimated that more than 120 million Indians suffer from at least one episode of acute sinusitis each year.

It is also one of the top five conditions for which antibiotics are frequently prescribed and a major cause of antibiotic resistance due to the difficulty in differentiating infections of viral and bacterial etiology at primary level health care.

The prevalence of sinusitis worldwide has soared in the last decade due to increased pollution, urban sprawl, and increased resistance to antibiotics. We should never underestimate the negative impact on the patients' quality of life as though sinusitis may have never killed anyone; it sure has made many feel like killing themselves.

Acute sinusitis is a short-term condition that responds well to antibiotics and decongestants whereas

chronic sinusitis is defined as four or more recurrences of acute sinusitis that may require prolonged therapy and even surgery.

The major symptoms of acute sinusitis include facial pain or pressure, nasal obstruction, nasal discharge, diminished sense of smell while other symptoms like fever, bad breath, fatigue, dental pain, and cough may be present.

In chronic sinusitis, the following symptoms may be present for 12 weeks or more. These symptoms include facial pain or pressure, facial congestion, nasal blockage, thick nasal discharge, discolored post-nasal drainage, pus in the nasal cavity, and fever. The patient may also complain of headache, bad breath, and fatigue.

Chronic sinusitis is a common disease in children, especially those with allergies. The inflammation from an allergy causes membrane swelling and the sinus openings to narrow, thereby blocking mucus movement. The poor sinus ventilation increases the risk for sinusitis.

New evidence points to a pathophysiologic link between sinusitis, allergic rhinitis and asthma. This makes it more important for us to prevent and manage sinusitis in order to prevent the further complications from occurring. It has been seen that smoking plays a role in the causation and worsening of symptoms and any therapy programme would be incomplete without a smoking cessation element in it.

#### SCIENTIFIC BASIS FOR THE USE OF JALA NETI

One of the most important Yoga practices for the prevention and management of sinusitis is the Neti Kriya that is one of the Shat Karmas of Hatha Yoga. Neti is the practice of cleaning the nasopharyngeal tract with liquids or thread. Types of Neti include Jala Neti (nasal irrigation with lukewarm saline water) and Sutra Neti (nasal cleaning with a thread or catheter). Others are Dugdha Neti (with milk), Ghrta Neti (with ghee) and Jala Kapalabhati that includes Vyutkrama and Seetkrama Kapalabhati.

Hypertonic nasal irrigation is a therapy that flushes the nasal cavity with saline solution, facilitating a wash of the structures within. Originally part of the Yogic tradition as Neti, this technique is anecdotally regarded as safe and effective. It has been suggested as adjunctive therapy for sinusitis and sinus symptoms. Potential efficacy is supported by the observation that hypertonic saline improves mucociliary clearance, thins mucus, and may decrease inflammation.

According to Dr. Marple, professor of otolaryngology at the University of Texas saline nasal irrigation is a highly effective, minimally invasive intervention for people suffering from nasal issues. He however adds, "But it's just not as sexy to talk about. People want to hear about surgery or antibiotics."

Chronic sinusitis is a common disease in children, especially those with allergies, and is caused by impaired drainage from the sinuses. Hypertonic Saline solution has been shown to increase mucociliary clearance and ciliary beat frequency in such patients.

David Shoseyov and colleagues have shown that hypertonic saline improves both clinical scores and plain Waters' projection radiology scores in children with chronic sinusitis. They have also commented that the treatment is tolerable, inexpensive, and effective.

A study by DG Heatley and colleagues in the University of Wisconsin has shown that daily nasal

irrigation using a bulb syringe, nasal irrigation pot, and daily reflexology massage were equally efficacious and resulted in improvement in the symptoms of chronic sinusitis in over 70% of subjects. Medication usage was decreased in approximately one third of participants regardless of intervention.

LT Tamooka and colleagues at the University of California have shown that patients who used nasal irrigation for the treatment of sinonasal disease experienced statistically significant improvements in 23 of the 30 nasal symptoms queried. Improvement was also seen in the global assessment of health status using the Quality of Well-Being scale.

David Rabago and colleagues at the University of Wisconsin have shown that daily hypertonic saline nasal irrigation improves sinus-related quality of life, decreases symptoms, and decreases medication use in patients with frequent sinusitis. They also recommended that primary care physicians can feel comfortable recommending this therapy.

All of this recent research helps us understand the scientific basis of how Jala Neti, one of the Shat Karmas can help in preventing and managing sinusitis in an effective manner by improving mucociliary clearance, thinning the mucus, and by decreasing the inflammation that blocks the sinus ostia. This information must be taken to the primary health care level as it has the potential to reduce the use of antibiotics and other suppressant medications in a healthy and cost effective manner.

#### SCIENTIFIC BASIS FOR THE USE OF NADA PRANAYAMAS IN SINUSITIS

Chanting has always been an important aspect of the spiritual life in India. Chanting Mantras, performing Japa, singing Bhajans and the use of Nada Pranayamas such as the Bhramari and the Pranava are important parts of the Yogic life.

Recent studies have shown that chanting creates sound vibrations that encourage air to move back and forth between the sinus membranes and nasal passages. This air movement helps open the tiny ducts, or ostia, that connect the nose to the sinuses, allowing the sinuses to drain properly. This can help prevent infections from settling down in the sinuses and create a healthy environment therein.

All the sinuses are effectively ventilated by humming and this is an important benefit as previous research has shown that poor sinus ventilation increases the risk for sinusitis. When the sinuses are well ventilated infections have no chance of settling down at all.

A study done by Jon Lundberg and Eddie Weitzberg of the Karolinska Institute in Sweden has shown that the daily humming or "Om" chanting may actually prevent infections from taking hold. They found that humming increased nitric oxide levels fifteenfold, compared to quiet exhalations without sound. The exhalations of people with healthy sinuses tend to have high nitric oxide levels, indicating that more air is able to flow between the sinuses and the nose.

The Nada Pranayamas such as the Bhramari and the Pranava are similar to the humming used in the study. In the Bhramari Pranayama the nasal sound like a bee is used while in the Pranava Pranayama, the humming sounds of the Pranava A-U-M are used. This new light on humming and nasal ventilation can explain the scientific basis by which these Pranayamas can prevent as well as help in the management of sinusitis. This is another reason why practices like the Surya Namaskar should always be done with the chanting of the Surya Mantras and another reason why the chanting of the Mantras and scriptures should be encouraged in Yoga therapy and training.

## CONCLUSION

In conclusion we can see how Yoga through the practices such as Neti Kriya and the Nada Pranayamas offers us a possible adjuvant therapy in the prevention and management of sinusitis.

It can be said that the nasal irrigation with hypertonic saline (as done in Jala Neti) is a proven and effective modality of treatment in Rhinosinusitis. We can also conclude that the Nada Pranayamas such as the Bhramari and Pranava can help tremendously by ventilating the sinuses in an effective manner. This prevents infections from settling down in the healthy Nitric Oxide rich environment.

Such practices of Yoga are inexpensive and quite safe when done under proper supervision. Even young children can do these practices and correct the health challenges that could otherwise lead to conditions such as asthma in the future.

A last word is due about the acknowledged fact that Yoga also offers us numerous side benefits (unlike the side effects of modern medicine) such as the improved quality of life and healthy sense of well being that are the keystone to attaining and maintaining as well as regaining good health.

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