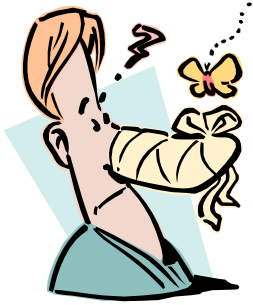


# Your nose:

## The ultimate air cleaner



Your nose does more than just decorate your face. Inside, you're carrying around a personal air treatment system, cleverly designed to protect the delicate tissues of your lungs that transfer oxygen out of the air you breathe and into your body.

Whether classically bold or cutely upturned, your nose:

- **Filters** the air, catching and trapping tiny particles before they can get into your lungs.
- **Humidifies** the air, adding moisture to keep your airways from drying out.
- **Warms** the air to body temperature before it reaches your lungs.

This marvelous system is portable, durable -usually fairly quiet- and never needs batteries! But it does require some maintenance to keep it working at peak efficiency, just like brushing your teeth to keep your gums and teeth healthy.

### What's up your nose?

When you breathe through your nose, the air goes past your nostrils into an open area inside your head called the nasal cavity and sinuses before heading down into your lungs through your windpipe.

The whole system of airways is lined with a thin layer of sticky mucus that traps dust particles, bacteria and other pollutants. Tiny hairs called cilia sweep mucus from your nasal cavity into the back of your throat where it can be swallowed and neutralized in your stomach. Mucus is constantly being produced (2-4 cups a day) and the cycle goes on.

An intricate network of blood vessels takes care of the heating and humidifying work. Folds of tissue (called turbinates) inside your nasal cavity provide a

huge surface area of blood vessels that warm the air to body temperature and add moisture within seconds.

### Meddling with mucus

Mucus must have just the right balance of stickiness and fluidity for the filtering process to work efficiently. Allergic reactions and infections can disrupt this balance, and dry air, irritating chemicals and second hand smoke tip the scales even more.

Allergens and infections alert your immune system to send extra blood cells to the lining of your nasal passages, making them swollen and inflamed (congested). At the same time, your nose produces extra mucus. This can overwhelm the cilia's ability to clean things out and leave you with a stuffed-up or runny nose.

Strong scents and chemicals (such as those in tobacco smoke) can affect how well the cilia in your nasal cavity work, also causing mucus to build up. A dry nose also has trouble moving mucus effectively. When the air you breathe is very dry (especially cold winter air), it may pull more moisture than usual from your nose. The resulting dried out nasal passages and thickened mucus will be less able to sweep out germs, leaving you more susceptible to disease.

### Mouth Breathing

Breathing through your mouth instead of your nose, because your nose is congested or during vigorous exercise, bypasses much of your body's natural air filtering and treatment. This can allow germs, allergens and other pollutants to get inside your lungs, where they can damage delicate tissues. It also allows unconditioned air to affect sensitive small airways. For example, drawing cold air into your lungs without letting your nose warm it up first has a twofold effect:

- The cold air makes your airways tighten up and constrict, so breathing becomes more difficult.
- The dryness thickens mucus and clogs the cilia, so your lungs are less able to process oxygen and move into your blood stream.

### A Cold in the Nose

A "cold" is a viral infection in the lining of your nasal passages. You may pick up the germs by touching contaminated surfaces with your hands then touching your nose or eyes or by being exposed to germs from someone's cough or sneeze.

When your nose is working efficiently, cold viruses are swept out of the nasal passages in your

mucus. When it's not, they can sit in your nose and make their way into your nasal tissue, causing infection.

### **Asthma and Allergies**

Because the connection between the nose and lungs is so important, keeping your nose healthy can help reduce problems in the lungs such as asthma symptoms. Sensitive airways already compromised by underlying inflammation are primed and ready to react when exposed to allergens, irritants, excess mucus or cold air.

### **Snoring and Sleep Apnea**

Unhealthy nasal passages which become swollen and inflamed can obstruct your breathing and contribute to snoring and sleep apnea.

### **Pneumonia and Bronchitis**

Keeping your nose healthy can be the first line of defense against serious lung illnesses like bronchitis and pneumonia. Since your nose filters particles of irritants and bacteria before they can reach your lungs, if not working properly, your lungs are more susceptible to viruses and bacteria that can lead to bronchitis or pneumonia.

### **Headaches and Ear Pain/Vertigo**

The eustachian tube is the connection between the middle ear and the back of the nose and upper throat. Nasal congestion can cause a change in the pressure of the middle ear which can cause ear pain, headaches and dizziness.

### **Chronic Cough**

Post nasal drip is a common cause of a chronic cough. Post nasal drip can be caused by sinusitis or rhinitis (including allergic rhinitis), environmental irritants, and recent upper respiratory infection. Your doctor may prescribe nasal sprays for you to use after a nasal rinsing system.

### **How to maintain a healthy nose**

Although you can't always control the temperature or contents of the air you breathe, you can take steps to keep to keep your nose as healthy as possible by following these tips:

- Drink plenty of water to keep mucus thin and fluid.
- Help warm the air you breathe in during cold weather by wearing a scarf over your nose and mouth.
- Keep nasal passages moist with saltwater nasal washes or sprays, especially if you are exposed

to dry air, allergens (such as our environment here in Nevada) or infection.

- When using nasal sprays, be careful to direct the spray toward the outer surface of your nasal passage, away from the center of your nose, to avoid damaging the septum (the tissue that separates the two sides of your nasal passage).
- Limit your use of decongestant sprays (i.e. Afrin, Dristan), which can damage the cilia that clear the nose and sinuses and cause worsening symptoms when discontinued.
- Ask your healthcare professional whether any other medications you could take contribute to nasal problems. For instance, diuretic blood pressure medications and some anti-anxiety medications have a drying effect on nose and throat. Birth control pills, beta blocker blood pressure medicines and erectile dysfunction medication can increase nasal congestion. Eye drops can aggravate nasal symptoms when they drain into the nose with tears.

### **Nasal wash**

To relieve or prevent nasal symptoms particularly if you have a history of chronic nasal or sinus problems plan to rinse your nose two times each day.

Washing the inside of the nose shrinks swollen membranes, improves airflow and opens sinus passages. In addition, studies show that a mixture of salt water and baking soda helps the nose to work better and move mucus out faster. You can buy a nasal wash kit or premixed solution at in the retail section of SPSI or make your own.

### **Nasal wash recipe (Isotonic Salt Solution)**

1 quart distilled water  
1 teaspoon "pickling/canning" salt or Kosher salt  
½ level teaspoon baking soda

- Carefully clean and rinse a 1 quart glass jar. Fill the clean jar with water.
- Add 1 teaspoon of "pickling/canning" salt or Kosher salt (do not use table salt – it has unwanted additives).
- Add baking soda (pure sodium bicarbonate).
- Stir. Store at room temperature. After a week, pour out any mixture that is left over and make a new recipe.

### **Nasal wash instructions:**

You will need a bulb syringe or ear syringe, a large medical syringe (30 cc) or squeezable 1 pint plastic bottle (such as the Neil Med system recommended by

SPSI). Some people use a neti pot, which is like a tea pot with a long spout.

Fill your rinsing device with the saline solution. Stand over the sink or in the shower and squirt the mixture into your left nostril, aiming the stream toward the back of your head, not the top. (Don't inhale – this is not like an inhaled medication.) Stand up and tilt your head forward, touching chin to chest to allow excess solution to drain out of your nose. Hold a wash cloth in front of you! If it drains into your mouth instead, simply spit it out.

Repeat the process with the right nostril. Continue alternating nostrils several times until you run out of solution in the syringe or squeeze bulb. You may notice a mild burning sensation in your nose the first few time using the mixture. This is normal and will dissipate with repeated use.

You should do this irrigation/rinsing at least once a day, either in the morning or at night. If your symptoms are severe or if you have an acute infection, increase to twice daily or as needed.

**For children:**

You can put the mixture into a small spray container, like a saline spray bottle. Squirt it many times into each side of the nose. Do not force the child to lie down. It is easier and more comfortable to do when sitting or standing.

**Recommended Nasal Washes:**

- Nasamist Aerosol by NeilMed
- Neil Med Sinus Rinse Kit with 1 pint bottle
- SinuNeb Power Nasal Irrigator

*Above products are available in our retail shop.*