



**CONTENTS**

- 1 Ear, Nose and Throat Doctors
- 2 Audiologists
- 2 Hearing Aids
- 3 For Ear, Nose and Throat Health the One to See is an ENT
- 3 Cochlear Implants
- 4 Nasal Irrigation
- 5 Breathe Easier
- 5 Ten Steps to Indoor Air Quality
- 5 Panel of Experts

**MEDIA PLANET**

**EAR, NOSE & THROAT**

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## Otolaryngology Making the Connection

Why do otolaryngologists specialize in these three particular areas? Most specialists limit themselves to one body part or system. Ophthalmologists focus only on eyes. Cardiologists make their living off of hearts. ENT doctors get three body areas on which to focus their expertise.

**T**he reason is actually quite simple. The three are all connected. The ear is connected to the nose and throat via the auditory (or Eustachian) tube while the nasal and sinus passages drain directly into the throat via the pharynx. That's why you get a sore throat when your nose drips and why a cold often turns into an ear or sinus infection. It's also why people with allergies are much more likely to suffer from chronic ear infections and sinusitis than people without.

Given that, it should come as no surprise that ENT docs are some of the busiest specialists around. Just consider the numbers:

- Hearing loss affects one in 10 people. We're not just talking about older people, either. The increasing noisiness of modern life, including ear-blowing concerts and too-loud MP3 players means that even people in their 30s and 40s are saying, "What?" a bit more often than they'd like. In fact, an estimated one in eight children and teens already show signs of hearing loss. Noise isn't the only risk factor for hearing loss, either. Quit smoking and you could reduce your risk of hearing loss nearly 200 percent. Even eating a healthy diet filled with antioxidant-rich fruits and vegetables could reduce your risk.
- Over 35 million people a year have allergies. These numbers are increasing due to environmental changes that affect our immune system. Some

say we've simply become "too clean," so our immune system overreacts to every foreign object it encounters, even if it's just a speck of pollen. Allergies are far from benign, however. People with allergies are three times more likely to develop asthma. There's even some evidence that a history of allergies might increase the risk of Parkinson's disease.

- More than 30 million adults in the United States get sinusitis each year. The costs of the disease—inflammation of the sinuses—exceeds more than \$3 billion a year when you figure in all the doctor and emergency room visits, medications, tests and procedures. And that doesn't even count days missed from work because of illness.
- Eighty to ninety percent of children have at least one ear infection by the time they turn three. Put another way, ear infections are the reason behind one in three doctor visits during the first five years of life. Chronic ear infections in children can lead to speech, language and cognitive impairments, as well as hearing, motor and balance loss.

While hearing loss, allergies and chronic sinus infections might be the first things that pop into your mind when you think about an ENT doctor, their expertise extends far beyond those two areas. Having trouble talking or swallowing? Feeling dizzy when you stand up? Hear a buzzing in your ears? It might be time

to call an ENT.

Was your child born with a cleft palate? Need her tonsils out? She'll likely see an ENT doctor. For these doctors do more than just peer down your throat and write prescriptions. They are also surgeons, removing sinus polyps, inserting ear tubes and cochlear implants, and operating on thyroid and head and neck cancers. Some even do facial and reconstructive surgery, including nose jobs and face lifts.

All of which is a roundabout way of telling you that there is much more to ENT than what you'll read in this special section. Nonetheless, we've tried to highlight some of the more common areas that ENT doctors address, both from a treatment and a preventive perspective.

You'll read about

the very latest in hearing aids (hint: forget everything you thought you knew about hearing aids when you read this story), the role of cochlear implants in restoring hearing to adults, and about lifestyle and other non-medical approaches you can take to keep your nose and sinuses healthy.

Because, bottom line, if you can't smell it, hear it, or taste it, you're missing out on a big part of what makes life special.



by **Dr. Mehta**

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## Audiologists: Checking Up on Your Hearing

When is the last time you thought about your hearing? If you're 55 or older, or find yourself saying "What?" a lot, it's time. Time for a baseline hearing check, a 30- to 60-minute evaluation that not only assesses overall hearing loss but the type of loss (low tones, high tones?) as well. The best person to conduct that test? An audiologist.

**A**udiologists are to hearing what optometrists are to vision: licensed professionals with the advanced training needed to evaluate a sensory organ and diagnose problems. Unlike otolaryngologists (ear, nose and throat doctors) or ophthalmologists, however, they cannot prescribe medication, perform surgery, or engage in other medically related activities. In other words, they are not medical doctors.

However, like an optometrist who can "treat" your failing vision with glasses or contact lenses, audiologists can "treat" your hearing loss with hearing aids, said Kathy Landau Goodman, Au.D., president of Main Line Audiology in the Philadelphia area. Goodman also chairs the Audiology Awareness Campaign, a nonprofit organization founded to increase awareness of hearing loss and audiology.

Forget everything you ever thought you knew about hearing aids, however. Today's hearing aids are most definitely not your father's. "There have been tremendous advances in the technology and the sound quality is far superior, pretty incredible actually, than they were years

ago," said Goodman.

Rather than amplifying all sounds equally, today's hearing aids can be programmed to let soft sounds come through stronger than loud sounds, eliminating the frustration wearers used to experience in noisy environments. There are even Bluetooth-compatible hearing aids that can sync with your phone or television, allowing sound to come directly into your ear.

"But hearing aids only work as well as the audiologist doing the fitting and programming," said Goodman. Even the same brand of hearing aid may work differently depending on how it's programmed. While it is possible to simply order a hearing aid from a distributor it will never provide the kind of sound quality and clarity that comes from a properly fitted and programmed aid. To get that, Goodman recommends visiting a licensed audiologist who carries several brands of hearing aids. "There is not one manufacturer that has the best technology to meet every person's needs," she says.

The amazing thing to her, even after 25 years in practice, is the difference hearing

aids can make in someone's life. "I see it in someone's face when they first come in," she said. "They're irritable and short-tempered because hearing problems affect their whole life." After they get used to the hearing aids, she said, "They're smiling and more relaxed." One patient told her his long-standing depression improved along with his hearing.

That doesn't surprise Goodman. People with significant hearing loss gradually limit their social life, cutting out movies and visits with friends because communication is so difficult. Many aren't even aware that their hearing has faded. Often, it's the people around them who notice first.

Unfortunately, too many people have misconceptions about hearing aids, said Goodman. "They think their hearing isn't bad enough to need hearing aids," she said, "when in fact the people who can be helped most are those with mild or moderate hearing loss." They may also think they have to be "old" to need a hearing aid, when, in fact, most people today with hearing loss are under 65. Goodman said, this is the result of the noisier environment in which we live. By the time many people get hearing aids, she said, "they say they wish they'd done it years before."

"If you want to see clearly, you get contact lenses or eyeglasses," she said. "If you want to hear clearly, you wear hearing aids."

## Hearing Aids: The Future Is Now

Super Bowl winner and New York Giants defensive line coach Mike Waufle knows a lot about loud noise. The 54-year old is surrounded by roaring crowds every Sunday during football season. At practice he hears the crack of helmets and sharp clanking of weights. In the early 1970s as a U.S. Marine, his ears were assaulted by rifle shots and booming artillery that severely damaged his hearing.

**"A**s a coach, I'm a teacher, so clear communication is really important. I was missing a lot of conversations and couldn't always hear what my players or colleagues said. Hearing loss was also affecting my speech patterns. I tried all kinds of hearing aids but most ended up in a drawer," said Coach Waufle, who is one of the 35 million Americans with severe hearing loss.

The solution to his problem was provided by the team's ear, nose and throat consultant, Michael Scherl, M.D., with his audiology colleagues. Little more than two years ago, Dr. Scherl was involved in early trial work on a unique new hearing aid called Lyric. It was conceived in Silicon Valley to provide users benefits similar to extended wear contact lenses.

Unlike conventional hearing aids that have external microphones and require weekly battery changes, Lyric rests deep in the ear canal. It is invisible, completely self-contained and approximately one-half inch long. The flexible, foam-covered device rests a fraction of an inch from the eardrum to provide exemplary sound quality while making use of the ear's natural anatomy to funnel sound. It can operate 24/7 for up to four months before having to be replaced by an audiologist.

"Since getting Lyric, my quality of life

has been so much better," said Coach Waufle. "For instance, the Giants have a large field house with horrible acoustics. Our head coach recently walked up behind me and I could hear every word he was saying. Before Lyric, that would not have been possible. No matter who you are or what you do, it's really important to know what your boss—or spouse—is sharing with you."

"Beyond that, the biggest change is I can now hear little things like a pencil on the paper when I'm writing, or a turn signal in my car. My daughter says it's fun watching TV together because the sound isn't blaring any more. There are so many things to appreciate that could have easily slipped away."

Although Lyric represents a unique advance in hearing aid design, technology is advancing elsewhere, too.

"Bluetooth capabilities are being added to a host of new hearing aids," said veteran audiologist Richard Kaner of Brooklyn Audiology Associates. "For instance, Oticon has a device called the Streamer™ that users wear around the neck. It's an interface between hearing aids and cell phones, land lines, television sets, MP3 players and computers."

Other leading manufacturers such as Phonak, Siemens and Bernafon also offer

BY: DR. PAUL PESSIS, AU.D.

expanded connectivity options.

Starkey has been a leader in volume adjustment. Users can touch the back of certain hearing aids to adjust volume, or use the touch pad of their cell phone or land line. Additionally, a number of manufacturers are improving speech understanding by transposing high frequencies to lower frequencies.

Philadelphia audiologist Dr. Kathy Landau Goodman, Au.D., of Main Line Audiology agrees the future of hearing aids is extended wear devices like Lyric, and devices that can interface with other technologies such as cell phones.

"The most striking thing for me these past 25 years has been the improvement in sound quality," said Dr. Goodman. "Years ago, we didn't have great technology. Now we do. One client recently said he feels like he's gone from a horse and buggy to a luxury car."

If you or someone you know has difficulty hearing, contact a local audiologist who will partner with you to select an appropriate hearing technology.

As Helen Keller wrote, "Blindness separates us from things but deafness separates us from people."

Author Dr. Paul Pessis, Au.D., is owner and director of North Shore Audio-Vestibular Lab in Chicago, and past president of the American Academy of Audiology.

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# For Ear, Nose, and Throat Health, the One to See is an ENT

Ear, nose, throat, head and neck health issues are among the most commonly experienced—and treated—disorders in the United States. Over 60 million Americans a year suffer from allergy and sinus problems, resulting in millions of medical visits. Seventy-five percent of children experience at least one episode of otitis media, a common ear infection, by their third birthday. And approximately 17 percent of adults aged 20-69 years (approximately 26 million) have suffered permanent damage to their hearing from excessive exposure to noise.

These numbers are staggering. But the ear, nose, and throat are critical to our everyday lives and well being, and there is just one medical doctor who patients can turn to for diagnosis and treatment of all these conditions. Otolaryngologist-head and neck surgeons (often called ENT physicians) are the specialists for many of these common health problems.

Otolaryngologists are able to treat problems both medically and surgically. We focus on:

**The ear:** Hearing loss, ear infections, ear noise (tinnitus), and balance and nerve disorders.

**The nose:** Chronic sinusitis, allergies, nasal obstruction, nosebleeds, sense of smell, snoring, and sleep apnea.

**The throat:** Swallowing, speech, cleft palate, tonsil and adenoids, voice problems, the upper aero-digestive tract and esophagus.

The head and neck: Infectious diseases, head and neck cancers, thyroid, parathyroid, salivary glands, neck masses, and facial trauma. Reconstructive and cosmetic facial procedures are also part of an otolaryngologist's expertise.

Training to be an otolaryngologist-head and neck surgeon includes four years of medical school, five years of residency training (one year in general surgery and four years in otolaryngology-head

and neck surgery), and up three years advanced subspecialty training. This extensive preparation allows them to diagnose difficult medical problems and perform complex surgical procedures.

Otolaryngologists work in collaboration with other health providers, whether it's other physicians, or ancillary non-physician healthcare providers (such as audiologists, speech pathologists, physician's assistants, and nurses). Otolaryngologists often head up a team of health professionals to ensure that each person receives the correct medical diagnosis and appropriate, individualized treatment.

The American Academy of Otolaryngology—Head and Neck Surgery represents nearly 11,000 otolaryngologist-head and neck surgeons worldwide. The organization also supports clinical and basic science research efforts, humanitarian missions, and educational efforts for members, primary care providers, and patients. To learn more about ear, nose, and throat health and to find an otolaryngologist-head and neck surgeon near you, visit the AAO-HNS website, [www.entdoctors.org](http://www.entdoctors.org).



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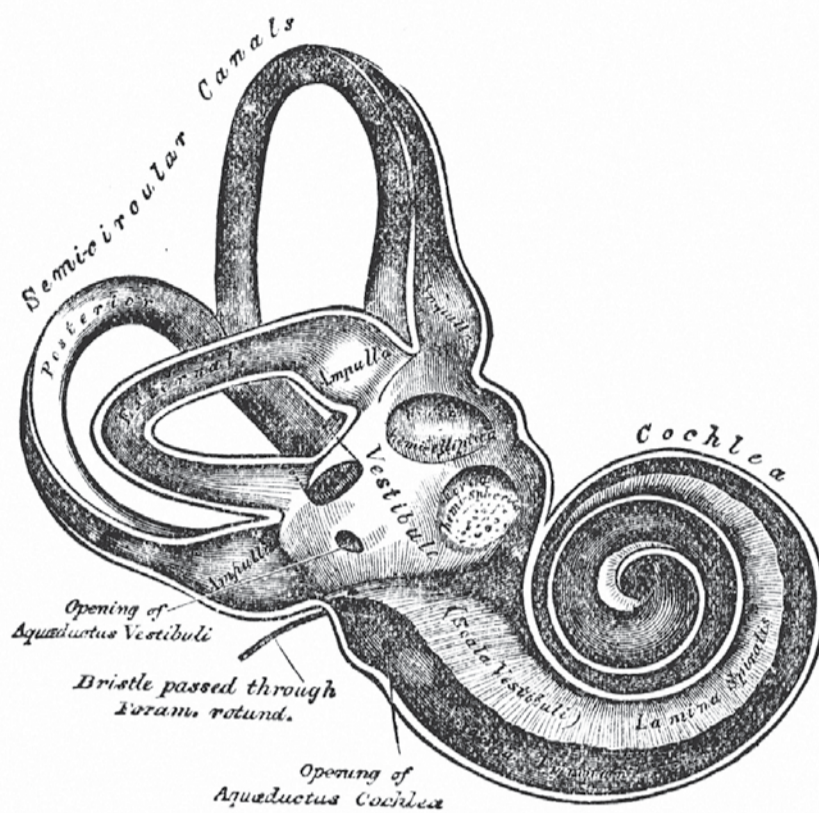
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## News In Brief

### THE AUDIOLOGY AWARENESS CAMPAIGN

Hearing loss is the third most chronic health problem in America. Untreated hearing loss negatively impacts income on-average up to \$12,000. The Audiology Awareness Campaign is a not-for-profit foundation whose mission is to educate the public about the value of hearing healthcare. The foundation represents audiologists nationally to increase public awareness of hearing healthcare. To learn more about protecting your hearing and hearing loss, request a free consumer educational booklet entitled "Listen-UP America; We Hear You." For a free set of earplugs call 888-833-EARS(3277) or visit our website [www.audiologyawareness.com](http://www.audiologyawareness.com). Not sure about your hearing? Take a free Online Hearing test, read consumer-friendly brochures about hearing loss and hearing aids, discover more about audiology services, post a question about hearing on "Ask an Audiologist," or "Find an Audiologist" in your area who offers professional services. For further information about the foundation contact Dr. Landau Goodman at [kgoodman@audiologyawareness.com](mailto:kgoodman@audiologyawareness.com).



## Cochlear Implants: Not Just for Kids Anymore

Cochlear implants, tiny, implantable devices that use electrical signals to restore partial hearing and were once reserved for children who were born deaf or lost their hearing at a very early age, have found a new audience.

Thanks to major advances in digital chip technology spurred by the exploding cell phone industry, today's cochlear implants are small enough, cheap enough, and good enough to be used in adults—no matter what the reason for their hearing loss. Add the fact that we're no longer embarrassed to walk around with things sticking out of our ears (think Bluetooth receivers) and you have a perfect storm for the use of the implants in grownups.

"The new implants are so sophisticated you can even understand and appreciate music," said Harold C. Pillsbury, MD, who chairs the department of otolaryngology and head and neck surgery at the University of North Carolina School of Medicine in Chapel Hill. They are also covered by 90 percent of health insurance plans, including Medicare.

Unlike hearing aids, which make sounds louder and clearer, cochlear implants stimulate the auditory nerve to replace hearing function lost by the cochlea, the auditory chamber of the inner ear. In adults, that loss may stem from toxic medications such as chemotherapy, infections, or, most commonly, presbycusis, i.e., age-related hearing loss.

Cochlear implants consist of two parts. The external component contains a microphone to pick up sounds connected by a thin cord to a sound processor, which organizes the sounds. A transmitter coil sends the sounds via radio waves to the implant, which is surgically embedded under the skin behind the ear. It contains the receiver and electrode system. The receiver converts the radio waves into an electrical signal which the electrodes use to stimulate fibers in the auditory nerve. Voila! Your brain registers those signals as sound and you "hear."

While older units were about the size of an iPod and had to be worn on a belt or in a pocket, some of today's implants are tiny enough to be tucked behind the ear. Patients also often receive implants in both ears, said Dr. Pillsbury. "This allows you to hear the sound the same in both ears and determine where it's coming from," he said. It also improves the ability to hear voices in a noisy environment. People with some residual hearing may opt for Electric Acoustic Stimulation (EAS), composed of a hearing aid to amplify low tones and the cochlear implant to transmit high tones.

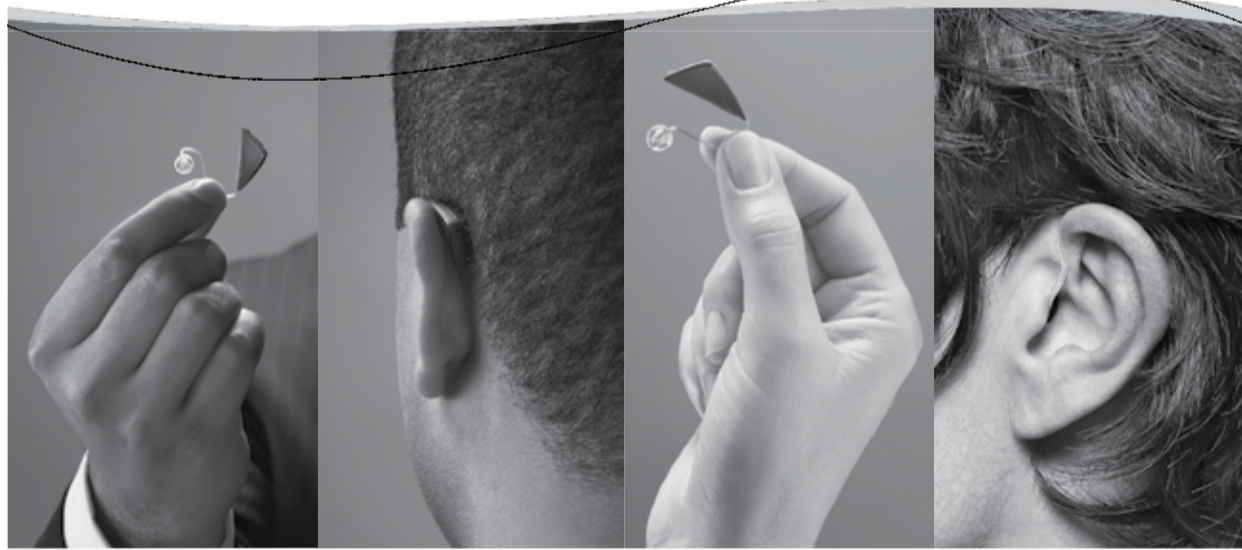
Dr. Pillsbury, who implants more than 200 devices a year, envisions the day when no one will be deaf or even hard of hearing. "There will be those who hear fine and don't even need hearing aids; those who do well with hearing aids; and those who need cochlear implants. But there won't be anyone who can't be helped by something."

Still, despite technology that enables wearers to program cochlear implants for specific environments (i.e., loud parties or quiet rooms), Dr. Pillsbury warns his patients not to expect miracles. Hearing with an implant "is never going to be perfect," he said. But, he added, "It is getting better and better all the time."

Cochlear implants are not for everyone. Because they involve surgery performed under general anesthesia, they are reserved only for those who don't get the hearing quality they need with hearing aids. Otherwise, there are no restrictions, said Dr. Pillsbury. "I just gave them to a 92-year-old woman who couldn't wait for them to be hooked up," he said.

She had to wait about two weeks, however, for her incision to heal before he could flip the switch and ask that all-important question: "Can you hear me now?"

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## Nasal Irrigation: Time to Wash Your Nose

When is the last time you washed your nose? Not the skin on the outside, but the inside of your nose, the mucus membrane that serves as one of your body's most important barriers to infection?

While it might sound kind of "out there" to say that nose washing, or nasal irrigation, as it's called, can prevent illness and treat infection as well or better than medication, the science speaks for itself. A review of eight clinical trials of saline washes found the approach significantly improved symptoms of chronic sinus infections. Other studies find benefits in children and adults with asthma, acute sinus infections, allergic rhinitis (i.e., hay fever), postnasal drip, and the stuffy nose many pregnant women experience. One study in adults found daily nose washing slashed the risk of illness nearly in half compared over 20 weeks compared with people who didn't wash.

Another study in children with hay fever found nasal irrigation enabled participants to use less nasal steroid medication, while a study in 401 children found kids who added nasal washing to standard treatment for cold or flu recovered faster than kids who didn't. They also had far fewer sick days, school absences and complications over a 12-week period. Kids who jump into swimming pools or the ocean, and are used to the feeling of water up their nose, are generally old enough for nasal irrigation, say experts.

Pediatric otolaryngologist Diane Heatley, MD, an associate professor of otolaryngology at the University of Wisconsin in Madison, is a true believer. Since she began recommending nasal irrigation to her patients the number of sinus surgeries she performs has dropped by half. "Certainly there are still children who need sinus surgery, especially if they have asthma or other health issues, but it's pretty rare now in an otherwise healthy child to have to do sinus surgery," she said.

The philosophy behind nasal irrigation is fairly simple: the mucus in your nose

acts as a filter to prevent viruses, bacteria, fungi and allergens from reaching your lungs and bloodstream. Germs and allergens stick to the mucus, which is either expelled when you blow your nose or swallowed when it drips down the back of your throat.

When you get a cold or take antihistamines, the mucus thickens and stagnates and the tiny hairs in your nasal passages can't move it out. This becomes a perfect pool for infection. Saline thins the mucus in much the same way that a cup of water thins a too-thick gravy, getting the mucus moving and the filter working again.

The roots of nasal irrigation lie in Ayurvedic medicine, a centuries-old form of medicine from India. It was typically performed as part of yoga with a Neti pot, a tiny teapot-shaped vessel that resembles Aladdin's magic lamp. A saline solution is mixed in the pot. You tip your head to the side over a sink, put the spout of the pot into the top nostril and pour in the solution until it runs out the other nostril. Blow your nose to remove any liquid, tilt your head the other way and pour the liquid in the other nostril.

There are other options for nasal irrigation beyond the Neti pot, including squeeze and spray products, as well as aerosol products. However, at least four ounces of solution is needed to actually irrigate the nasal and sinus passages; otherwise, you're just moisturizing them.

One study that used a contrast CT scan to track the movement of the saline through the nasal and sinus passages found little benefit to an aerosol product, determining that a squeeze bottle (positive pressure) or a "negative pressure" approach in which you sniff the fluid into your nose worked best. The Neti pot utilizes a negative pressure approach.

Most irrigation products come with small packages of saline powder for mixing with warm water. You can make your own solution, however, using one-half teaspoon of pickling or canning salt to half a cup of warm water. Don't use table salt, however, because it contains iodine and other additives that can damage the nasal lining. And don't make the solution any stronger or weaker; you want it to be the same salinity as your body fluids. If you do go the commercially prepared route, look for solutions made without any preservatives.

Try to irrigate once a day; studies show that can reduce the number of colds. At the first sign of a cold or other respiratory illness, irrigate several times a day to reduce its severity and duration. Nasal washing is also a good option for people with seasonal allergies after exposure to grass and pollens, and to flush out irritants like chlorinated water after swimming or cleaning products after housekeeping.

While nasal irrigation is very safe, experts say it shouldn't be used by people who have had strokes, have had eardrum repair or skull fractures, or who have serious health problems. In those situations, check with your doctor first.



Advertorial

By Dr. Diane G Heatley, MD

## Common Sense Defense for Flu, Colds and Allergies

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Nasal washing with saline treats the root cause of sinus problems by thinning the thick secretions so that viruses and allergens can be effectively washed away.

### How is nasal washing conducted?

Nasal washing is traditionally conducted with a Neti pot. The Neti Pot allows gravity to flow the saline solution into one nostril, through the sinuses and out the other nostril. The Neti Pot is the most popular way to conduct nasal washing, but a squeeze bottle can also be used, which uses pressure to force the saline solution into the nostril. For small children and infants, smaller amounts of saline solution are needed to get the same effect, so a gentle pump spray is typically used, but be sure the pre-mixed saline solution is all-natural.

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<sup>1</sup> "Efficacy of Isotonic Nasal Wash (Seawater) in the Treatment and Prevention of Rhinitis in Children" by Ivo Šlapak, MD; Jana Skoupá, MD; Petr Štnad, MD; Pavel i. Lormik, MD

# COMMON SENSE

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\*Efficacy of Isotonic Nasal Wash (Seawater) in the Treatment and Prevention of Rhinitis in Children By Ivo Šlapak, MD; Jana Skoupá, MD; Petr Štnad, MD; Pavel Horník, MD

## Natural respiratory cure, now available in the US



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## Breathe Easier

### With Alternative Approaches

Even in our technologically advanced society there are natural remedies and alternatives. Some treatment options for respiratory conditions that used to be considered on the margins of allopathic medicine such as nasal irrigation are today considered mainstream.

To learn what is most likely to work in the alternative realm, we turned to naturopath Joshua Leavitt, ND, of Whole Health Natural Family Practice in Hamden, CT. What, we asked, does he use for patients with allergies, sinus infections and other respiratory conditions? Here's what he recommends.

**Allergan.** This pharmaceutical grade petroleum jelly is rubbed on the inside of the nostrils where it catches airborne pathogens and helps prevent respiratory infections. One study found it slashed symptoms of allergic rhinitis (i.e., hay fever) by 60 percent with no adverse effects.

**Nettles.** Dr. Leavitt often prescribes nettle tea or nettle capsules for people with allergies, asthma or other inflammatory-based respiratory conditions. He recommends brewing six to eight cups at a time and sipping on it throughout the day, preferably sweetened with a local honey produced during the season in which allergies are worst. One of the few published studies on nettles found 300 mg of freeze-dried nettles twice a day improved symptoms in people with allergic rhinitis about as well as their normal medication.

**N-acetylcysteine (NAC).** This amino acid supplement was originally investigated in people with cystic fibrosis. Studies find it works well at thinning the thick, heavy mucus common during colds and sinusitis. Dr. Leavitt recommends 600 mg a day, four times a day before meals.

**Salt inhalation.** The roots of this therapy date back to Hippocrates, who had congested patients inhale the steam from boiling saltwater. In more recent times, people in Eastern Europe sit in salt caves and breathe the air to clear their congestion. For those of us without a nearby salt cave,

there are salt pipes. The salt is contained in the bottom of the ceramic inhaler. You breathe in the air emanating from the top for 20 minutes at a time. Two studies in the *New England Journal of Medicine* found that inhaling a salt-water mist could reduce the pus and infection found in the lungs of people with cystic fibrosis, an often-fatal, genetic respiratory disease.

**Steam inhalation.** This low-tech approach to clearing out your sinuses or nasal congestion involves filling a pot with water, adding a few drops of thyme or eucalyptus essential oils (available in health food stores), and heating the water to just below a boil. Remove from the heat, lean over the pot and cover your head with a towel, and breathe.

**Sublingual immunotherapy.** You know about allergy shots, but do you know about this non-shot option? It's based on the same theory as allergy shots: exposing your immune system to larger and larger amounts of the allergen to "train" your immune system to tolerate it. While the shots can take months or even years to finally eradicate your allergies, sublingual therapy, in which the allergen solution is placed under the tongue, works much faster and, studies suggest, may be safer. Unfortunately, most insurance companies don't cover it.

**Elderberry extract.** When it comes to preventing infections, Leavitt recommends supplementing with elderberry extract, a "top-notch antiviral," 4,000 to 6,000 IU of vitamin D, important for immune function; and four grams a day of fish oil for its anti-inflammatory effects.

# Ten Steps to Indoor Air Quality

Think your house is clean? Consider this: The Environmental Protection Agency (EPA) finds that the air inside your house is dirtier than the air outside. Blame tighter construction techniques that enable fumes from paint, plastics and other synthetic materials used in our furniture and carpeting, toxins from cleaning products, pets, secondhand smoke, carbon monoxide, dust mites, and pet dander—among other things—to build up in our homes.

"With outdoor air there are regulations for the major pollutants," said Neil Schachter, M.D., a New York City pulmonologist and author of the book *Life and Breath*, "but with the exception of cigarette smoke, we haven't gotten a handle on our most common and long-lasting source of pollution, which is the indoor environment." Whether pollutants in the indoor environment are irritants or allergens, he said, "Everyone is at risk."

Indeed, common symptoms resulting from indoor air pollution include eye, nose and throat irritation, headaches, skin irritation, shortness of breath or cough, and fatigue.

Some of the most dangerous indoor toxins come from a relatively benign source: water. "I can't tell you the number of people who come to me whose apartments or even homes have been water damaged," said Dr. Schachter, "and that's a recipe for disaster." That's because any type of dampness promotes the growth of living things like molds and fungi that contribute to bad reactions, he said.

Another pollution pitfall is indoor carpeting. Even the EPA notes that carpet can act as "a sink for chemical and biological pol-

lutants including pesticides, dust mites and fungi."

Anyone with any type of underlying respiratory problem, whether chronic obstructive pulmonary disease (COPD), asthma, allergies or hay fever should assume that "unless you're very careful, your home is going to be contributing to your problem," Dr. Schachter said.

The good news is that there are a number of actions you can take to significantly reduce indoor air irritants and allergens. For starters:

1. Use the right cleaning products. Products that contain ammonia and chlorine can irritate the respiratory tract, causing watery eyes and sore throats and even triggering coughing and shortness of breath, said Dr. Schachter. Choose milder yet effective cleaning aids that use baking soda, vinegar, hydrogen peroxide and citrus oils.
2. Add houseplants. Some common indoor houseplants, such as bamboo plants, English ivy and peace lilies, provide a natural way to help fight rising levels of indoor air pollution by absorbing potentially harmful gases. They work fast: a six-inch potted green plant can clean a room of excess carbon diox-

ide in eight hours.

3. Nix the carpeting. Instead, choose hard-surface flooring like hardwood, tile or laminate and opt for area rugs instead of wall-to-wall carpeting. Once a year send the rugs out for deep cleaning.
4. Use high-performance (HEPA) air filters in vents. These filters capture particles such as pollen, smoke, dust mite debris and pet dander as air passes through the filter. They only work if they're cleaned or changed regularly, however. So put reminders on your calendar to change them every three months, or at the start of each season.
5. Turn up the air conditioning. Air conditioners not only cool the air but can reduce humidity levels, preventing mold growth during warmer months.
6. Turn off the humidifier. This is a corollary to the previous tip. Room air humidifiers are moisture-generating sources that serve as reservoirs for bacteria and mold. Maintain your home's humidity between 30 and 50 percent to prevent mold growth.
7. Ditch the shoes at the front door. That way you won't track outdoor pollutants like pesticides, animal dander, mold spores and pollen into your home.
8. Make some space. Increase airflow and help control humidity levels by moving furniture away from walls and opening closet doors to air out what can be a dank, smelly space.
9. Go for quality. Cheap vacuum bags can stir up allergens when vacuuming so use bags that contain a HEPA filter.
10. Use a fan. Showers, especially in smaller bathrooms, can raise humidity levels and create condensation on walls and ceilings so install and use an exhaust fan in the bathroom.

## Panel of Experts



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Saline nasal washing helps keep the nose healthy. The nose warms, humidifies and filters the air we breathe every day. When healthy, it does a good job of filtering, but an unhealthy nose can't function efficiently.

The nose and sinuses produce a quart of mucus every day. When this thickens, the cilia have a hard time moving the mucus blanket. It can then become infected, leading to nasal congestion, drainage, post-nasal drip, cough, headache, bad breath and fatigue.

Saline nasal wash with a Neti Pot or squeeze bottle thins the mucus to "clean the filter" that is your nose. Saline use has been shown to diminish the number of days a person suffers from respiratory symptoms, such as cold or flu, and relieve symptoms of nasal allergy. Saline nasal mist is a great alternative for infants, young children, and others who find a true nasal wash to be unpleasant.

Most people are well aware of air pollution in our outdoor environment. What is less known is the problem of indoor air pollution in our homes, schools and workplace. In fact, the Environmental Protection Agency (EPA) estimates that air quality is two to five times worse indoors than outdoors.

The key to maintaining healthy levels of indoor air quality is the right form of ventilation, which helps balance outdoor air pollutants like pollen and dust against the build-up of gases, irritants and allergens that occur naturally in the home. Simple steps to improve ventilation like running the air conditioner in warm months can help remove pollutants and gases that are dissolved in the humid air. Also, using a high performance filter to help remove particulate matter, mold spores and pollen can make a difference. Avoid using cleaning products that release volatile organic compounds, which can cause tiny airways to constrict.

According to the Center for Disease Control (CDC), air pollution in the home can be made worse by poor ventilation as well as high heat and humidity levels. Sometimes, improving your indoor air quality is as simple as improving your home's ventilation system. Many homes are already outfitted with a forced air heating and cooling system that circulates the air. While standard fiberglass filters were originally designed to protect the equipment, they don't provide much improvement toward home air quality. High performance filters help protect equipment and help reduce indoor allergens like mold spores, dust mite debris, pet dander and particles that can carry bacteria and viruses by capturing them from the air that passes through the filter. Look for an electrostatically charge filter to help capture more micro particles (.01 to 3 microns) than an ordinary fiberglass filter and change it regularly, according to manufacturer directions for maximum efficiency.

At Oticon, our goal is always to put the needs of people with hearing loss first. As the first company to introduce Bluetooth connectivity to the hearing instruments, we recognized the potential for high speed, broadband wireless signal processing to address the most common listening challenges for people with hearing loss. Powered by our proprietary RISE platform, two hearing instruments are now able to communicate wirelessly with each other, processing sounds as a single unit. This is similar to the way the brain normally processes sound from two ears to support the proper interpretation of speech and other sounds in the environment. The result is a unique spatial awareness that makes it possible for hearing instrument users to more easily focus on conversations while "cancelling out" background noises. With the wireless connectivity built into Oticon hearing instruments, people with hearing loss can also stream sound directly from cell phones to their hearing devices. The new ConnectLine system, the first and only system of wireless connectivity solutions that connects seamlessly to TV and landline phones, allows users to enjoy high quality audio streaming seamlessly through their hearing instruments at their own preferred volume and without the delay experienced with off-the-shelf Bluetooth transmitters.

## Q & A

By Dr. David MacIntosh

### Question:

What solutions should consumers incorporate into their daily lives to combat allergies and asthma in their home?

### Answer:

People that suffer from allergies and asthma should consider their home's air quality as part of an overall asthma and allergy management program. Reducing exposure to allergens is commonly recommended to help reduce symptoms of asthma and allergies. Most people may not realize that a whole-house air cleaner can remove the majority of particles and allergens from the air helping people to have a healthier home environment.

Trane research has involved testing a variety of air cleaning products ranging from 'plug-in the wall' portable devices to whole-house, high-efficiency systems. As described in published scientific studies on [trane.com](http://trane.com), the whole-house air cleaner Trane CleanEffects performed best for minimizing exposure to pet allergens, dust, mold, smoke, respiratory viruses and other asthma triggers.

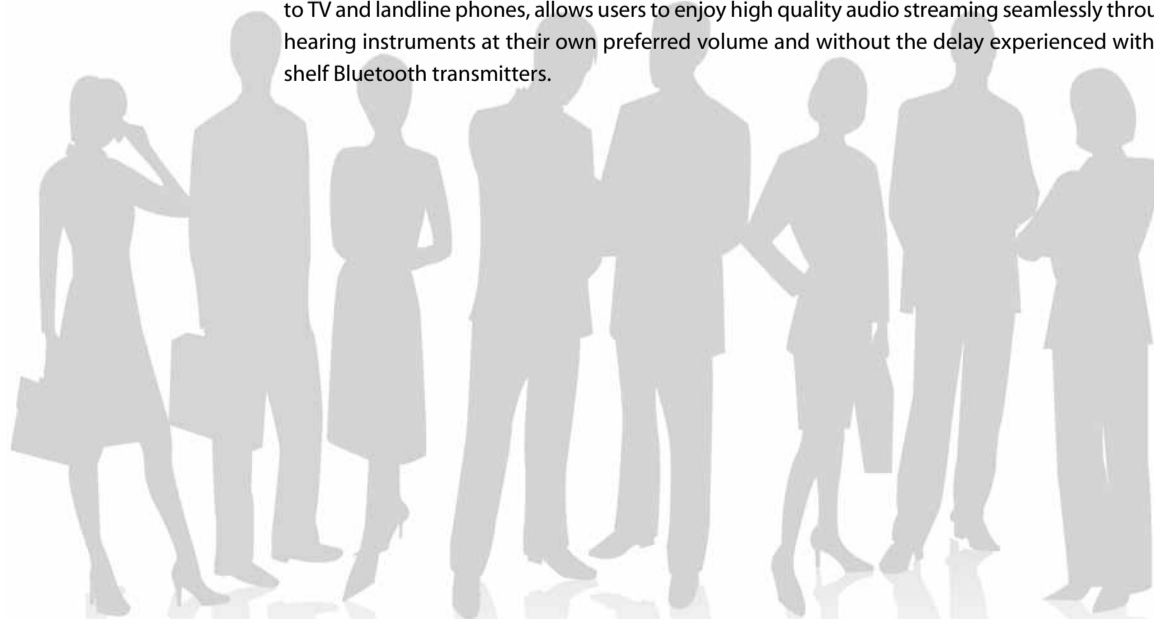
A high-efficiency air cleaner provides 100 times more clean air than the standard type of filter found in most homes and can substantially lower exposure to allergens and asthma triggers indoors.

Dr. David MacIntosh is a principal scientist at Environmental Health and Engineering Inc. (EH&E), an Adjunct Associate Professor at Brandeis University, and an instructor at the Harvard Extension School.



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# Because everyone deserves a home clean home

No matter how carefully you clean, your home can be a breeding ground for invisible airborne intruders. That's why we created Filtrete™ High-Performance Filters from 3M. They're electrostatically\* charged to attract and capture microscopic particles like household dust, pet dander, smoke, bacteria and particles that can carry viruses from the air passing through the filter.

Filtrete high-performance filters also capture at least 90% of pollen, dust mite debris and mold spores. Select the filter that's right for you, change it every three months, and clean the air you breathe.

\*Electrostatic filters are most effective when clean and new.

## More tips to help make your home healthier

- Dust with a damp cloth to keep particles from flying away.
- Groom pets regularly to help control dander and hair.
- Keep your bathroom fan on to help inhibit mold growth.
- Choose washable stuffed animals and toys to help control dust mites.
- Have all your combustion appliances professionally inspected annually.

Learn more about Filtrete filtration products and how to create a healthier home environment at [www.filtrete.com](http://www.filtrete.com). Join the Filtrete™ Clean Air Club today and receive the Free *Homeowner's Guide to Better Indoor Air Quality*.



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