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THE LATEST ON

NASAL POLYPS

THE BACKGROUND **ON BACTERIA**

The severity of your nasal polyps and your response to certain treatments may have to do with the bacteria in your nose. A recent study found that an imbalance of bacteriatoo much of the harmful stuff and not enough of the good stuff—may lead to the development of nasal polyps. Those whose polyps return after surgery may have lost too much protective bacteria and picked up too many disease-causing microbes after the operation. Those who get better and stay better after surgery may have more well-balanced nasal bacteria after the procedure.

SOURCE: European Archives of Otorhinolaryngology

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Estimated number of Americans who have chronic rhinosinusitis.

SOURCE: Journal of Asthma and Allergy

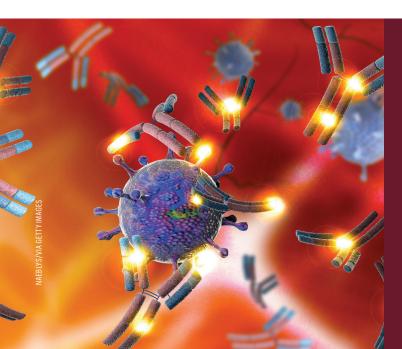
Estimated number of people whose chronic rhinosinusitis comes with nasal polyps.

SOURCE: Journal of Asthma

SNIFF OUT SATISFACTION

Anything that blocks your nasal passages, including nasal polyps, can take away your sense of smell. That's a big deal because your nose and your taste buds work together to create your combined sense of smell, but it's your nose that does 95% of the job. Research shows that a loss of the sense of smell takes a major toll on your quality of life. Getting treatment for your nasal polyps can restore your ability to smell.

SOURCE: Anosmia



CAN MONOCLONAL ANTIBODIES HELP TREAT YOUR NASAL POLYPS?

Monoclonal antibodies are the new kids on the block in treatment for nasal polyps. The lab-made antibodies can latch onto nasal inflammation-causing cells and disable them. In clinical trials of monoclonal antibodies for nasal polyps, the treatment shrunk polyps and significantly reduced the symptoms of them, such as runny nose, stuffiness, and poor sense of smell.

SOURCES: Laryngoscope, The American Journal of Managed Care



INDICATION

DUPIXENT is a prescription medicine used with other medicines for the maintenance treatment of chronic rhinosinusitis with nasal polyposis (CRSwNP) in adults whose disease is not controlled. It is not known if DUPIXENT is safe and effective in children with chronic rhinosinusitis with nasal polyposis under 18 years of age.

IMPORTANT SAFETY INFORMATION

Do not use if you are allergic to dupilumab or to any of the ingredients in DUPIXENT.

Before using DUPIXENT, tell your healthcare provider about all your medical conditions, including if you:

- have eye problems.
- have a parasitic (helminth) infection.
- are scheduled to receive any vaccinations. You should not receive a "live vaccine" right before and during treatment with DUPIXENT.
- are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.
 - o A pregnancy registry for women who take DUPIXENT during pregnancy collects information about the health of you and your baby. To enroll or get more information call 1-877-311-8972 or go to https://mothertobaby.org/ongoing-study/dupixent/.
- are breastfeeding or plan to breastfeed. It is not known whether DUPIXENT passes into your breast milk.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins and herbal supplements.

Especially tell your healthcare provider if you are taking oral, topical, or inhaled corticosteroid medicines or if you have CRSwNP and asthma and use an asthma medicine. **Do not** change or stop your corticosteroid medicine or other asthma medicine without talking to your healthcare provider. This may cause other symptoms that were controlled by the corticosteroid medicine or other asthma medicine to come back.

DUPIXENT can cause serious side effects, including:

- Allergic reactions. DUPIXENT can cause allergic reactions that can sometimes be severe. Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following signs or symptoms: breathing problems or wheezing, swelling of the face, lips, mouth, tongue, or throat, fainting, dizziness, feeling lightheaded, fast pulse, fever, hives, joint pain, general ill feeling, itching, skin rash, swollen lymph nodes, nausea or vomiting, or cramps in your stomach-area.
- Eye problems. Tell your healthcare provider if you have any new or worsening eye problems, including eye pain or changes in vision, such as blurred vision. Your healthcare provider may send you to an ophthalmologist for an eye exam if needed.
- Inflammation of your blood vessels. Rarely, this can happen in people with asthma who receive DUPIXENT. This may happen in people who also take a steroid medicine by mouth that is being stopped or the dose is being lowered. It is not known whether this is caused by DUPIXENT. Tell your healthcare provider right away if you have: rash, chest pain, worsening shortness of breath, or a feeling of pins and needles or numbness of your arms or legs, or persistent fever.
- **Joint aches and pain.** Some people who use DUPIXENT have had trouble walking or moving due to their joint symptoms, and in some cases needed to be hospitalized. Tell your healthcare provider about any new or worsening joint symptoms. Your healthcare provider may stop DUPIXENT if you develop joint symptoms.

The most common side effects in patients with chronic rhinosinusitis with nasal polyposis include injection site reactions, eye and eyelid inflammation, including redness, swelling, and itching, sometimes with blurred vision, high count of a certain white blood cell (eosinophilia), trouble sleeping (insomnia), toothache, gastritis and joint pain (arthralgia).

Tell your healthcare provider if you have any side effect that bothers you or that does not go away. These are not all the possible side effects of DUPIXENT. Call your doctor for medical advice about side effects. You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www. fda.gov/medwatch, or call 1-800-FDA-1088.

Use DUPIXENT exactly as prescribed by your healthcare provider. It's an injection given under the skin (subcutaneous injection). Your healthcare provider will decide if you or your caregiver can inject DUPIXENT. **Do not** try to prepare and inject DUPIXENT until you or your caregiver have been trained by your healthcare provider.

Please see accompanying Brief Summary of Important Patient Information.

Brief Summary of Important Patient Information about DUPIXENT® (dupilumab) (DU-pix'-ent)

injection, for subcutaneous use

What is DUPIXENT?

- DUPIXENT is a prescription medicine used:
 - with other medicines for the maintenance treatment of chronic rhinosinusitis with nasal polyposis (CRSwNP) in adults whose disease is not controlled.
- DUPIXENT works by blocking two proteins that contribute to a type of inflammation that plays a major role in chronic rhinosinusitis with nasal polyposis.
- It is not known if DUPIXENT is safe and effective in children with chronic rhinosinusitis with nasal polyposis under 18 years of age.

Who should not use DUPIXENT?

Do not use DUPIXENT if you are allergic to dupilumab or to any of the ingredients in DUPIXENT. See the end of this summary of information for a complete list of ingredients in DUPIXENT.

What should I tell my healthcare provider before using DUPIXENT? Before using DUPIXENT, tell your healthcare provider about all your medical conditions, including if you:

- · have eye problems.
- have a parasitic (helminth) infection
- are scheduled to receive any vaccinations. You should not receive a "live vaccine" right before and during treatment with DUPIXENT.
- are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.
 - Pregnancy Exposure Registry. There is a pregnancy exposure
 registry for women who take DUPIXENT during pregnancy. The purpose
 of this registry is to collect information about the health of you and your
 baby. Your healthcare provider can enroll you in this registry. You may
 also enroll yourself or get more information about the registry by calling
 1-877-311-8972 or going to https://mothertobaby.org/ongoing-study/
 dupixent/.
- are breastfeeding or plan to breastfeed. It is not known whether DUPIXENT passes into your breast milk.

Tell your healthcare provider about all of the medicines you take including prescription and over-the-counter medicines, vitamins, and herbal supplements. Especially tell your healthcare provider if you:

- · are taking oral, topical, or inhaled corticosteroid medicines
- · have asthma and use an asthma medicine
- · have CRSwNP, and also have asthma

Do not change or stop your corticosteroid medicine or other asthma medicine without talking to your healthcare provider. This may cause other symptoms that were controlled by the corticosteroid medicine or other asthma medicine to come back.

How should I use DUPIXENT?

- See the detailed "Instructions for Use" that comes with DUPIXENT for information on how to prepare and inject DUPIXENT and how to properly store and throw away (dispose of) used DUPIXENT prefilled syringes and pre-filled pens.
- Use DUPIXENT exactly as prescribed by your healthcare provider.
- Your healthcare provider will tell you how much DUPIXENT to inject and how often to inject it.
- DUPIXENT comes as a single-dose pre-filled syringe with needle shield or as a pre-filled pen.
- DUPIXENT is given as an injection under the skin (subcutaneous injection).
- If your healthcare provider decides that you or a caregiver can give the
 injections of DUPIXENT, you or your caregiver should receive training
 on the right way to prepare and inject DUPIXENT. Do not try to inject
 DUPIXENT until you have been shown the right way by your healthcare
 provider.
- If you miss a dose of DUPIXENT, give the injection within 7 days from
 the missed dose, then continue with the original schedule. If the missed
 dose is not given within 7 days, wait until the next scheduled dose to give
 your DUPIXENT injection.

How should I use DUPIXENT (continued)?

- If you inject too much DUPIXENT (overdose), get medical help or contact a Poison Center expert right away at 1-800-222-1222.
- Your healthcare provider may prescribe other medicines to use with DUPIXENT. Use the other prescribed medicines exactly as your healthcare provider tells you to.

What are the possible side effects of DUPIXENT? DUPIXENT can cause serious side effects, including:

- Allergic reactions. DUPIXENT can cause allergic reactions that can sometimes be severe. Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following signs or symptoms: breathing problems or wheezing, fast pulse, fever, general ill feeling, swollen lymph nodes, swelling of the face, lips, mouth, tongue, or throat, hives, itching, nausea or vomiting, fainting, dizziness, feeling lightheaded, joint pain, skin rash, or cramps in your stomach-area.
- Eye problems. Tell your healthcare provider if you have any new or worsening eye problems, including eye pain or changes in vision, such as blurred vision. Your healthcare provider may send you to an ophthalmologist for an eye exam if needed.
- Inflammation in your blood vessels: Rarely, this can happen in people with asthma who receive DUPIXENT. This may happen in people who also take a steroid medicine by mouth that is being stopped or the dose is being lowered. It is not known whether this is caused by DUPIXENT. Tell your healthcare provider right away if you have: rash, worsening shortness of breath, persistent fever, chest pain, or a feeling of pins and needles or numbness of your arms or legs.
- Joint aches and pain. Joint aches and pain can happen in people who
 use DUPIXENT. Some people have had trouble walking or moving due to
 their joint symptoms, and in some cases needed to be hospitalized. Tell
 your healthcare provider about any new or worsening joint symptoms. Your
 healthcare provider may stop DUPIXENT if you develop joint symptoms.

The most common side effects of DUPIXENT in patients with CRSwNP include: injection site reactions, eye and eyelid inflammation, including redness, swelling, and itching, sometimes with blurred vision, high count of a certain white blood cell (eosinophilia), trouble sleeping (insomnia), toothache, gastritis and joint pain (arthralgia).

The following additional side effects have been reported with DUPIXENT: facial rash or redness.

Tell your healthcare provider if you have any side effect that bothers you or that does not go away.

These are not all of the possible side effects of DUPIXENT. Call your doctor for medical advice about side effects. You may report side effects to FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

General information about the safe and effective use of DUPIXENT.

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use DUPIXENT for a condition for which it was not prescribed. Do not give DUPIXENT to other people, even if they have the same symptoms that you have. It may harm them.

This is a brief summary of the most important information about DUPIXENT for this use. If you would like more information, talk with your healthcare provider. You can ask your pharmacist or healthcare provider for more information about DUPIXENT that is written for healthcare professionals.

For more information about DUPIXENT, go to www.DUPIXENT.com or call 1-844-DUPIXENT (1-844-387-4936)

What are the ingredients in DUPIXENT?

Active ingredient: dupilumab

Inactive ingredients: L-arginine hydrochloride, L-histidine, polysorbate 80, sodium acetate, sucrose, and water for injection

Manufactured by: Regeneron Pharmaceuticals, Inc., Tarrytown, NY 10591 U.S. License # 1760; Marketed by sanofi-aventis U.S. LLC,(Bridgewater, NJ 08807) and Regeneron Pharmaceuticals, Inc. (Tarrytown, NY 10591) / DUPIXENT is a registered trademark of Sanofi Biotechnology / ©2022 Regeneron Pharmaceuticals, Inc. /sanofi-aventis U.S. LLC. All rights reserved. Issue Date: December 2021

CAUSES

WHO GETS NASAL POLYPS—AND WHY?

By Rachel Reiff Ellis

Reviewed by Brunilda Nazario, MD, WebMD Chief Physician Editor, Medical Affairs

Polyps pop up in your nose as a result of inflammation in the tissue that lines the mucous membranes in your sinuses. This inflammation causes swelling, redness, and fluid buildup, creating fleshy structures that can make it hard to breathe and bring on other symptoms such as runny nose and loss of smell.

Experts don't know exactly why people get polyps, but they have some ideas based on research. Signs point to polyps being the result of allergies and infection in some people. Studies on nasal polyp tissues show that they tend to have more eosinophils—a type of white blood cell linked to infections and allergic reactions—than other tissues do.

"We think of it as a chronic inflammatory condition," says Nithin D. Adappa, MD, associate professor in the Division of Rhinology and Skull Base Surgery in the Department of Otorhinolaryngology at Penn Medicine in Philadelphia.

Not everyone who gets sinus infections or allergic reactions gets nasal polyps. Doctors think people who do develop them have immune systems that react a specific way and have certain chemical markers that make polyps develop. Chemical markers tell your body how to react to triggers such as inflammation.

"There seems to be some sort of immune dysfunction that results in nasal polyps," Adappa says. "But truth be told, we're not exactly sure why they start in the first place."

Although polyps involve an abnormal immune system reaction, doctors don't consider them an autoimmune condition.

"There is some association with certain autoimmune diseases, just as there's an association with allergies and asthma," Adappa says. "The thought process is that things are coming in through the air and in the nose that set off a

cascade that results in polyps. Often in the lungs, that same cascade results in asthma."

Nasal polyps can happen anywhere in your nasal passage, but they're most common where your sinuses drain. This includes near your eyes, nose, and cheekbones. You can get them at any age, but they're most common in young and middle-aged adults.

RISK FACTORS

You're more likely to deal with nasal polyps if you have:

- + Family history
- + Chronic inflammation in your nasal passages (asthma, allergies)
- + Frequent sinus infections
- + Sensitivity to aspirin
- + Other medical conditions such as cystic fibrosis



CONDITIONS LINKED TO NASAL POLYPS



By Rachel Reiff Ellis

Reviewed by Brunilda Nazario, MD, WebMD Chief Physician Editor, Medical Affairs

BARRIER TO TREATMENT

These conditions can get in the way of treating polyps, specifically with steroids:

- + Ulcers in the stomach
- + Diabetes
- + High blood pressure
- + Glaucoma

Certain conditions are tied to nasal polyps because of the way those conditions affect your body. The common thread between these conditions? Inflammation in the nose.

"Inflammation leads to swelling, swelling leads to obstruction, and then you get polyps as the end point as the inflammation continues unchecked," says Neil Bhattacharyya, MD, comprehensive otolaryngologist at Mass Eye and Ear in Boston.

Having these conditions doesn't mean you'll have nasal polyps. But there's a link between the two. "I would call these conditions that modify either the prevalence of nasal polyps or the severity of them," Bhattacharyya says.

Common conditions that feature nasal polyps include:

Allergies. Because allergies inflame your system, polyps can soon follow. But even though it's common to get polyps with your allergies, it's not a given. "People often think allergies are the cause of their polyps, but it's really true in less than 50% of the cases," Bhattacharyya says.

Asthma. Anywhere from 26% to 56% of people with asthma deal with nasal polyps, too. Studies show that if you have nasal polyps, you're more likely to have severe asthma.



WARNING **SIGNS**

Neil Bhattacharyya, MD, lists some not-so-normal polyp symptoms.

- + One-sided polyps. Polyps typically happen on both sides of your nasal passages, so if you're only having them on one side, that's unusual-get it checked out.
- + Pain. If you're taking pain relief for headaches or other pain related to your polyps, that could be a sign it's not your run-of-themill polyp.
- + Bleeding. It's relatively uncommon to have significant bleeding-or be able to feel your pulse—from polyps.

Aspirin sensitivity. People who have the combination of asthma, allergies, and an allergic reaction to aspirin can develop a rare condition called aspirin-exacerbated respiratory disease (AERD).

Autoimmune diseases. Studies show people with chronic sinus inflammation are more likely to have an autoimmune disorder. Nasal polyps might happen in conditions such as ankylosing spondylitis, psoriasis, rheumatoid arthritis, and lupus.

Infections. Chronic sinusitis, or frequent sinus infections, are a big precursor to polyps. And again, not everyone with chronic sinus infections gets them-only about 20% do. But if you do, they often cause additional symptoms on top of regular sinus infections. "People with polyps have a much higher rate of losing their sense of smell than the more baseline simple chronic sinusitis patients," Bhattacharyya says.

Churg-Strauss syndrome (eosinophilic granulomatosis with polyangiitis). This rare disease causes inflammation of blood vessels, which can lead to polyps.

Cystic fibrosis. Nasal polyps are more common in adults. When kids have

them, it can be a sign of cystic fibrosis. Cystic fibrosis is a progressive, lifethreatening disease that causes severe upper and lower respiratory infections. About 86% of people with cystic fibrosis have nasal polyps.

Bhattacharyya says polyps are likely to stick around or come back, even after you get treatment for underlying conditions that cause them. "Only about 40% of people will have complete resolution of their polyps," he says. "They may shrink in size, they may shrink in number, but they often will linger."

LIVING WITH_ NASAL POLYPS



By Laura Greiner

Reviewed by Brunilda Nazario, MD, WebMD Chief Physician Editor, Medical Affairs

For me, life has always included breathing and sinus issues. My first asthma attack happened when I was only 1. My sinuses were forever acting up. I had chronic sinus infections, horrible allergies, and my nose was always running. It was a joke among friends that you'd never see me without a Kleenex. It was just who I was.

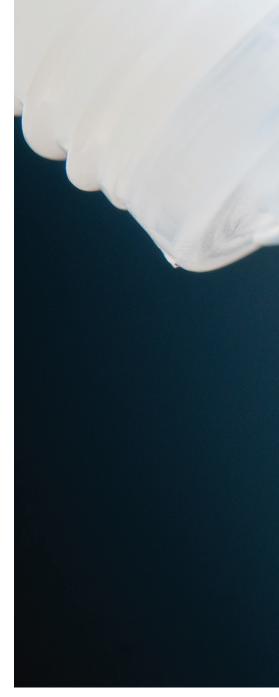
Then when I was 16, I experienced an asthma attack after taking an ibuprofen, which had never happened before. It was confusing for me, but clarifying for my doctors-they diagnosed me with a rare condition called aspirin-exacerbated respiratory disease, or AERD.

In order to be diagnosed with AERD, you have to have what they call the triad: asthma, nasal polyps, and an allergy to NSAIDs, or nonsteroidal anti-inflammatory drugs. The allergy was new for me; it was like a switch flipped in my body and suddenly I couldn't tolerate it. AERD is uncommon in general, but it's even more uncommon to be diagnosed at a young age.

I had my first surgery to remove my nasal polyps at age 17. They had grown large enough in the year since my AERD diagnosis that they had started

to obstruct my breathing. And the surgery worked-for a while. But unfortunately, what happens with this condition is they just start growing back. Surgery ends up being a short-term solution.

My next surgery wasn't until I was 27. I had a pretty good 8 years, and then the last 2 years before the surgery, I hadn't been able to breathe out of my nose. If you've ever had a cold, you know how annoying it is to have clogged nostrils. That was my every day. I sounded funny all the time. People constantly asked if I was sick, but I'd say, "No, this is just me." And I







LAURA'S TIPS

- + Find a doctor in the know. You need someone who has experience with nasal polyps to explore underlying causes and get the most effective treatment.
- + Figure out your triggers. Pay attention to your body to see what makes your symptoms worse. Certain alcohols, wheat, and too much sugar all set mine off.
- + Be diligent with treatment. If I go more than a day without doing my drops, things get pretty bad, pretty quickly.

had no sense of smell at all. So I had surgery to remove the polyps again.

Then my doctors had me try aspirin desensitization, where they built me up with tiny doses of it until I got to a point where I could take one aspirin a day as a maintenance dose. As a result, I could breathe out of my nose again. I could smell! It was almost like I was completely cured. But it couldn't last forever, unfortunately.

The issue with the aspirin desensitization process is you have to keep taking higher and higher doses. For some people, this starts to cause stomach problems and blood thinning issues. I was on aspirin for a couple of years, until I wanted to get pregnant. High doses of aspirin don't quite go with pregnancy, so I stopped. And then shortly after, my tolerance just reversed back.

The polyps got worse with my first pregnancy. But interestingly, they got better with my second. They were almost nonexistent during that pregnancy, and I got my sense of smell back. Then when my daughter was 6 months old, they came raging back. Doctors don't know exactly what causes polyps, but think there's some hormone component, which may be part of why my pregnancies affected them.

For a while, I was just kind of maintaining, with bouts of really bad symptoms every so often. I'd have to go to the doctor for a steroid shot or take a big burst of prednisone a couple of times a year. At times the polyps would get so bad, I could see them in my nostrils.

But these days I'd consider my symptoms under control. I use steroid drops in my daily nasal wash, which has been a game changer. Now I can breathe through my nose. I still can't smell, but for me, breathing through my nose is way more important.



COMPLICATIONSOF NASAL POLYPS

WHAT TO WATCH FOR

By Rachel Reiff Ellis
Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor

There are lots of different types of polyps. Some are more severe than others, and some have different treatments than others. So when you look at what problems might develop as a result of nasal polyps, the answer can be, well, complicated.

"When something abnormal happens as a result of having the disorder, that's a complication," says Michael P. Platt, MD, associate professor of otolaryngology-head and neck surgery at Boston University School of Medicine and director of rhinology and endoscopic skull base surgery at Boston Medical Center in Massachusetts.

Platt says complications are not problems that typically go along with nasal polyps, such as loss of taste and smell, congestion, drainage, sleep problems, or headache. "I don't consider those to be complications because those are part of the disorder," Platt says.

Instead, complications are very rare, and happen because of infection. They can happen in your:

EYES

Your nasal passages are very close to your eyes, so it's possible for

nasal polyps to affect your vision and eye function. "Any eye symptoms along with nasal polyps would be concerning that there was a complication happening," Platt says.

Signs to watch for include:

Double or decreased vision. Sometimes the disease process can affect the muscles of the eye so that they don't work the right way.

Eye pain and swelling. Nasal polyps that get infected can spread infection to the eye (orbital cellulitis) and cause inflammation and pain.

BRAIN

Serious infection from nasal polyps could potentially affect your brain. "If someone has bad disease and it ends up spreading into the brain, the first thing you get is meningitis, which is a severe infection around the brain and spinal cord," Platt says.

Symptoms of meningitis include:

• Severe headache ("worst

headache of your life")

- Fever
- · Sensitivity to light
- Stiff neck

Meningitis is a medical emergency. If you have these symptoms, go to the emergency room for treatment.

SINUS BONES

This type of infection is called osteitis. You might feel pain in your nasal passages. Your doctor may prescribe an antibiotic to help clear it up.

Ultimately, Platt says, nasal polyps themselves are a fairly safe condition. Treating them is mostly about quality of everyday life and not about the risk of more serious problems down the road.

"Yes, there's always possible rare complications you get, but that's not the main reason we treat it," he says. "You want to breathe through your nose, you want to sleep better, you want to smell better. We treat it because you want to feel better."

O True

TEST YOURSELF

HOW MUCH DO YOU KNOW ABOUT **NASAL POLYPS?**

By Kendall K. Morgan

Reviewed by Melinda Ratini, DO, WebMD Medical Reviewer

Nasal polyps can give you a runny, stuffy nose that makes it hard to smell or taste. Find out how much you know about this condition, its symptoms, and ways to find relief.

1. Nasal p	olyps happen becaus	se of an infection in your sinuses
○ True	○ False	
	ould try all available ag about surgery to re	medical therapies first before emove nasal polyps.
○ True	○ False	
	lonal antibodies may asal polyps.	help treat chronic problems
○ True	○ False	
4. Your na	asal polyps can give y	ou sleep apnea.
○ True	○ False	
	oolyps increase your i ng anxiety and depre	risk for mental health problems, ssion.

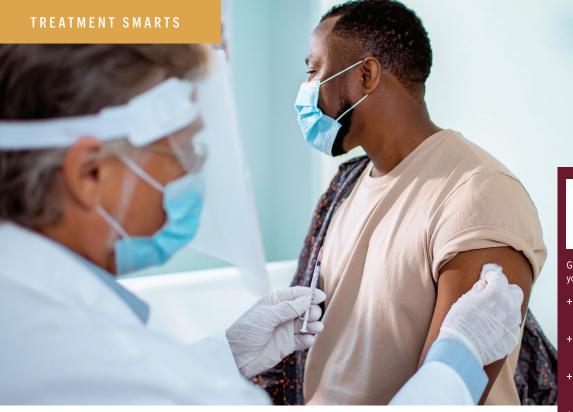


1. False. Nasal polyps form when you have chronic inflammation in your nasal passages. The inflammation may be related to frequent sinus infections. But it also tends to happen in people who have asthma, allergies, or an immune disorder. So having nasal polyps doesn't mean you have an active infection. Even if you do get nasal polyps related to infections, it's the inflammation that causes them-not the infection itself. Treating an infection if you have one won't get rid of the polyps.

False

- 2. False. Chances are your doctor will recommend trying medicines, such as steroids, to help you shrink nasal polyps first. But you may not want to wait too long before moving on to surgery. That's the only way a doctor can go in and remove polyps and let you breathe easy again—at least until polyps grow back. Ask your doctor about the pros and cons of the medicines approved for nasal polyps and when it's time to think about surgery.
- 3. True. You might think of antibodies as something your immune system makes to fight an infection. That's right, but monoclonal antibodies are used for a growing number of conditions, including nasal polyps. These biologic medicines are

- used with other medicines when your symptoms are not well-controlled and work by blocking inflammation. Ask your doctor if a biologic is right for you.
- 4. False. If you have sleep apnea, your airway gets blocked when you sleep. As a result, your breathing will stop and start. Sleep apnea makes you sleep poorly, and you also might not get enough oxygen. While nasal polyps also can make it hard to sleep because your nose is stuffed up with polyps, it's not quite the same and doesn't happen for the same reason as in sleep apnea. Be sure to let your doctor know if your polyps are making it hard for you to
- **5. True.** People with the chronic inflammation in their noses that can lead to nasal polyps often have anxiety and depression. This could happen because the symptoms are frustrating and make it hard to sleep. If you can't taste or smell, it's harder to enjoy a meal with family or friends and many other activities you love. If you have nasal polyps and are worried it's affecting your mental health, make sure your doctor knows you're struggling. Getting your nasal polyps and their symptoms under control may ease your breathing—and your anxiety or depression, too.



TREATING NASAL POLYPS

HOW MEDICATIONS AND OTHER THERAPIES HELP

By Rachel Reiff Ellis

Reviewed by Brunilda Nazario, WebMD Chief Physician Editor. **Medical Affairs**

Doctors can't cure all nasal polyps, but there are many options for treatments that help shrink them or even get rid of them completely for a while to reduce your symptoms.

MEDICATIONS

Typically, the first line of treatment for nasal polyps is medication. You might use a spray, pill, or shot to help reduce

Steroid sprays. These sprays are often the first place to start to try to shrink polyps. "The most conservative treatment for small-to medium-sized polyps is medical treatment with higher potency steroid solution in saline irrigation twice daily," says Frank S. Virant, MD, senior partner at Northwest Asthma & Allergy Center and allergy division chief at Seattle Children's Hospital in Washington.

You may also rinse your nose with a saltwater solution to help keep it clear of allergens and irritants.

Oral steroids. If a spray doesn't work to clear symptoms, you may need a steroid in pill or shot form. "For larger polyps, initial treatment may include a 'burst' of systemic oral steroids over 10 to 14 days or so to diminish the size of the nasal polyps," Virant says. "This is then followed by the topical steroid treatment for smaller polyps."

Oral steroids that go through your whole system can have severe side effects, so your doctor will have you take them for only a limited amount of time.

Monoclonal antibodies, A more recent treatment for nasal polyps caused by chronic sinusitis is a shot of antibodies made in a lab. These work like antibodies your immune system makes to help block the pathway that causes inflammation.

Aspirin desensitization. If your polyps are the result of a rare condition called aspirin-exacerbated

QUESTIONS FOR YOUR DOCTOR

Get the details you need about your treatment.

- + What is the best way to lessen my symptoms?
- Do I need medications or surgery or both?
- What side effects might my treatment have?
- + Should I go to the emergency room for any symptoms?

respiratory disease (AERD), your doctor may want to try to increase your tolerance to aspirin by giving you small doses and building up over time. This can help reduce polyps in some people.

SURGERY

Your doctor might suggest a surgical procedure to remove polyps if medications don't seem to be working.

"There may be some rare exceptions, but I'd say surgery is typically used after some 'failure' of medical therapy," Virant says.

A doctor will use a tool called an endoscope—a slim wand with a camera at the end. Using tiny instruments, your doctor removes the polyps. Usually this is done as an outpatient procedure and you go home the same day you have it.

Removing your polyps will make your symptoms go away, but the results are often temporary. Polyps tend to come back in 3 out of 4 people after an average of 4 years.

COMMONCAUSES

TRACK YOUR TRIGGERS FOR BETTER MANAGEMENT

By Sonya Collins Reviewed by Melinda Ratini, DO, WebMD Medical Reviewer

For some people who have nasal polyps, the growths in the nasal passages develop or get worse in response to certain triggers. Avoiding these triggers won't make the polyps go away completely, but it can help keep them under control so you can breathe easier. That's why it's important to keep track of your triggers so that, as much as possible, you can try to avoid them.

"When you treat polyps with surgery alone, they tend to come back at some point. But if we can also use medications and avoid some of these triggers, we can better control them and keep them at bay for much longer periods of time," says Dana Crosby, MD, director of rhinology and endoscopic skull base surgery and of otolarvngic allergy at Southern Illinois University School of Medicine in Springfield, IL.

HOW TRIGGERS AFFECT NASAL POLYPS

You can have chronic rhinosinusitis—that ongoing stuffy nose that causes difficulty breathing—with or without nasal polyps. In either case, your body has an outsized reaction to triggers in your environment. That

reaction causes inflammation and swelling in your nasal passages. In people whose rhinosinusitis comes with polyps, triggers make the polyps worse, too.

"The polyps are there, and you'll have a baseline level of congestion, but you may notice more congestion when you're exposed to your triggers," Crosby says.

COMMON TRIGGERS OF NASAL POLYPS

Each individual is different. What makes your nasal polyps worse may not have the same effect on someone else with the condition. These are some of the most common triggers that can aggravate polyps:

- Seasonal allergens, such as pollen and ragweed
- Airborne allergens, such as dust and mold
- Aspirin
- · Secondhand smoke
- Incense
- Chemical fumes
- Alcohol

If you have asthma or known allergies, the triggers of these conditions likely make your polyps worse, too. "We want to treat asthma and allergies as intensively as possible and make sure we have those under control as well as possible," Crosby says. "If asthma or allergies aren't under control, they can exacerbate polyps."

AVOIDING TRIGGERS

In some cases, treatment can help make you less sensitive to a trigger. For example, for those who have aspirin sensitivity (aspirinexacerbated respiratory disease), doctors may recommend surgery to remove your polyps followed by aspirin desensi-

tization treatment. A nasal rinse, such as a neti pot, can also help soften the blow of allergens in the air, like pollen and dust.

But as much as possible, you'll want to try to steer clear of triggers—whether that means staying away from incense and second-hand smoke or wearing a mask when you go outside to mow the lawn. It won't cure your polyps, but it could make them a whole lot better.



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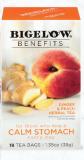
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