An Overview of the PA Profession, ENT and Allergy

Delaware Mini Medical School

Topics to be Discussed

- The physician associate (PA) profession, including history, education, and certification
- Differences between PAs and nurse practitioners (NPs)
- Delaware House Bill 325 and changes to PA practice in the state
- Review of some ENT anatomy
- Acute rhinosinusitis and chronic rhinitis, which includes both non-allergic and allergic types.
- Acute sinusitis in adults

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What is a Physician Associate

PAs are licensed medical professionals trained to diagnose and treat illnesses, prescribe medications, perform procedures, coordinate care, assist in surgeries, and often serve as a patient's primary medical provider.

Origin of the Profession

- The PA profession began in 1965 at Duke University
- Founded by Dr. Eugene A. Stead Jr. to help address a national shortage of primary care physicians
- The first class consisted of four Navy Hospital Corpsmen who had extensive medical training during their military service
- The first PAs graduated from Duke on October 6, 1967
- Today more than 178,700 PAs practice across all 50 states and in every medical and surgical specialty

Education and Certification

- Master's level degree from a program accredited by the ARC-PA
- Programs generally take 2 to 3 years and include classroom learning and clinical rotations in multiple specialties
- Graduates must pass the Physician Assistant National Certifying Exam (PANCE) offered by the NCCPA to use the PA-C title
- PAs must earn 100 hours of continuing medical education every 2 years
- Recertification is required every 10 years through the PANRE or PANRE-LA

Sources: American Academy of PAs (aapa.org/about/history), NCCPA (nccpa.net), Duke University School of Medicine, WebMD (webmd.com/a-to-z-guides/what-is-a-physician-assistant)

Comparing Physician Associates and Nurse Practitioners

Both diagnose, treat, and prescribe, but the training models, certification, and scope of practice differ

Physician Associate (PA)

- Trained in the medical model, similar to physicians
- Earns a Master of Science in Physician Assistant Studies from an ARC-PA accredited program
- Must pass the PANCE through the NCCPA to earn the PA-C credential
- Trained as a generalist and can change specialties without earning a new certification
- Median annual salary about 133,260 dollars in May 2024 (BLS)
- Projected job growth of 20 percent from 2024 to 2034 (BLS)
- About 22 percent work in primary care, with many in surgical subspecialties, internal medicine, and emergency medicine

Nurse Practitioner (NP)

- Trained in the nursing model with a patient centered, holistic focus
- Holds an RN license plus a Master of Science in Nursing or a Doctor of Nursing Practice
- Passes a national certification exam in a specific patient population such as family, adult gerontology, pediatrics, or psychiatric mental health
- Must complete additional formal education and certification to switch patient populations
- Median annual salary about 129,210 dollars in May 2024 (BLS)
- Projected job growth of 40 percent from 2024 to 2034 (BLS)
- More than 90 percent work in primary care, with most as family nurse practitioners (HRSA)

Scope of practice: NPs practice independently in 28 states. PAs traditionally practice under a collaborative agreement with a physician, although several states have updated their laws to allow more independence.

Source: NurseJournal. Comparing Nurse Practitioners vs. Physician Assistants (nursejournal.org/resources/np-vs-physician-assistant). Salary and job growth data from the U.S. Bureau of Labor Statistics.

PA and NP Recertification Requirements

How each profession maintains certification after entering practice

Physician Assistant (PA)

- Credentialing body: National Commission on Certification of Physician Assistants (NCCPA)
- Certification cycle: 10 years, divided into five 2-year CME cycles
- CME requirement: 100 credits every 2 years, including at least 50 Category 1 credits
- Maintenance fee: 180 dollars every 2 years
- Recertification exam: pass the PANRE or PANRE-LA by the end of year 10
- PANRE is a 240 question exam at a Pearson VUE test center, taken in year 9 or 10
- PANRE-LA is an online longitudinal assessment over 8 quarters, allowed to use reference materials
- Exam fee: 350 dollars for either option

Nurse Practitioner (NP)

- Credentialing bodies: American Academy of Nurse Practitioners Certification Board (AANPCB) or American Nurses Credentialing Center (ANCC), plus specialty boards
- Certification cycle: 5 years, with population focus such as FNP, AGNP, or PMHNP
- AANPCB option 1: at least 1,000 clinical practice hours plus 100 contact hours of continuing education, including 25 in pharmacology
- AANPCB option 2: retake and pass the certification exam
- ANCC option: 75 CE contact hours (with 25 in pharmacology) plus additional professional development activities
- Must maintain active RN license throughout the certification period
- Renewal fees range from about 120 to 375 dollars depending on body and membership

Key difference: PAs are recertified across all areas of medicine. NPs are recertified within a specific patient population, and must change credentials to move into a new population.

Sources: NCCPA Maintain Certification (nccpa.net/maintain-certification). AANPCB Recertification (aanpcert.org/recert). ANCC Certification Renewal Handbook 2025 (nursingworld.org/certification/renewals).

Comparison of Medical Provider Education and Training

Side by side review of typical training pathways for five healthcare provider roles

Category	Medical Assistant	Registered Nurse	Nurse Practitioner	Physician Assistant	Physician (MD)
Prerequisite Education	None	None	Bachelor's in nursing plus clinical hours	Bachelor's degree plus clinical hours	Bachelor's degree
Learning Model	Medical	Nursing	Medical and Nursing	Medical and Physician	Medical and Physician
Time in Classroom	134 hours	Varies by program	500 hours	1,000 hours	2 years
Time in Clinic	160 hours	Varies by program	500 to 700 hours	2,000 hours	2 years
Total Post High School Education	1 to 2 years	2 to 4 years	6 to 8 years	6 to 7 years	8 years
Residency	None	None	Optional, 6 to 12 months	Optional, 1 to 2 years	Required, 3 to 8 years
Degree Awarded	Certificate or associate degree	Associate or bachelor's degree	Master's, planned move to doctorate	Master's degree	Doctorate (MD or DO)

Source: The Physician Assistant Life. Physician Assistant vs. Nurse Practitioner vs. Medical Doctor (thepalife.com/physician-assistant-vs-nurse-practitioner-vs-medical-doctor). Note: program hours vary and some PA programs report higher classroom and clinical hour totals.

Delaware House Bill 325

A new law that modernizes physician associate practice in Delaware

May 12, 2026

Signed into law by Governor Matt Meyer

6,000 hours

Post graduate clinical hours for independent practice

157+ million dollars

Federal funding through the Rural Health Transformation Program

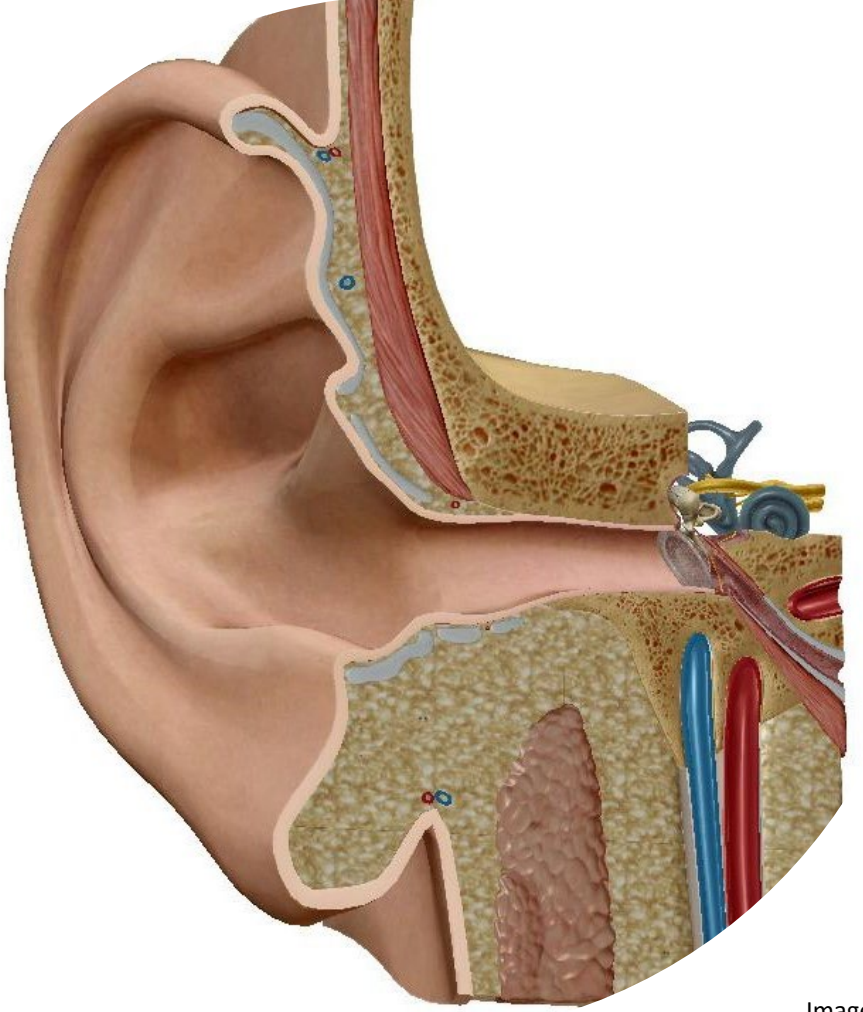
Key Changes to PA Practice

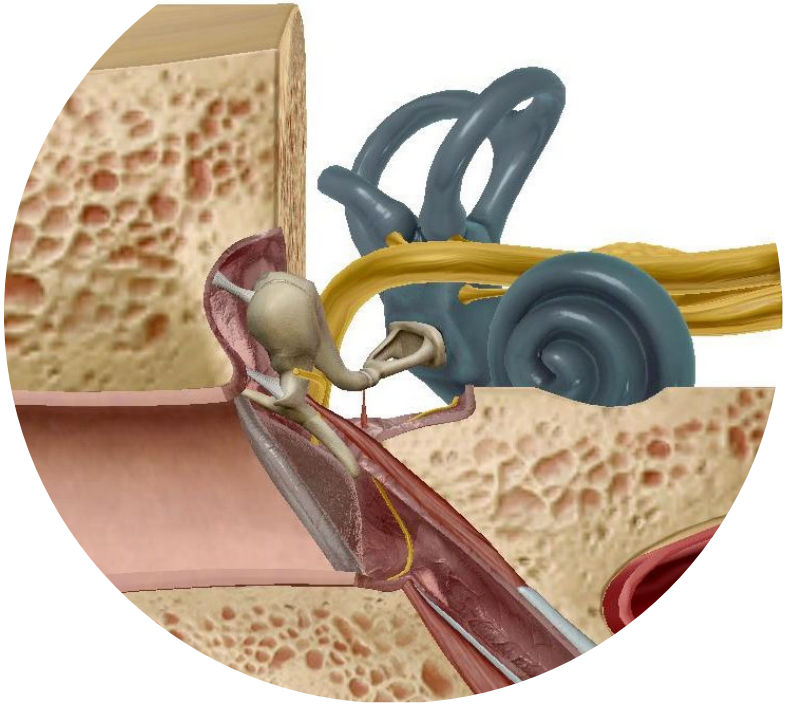
- Changes the official title in Delaware from physician assistant to physician associate
- Creates an independent practice pathway for PAs with 6,000 or more post graduate clinical hours
- Applications are submitted to the Regulatory Council f… Physician Associates
- For PAs below 6,000 hours, a written collaborative agreement is still required, but the physician does not need to be physically on site

Expanded Roles and Patient Access

- Authorizes direct billing and payment for services rendered by the physician associate
- Allows i…urers to designate a physician associate as a patient's primary care provider
- Provides protections for volunteer care and disaster response without a formal collaborative agreement
- Full i…lementation by May 12, 2027 or upon Board appro…al, whichever comes first

Sources: American Academy of PAs press release, May 12, 2026 (aapa.org/news-central). Lengea Law analysis, May 14, 2026 (lengealaw.com). Delaware General Assembly HB 325 (legis.delaware.gov).





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Anatomy of the Ear

Three regions, the outer, middle, and inner ear, work together to turn sound waves into signals the brain can understand

Outer Ear

- Pinna (the visible part of the ear) gathers sound waves from the environment
- Ear canal carries sound waves toward the eardrum
- Bordered by the temporal bone of the skull
- Common conditions include otitis externa (swimmers ear) and cerumen impaction

Middle Ear

- Eardrum (tympanic membrane) vibrates when sound waves hit it
- Three tiny bones (ossicles): malleus, incus, and stapes
- The bones amplify the sound vibrations and pass them on to the inner ear
- Common conditions include otitis media and eustachian tube dysfunction

Inner Ear

- Cochlea is a snail shaped, fluid filled structure that contains the hearing cells
- Semicircular canals and vestibule provide balance and sense of head position
- Auditory nerve carries electrical signals from the cochlea to the brain
- Common conditions include sensorineural hearing loss, Meniere disease, and benign positional vertigo

How We Hear, Step by Step

1. Sound waves enter the ear canal and reach the eardrum
2. The eardrum vibrates and moves the malleus, incus, and stapes
3. The ossicles amplify the vibrations and pass them to the fluid filled cochlea
4. Hair cells in the cochlea respond to the fluid waves: high pitched sounds at the outer end, low pitched sounds toward the center
5. Tiny hair like projections (stereocilia) bend, open ion channels, and generate an electrical signal
6. The auditory nerve sends the signal to the brain, which recognizes it as sound

Why this matters for rhinitis: the eustachian tube connects the middle ear to the back of the nose, so nasal inflammation, allergies, and sinus disease commonly cause ear symptoms.

Source: National Institute on Deafness and Other Communication Disorders (NIDCD), National Institutes of Health. How Do We Hear? (nidcd.nih.gov/health/how-do-we-hear). Last updated March 16, 2022.

Anatomy of the Eustachian Tube

Also called the auditory or pharyngotympanic tube, named after the 16th century Italian anatomist Bartolomeo Eustachi

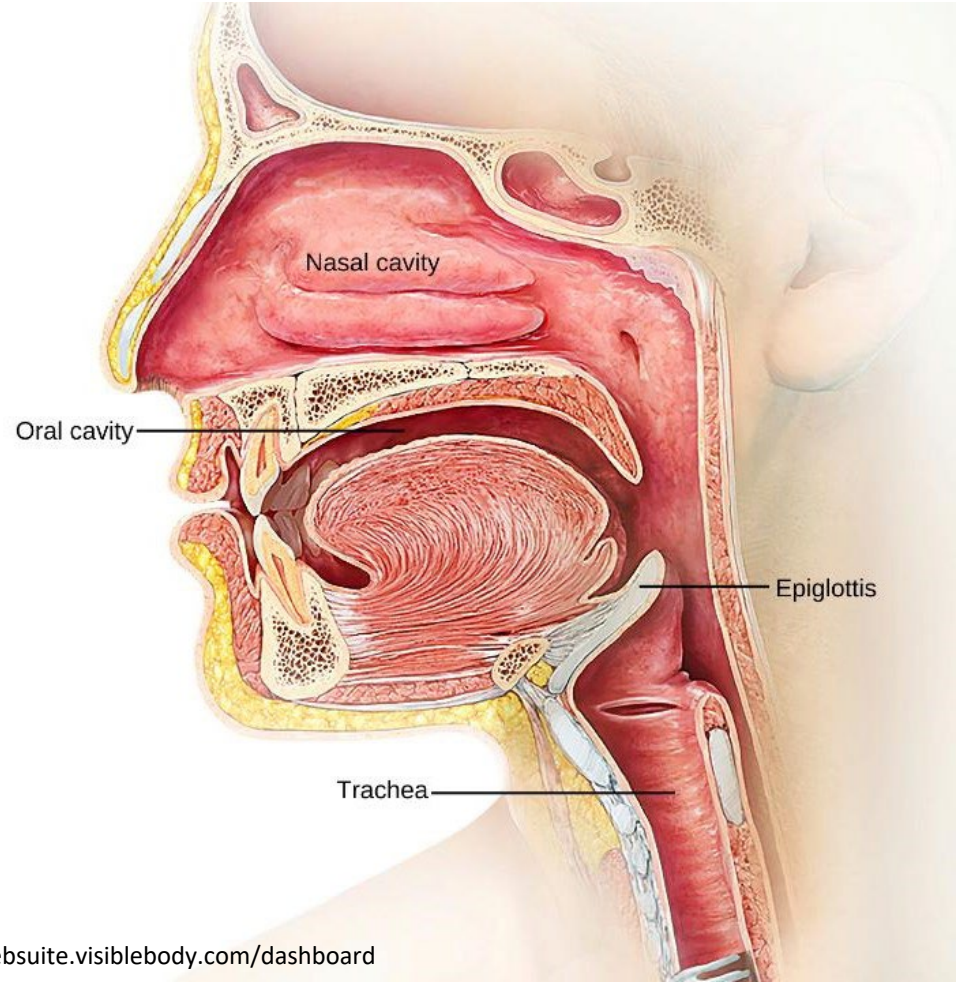
Structure

- Connects the middle ear to the nasopharynx (the back of the nose and throat)
- About 35 to 38 millimeters long in adults, with a diameter of 2 to 3 millimeters
- Runs in a downward, forward, and medial direction from the middle ear
- Bony portion makes up the upper third (about 12 millimeters) and lies within the temporal bone, near the middle ear
- Cartilaginous portion makes up the lower two thirds (about 24 millimeters) and opens into the nasopharynx behind the inferior turbinate
- In children the tube is shorter, wider, and more horizontal, which is why ear infections are more common in children

Function and Clinical Notes

- Three main jobs: equalizing pressure across the eardrum, draining mucus from the middle ear, and protecting the middle ear from nasopharyngeal secretions
- Normally closed at rest, and opens briefly during swallowing, yawning, or chewing through the action of the tensor veli palatini muscle
- Allows pressure in the middle ear to match the outside air pressure, which is why ears pop on airplanes or with elevation changes
- Eustachian tube dysfunction can cause ear fullness, muffled hearing, popping sounds, and pain
- Blockage of the tube is the most common cause of otitis media with effusion (fluid behind the eardrum)
- Allergic rhinitis, viral upper respiratory infections, and adenoid hypertrophy are common causes of eustachian tube dysfunction in patients with rhinitis

Sources: StatPearls. Anatomy, Head and Neck, Ear Eustachian Tube (ncbi.nlm.nih.gov/books/NBK482338). TeachMeAnatomy. The Eustachian Tube (teachmeanatomy.info/head/organs/ear/eustachian-tube). Kenhub. Eustachian (auditory) tube (kenhub.com/en/library/anatomy/eustachian-tube).



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Anatomy of the Nasal Cavity

The air-filled space behind the nose that warms, filters, and humidifies the air we breathe

Structure

- Extends from the nostrils (nares) to the back of the throat (choanae)
- Divided into right and left halves by the nasal septum, made of bone in the back and cartilage in the front
- The roof is formed by the cribriform plate of the ethmoid bone, which transmits the olfactory nerves for smell
- The floor is formed by the hard and soft palate
- The lateral walls have three bony shelves called the superior, middle, and inferior turbinates (also called conchae)
- Beneath each turbinate is a space called a meatus, which receives drainage from the sinuses and tear ducts
- The Kiesselbach plexus on the anterior septum is the most common site of nosebleeds

Function and Clinical Notes

- Lined with respiratory mucosa that warms inspired air to body temperature and adds humidity
- Mucus traps dust, pollen, and microbes. Ciliated cells sweep trapped material toward the throat to be swallowed or expelled
- Provides resonance for the voice and houses the sense of smell through the olfactory epithelium on the roof
- Rich blood supply from branches of the internal and external carotid arteries warms the inspired air
- Common problems include allergic rhinitis, deviated nasal septum, turbinate hypertrophy, nasal polyps, and epistaxis (nosebleeds)

Sources: TeachMeAnatomy. The Nasal Cavity (teachmeanatomy.info/head/organs/the-nose/nasal-cavity). Kenhub. Nasal cavity (kenhub.com/en/library/anatomy/nasal-cavity). StatPearls. Anatomy, Head and Neck, Nose (ncbi.nlm.nih.gov/books/NBK545206).

Anatomy of the Paranasal Sinuses

Four paired air filled spaces inside the bones of the face and skull that drain into the nasal cavity

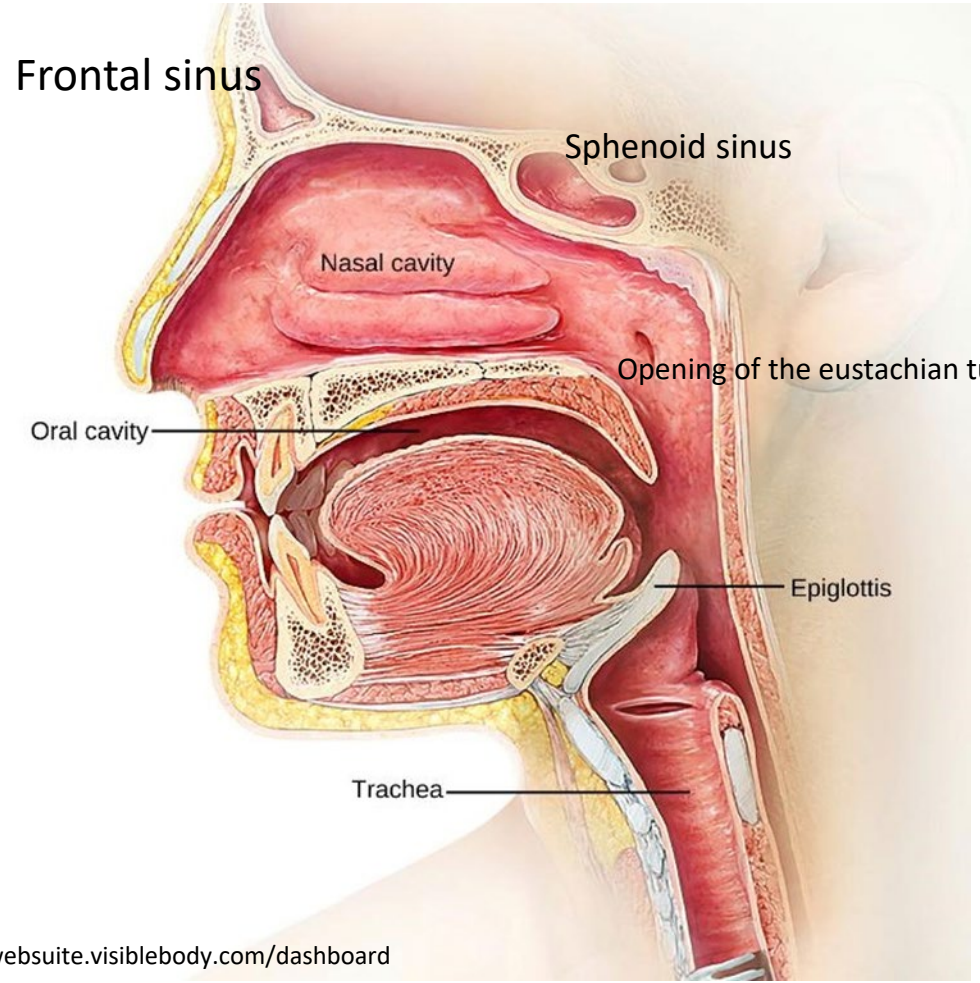
The Four Sinus Pairs and Where They Drain

- Frontal sinuses: in the frontal bone above the eyebrows. Drain into the middle meatus
- Maxillary sinuses: largest of the sinuses, located in the cheekbones under the eyes. Drain into the middle meatus through the semilunar hiatus
- Ethmoid sinuses: a honeycomb of 4 to 17 air cells between the eyes in the ethmoid bone. Anterior cells drain into the middle meatus, posterior cells drain into the superior meatus
- Sphenoid sinuses: in the sphenoid bone behind the eyes, the deepest sinuses. Drain into the sphenoethmoidal recess above the superior turbinate

Function and Clinical Importance

- Reduce the weight of the skull and add resonance to the voice
- Help humidify and warm inhaled air, and contribute to immune defense by producing mucus
- Lined with the same ciliated respiratory mucosa as the nasal cavity, so any swelling or mucus blockage can trap secretions and cause sinusitis
- The osteomeatal complex in the middle meatus is the shared drainage point for the frontal, maxillary, and anterior ethmoid sinuses. Blockage here often causes sinusitis
- Pain often points to the affected sinus: forehead pain with frontal sinus, cheek or tooth pain with maxillary sinus, pain between the eyes with ethmoid sinus, pain behind the eyes or in the back of the head with sphenoid sinus

Sources: TeachMeAnatomy. The Paranasal Sinuses (teachmeanatomy.info/head/organs/the-nose/paranasal-sinuses). StatPearls. Anatomy, Head and Neck, Nose Paranasal Sinuses (ncbi.nlm.nih.gov/books/NBK499826). Cleveland Clinic. Paranasal Sinuses (my.clevelandclinic.org/health/body/paranasal-sinuses).



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Acute Rhinosinusitis

An inflammatory disease of the nose and sinuses, mostly triggered by viral infection, that lasts less than 12 weeks

Viral (common cold)

Symptoms less than 10 days

Self limiting upper respiratory infection. Most adults have 2 to 5 episodes per year

Post viral

Worsens after day 5 or persists past day 10

Continued inflammation after a viral cold. Still less than 12 weeks total

Acute bacterial (ABRS)

Small minority of cases

Bacterial superinfection. Requires specific clinical features for diagnosis

Diagnosis

- Diagnosis is clinical, based on symptoms and duration
- Cardinal symptoms: nasal blockage, nasal discharge, facial pain or pressure, reduced or lost sense of smell
- Imaging not needed for uncomplicated cases (viral colds also show sinus opacification on CT)

Clues That Suggest Bacterial Infection

- Symptoms lasting more than 10 days without improvement
- Double sickening pattern of initial improvement then worsening
- Cacosmia (foul smell), unilateral facial pain, or pain in the teeth
- Fever and elevated C reactive protein support bacterial diagnosis

Treatment for Viral or Post Viral Cases

- Symptomatic care: saline irrigation, analgesics, short term decongestants
- Intranasal corticosteroids reduce symptom duration and severity
- Antibiotics are not indicated and do not prevent complications

Treatment for Suspected Bacterial Cases

- Continue intranasal corticosteroids and supportive care
- First line antibiotic: amoxicillin or amoxicillin clavulanate (IDSA guideline)
- Refer for imaging or specialist evaluation if complications suspected

Key point: most acute rhinosinusitis is viral and self resolving. Limit antibiotics to clearly bacterial cases to avoid overtreatment and resistance.

Sources: Jaume F, Valls-Mateus M, Mullol J. Common Cold and Acute Rhinosinusitis: Up-to-Date Management in 2020. Curr Allergy Asthma Rep. 2020, vol 20, article 28. Framework: EPOS 2020 (Fokkens et al.). IDSA 2012 (Chow et al.) for antibiotic choice.

Chronic Rhinitis

Long lasting inflammation of the nasal lining causing nasal symptoms that persist for months or years

Definition and Types

- Rhinitis is inflammation of the nasal mucosa with runny nose, congestion, sneezing, or itching
- Allergic rhinitis is triggered by pollen, dust mites, or pet dander
- Nonallergic rhinitis is caused by irritants, temperature or humidity changes, hormones, medications, or unknown factors

Common Symptoms

- Rhinorrhea (runny nose or watery discharge)
- Nasal congestion or stuffiness
- Sneezing and nasal itching or irritation
- Postnasal drip down the back of the throat
- Less often cough, throat clearing, or reduced sense of smell

Diagnosis

- Clinical history and physical exam
- Nasal endoscopy to look for swelling, polyps, septal deviation, and turbinate hypertrophy
- Allergy testing and CT imaging when indicated

Medical Treatment

- Nasal saline irrigation
- Intranasal corticosteroid sprays (mainstay)
- Intranasal antihistamines or ipratropium
- Oral antihistamines or decongestants
- Allergen avoidance and immunotherapy

Procedural Options

- For moderate to severe symptoms despite maximal medical therapy
- In office posterior nasal nerve ablation (radiofrequency or cryotherapy)
- Posterior nasal nerve neurectomy in the operating room for refractory cases
- Aim is to dampen overactive parasympathetic signals

Most patients respond to medical therapy. Procedural options are adjuncts, not replacements

Source: Stanford Medicine, Otolaryngology Head and Neck Surgery. Chronic Rhinitis (med.stanford.edu/ohns/OHNS-healthcare/comprehensive-ent/chronic-rhinitis.html). AAO-HNS Position Statement on Posterior Nasal Nerve referenced therein.

Nonallergic Rhinitis

A diagnosis of exclusion when allergy testing is negative. Up to one half of patients with chronic rhinitis have the nonallergic form.

Clues That Point to Nonallergic Rhinitis

- More nasal congestion and rhinorrhea, less sneezing and itching
- Later age of onset, no family history of atopy, no allergic conjunctivitis symptoms
- Triggers include weather and temperature changes, perfumes, smoke, fumes, and certain foods. Animal exposure does not trigger symptoms
- Antihistamines often provide no benefit. Negative skin prick or specific IgE testing confirms the diagnosis

Vasomotor Rhinitis

- Most common subtype
- Irritant sensitive (smoke, perfume, pollution), weather or temperature sensitive, or gustatory (with eating)
- Often mistaken for seasonal allergic rhinitis because triggers overlap with allergy seasons

Drug Induced Rhinitis

- NSAIDs (especially in aspirin exacerbated respiratory disease)
- ACE inhibitors, beta blockers, calcium channel blockers, alpha agonists, vasodilators, oral contraceptives
- Rhinitis medicamentosa from overuse of topical nasal decongestants causes beefy red mucosa

NARES and Other Subtypes

- NARES: nonallergic rhinitis with eosinophilia, more than 5 percent eosinophils on nasal smear, may develop polyps
- Hormonal: pregnancy, menses, hypothyroidism
- Atrophic, occupational, structural (deviated septum, polyps, tumor, CSF leak)

Stepwise Treatment

- Avoid identifiable triggers and pretreat before unavoidable exposures (such as nasal spray before flying)
- First line: intranasal corticosteroids (fluticasone and beclomethasone are FDA approved for nonallergic rhinitis). Add intranasal antihistamines (azelastine has FDA approval) for combined sneezing, congestion, and rhinorrhea
- Ipratropium 0.03 percent nasal spray is first line when rhinorrhea is the dominant symptom. Saline irrigation can be used as adjunctive therapy

Key point: identify and avoid triggers first, then start intranasal corticosteroids. Failure to respond should prompt review and consideration of medication causes or structural disease.

Source: Schroer B, Pien LC. Nonallergic rhinitis: Common problem, chronic symptoms. Cleveland Clinic Journal of Medicine. 2012, vol 79, issue 4, pages 285 to 293. doi:10.3949/ccjm.79a11099.

Allergic Rhinitis: Overview

An IgE mediated immune response to airborne allergens that affects about 50 million people in the United States

50 million

People in the US affected

Pollen driven

Seasonal type, peaks in spring and fall

Indoor allergens

Perennial type, occurs year round

Types and Symptoms

- Seasonal type is triggered by tree, grass, or ragweed pollens that vary by season and location, with symptoms worst in spring and fall
- Perennial type is triggered year round by dust mites, mold, pet dander, or cockroach droppings
- Common symptoms include nasal congestion, runny nose, postnasal drip, sneezing, and itching of the eyes, nose, and throat
- Many patients have features of both seasonal and perennial allergic rhinitis

Risk Factors and Associated Conditions

- Personal or family history of allergic rhinitis, asthma, or atopic dermatitis raises risk
- Often coexists with sinusitis, conjunctivitis, and otitis media (ear infections)
- Also linked to chronic cough, tension and migraine headaches, and sleep disturbances such as obstructive sleep apnea
- Untreated allergic rhinitis can affect school and work performance, mood, and quality of life

Sources: Voelker R. What Is Allergic Rhinitis? JAMA. 2024, vol 332, issue 19, page 1682. doi:10.1001/jama.2024.14237. Underlying review: Bernstein JA, Bernstein JS, Makol R, Ward S. Allergic Rhinitis: a review. JAMA. 2024, vol 331, issue 10, pages 866 to 877.

Allergic Rhinitis: Diagnosis and Workup

Diagnosis begins with history and exam, with allergy testing reserved for patients with persistent or uncontrolled symptoms

Clinical Evaluation

- Allergic rhinitis is often diagnosed from characteristic symptoms and clinical history alone
- Ask about timing of symptoms (seasonal versus year round), known triggers, family and personal history of atopy
- Examine for clear nasal discharge, pale or boggy turbinates, allergic shiners (dark circles under the eyes), and the allergic salute crease across the nose

When to Test for Allergens

- Test patients with persistent symptoms or recurrent intermittent symptoms not controlled with medication
- Common targets include tree, grass, and weed pollens, molds, dust mites, cat and dog dander, and rodent or cockroach droppings
- Identifying specific triggers guides allergen avoidance and helps decide if immunotherapy is appropriate

Methods of Allergy Testing

- Skin prick testing: a drop of each allergen is placed on the back or forearm and pricked into the skin. A wheal and flare reaction within 15 minutes indicates an allergic response
- Intradermal testing: if skin prick tests are negative, allergens may be injected into the outer layer of skin to look for a reaction
- Allergen specific IgE blood testing: useful when skin testing is not feasible due to medications, severe skin disease, or risk of anaphylaxis

Sources: Voelker R. What Is Allergic Rhinitis? JAMA. 2024, vol 332, issue 19, page 1682. doi:10.1001/jama.2024.14237. Underlying review: Bernstein JA, Bernstein JS, Makol R, Ward S. Allergic Rhinitis: a review. JAMA. 2024, vol 331, issue 10, pages 866 to 877.

Allergic Rhinitis: Treatment

Stepwise approach beginning with environmental measures, advancing to combination therapy, then immunotherapy

Step 1: Environmental Measures

- Close windows and use air conditioning to reduce pollen exposure. Use dust mite resistant bed coverings
- Keep pets out of the bedroom. Use HEPA air filters in the bedroom and other high occupancy rooms. Exterminate cockroaches or rodents

Step 2: Mild Symptoms

- Choose one first line agent based on patient preference and symptom pattern
- Oral antihistamines such as fexofenadine, cetirizine, loratadine, or desloratadine (over the counter)
- Intranasal antihistamines such as azelastine or olopatadine
- Intranasal corticosteroids such as fluticasone, triamcinolone, budesonide, or mometasone

Step 3: Moderate to Severe Persistent Symptoms

- Combine an intranasal antihistamine with an intranasal corticosteroid
- Add an oral antihistamine if symptoms remain bothersome
- Reassess control and adherence at follow up before escalating further
- Reserve oral decongestants for short term use due to side effects

Step 4: Immunotherapy

- For patients with persistent symptoms despite environmental measures and optimal medication
- Subcutaneous immunotherapy (allergy shots): gradually increasing doses, given by an allergist or otolaryngologist in office with epinephrine available
- Sublingual immunotherapy: small allergen doses placed under the tongue, FDA approved, can be self administered at home after the first dose

Sources: Voelker R. What Is Allergic Rhinitis? JAMA. 2024, vol 332, issue 19, page 1682. doi:10.1001/jama.2024.14237. Underlying review: Bernstein JA, Bernstein JS, Makol R, Ward S. Allergic Rhinitis: a review. JAMA. 2024, vol 331, issue 10, pages 866 to 877.

Acute Sinusitis in Adults

Diagnosis and management of acute bacterial sinusitis based on the 2016 NEJM Clinical Practice review

Diagnostic Criteria for Acute Bacterial Sinusitis

- Diagnosis requires purulent nasal discharge plus one or both of: nasal obstruction or facial pain, pressure, or fullness
- Symptoms must persist for 10 or more days without improvement, OR worsen within 10 days after initial improvement (the double sickening pattern)
- Diagnosis is clinical. Imaging and laboratory testing are not needed for uncomplicated cases

Option 1: Watchful Waiting

- Offer only if follow up can be ensured
- Symptomatic care with analgesics, saline irrigation, intranasal corticosteroids, or decongestants
- Start antibiotics if no improvement at 7 days or if symptoms worsen at any time
- A safety net prescription can be given for the patient to fill if needed

Option 2: Initial Antibiotic Therapy

- First line: amoxicillin, with or without clavulanate, for 5 to 10 days
- Doxycycline is an alternative for patients with penicillin allergy
- Number needed to treat to reduce symptoms is 7 to 18, a modest benefit over placebo
- Reassess at 7 days. Switch antibiotics if no improvement

Red Flags for Complications

- Periorbital swelling, eye pain, or vision change
- Severe headache, altered mental status, or neck stiffness
- High fever, toxic appearance, or rapid worsening
- Warrants urgent imaging and specialist consultation

Shared Decision Making

- Discuss the modest antibiotic benefit against side effects and resistance
- Most patients improve in 7 to 14 days without antibiotics
- Patient preferences and ability to follow up should guide the choice

Key point: most acute sinusitis is viral. Bacterial diagnosis requires the 10 day rule or double sickening. Watchful waiting is a guideline endorsed alt to immediate antibiotics for uncomplicated cases.

Source: Rosenfeld RM. Acute Sinusitis in Adults. New England Journal of Medicine. 2016, vol 375, issue 10, pages 962 to 970. doi:10.1056/NEJMcp1601749.