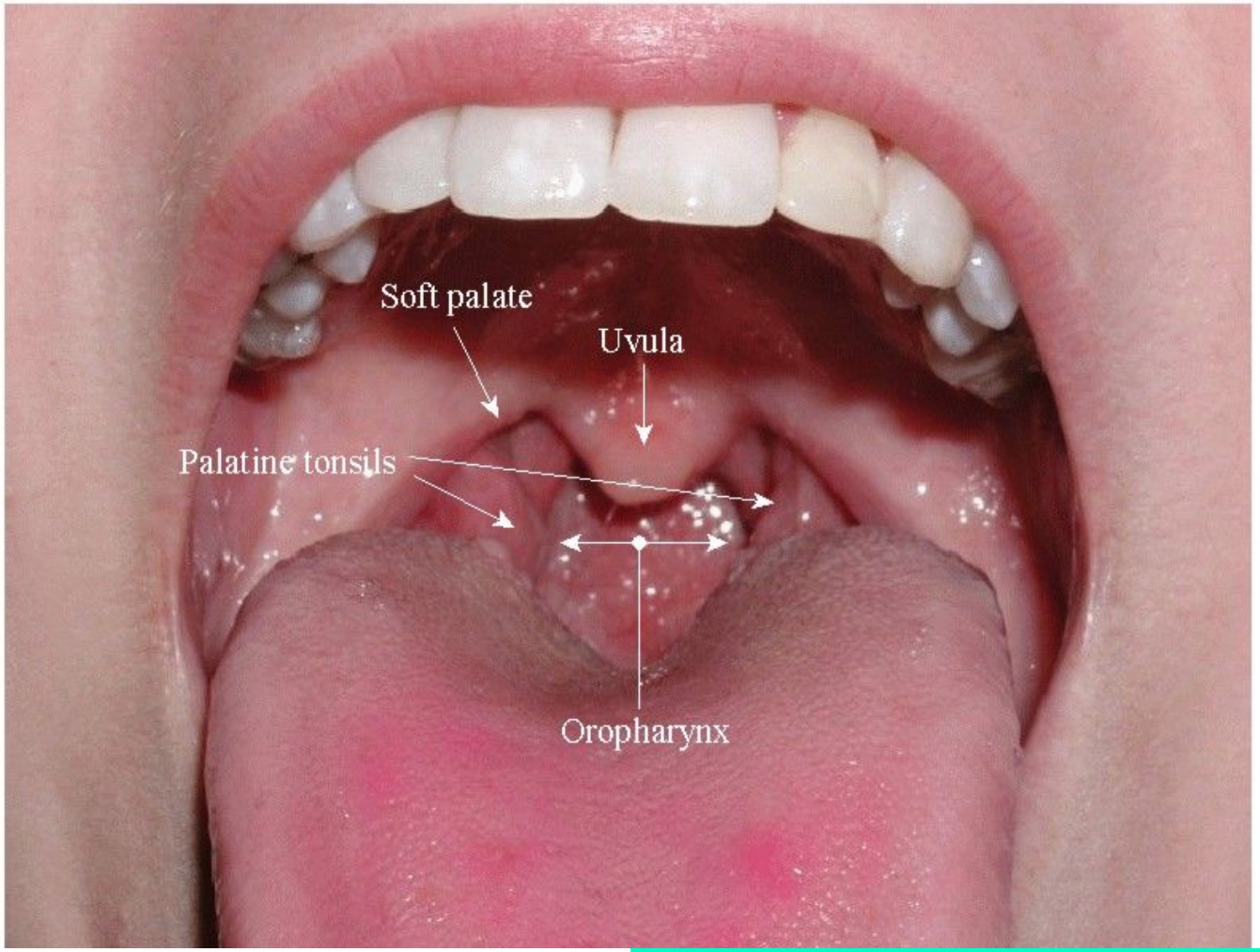
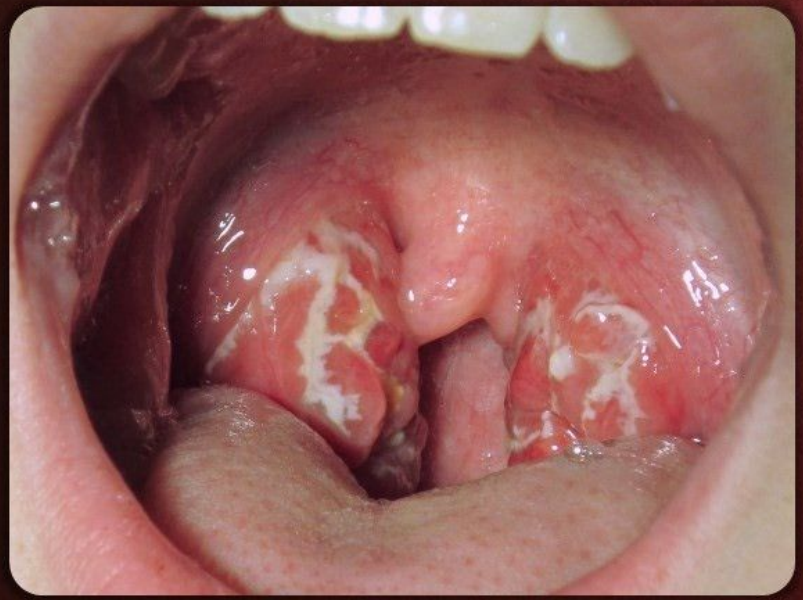
URTI IN ADULTS AND ADOLESCENTS


Soft palate
Uvula
Palatine tonsils
Oropharynx

Streptococcal Pharyngitis



Original image by James Heilman, MD / CC BY-SA 3.0

Viral Pharyngitis

Original image Dake-commonswiki / CC BY-SA 2.5

- Upper respiratory infection (URI) describes acute inflammation of the upper respiratory tract that is usually viral in origin.
- It can cause a variety of symptoms such as nasal congestion, rhinorrhea, cough, sneezing, low grade fever, malaise, myalgia, headache, and/or a sore throat.
- URI is generally self-limiting and mild, but may last for > 10 days. The cough can last for 2-3 weeks.

Also called :

- common cold
- acute rhinitis
- acute nasopharyngitis
- nonspecific upper respiratory tract infection

Incidence /prevalence

- URI is reported to be most common acute illness in United States
- in United States, it is estimated the average adult has 2-4 cold episodes/year
- URI was specific diagnosis in 33% of patients presenting with cough in study of 267,897 patient encounters (including all age groups) with 54 Dutch family physicians over 10 years.

Risk factors

1. exposure to someone with common cold
2. younger age (infants and young children at higher risk)
3. weakened immune system or use of drugs that weaken immune system
4. smoking (also increased risk of more severe symptoms)
5. psychosocial stress
6. heavy physical training (while moderate physical activity is thought to potentially be protective)
7. autumnal time of year (for rhinovirus, other viruses may have other patterns of seasonality)
8. genetic factors might increase susceptibility
9. sleep duration < 6 hours nightly may increase susceptibility to developing cold after exposure to rhinovirus (level 2)
10. recent airplane travel

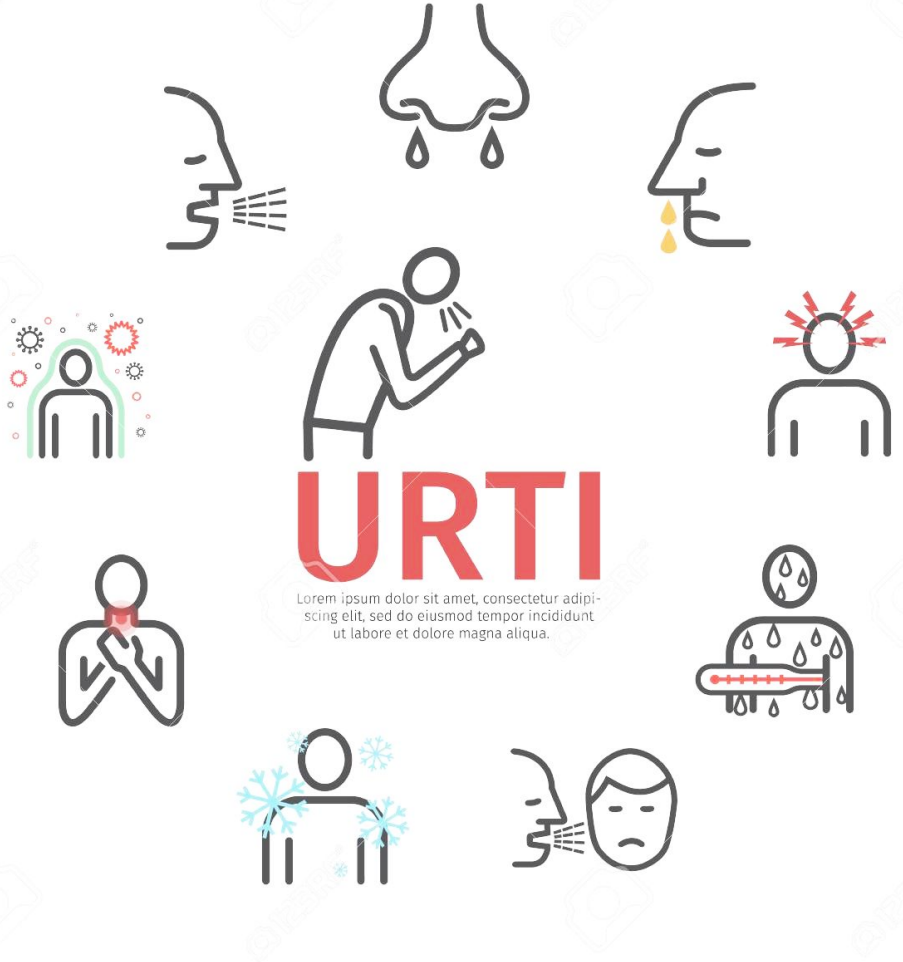
Etiology

- generally viral in origin, leading causes include:
  - rhinovirus (up to 50%)
  - coronavirus (10%-15%)
  - influenza (5%-15%)
  - respiratory syncytial virus and parainfluenza (5%)
- less common causes include:
  - adenovirus
  - enterovirus
  - human metapneumovirus

History

Chief concern (CC)

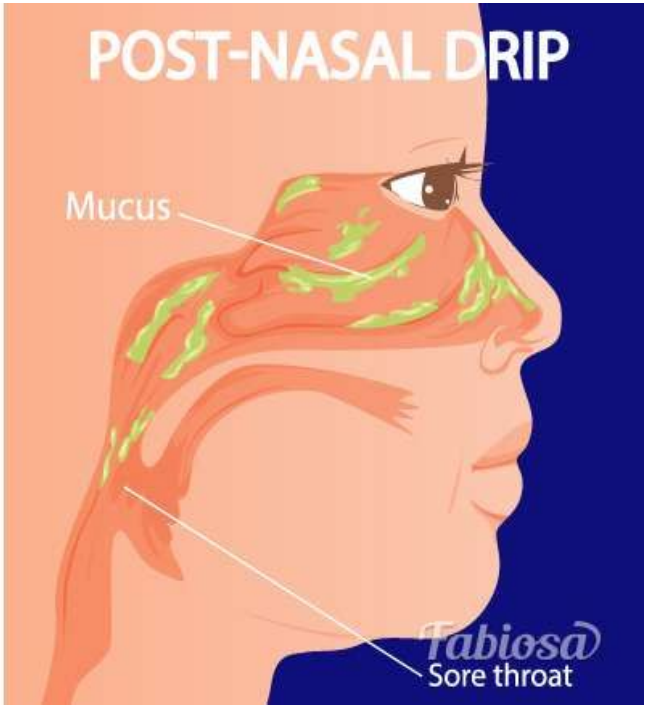
- nasal congestion
- Rhinorrhea
- cough
- sore throat
- low-grade fever
- Headache
- Hoarseness
- Malaise
- Lethargy
- myalgias



HPI

- symptoms worsen rapidly and usually peak at days 2-3, resolve or significantly improve by day 7, usually last 1-2 weeks, but may be > 3 weeks
- symptoms that suggest a more serious illness:
  - respiratory distress including upper airway obstructive symptoms, difficulty swallowing, history of foreign body inhalation
  - altered mental status including loss of appetite, decreased level of consciousness
  - decreased urination or vomiting suggestive of dehydration
  - headache or stiff neck suggesting meningitis
  - rash
  - sore throat for > 5 days
  - symptoms of whooping cough

- symptoms suggestive of non-infectious rhinitis:
- nasal congestion and postnasal drip in the setting of
  - seasonal or temporal triggers
  - other symptoms
    - pruritus of eyes, nose, mouth, palate, ears
    - watery rhinorrhea
    - sneezing



Medication history: exposure to recent antibiotics (some patients may start at home with left-over prescriptions), immunosuppressive medications such as steroids, chemotherapy

Past medical history (PMH): comorbid or complicating factors including

medications or illnesses that compromise the immune system (HIV, cancer, chemotherapy)
history of rheumatic fever
chronic diseases such as chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), chronic kidney disease (CKD), diabetes
recent treatment failure or recurrence of symptoms
tobacco smoke exposure
pregnancy

Physical examination

General

- mild fever occasionally present in adults

- exam may identify signs suggestive of other diagnoses

>> pneumonia very unlikely in absence of temperature > 37.8 degrees C (100 degrees F), pulse > 100 beats/minute, rales, decreased breath sounds, or wheezing

>> streptococcal pharyngitis typically presents with fever, pharyngeal or tonsillar exudate, tender cervical adenopathy, and absence of cough

>> acute bronchitis presents with cough or wheezing

HEENT : nasal discharge, erythema of oropharynx, tonsillar swelling and exudate, if present, may also suggest streptococcal pharyngitis or infectious mononucleosis, severe facial pain and tenderness with nasal drainage indicate sinusitis

Neck: tender cervical adenopathy suggests streptococcal pharyngitis or infectious mononucleosis

Lungs: chest findings can be nonspecific but signs suggestive of pneumonia include decreased breath sounds, rales, wheezes, focal lung findings may be more suggestive of lobar pneumonia

DIAGNOSIS

- clinical
- use symptoms, duration of symptoms, and presentation to distinguish URI from
  - more serious illness such as
    - pneumonia
    - epiglottitis
    - pertussis (whooping cough)
    - meningitis
  - respiratory infections in which antibiotics may be warranted, such as bacterial sinusitis
  - noninfectious rhinitis
    - allergic rhinitis often seasonal or temporal with clear trigger
    - vasomotor rhinitis often year round with specific pattern of provocation

- testing usually not needed for diagnosis
- if other diagnosis suspected
  - rapid antigen detection testing or throat culture for streptococcus
  - rapid antigen testing for influenza
  - pulse oximetry to assess for hypoxia and lower respiratory tract infection
  - chest x-ray for pneumonia
    - chest X-rays should be reserved for patients with clinical suspicion of pneumonia, acute upper airway infection with comorbid conditions, and patients with symptoms persisting > 3 weeks

Differential diagnosis

- influenza usually includes cough with high fever and general myalgias
- streptococcal pharyngitis usually has tender lymphadenopathy and tonsillar exudates and absence of cough
- infectious mononucleosis usually presents with more prominent symptoms than typical of an uncomplicated URI including fatigue, malaise, fever, sore throat, and adenopathy
- acute sinusitis
- acute bronchitis should be suspected in patients when predominant symptom is cough but without signs and symptoms of pneumonia or with chronic underlying lung disease that have worsening of a chronic cough
- asthma exacerbations, which may be triggered by viral URI
- allergic rhinitis is usually seasonal or temporal with clear trigger
- pneumonia often accompanied by focal findings on lung exam, tachypnea, and fever

Acute bacterial vs. Viral rhinosinusitis

- persistent symptoms or signs lasting ≥ 10 days without evidence of clinical improvement
- severe symptoms or signs of high fever (≥ 39 degrees C [102 degrees F]) and purulent nasal discharge or facial pain lasting for ≥ 3-4 consecutive days at beginning of illness
- worsening symptoms or signs characterized by new onset of fever, headache, or increase in nasal discharge following typical viral upper respiratory infection that lasted 5-6 days and were initially improving ("double-sickening")

Management

- Do not prescribe antibiotics for treatment of nonspecific URIs, as they are likely viral in origin (Strong recommendation).
- In the vast majority of patients, no specific treatment is required, although rest, hydration, and antipyretics are usually recommended.
- Receiving information and reassurance is strongly associated with patient satisfaction in patients with acute respiratory symptoms.

Reinforce education about

1. the importance of hand washing and oral and nasal hygiene (especially when sneezing, coughing, or blowing the nose)
2. appropriate disposal of tissues
3. avoiding close contact with others.
4. expected duration of symptoms
5. when to report worsening symptoms.

Consider any of the following for symptomatic relief:

1. acetaminophen (paracetamol) or nonsteroidal anti-inflammatory drugs (NSAIDs) to reduce fever or discomfort
2. decongestants (nasal or oral) for short-term relief of nasal congestion
3. a nonprescription short term antihistamine/decongestant (such as dexbrompheniramine/pseudoephedrine) which may reduce cough
4. ipratropium nasal spray to improve rhinorrhea
5. heated, humidified air does not show consistent benefit nor harms
6. most cough remedies, including guaifenesin, bromhexine, and codeine, have limited evidence of efficacy because of methodologic limitations, but there is some evidence that dextromethorphan is effective

commonly considered interventions that do not appear to reduce common cold symptoms:

- Antibiotics, even in patients with acute purulent rhinitis
- vitamin C at onset of cold symptoms
- antihistamines alone
- intranasal corticosteroids

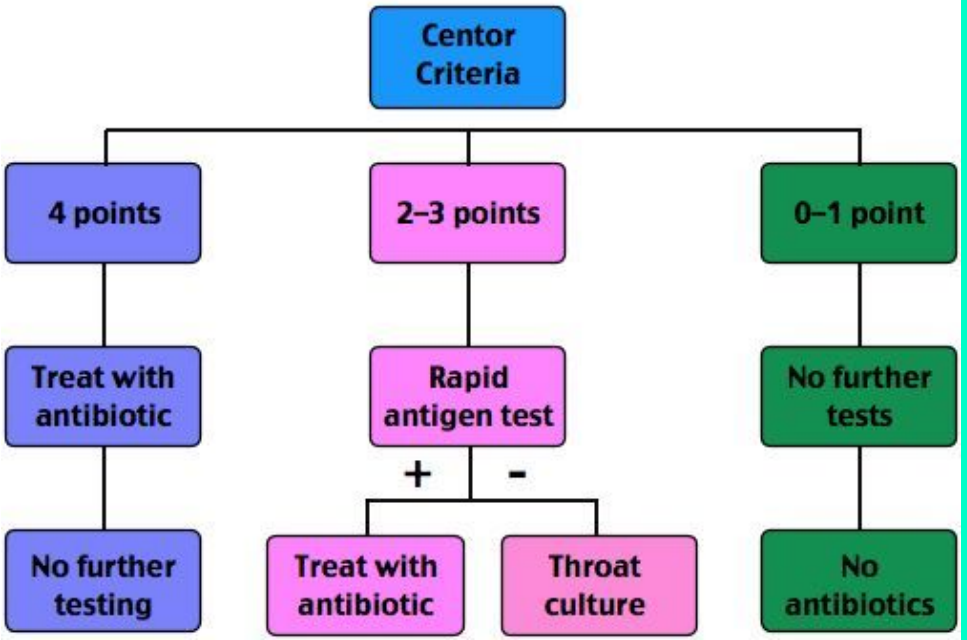
COMPLICATIONS

- otitis media
- acute bacterial sinusitis
- asthma exacerbation
- COPD
- pneumonia

PREVENTION

- **Handwashing is most efficient way to prevent spread of illness.**
- hand disinfection appears to reduce common cold illnesses overall, but may not prevent cold illnesses due to rhinovirus
- alcohol-based hand disinfection at work may reduce incidence of upper respiratory tract infections and diarrhea
- exercise may not reduce risk of acute respiratory infection but may decrease severity of respiratory symptoms in adults
- multivitamin and mineral supplements do not appear to reduce risk of infections in elderly patients
- vitamin D3 supplementation might reduce risk of acute respiratory tract infections
- probiotics may prevent upper respiratory tract infection

Modified Centor Criteria	
Presence of tonsillar exudates	+1
Tender anterior cervical adenopathy	+1
Fever by history	+1
Absence of cough	+1
Age < 15 years	+1
Age > 45 years	-1



STREPTOCOCCAL PHARYNGITIS

Group A beta hemolytic streptococcal pharyngitis

- ★ common illness in children aged 5-15 years.
- ★ It is usually benign but can have suppurative complications including acute otitis media, mastoiditis, bacterial meningitis, infective endocarditis, peritonsillar abscess, retropharyngeal abscess, bacteremia, cervical lymphadenitis, and pneumonia.
- ★ Other complications include acute rheumatic fever, poststreptococcal glomerulonephritis, toxic shock syndrome, and reactive arthritis

Mnemonic: "JONES CAFE PAL"

Major Criteria

J	Joint Involvement
O	**O** looks like a heart = myocarditis
N	Nodules, subcutaneous
E	Erythema marginatum
S	Sydenham chorea

Minor Criteria

C	CRP Increased
A	Arthralgia
F	Fever
E	Elevated ESR

P	Prolonged PR Interval
A	Anamnesis of Rheumatism
L	Leukocytosis

Diagnosis

Throat cultures growing GABHS
OR
Elevated anti-streptolysin O titers

+

2 Major criteria

OR

1 Major criterion and 2 Minor criteria


Medscape

Management

>> The preferred antibiotic regimens for treatment of acute GABHS pharyngitis if the patient is not allergic to penicillin are 1 of:

- penicillin V (Strong recommendation)
- benzathine penicillin G
- amoxicillin

>> If allergic to penicillin:

- cephalexin
- cefadroxil
- clindamycin
- azithromycin
- clarithromycin

Thanks …

Reference :

Dynamed