Respiratory tract infections

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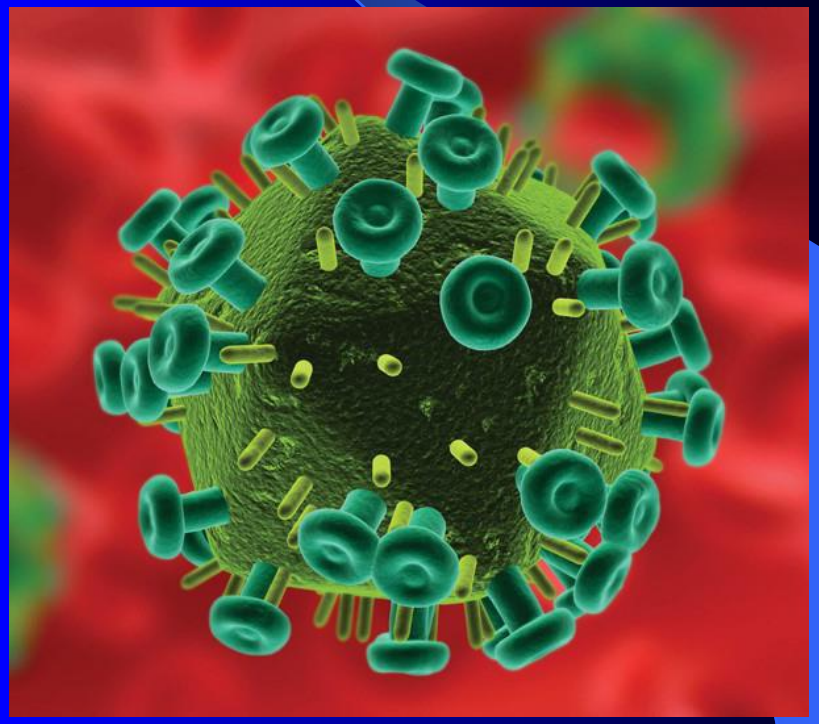
Etiology

Viruses

- Rhinoviruses
- Adenoviruses
- Coronaviruses
- Influenza and Parainfluenza Viruses
- Respiratory Syncitial Viruses
- Enteroviruses



Etiology

Bacteria

- *Streptococcus pneumoniae*
- *Haemophilus influenzae*
- *Moraxella catarrhalis*
- *Streptococccus pyogenes*

- Less common
- *Escherichia coli*
- *Klebsiella pneumoniae*
- *Enterobacter sp.*
- *Pseudomonas aeruginosa*

Atypical bacteria

- *Chlamydophila pneumoniae*
- *Mycoplasma pneumoniae*
- *Legionella pneumophila*

Sore throat

The most common cause of a sore throat is a viral infection. A sore throat caused by a virus resolves on its own with at-home care.

Strep throat (streptococcal infection), a less common type of sore throat is caused by bacteria, requires additional treatment with antibiotic drugs to prevent complications.

Sore throat

Etiology - viruses represent 70-85%

- Rhinoviruses
- Coronaviruses
- Adenoviruses
- Epstein-Barr virus
- Coxackie
- Herpes Simplex
- Influenza and Parainfluenza Viruses

Strep throat

- Etiology: bacteria represent about 15-30%
- Predominant is Group A β-hemolytic streptococcus (GABHS), which causes strep throat
- Less common bacteria causes include Staphylococcus aureus. Streptococcus pneumoniae, Mycoplasma pneumoniae

Modified Centor

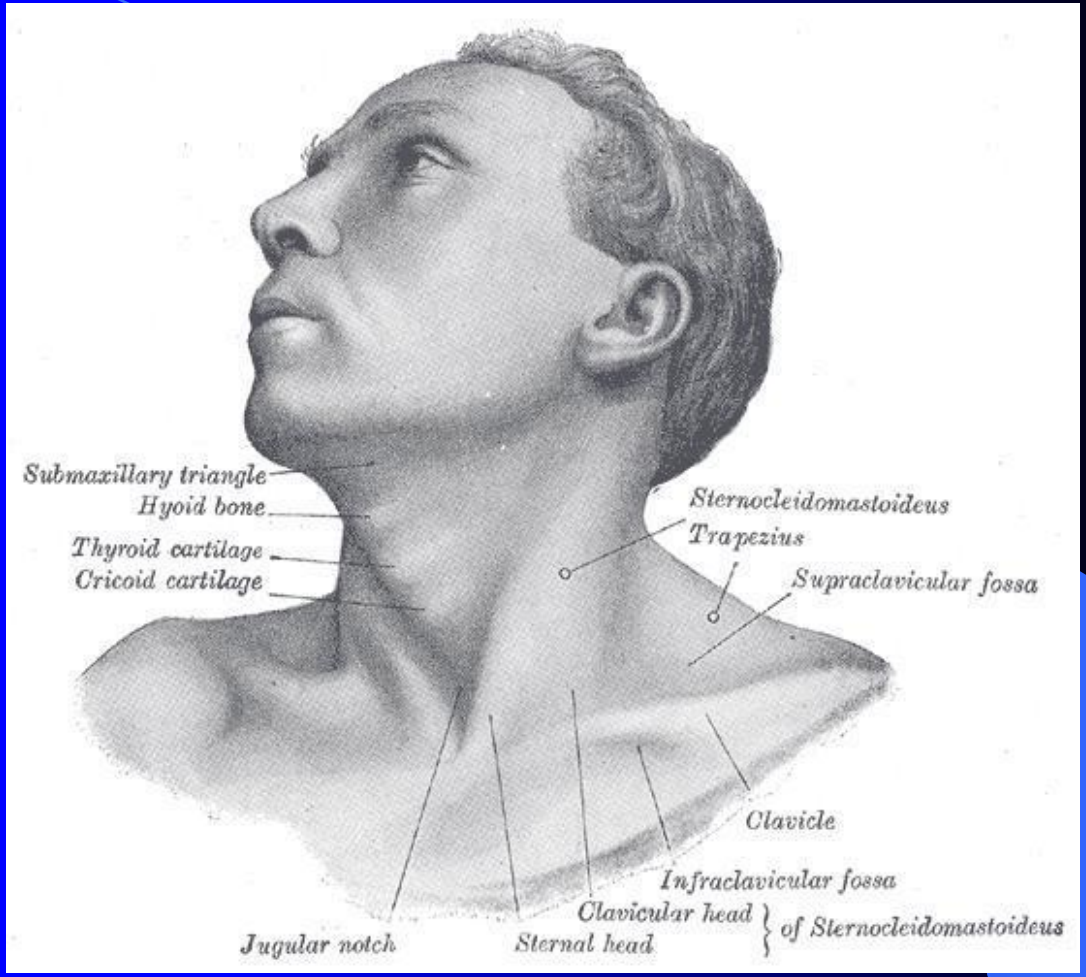
- Tonsillar exudate or erythema
- Anterior cervical adenopathy
- Cough absent
- Fever present
- Age (especially) 3 to 14 years

Modified Centor

- Tonsillar exudate or erythema

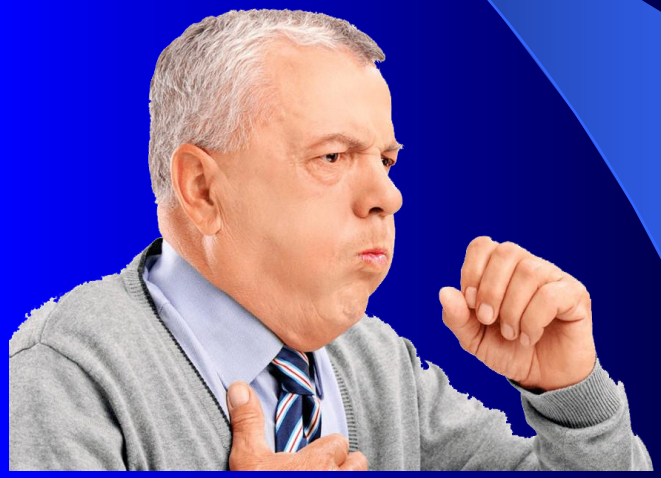
Modified Centor

Anterior cervical adenopathy



Modified Centor

- Cough absent



Modified Centor

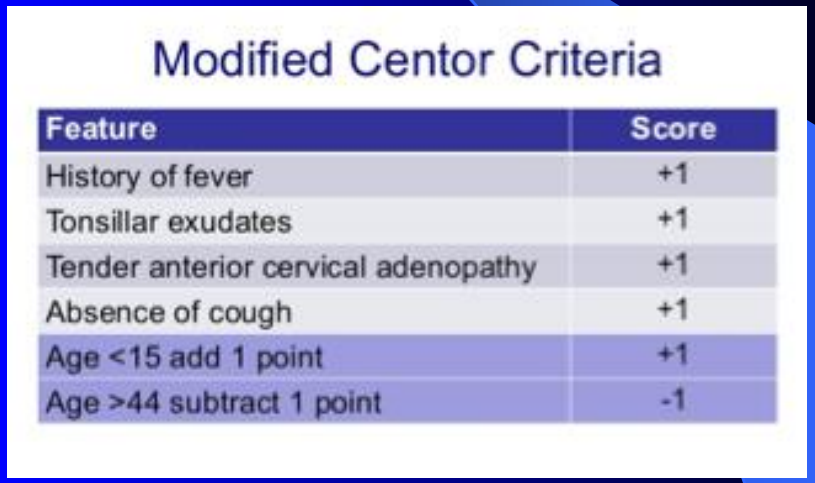
- Cough absent

Modified Centor

- Fever present >38 C

Modified Centor

- Age (especially) 3 to 14 years



Modified Centor Criteria

Feature	Score
History of fever	+1
Tonsillar exudates	+1
Tender anterior cervical adenopathy	+1
Absence of cough	+1
Age <15 add 1 point	+1
Age >44 subtract 1 point	-1

Modified Centor Score and Culture Management Approach for Pharyngitis

Criteria		Points
Temperature >38°C		1
Absence of cough		1
Swollen, tender anterior cervical nodes		1
Tonsillar swelling or exudate		1
Age		
3-14 yr		1
15-44 yr		0
45 yr or older		–1
Score	**Risk of Streptococcal Infection**	**Suggested Management**
≤0	1%-2.5%	No further testing or antibiotics
1	5%-10%	
2	11%-17%	Culture all: Antibiotics only for positive culture results
3	28%-35%	
≥4	51%-53%	Treat empirically with antibiotics and/or perform culture

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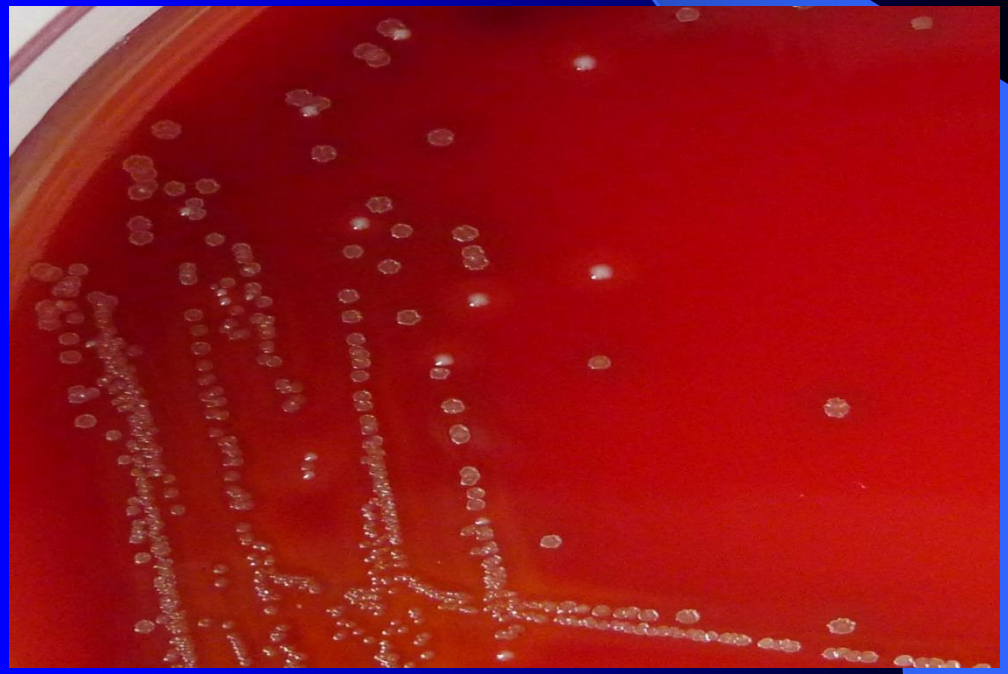
Quick strep test

When we have 2 or 3 points

- throat swab culture
- strep-test



Quick Strep-test

Which antibiotic should I prescribe for strep throat?

Prescribe phenoxymethylpenicillin for 10 days.

- > 40 kg 2-3 mln i.u./24h in 2 doses
- =< 40 kg 100 000-200 000 i.u./kg/24h in 2 doses

Avoid prescribing broad-spectrum penicillins (such as amoxicillin and ampicillin)

Which antibiotic should I prescribe for strep throat?

Types of Hypersensitivity Reactions

- Type 1: Immediate Hypersensitivity Reaction
- Type 2: Cytotoxic Antibody Reaction
- Type 3: Immune Complex Reaction
- Type 4: Delayed-Type Hypersensitivity

Rash

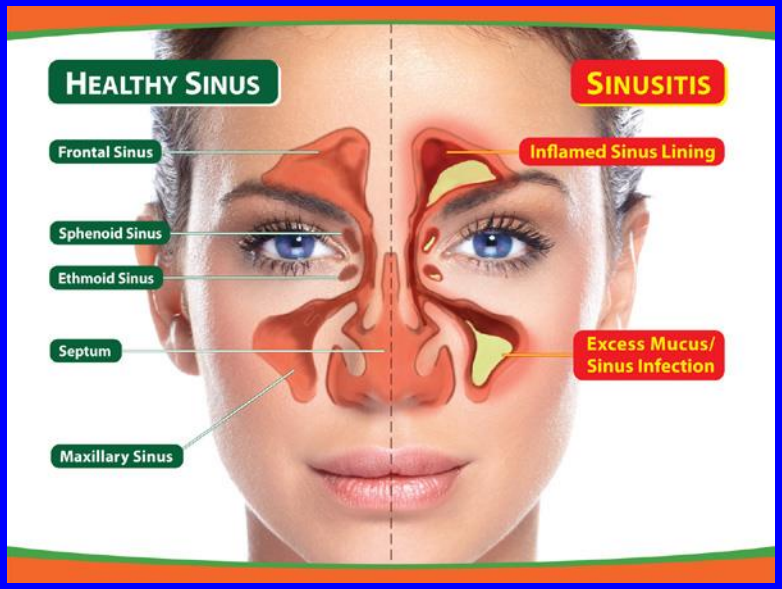
- cefadroxil

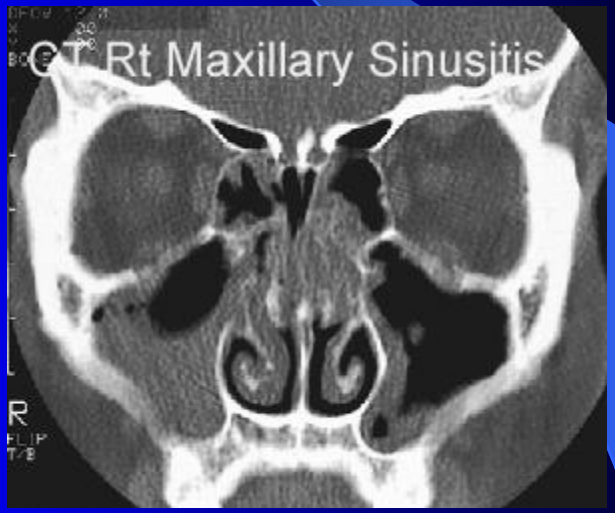
Anaphylaxis

- clindamycin

- macrolides (erythromycin or clarithromycin or azithromycin)???

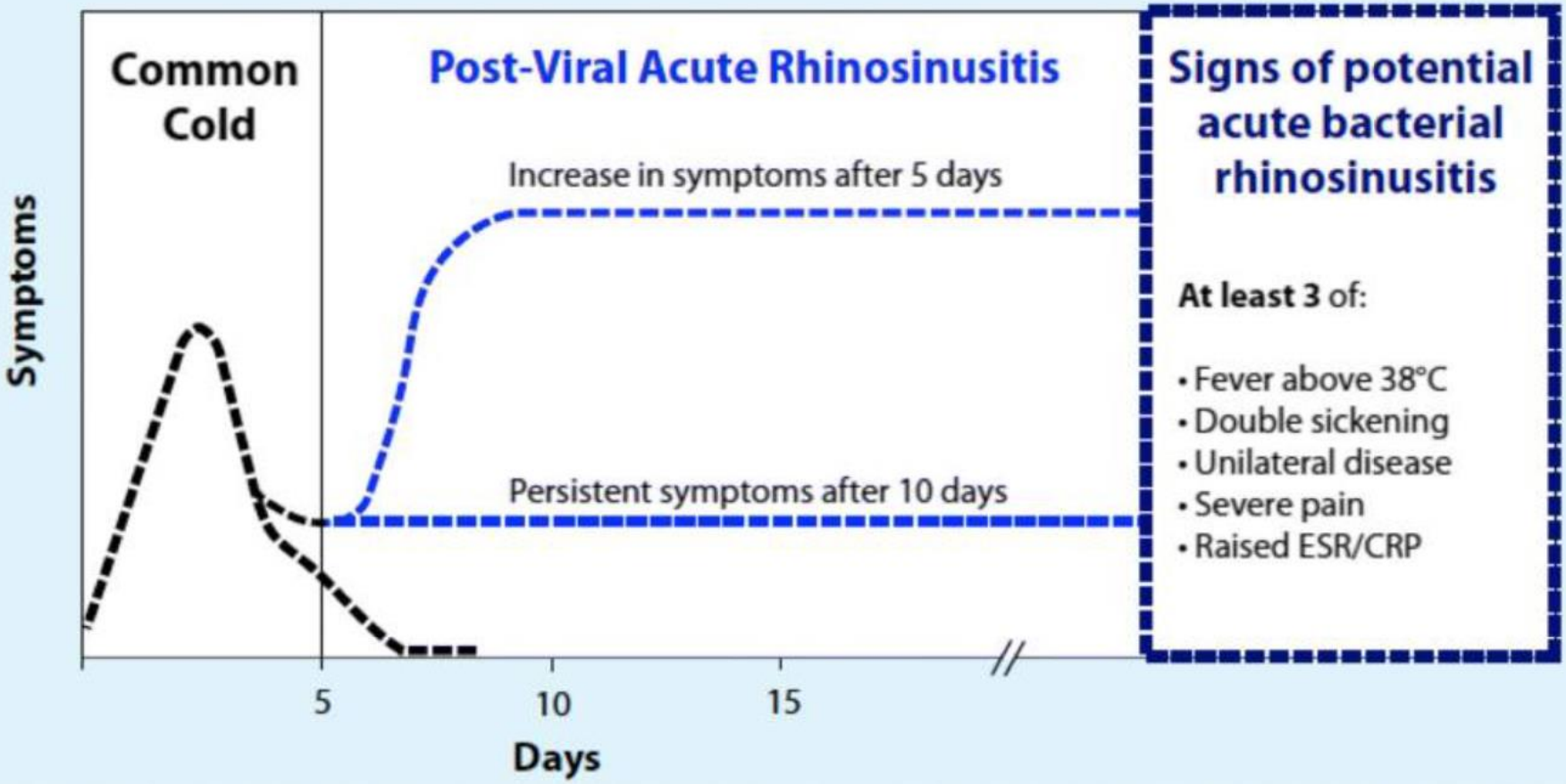
Acute rhinosinusitis





Definition of Acute Rhinosinusitis

Increase in symptoms after 5 days, or **persistent symptoms after 10 days** with less than 12 weeks duration



ARS should be suspected when there are two or more nasal symptoms

- one of which should be either nasal congestion/blockage/obstruction or rhinorrhea

while the others could be either

- facial pain/pressure
- reduction/loss of smell

lasting up to 12 weeks.

- In children, ARS should be considered when there are two or more of the following symptoms:

- nasal blockage/congestion,
- discolored nasal discharge,
- cough.

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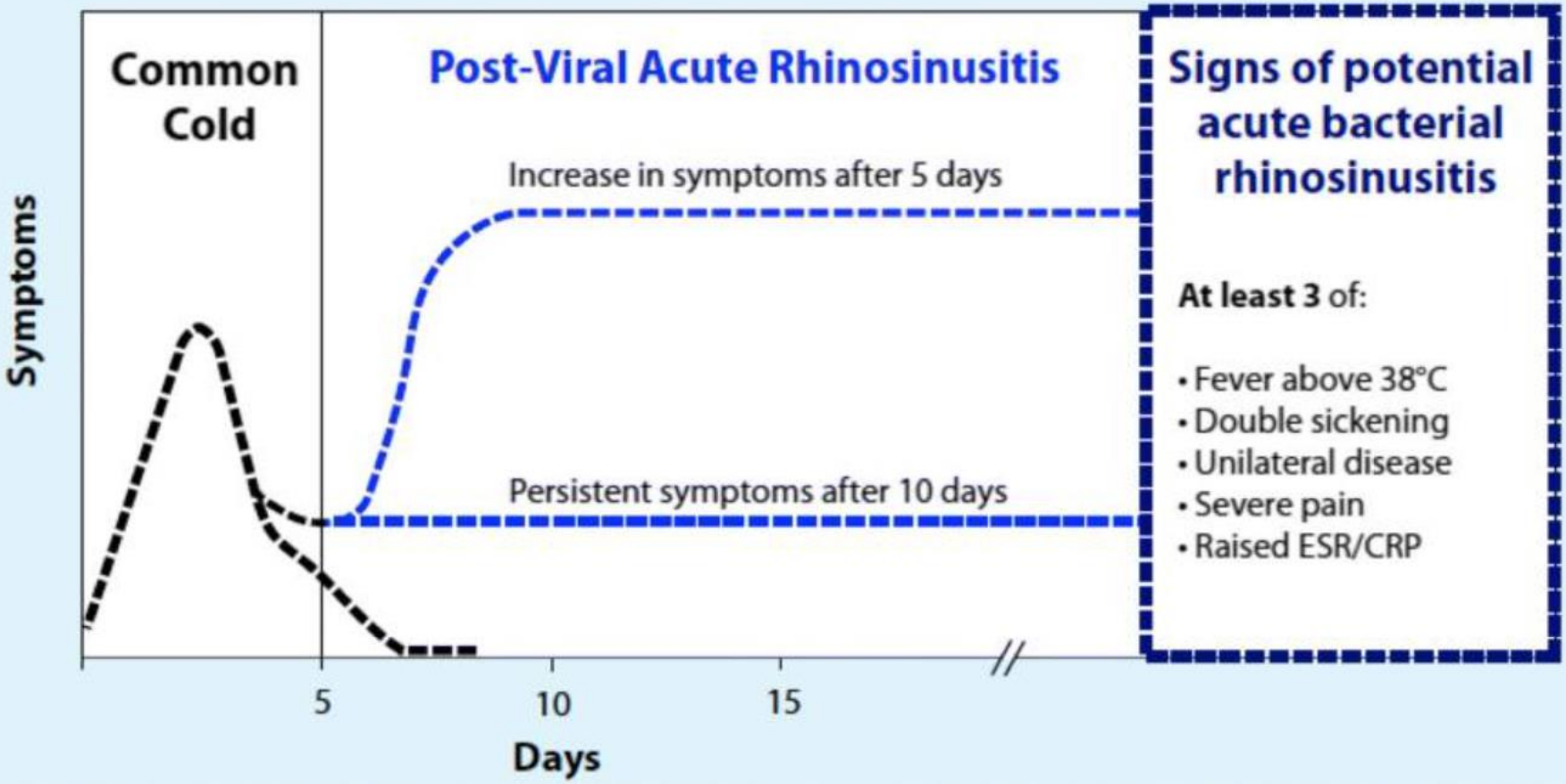


The common cold

- primarily transmitted from person-to-person via hands
- less often, the virus can be transmitted by touching a surface, sneezing or coughing

The common cold

- Usually there is no specific treatment for the viruses that cause the common cold.
- Most treatments are aimed at relieving some of the symptoms of the cold, but do not shorten or cure the cold.
- The symptoms of a cold will resolve over time, even without any treatment.

The common cold

Runny nose and nasal congestion

- pseudoephedrine is a decongestant that can improve nasal congestion.
- nasal sprays such an oxymetazoline
  However, these sprays should never be used for more than three days; use for more than three days can worsen congestion

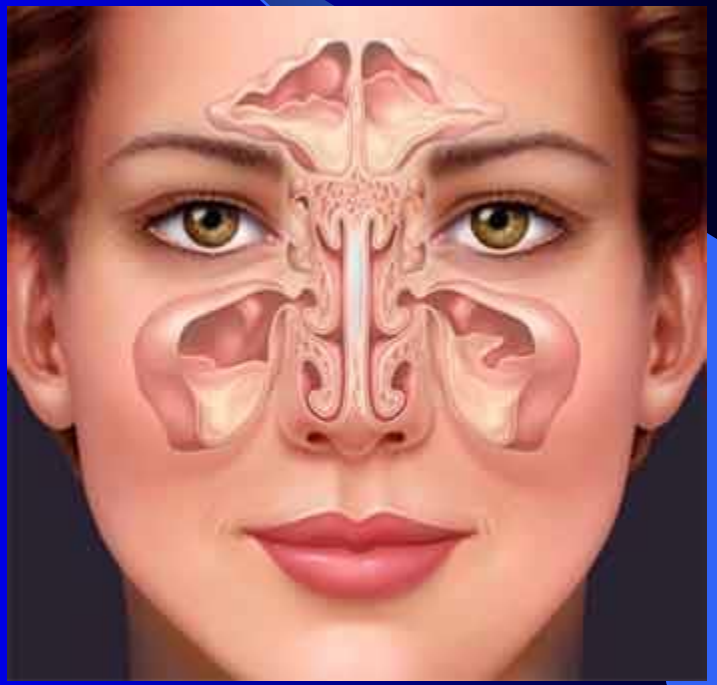
Treatment- viral infections

- flu- oseltamivir
- COVID 19 (risk groups)-molnupiravir

Acute Rhinousitis

When antibiotic?

- severe infection intensity determined craniofacial pain and fever above 39 °
- no improvement after 7-10 days
- worsening symptoms after initial clinical improvement
- the occurrence of complications



Acute Sinusitis

- Antibiotic of choice is amoxicillin
- It is recommended to treat for 10 days
- Adults and children weighing more than 40 kg from 1500 to 2000 mg every 12 hours.;
- children weighing less than 40 kg 75-90 mg / kg / day in 2 divided doses every 12 hours.

Acute Sinusitis

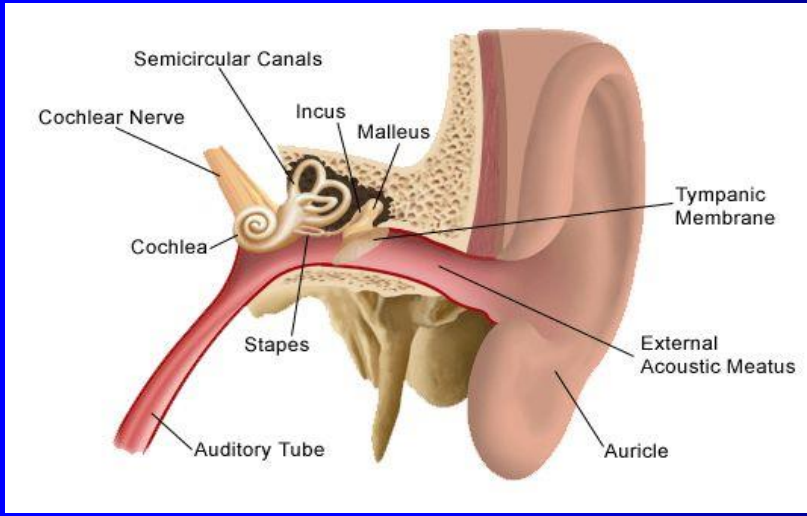
- Mild allergic reactions- rash- cephalosporins (Cefuroxime)

- More severe allergic reactions- anaphylaxis

- macrolides (Clarithromycin)

- fluoroquinolone (levofloxacine, mofloxacine) only adults

Acute Otitis Media



Acute Otitis Media

Viruses

- *Rhinoviruses*
- *Coronaviruses*
- *Influenza and Parainfluenza Viruses*
- *Respiratory Syncitial Viruses*

Bacteria

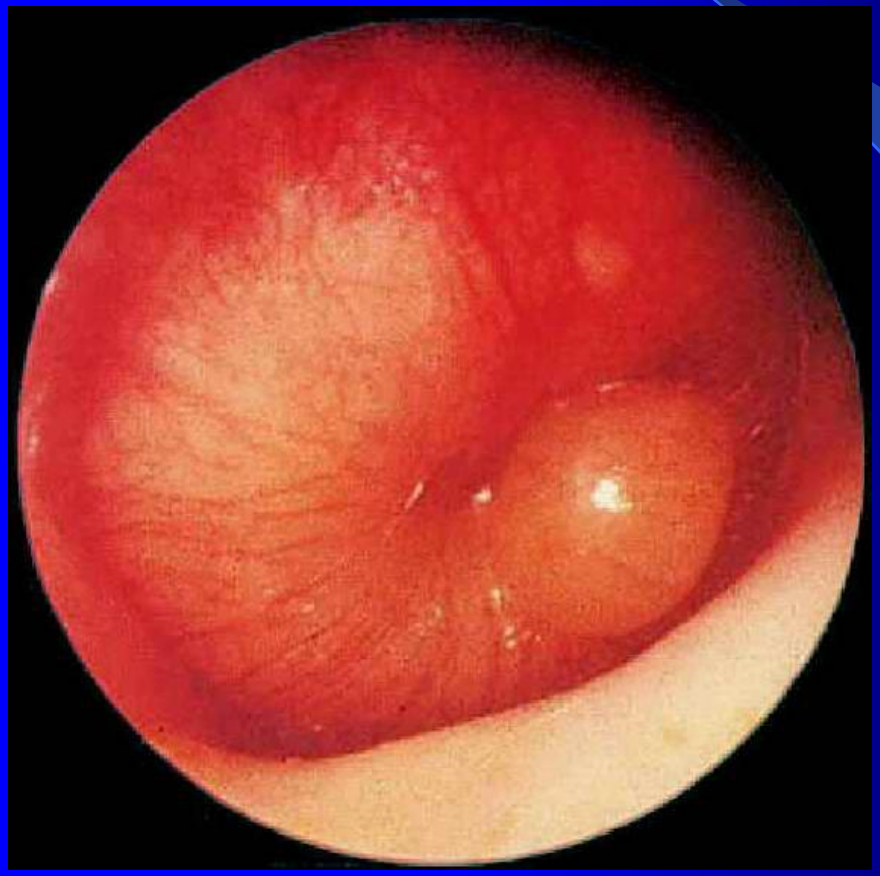
- *S. Pneumoniae*
- *H. Influenzae*
- *M. catarrhalis*

Acute Otitis Media

- The diagnosis of acute otitis media should be imposed on the basis of the simultaneous occurrence of acute symptoms and otoscopy picture suggestive of acute otitis media

Rekomendacje postępowania w pozaszpitalnych zakażeniach układu oddechowego NPOA 2010

Acute Otitis Media



Acute Otitis Media

- In most cases of uncomplicated acute otitis media is recommended to apply the principle of watchful waiting without giving the antibiotic

Acute Otitis Media

Acute otitis media running with pain, in the initial period should be treated with ibuprofen or paracetamol

Acute Otitis Media

Immediate use of antibiotics in acute otitis media is recommended:

- Children younger than 6 monts
- Children with high temperature and vomiting
- Children younger than 2 years of age and older than 6 months with bilateral AOM
- People with perforation

Otitis media

Which antibiotic?

Acute Otitis Media

Amoxycylin

- > 40 kg 3000-4000 mg/24h in 2 doses
- =< 40 kg 75-90 mg/kg/24h in 2 doses

- =< 2 years 10 days
- >2 years 5 days

What to do if the person is allergic to penicillin?

Rash

- Cefuroxim axetil

Anaphylaxis

- macrolides (erythromycin or clarithromycin)

Thank you for attention!