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Respiratory tract infections

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Etiology

Viruses

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

Etiology

Bacteria

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

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

Atypical bacteria

- *Chlamydia pneumoniae*
- *Mycoplasma pneumoniae*
- *Legionella pneumophila*

The common cold

- It is not a specific disease but rather a group of illnesses whose symptoms are caused by one of a large number of viruses.
- The average adult experiences two to three colds per year, while children average 8 to 12 colds per year.

The common cold

- 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

- **Sore throat and headache** are best treated with a mild pain relievers such as **paracetamol** or **ibuprofen**.
- **Cough** — **dextromethorphan**. However, the benefit of cough medicines is likely to be small to non-existent

The common cold

Runny nose and nasal congestion

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

Sore throat

- A sore throat is pain, scratchiness or irritation of the throat that often worsens when you swallow.
- A sore throat is the primary symptom of pharyngitis — inflammation of the throat (pharynx).
- The terms "sore throat" and "pharyngitis" are often used interchangeably.

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

- Carriage of *S. pyogenes* is found in about 5-21% of children aged 3-15
- Infection occurs by droplet or as a result of the activation of carriage
- The incubation period ranges from 12 hours to 4 days
- Infectivity period ends 24 hours after the start of effective antibiotic therapy
- The risk of transmission of infection in household contacts is approximately 25%

Modified Centor

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

Modified Centor Score and Culture Management Approach for Pharyngitis

Criteria	Points	
Temperature $>38^{\circ}\text{C}$	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



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)

What to do if the person is allergic to penicillin?

Urticaria

- cefadroxil

Anaphylaxis

prescribe macrolides (erythromycin or clarithromycin or azithromycin)

Acute Otitis Media

Viruses

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

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

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)

Acute Sinusitis

Acute sinusitis (acute rhinosinusitis) causes the cavities around nasal passages (sinuses) to become inflamed and swollen. This interferes with drainage and causes mucus to build up.

Acute Rhinosinusitis

- Diagnosis is made by patient's history and physical examination
- Duration of symptoms over 10 days and clinical deterioration after 5 days are the most important criteria for differentiating bacterial from viral infection

Acute Rhinosinusitis

It is not routinely recommended:

- Microbiological testing
- Imaging

In case of suspicion of complications:

- CT
- urgent specialist consultation

Acute Sinusitis

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 (levofloxacin, mofloxacin)
only adults