# Bronchial asthma therapy / PGS (VPL)

**The basic goal** of therapy is to **achieve and maintain control of asthma.**

## Keeping control of asthma

In the clinic, **fulfilment of all** the following conditions means:

- **no or minimal** (up to a maximum of twice per week) **daily symptoms**
- **no restrictions on daily activities,**
- **no nocturnal symptoms,**
- **no or minimal** (up to 2× per week) **need for relief drugs**,
- **normal lung function**
- **no exacerbations.**

## Difficulty in treating asthma

**About 5% of asthmatics do not achieve and maintain** asthma **under control**, which we refer to as **difficult-to-treat asthma (OIA).**

## Complex treatment of asthma

In addition to medication, it also includes:

- **education and training of patients** with a written **elaboration of an individual treatment action plan explaining the importance and goals** of individual steps.

### Regular outpatient visits

Pneumologist/allergist at regular check-ups:

- physical examination and examination of the lung function,
- control and consolidation of acquired habits and knowledge.
- The specialist also verifies the diagnosis at the beginning of the disease.

The ongoing care and supervision of the treatment plans may also be carried out by a general practitioner.

### Non-pharmacological prevention or regimen measures

Limiting exposure to risk factors (**inducers** of asthma, **triggers** of exacerbations) is essential.

### Pharmacotherapy

Two groups of drugs:

1. **Relief anti-asthmatics** (rapid-acting bronchodilators) − are given in case of acute problems:
   - **β2-agonists with rapid onset of action** (RABA = rapid-acting beta agonists):
     - **phenoterol, salbutamol and terbutaline** (short-acting inhaled β2-agonists (SABA),
     - **formoterol** (LABA = long-acting inhaled β2-agonists).
2. **Controlling, preventive anti-asthmatics** − against inflammation of the airways, are taken regularly, on the daily and for a long-term basis (even when the problem is reduced or resolved).
   - **inhaled corticosteroids (ICS)** − have the most pronounced anti-inflammatory effect, being the basis and first-line drug
   - **antileukotrienes, methylxanthines (theophyllines) and partly LABA** (salmeterol and formoterol) − supporting anti-inflammatory effect,
   - systemic (p.o.) corticosteroid use − in some patients with severe forms (OIA) is necessary − such asthma is known as **cortico-dependent asthma**.

Equipotent doses of inhaled steroids used in the Czech Republic

| Dose IKS (µg) | Short adults | Short children | Medium adults | Medium children | Tall adults | Tall children |
|---|---|---|---|---|---|---|
| BDP (beclomethasone dipropionate) | 200–500 | 100–200 | > 500–1000 | > 200–400 | > 1000–2000 | > 400 |
| BUD (budesonide) | 200–400 | 100–200 | > 400–800 | > 200–400 | > 800–1600 | > 400 |
| CIC (ciclesonide) | 80–160 | 80–160 | > 160–320 | > 160–320 | > 320–1280 | > 320 |
| FP (flutikasone propionate) | 100–250 | 100–200 | > 250–500 | > 200–500 | > 500–1000 | > 500 |

BUD and CIC can be administered in a single daily dose.

### Dosage and combination of drugs

We choose them according to the severity and response to the previous treatment - we step up.

Tiered pharmacotherapy of asthma - Children over 5 years of age, adolescents and adults.

| Stage | specifications | the first choice therapy | alternative therapy |
|---|---|---|---|
| 1 | **monotherapy** | RABA | SAMA<br>after SABA<br>after LABA<br>after theophyllines with short-term effect |
| 2 | **monotherapy** | ICS (low dose) | Antileukotrien |
| 3 | **Combination** – choose **one combination** | ICS (low dose) + LABA | ICS (medium/high dose)<br>ICS (low dose) + theophylline SR<br>ICS (low dose) + Antileukotrien |
| 4 | **Combination** – add **other 1/more drugs** | ICS (medium/high dose) + LABA | + Antileukotrien<br>+ theophylline SR |
| 5 | **Combination** – add **one/both drugs** | Like stage 4 | + Corticosteroids p.o. (low dose)<br>+ Anti-IgE |

Once asthma control is **achieved, the dose and intensity should not decrease to** a lower level of pharmacotherapy **until at least 3 months after control.**

### Specific allergen immunotherapy or vaccination (SAIT)

**The indication and implementation is handled by an allergist** - indicated by asthmatics that are:

- defined trigger allergen,
- lacking clinical link to multiple allergens,
- asthma has been under control for a long time

This induces **tolerance** to the **causative allergen.**

## References

### Related articles

- Asthma bronchiale
- Asthma bronchiale therapy

In Wikiscript:

- Asthma
- Bronchial asthma / case report
- Asthmatic status
- Bronchial asthma therapy

### External references

www.svl.cz/....astma-2008.pdf (https://www.svl.cz/Files/nastenka/page_4771/Version1/astma-2008.pdf)

### Literature


- SALAJKA, František. *Asthma bronchiale : Doporučený diagnostický a léčebný postup pro všeobecné praktické lékaře* [online] . 1. vydání. Praha : Společnost všeobecného lékařství ČLS JEP, 2008. Dostupné také z <https://www.svl.cz/default.aspx/cz/spol/svl/default/menu/doporucenepostu/doporucenepostu5>. ISBN 978-80-86998-26-8.
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- SALAJKA, F, V KAŠÁK a P POHUNEK. *Diagnostika, léčba a prevence průduškového astmatu v České republice : Uvedení globální strategie do praxe.* 1. vydání. Praha : Jalna, 2008.