Rhinitis

Butterbur herbs/roots

From fam. Asteraceae, but **the only member that doesn't cause allergic rhinitis "hay fever"**.

A.I.: **Petasins** (sesquiterpene lactones) responsible for anti-inflammatory effect.

Antihistaminic effect= cetrizine in zyrtec.

Toxic pyrrolizidine alkaloids (PA) cause severe liver damage, so product should be labeled PA-free.

Common cold & influenza phytotherapy

Iceland moss	Cinnamon barks	Coltsfoot
A.I.: Mucilage	A.I.: V.O. (cinnamaldehyde & eugenol), mucilage.	A.I.: mucilage, flavonoids, tannins, **toxic PA (must be PA-free)**
Demulcent.	Demulcent/anti-inflam-m./Expectorant.	Demulcent/anti-inflamm./-Immunostimulant.

- **Sinusitis** can be treated by same agents (nasal decongestants, anti-inflammatory, demulcents).

Chronic bronchitis phytotherapy

1. Bronchodilators

Ephedra herb

Lobelia herb: A.I.: **alkaloids lobelin, lobelanine**

Both MOA: B2 stimulation causing airways relaxation.

Herbs treating asthma (Anti-asthmatic)

Ephedra alkaloids

A.I.: ephedrine, pseudoephedrine, norephedrine, nor-pseudoephedrine).

MOA:

- stimulate **a1-adrenergic receptors**--> VC of nasal BV, relieving nasal congestion.

- Stimulates **B2 adrenergic receptors**--> relaxes bronchial smooth muscles.

- Increases ciliary activity and mucus liquefaction--> **mild expectorant activity**

AE: irritability/headache/N/V/ **BP & cardiac rhythm disorders with higher doses.**

CI: heart conditions/HTN/diabetes/thyroid disease

Chronic bronchitis phytotherapy

1. Bronchodilators

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Herbal decongestants

Peppermint	Eucalyptus leaves
A.I.: **Menthol**	A.I.: **Eucalyptol=cineole**

Both are volatile decongestants & anti-septics.

The VO are **mixed with camphor** to become liniments (vapor rubs), nasal sprays, inhalers or lozenges.

- Could help avoid rhinitis medicamentosa caused by conventional decongestants.
- Otrivine nasal sprays are prepared with menthol, eucalyptus oil and saline water.

Dry cough herbal ttt (anti-tussives)

Mucilaginous herbs	Essential oils & liquorice saponins	Opiates
Ex. **Linden, marshmallow, coltsfoot.**	E.O. ex.: **Eucalyptus, peppermint, thyme**	**Morphine and codeine alkaloids** from opium poppy.
MOA: **prevent local/mechanical irritation** of pharynx, larynx and trachea epithelium by forming protective layer over mucus membrane.	MOA: peripheral **suppression of cough reflex** by decreasing receptors sensitivity.	MOA: **agonists** on opiates **receptors in the cough center.**
Demulcent & emollients.		Large doses may cause respiratory depression, constipation, liable to abuse.

Chronic bronchitis phytotherapy

2. Expectorants & mucolytics

Reflex expectorants	Direct-acting expectorants
- Snakeroot (senega): A.I.: triterpenoid saponins, senegin.	- Eucalyptus V.O. (eucalyptol/cineole)
- Ipeca/ipecacuanha roots: A.I:Isoquinoline alkaloids (emetine, cephaeline	- Thyme oil: A.I.: VO (thymol, carvacrol)
- Liquorice roots: A.I.: triterpenoid saponins, glycyrrhizin.	

- **Reflex expectorants**: drugs with saponins, emetic/acid/bitter tasting compounds.
Evoke reflex stimulation of thin serous mucus respiratory secretions.
SE: can stimulate emetic center/vomiting if not small quantities.

- **Direct acting expectorants**: E.O. containing drugs. Absorbed and excreted by lungs, stimulating serous mucus (surfactant effect).