

Allergies in a nutshell

A Novel approach to an old problem

DR MARINDA MCDONALD

BLAIRGOWRIE ALLERGY CLINIC



Allergy Clinic

Overview

What/Who is an allergy patient?

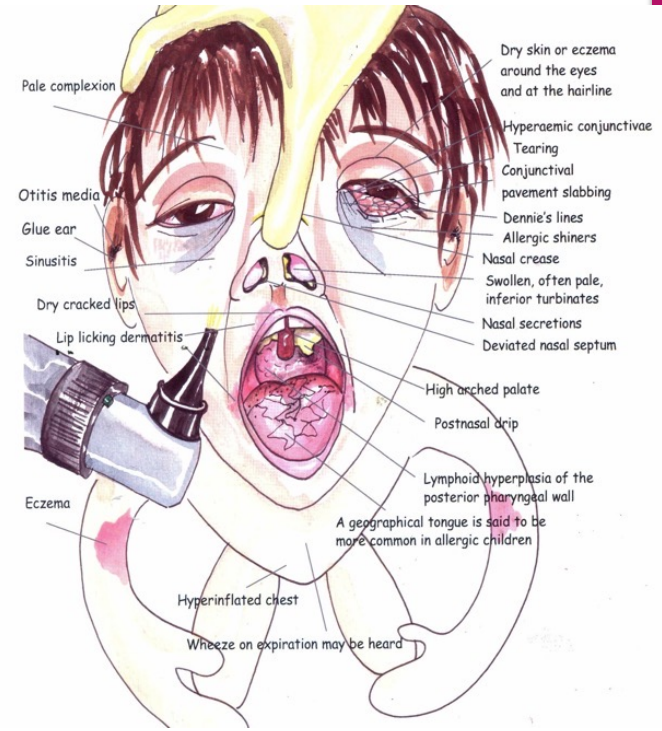
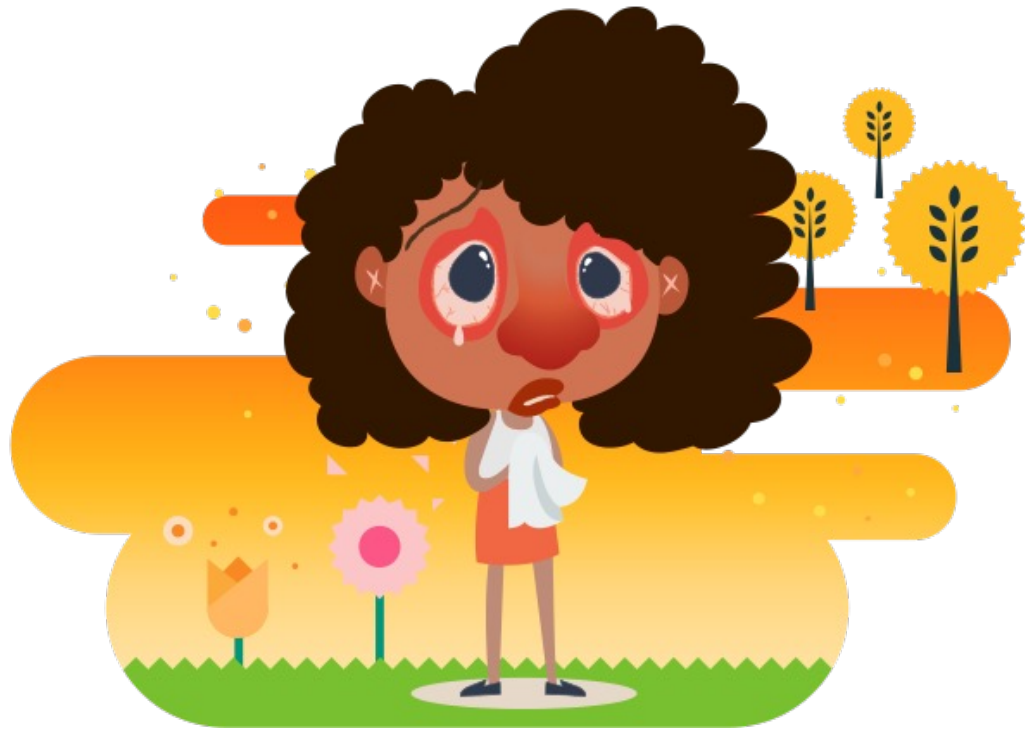
Why is appropriate therapy important?

Diagnosis: Symptoms, Duration, Severity

Treatment: educate advise refer



WHAT IS AN ALLERGY?



FACE OF ALLERGIC RHINITIS

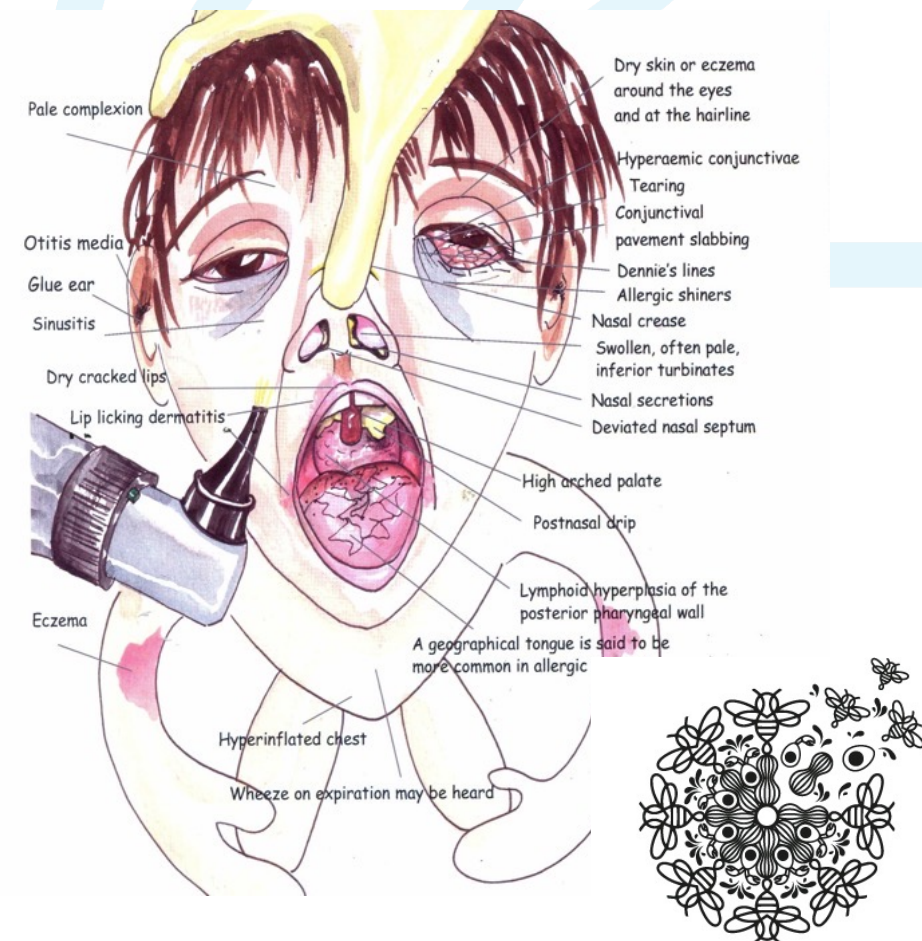


Case study

- ▶ Abovementioned patient comes into the pharmacy with a cold for the third time in 6 weeks.....

DOES YOUR PATIENT HAVE ALLERGIC RHINITIS?

- ▶ **If your patient complains about:**
 - ▶ Frequently blocked nose
 - ▶ Sneezing
 - ▶ Itchy nose/throat
- ▶ **If your patient has**
 - ▶ Typical allergic facies
 - ▶ Nasal crease: allergic salute
 - ▶ A long face
 - ▶ A tired face
- ▶ **Frequent complications from allergic rhinitis**
 - ▶ Sinusitis
 - ▶ Middle ear infection
 - ▶ Sleeping difficulty
 - ▶ Snoring
 - ▶ Concentration difficulties





Unique opportunity for Pharmacist



Educate patients

Avoidance of allergens
Adherence to medication (consistency)



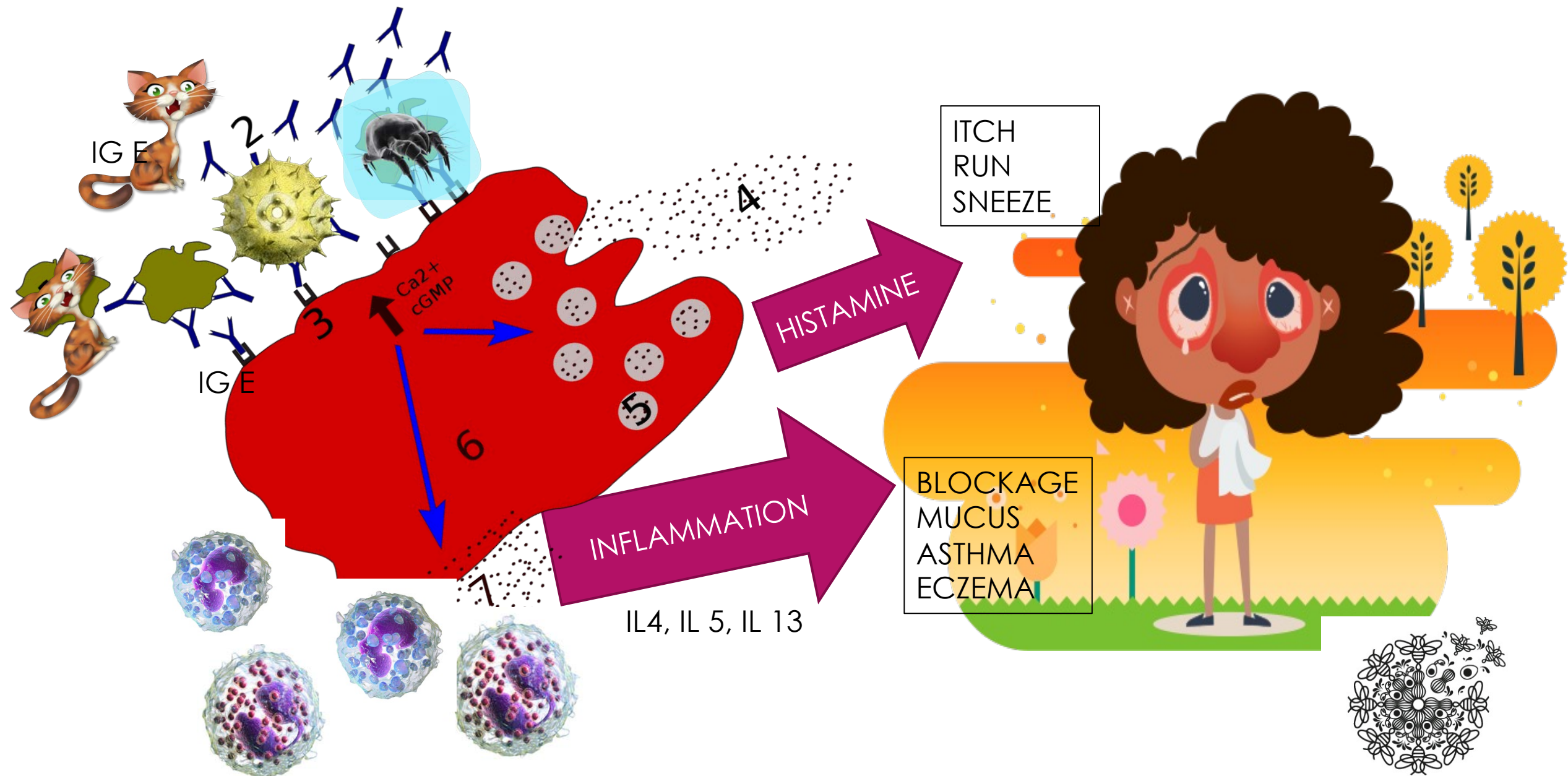
Advise on correct medical treatment

INCS/INCS + AH
No first-generation antihistamine

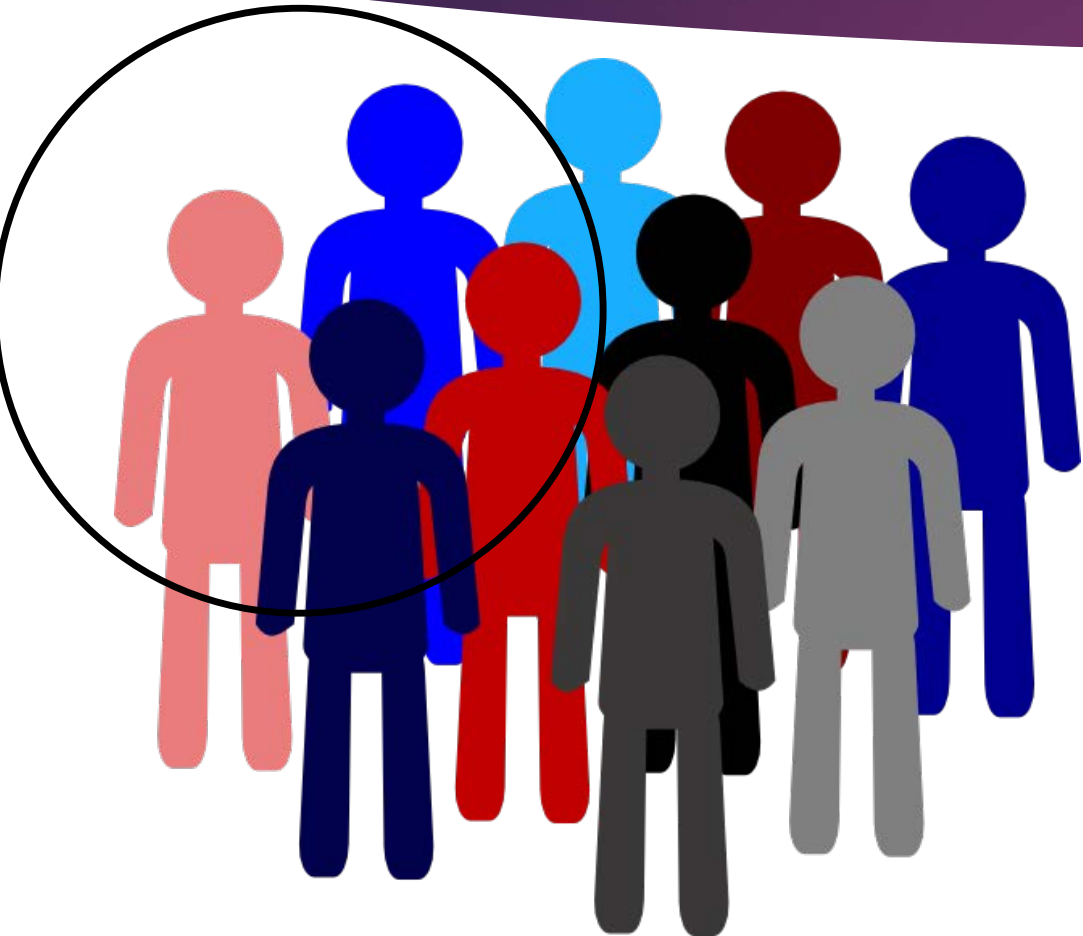


Refer

Unilateral symptoms
Poore response to adequate treatment
SICK: fever, cellulitis, severe disease



HOW COMMON IS ALLERGIC RHINITIS ?



20-40% of the world's population has Allergic rhinitis

70% self manage with OTC medication



Impact of Allergic Rhinitis

- ▶ 20-40% of the population worldwide suffer from allergic rhinitis
- ▶ High Healthcare costs
- ▶ Quality of life Presenteeism
- ▶ Absenteeism
- ▶ Lack of sleep
- ▶ ADHD
- ▶ Inappropriate therapies



Sleep impairment

- ▶ Sleep impairment is a significant problem for patients with AR,
- ▶ Nasal congestion is of the main causes
- ▶ 68% of respondents with PAR and 48% with seasonal AR (SAR) reported that their condition interfered with sleep.
- ▶ Reduced productivity, and the use of inappropriate therapies.

Similarities between the two

Obese man with severe OAS

- Increase in IL-1
- Increase in TNF
- Increase in Il-6
- Increase in T-helper 2 cytokines
- Decrease in T-helper 1 cytokines

A young girl snoring and with rhinitis

- Increase in IL-1
- Increase in TNF
- Increase in Il-6
- Increase in T-helper 2 cytokines
- Decrease in T-helper 1 cytokines

COST of ALLERGIC RHINITIS

▶ SWEDEN

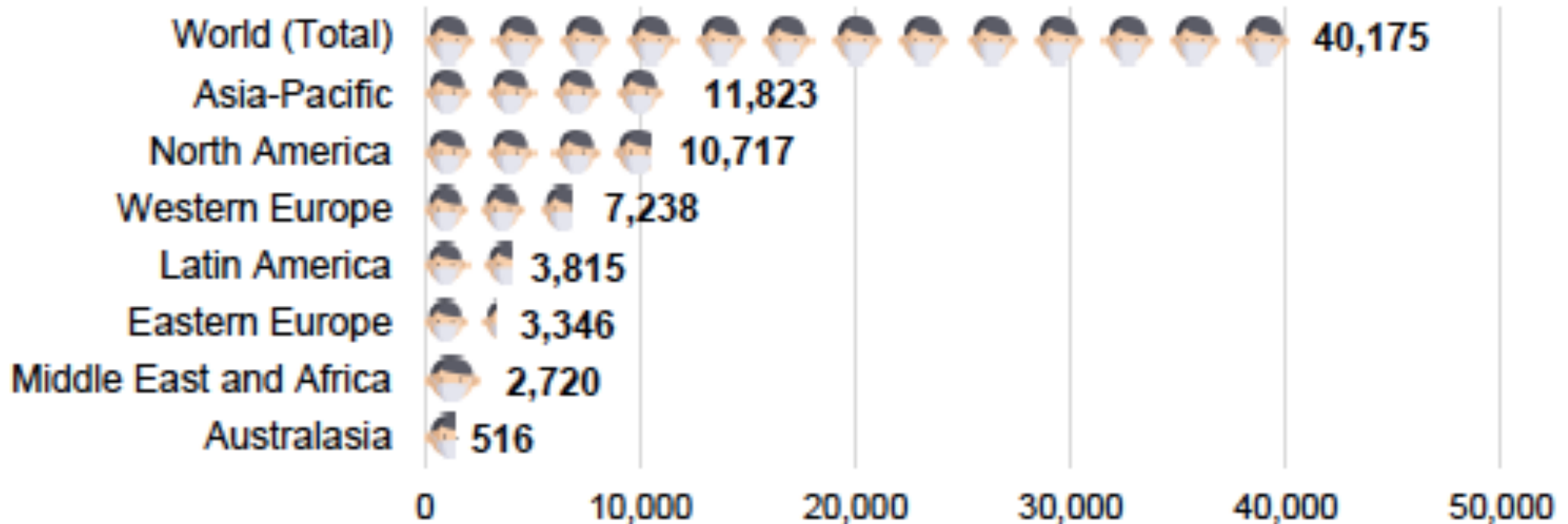
- ▶ Pharmacological cost **€210/pa**
- ▶ Absenteeism/ Presenteesim **€750/pa**
- ▶ **Total cost €960 per annum/ patient**
- ▶ total cost of AR in Sweden is **€1.3 billion euros per annum.**

▶ USA

- ▶ \$1.2 billion in 1990
- ▶ \$4.5 billion in a 1997 study
- ▶ \$6.1 billion spent in 2000
- ▶ **\$11.2 billion, treating allergic rhinitis 2005**

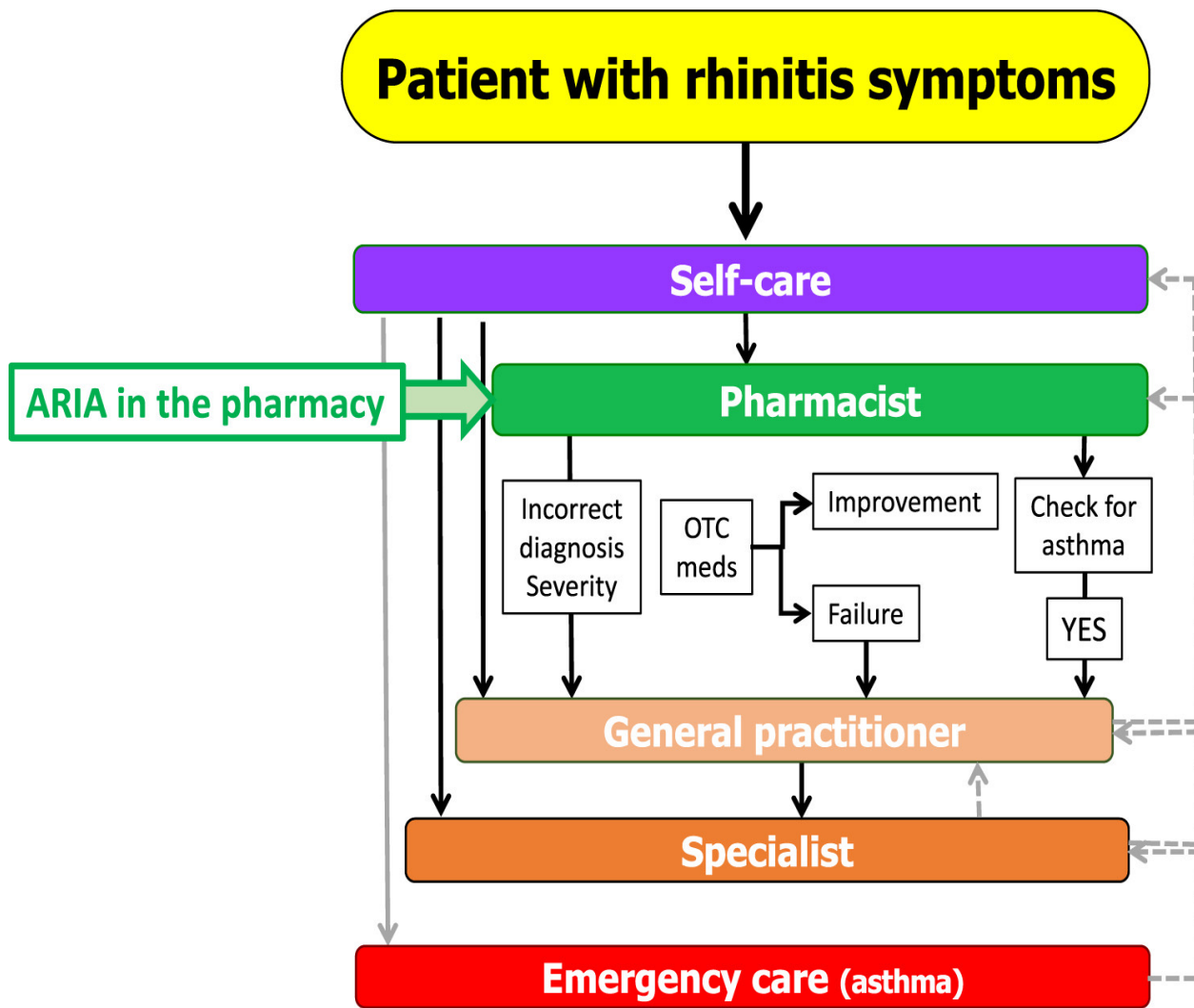


GLOBAL COUGH, COLD AND ALLERGY (HAY FEVER) REMEDIES RETAIL SALES, BY REGION: 2019 (IN US\$ MILLION)



- ▶ Many patients after multiple visits to HCP across the spectrum
- ▶ Use OTC medication or none at all
- ▶ 37% Australian patients will only seek help at pharmacy level
- ▶ Most common treatment is First generation Antihistamine
 - ▶ Cold and Flu preparation
 - ▶ Intra nasal sympathomimetic





ARIA care pathway

*Differences exist between countries/regions
and health care systems*

Unique opportunity for Pharmacist



Educate patients

Avoidance of allergens
Adherence to medication (consistency)



Advise on correct medical treatment

INCS/INCS+ AH
No first-generation antihistamine

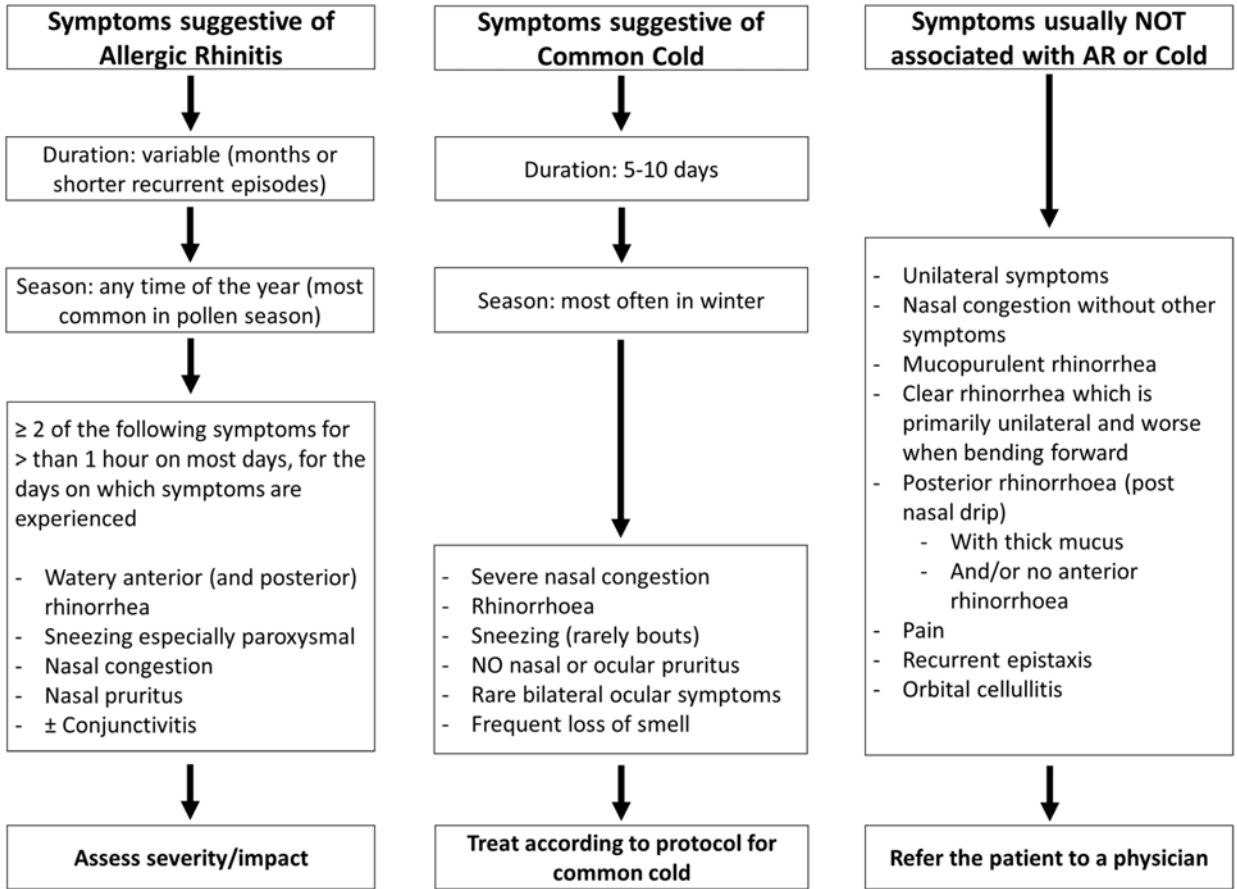


Refer

Unilateral symptoms
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SICK: fever, cellulitis, severe disease



RETURN OFFENDER



Severity of Allergic rhinitis

Patient's page

0 1 2 3 4 5 6 7 8 9 10

Not troublesome at all

How are you feeling today?

Think about how troublesome your symptoms have been for the last 24 h

Very troublesome

Nasal symptoms:

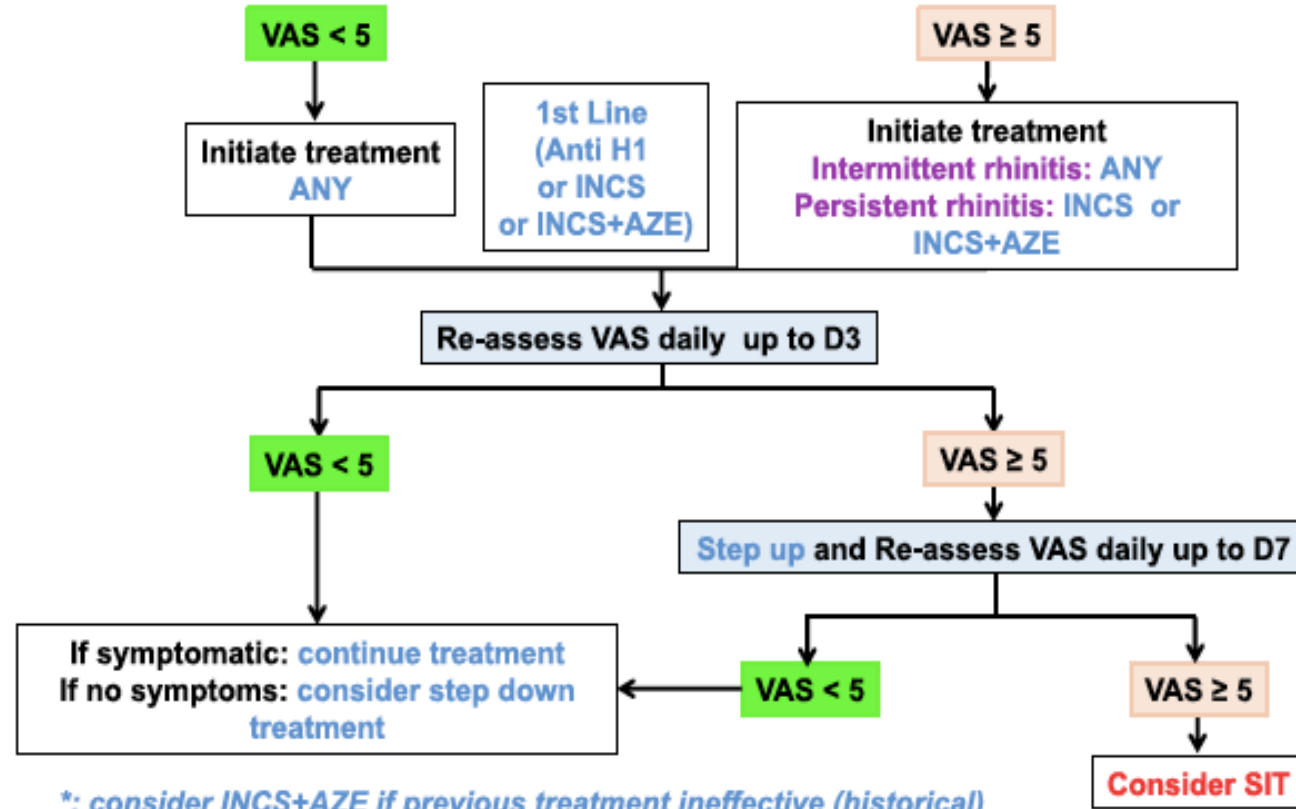
- congestion
- itching
- secretion
- sneezing

Ocular symptoms:

- redness
- watery eyes
- itching

ARIA 2020

A Assessment of control in untreated symptomatic patient



*: consider INCS+AZE if previous treatment ineffective (historical)

R

Is it a cold
or is it
Allergic
rhinitis?

Symptoms

Duration

Severity



Can you help me with
treatment for Sinus/Flu?

Question 1:
SYMPTOMS
What is your
symptoms?

Blocked nose

Runny nose, anterior and posterior(PND)

Itchy/eyes nose throat

Fever

Pain in face

Question 2:
TIME
DURATION
of
symptoms

How long have you had these symptoms?

Do you have these symptoms all the time? Or do they come and go?

Do you get these symptoms seasonally/ year around?

Do any symptoms occur when you are exposed to cat/dog/grass/dust?

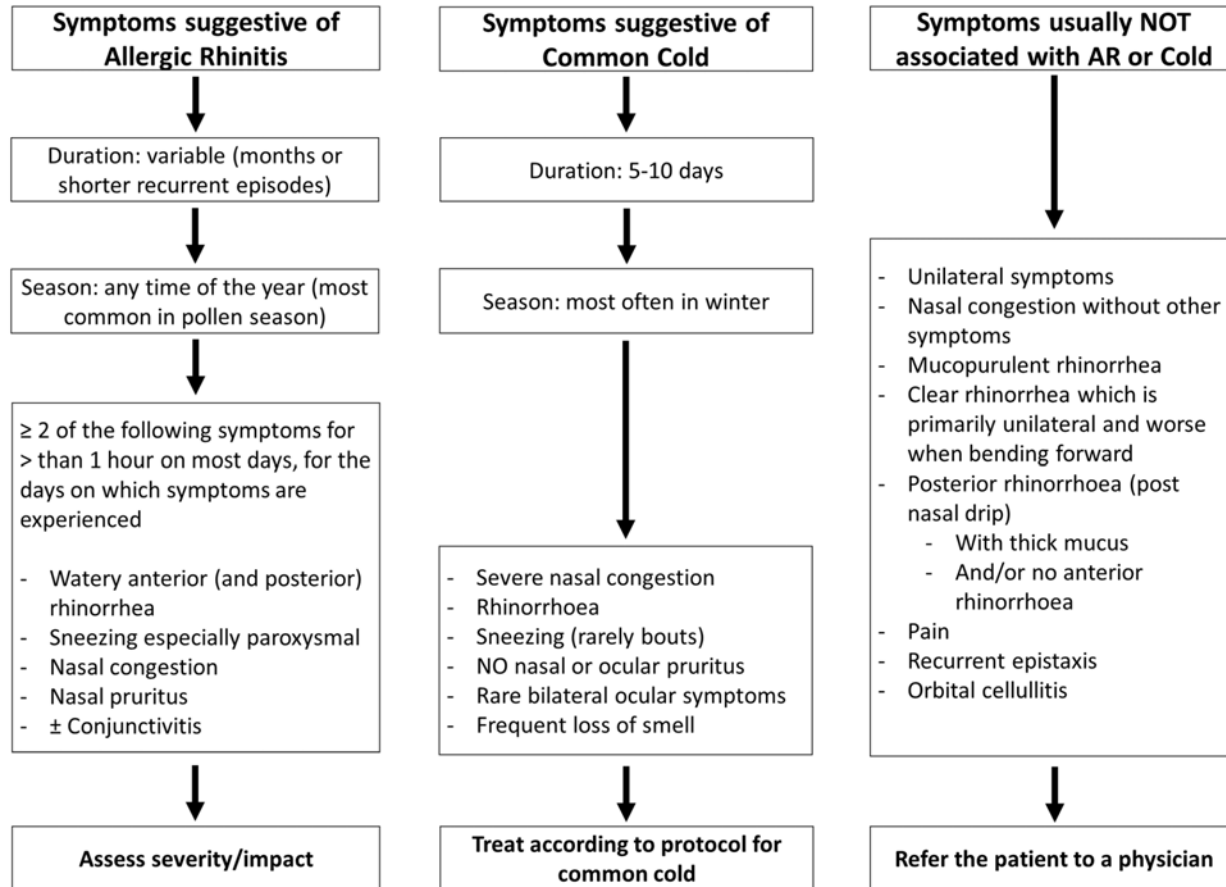
Question 3 : **SEVERITY**

Is the discharged purulent?

Fever?

Coughing or wheezing?

Have you ever been
diagnosed with AR/Asthma?



Symptoms that need REFERRAL

- ▶ One sided symptoms
- ▶ Congestion with NO other symptoms
- ▶ Mucopurulent runny nose
- ▶ One sided runny nose, WORSE when bending forward
- ▶ Pain
- ▶ Recurrent bloody nose
- ▶ Eye cellulitis
- ▶ Severe fever



Severity of Allergic rhinitis

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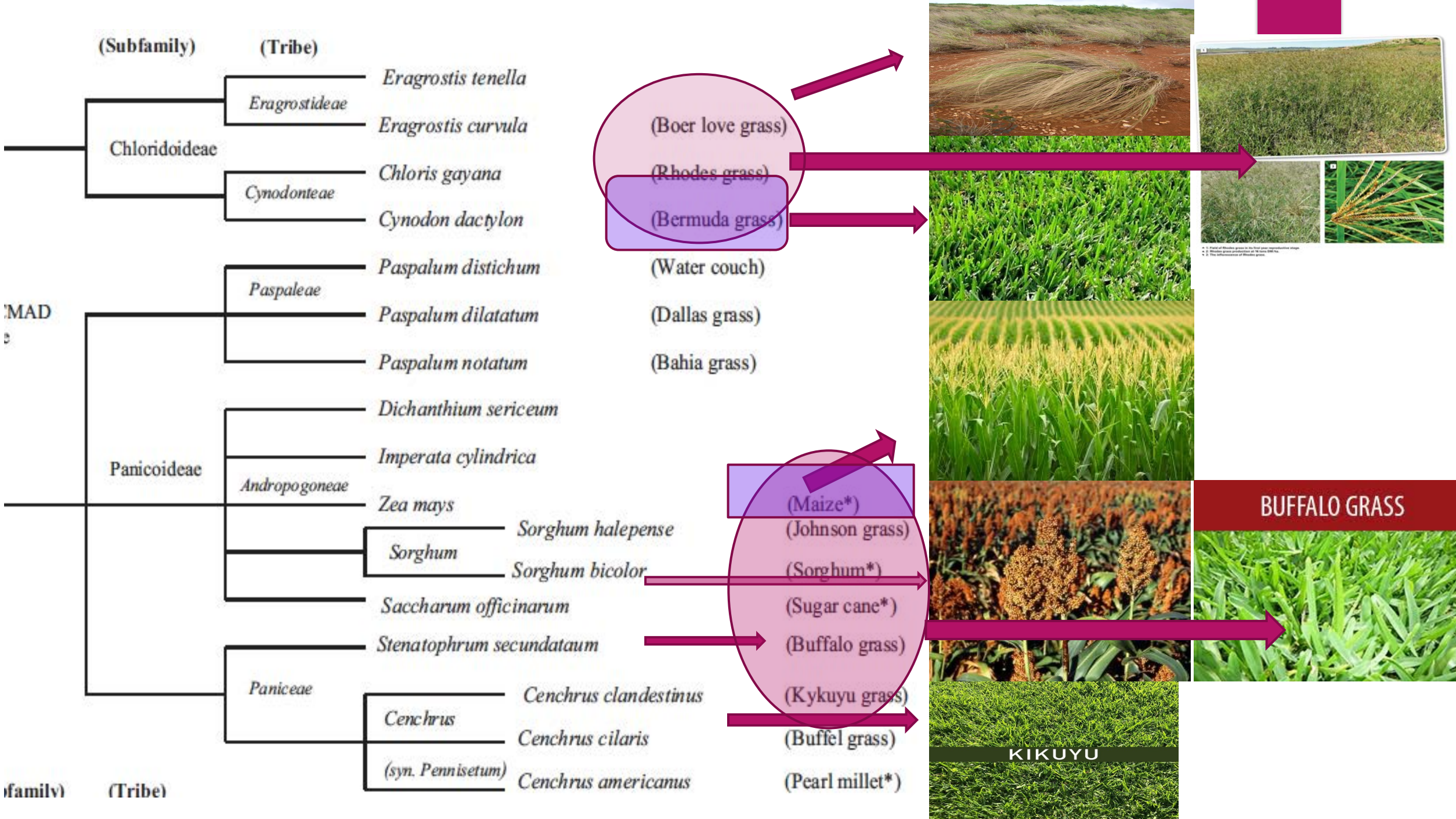
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- itching

Allergens



Allergen	www.pollencount.co.za
Grass pollen (Bermuda/Rye)Poll	Highveld symptoms can be year-round or seasonal
	Better at the coast
Dust mite	Year round
	Worse at the coast, better inland
Mould	Year round, must look for indoor mould
“SHAGMA”	Can be present coast or inland
Pets	Exposure can cause symptoms
	Can be better at coast(Holiday)
Tree pollen	Seasonal spring



OPPORTUNITY FOR EDUCATION

Pharmacist/healthcare provide

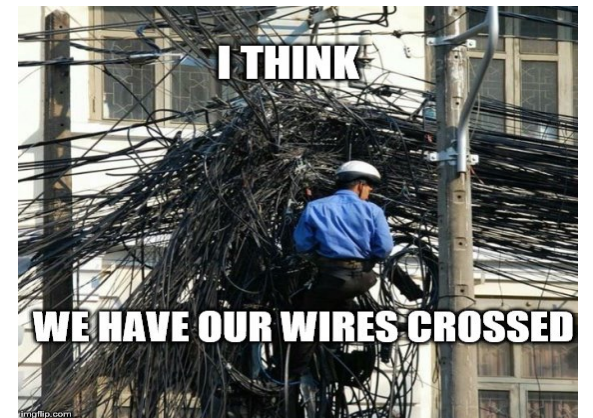
Innate knowledge that most allergies are persistent or seasonal. We assume our patients are aware of this.

We forget to tell patients that is is a symptomatic treatment and if allergy and exposure is persistent the treatment must be persistent.

Patients

I go to my doctor/HCP and he/she will solve my problem.

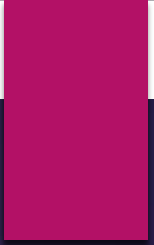
If I take the medicine, my doctor prescribed I will be healed. I have used everything available



Consistency is key.... Or not?

- ▶ During prolonged and sustained periods indoors, symptoms may be exacerbated if indoor allergens are responsible for symptoms.
- ▶ Consistent use of preventer medication is key.
- ▶ Consistent and frequent evaluation of symptom control will allow you to adjust treatment according to patients needs
- ▶ Patients even allergists treat AR on an as needed basis with whatever medication they prefer.





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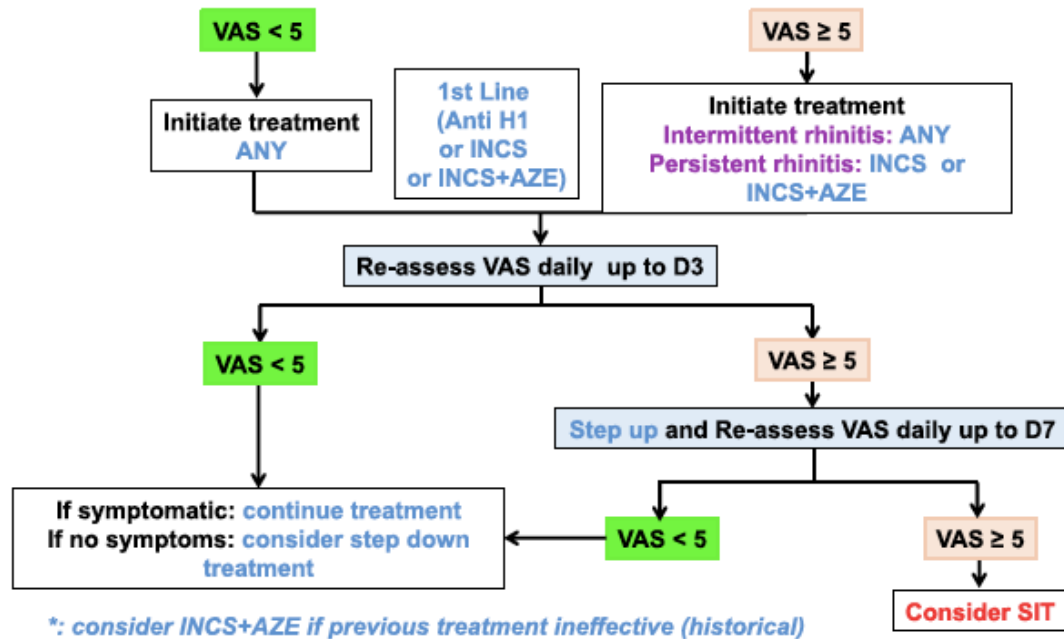
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Treatment of Allergic rhinitis

A
Assessment of control in untreated symptomatic patient



ARIA
 2020

B

Cortisone therapy

- ▶ Cortisone is a systemic immune suppressant
- ▶ Cortisone inhibits many of the initial events in inflammation,
 - ▶ inhibits increased vascular permeability and leukocyte migration(il 1).
 - ▶ Alters leukocyte trafficking and survival.
 - ▶ Transcribes genes in leukocytes with up/down regulation.
- ▶ Systemic absorption of INCS/ICS for the treatment of AR and asthma is dependent on lipophilicity as well as first pass metabolism.
- ▶ Increased lipophilicity has longer period binding to GR and less systemic absorption.
- ▶ Increased break down during first pass metabolism results in less systemic absorption.

Bioavailability INCS

Rank order Lipophilicity

- ▶ Mometasone Furoate
- ▶ Ciclesonide
- ▶ Fluticasone Propionate
- ▶ Beclomethasone Dipropionate
- ▶ Budesonide
- ▶ Triamcinolone Acetate
- ▶ Flunisolide

Systemic bio-availability

- Mometasone Furoate <0,1%
- Ciclesonide 0,1 %
- Fluticasone Propionate <1%
- Fluticasone Furoate <0,5%
- Beclomethasone Dipropionate 44%
- Budesonide 34%
- Triamcinolone Acetate 46%
- Flunisolide 49%
- Dexamet(oral)/Betamet 76%



Drug	Dose per spray	Dosing/registration	Bioavailability
Beclomethasone	42ug	Age 6-12y 1-2 sprays per nostrils daily Age >12 y 2 sprays daily	44% 2 sprays: 36 ug p.a 13mg 4 sprays: 74 ug p.a 27mg
Budesonide	32ug	Age 6-12y 2 sprays daily per nostril Age >12 4 sprays per nostril daily	34% 4 sprays: 43ug p.a. 16mg 8 sprays: 87ug p.a. 32mg
Ciclesonide	50ug	Age >6y 2 sprays per nostril daily	0,1% 4 sprays 0,2 ug p.a 0,07 mg
Mometasone Furoate	50ug	Age 2-11y 1 spray per nostril daily Age >12 2 sprays per nostril daily	0,1% 2 sprays:0,1 ug p.a.0,03mg 4 sprays: 0,2ug p.a 0,07mg
Triamcinolone acetate	55ug	Age 2-5y 1 spray daily Age 6-11y 1 spray daily Age >12y 2 sprays daily	46% 2 sprays: 50ug p.a 18mg 4 sprays: 92 ug p.a. 36 mg
Fluticasone Furoate	25ug	Age 2-11y 1 spray daily each nostril Age >12y 2 sprays daily each nostril	0,5% 2 sprays: 0,25ug p.a.0,09mg 4 sprays: 0,5ug p.a 0,18mg
Fluticasone Propionate 2011;29:297-306	50ug	Age 4-11y 1 spray per nostril Age >12y 2 sprays per nostril daily	1% 2 sprays:1ug p.a. 0,37mg 4 sprays :2ug p.a. 0,73mg

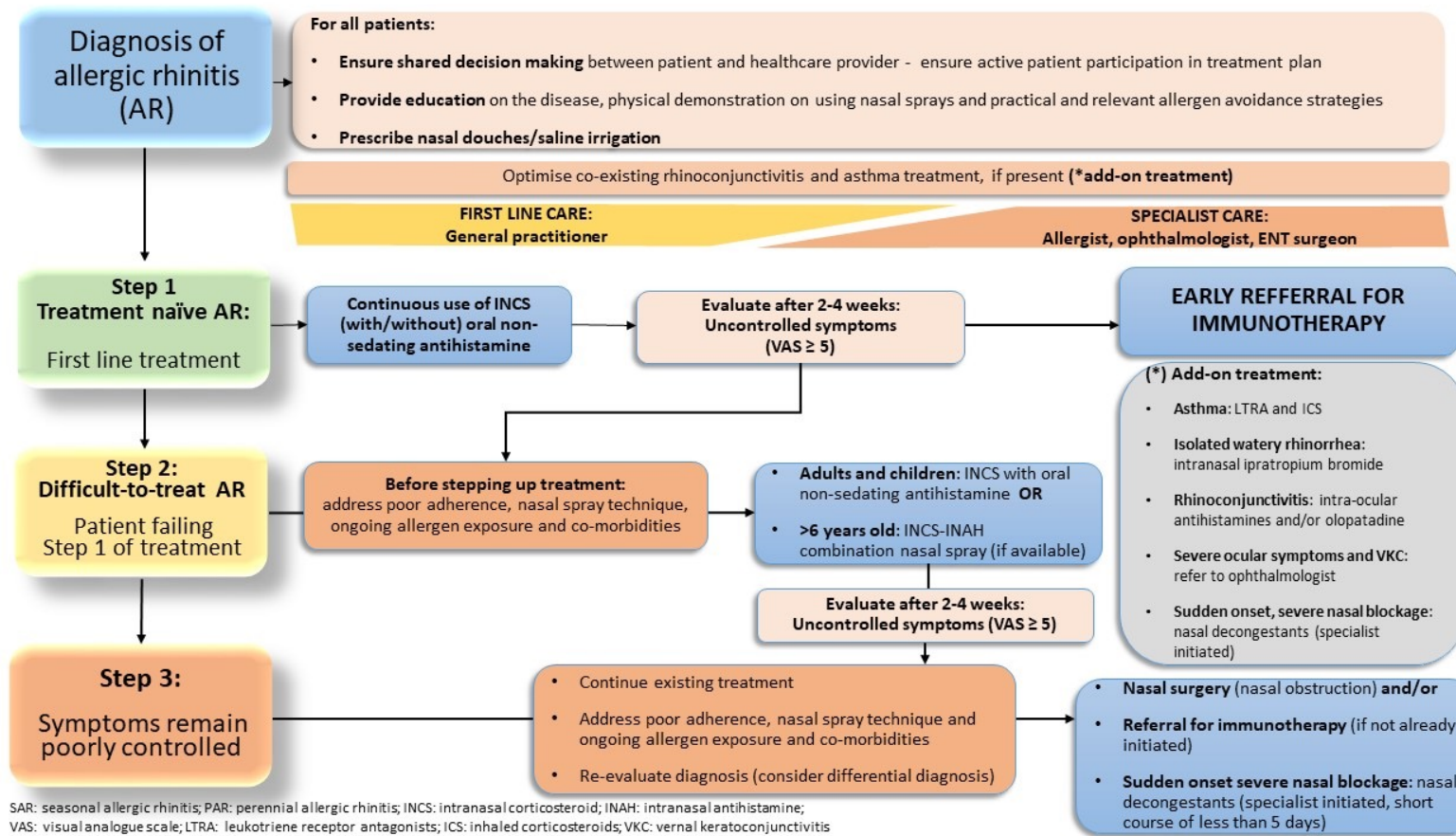
ORAL ANTIHISTAMINES

- ▶ H1 receptor inverse agonist: in nose, eyes, skin, arteries
- ▶ Effective for itch, runny nose, sneezing
- ▶ First generation
 - ▶ crosses blood- brain barrier causing sedation
 - ▶ Prolonged QTc; arrhythmias
- ▶ Second generation
 - ▶ Limited penetration of blood-brain barrier
 - ▶ Highly selective H1
- ▶ Onset of action within minutes
- ▶ Limited efficacy for congestion

NO FIRST
GENERATION

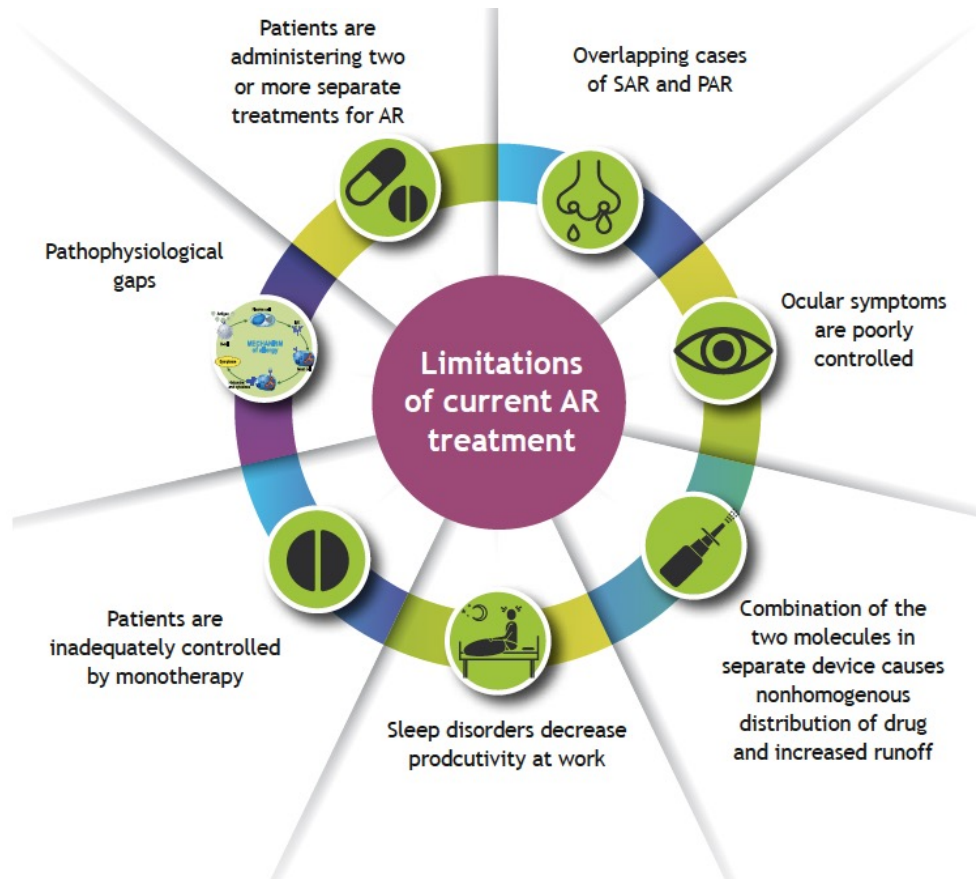
Does not
work for
BLOCKAGE





Olopatadine / Mometasone

- ▶ INCS/INAH combination
- ▶ First in SA
- ▶ Unique opportunity to treat SAR and PAR according to ARIA guidelines as well as South African best practice.
- ▶ Allows for an as needed approach
- ▶ NOW AVAILABLE OVER THE COUNTER



Limitations to current treatment of AR

Olopatadine/Mometasone

- ▶ VAS <5 as needed application, advantages fast onset of action prolonged effect
- ▶ Single applicator superior efficacy for SAR and PAR
- ▶ Relief of ocular symptoms
- ▶ VAS >5 Step up, advantages fast onset of action prolonged effect.
- ▶ Safety and efficacy for PAR
- ▶ Can be used as step -up during Spring for patients who have SAR and PAR

Overview

40% is allergic patients

Diagnosis of AR:

Symptoms, Duration, Severity (VAS)

Treatment:

Educate, Advise, Refer

Treatment VAS > 5

INCS+INAH or INCS+oral AH

Appropriate therapy changes lives,
prevents complications

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