



Guide to Chronic Rhinitis

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Adult/Pediatric Allergy/Immunology

Family Allergy & Asthma Care

ACOI 2023 October 11-14
Tampa • Hybrid

Disclosures

- Speaker for Regeneron

Outline



DESCRIPTION



TYPES



TREATMENT

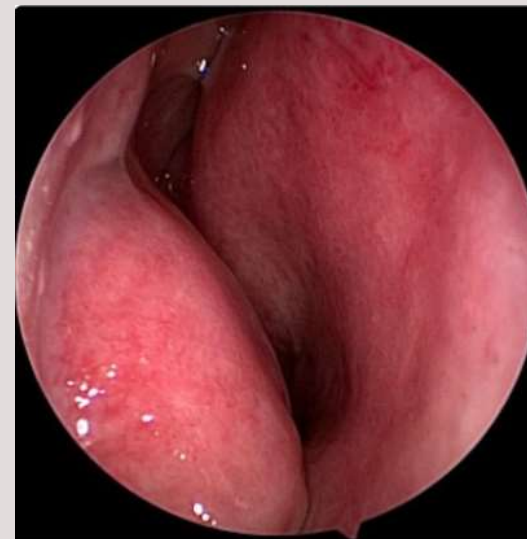
Rhinitis

**Inflammation
of mucus
membrane of
the nose**

**Nasal congestion,
rhinorrhea (anterior
and posterior),
sneezing, and itching**



Normal



Allergic

Nonallergic



~15%



~17-52%

29 y/o sneezing, nasal congestion and itchy eyes

Moved to Michigan 3 years ago

Symptoms Spring/Summer

Symptoms better indoors

Worse with windows open





Allergic Rhinitis

Seasonal

Perennial

ALLERGENS

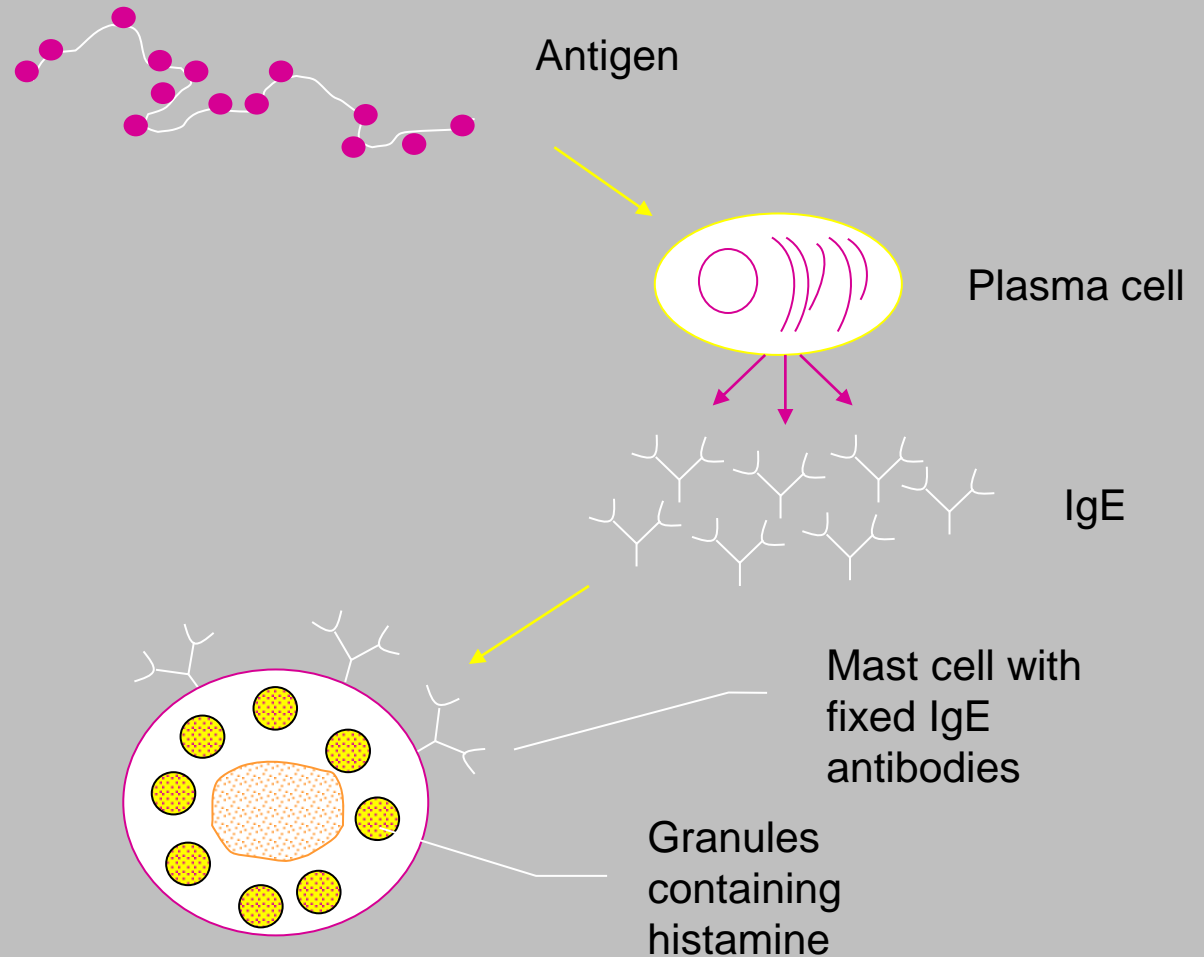


SENSITIZATION STAGE

① Antigen (allergen) exposure

② Plasma cells produce IgE antibodies against the allergen

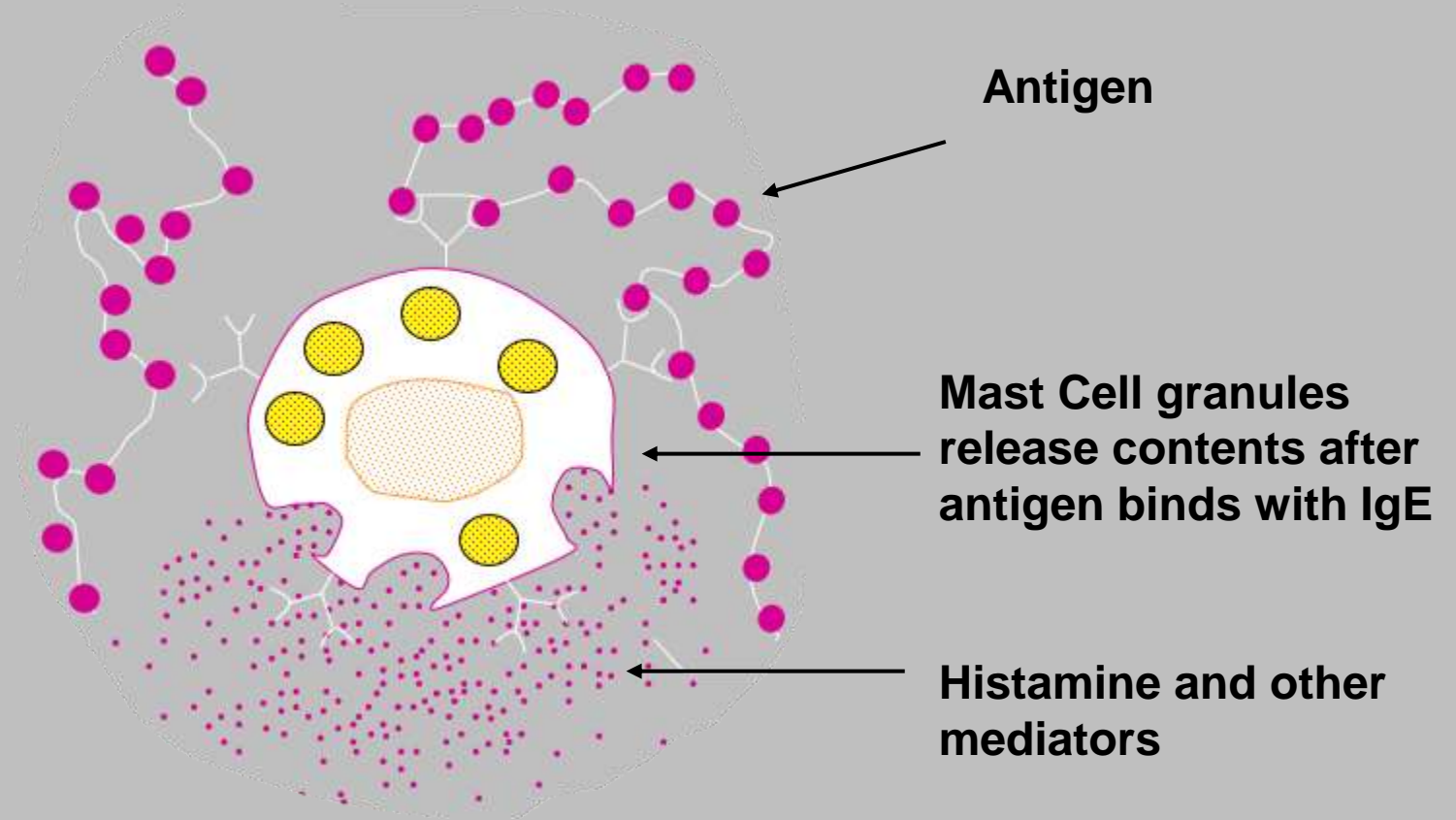
③ IgE antibodies attach to mast cells and basophils



REACTION STAGE

4-More of same allergen invades body

(5) Allergen combines with IgE attached to mast cells and basophils, which trigger degranulation and release of histamine and other chemical mediators



Treatment



Avoidance



Medications



Immunotherapy



Nonallergic Rhinitis

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Non-Allergic

- Idiopathic
- Nonallergic with eosinophilia
- Atrophic
- Medication-related
- Exercise induced
- Cold air-induced
- Gustatory
- Hormonal
- Aging
- Systemic disease

**70 y/o with profuse
rhinorrhea w/o congestion**

Constant drainage

Especially after meals

Carries tissue constantly

Works part time as a florist



Vasomotor Rhinitis

- Prominent symptoms of nasal obstruction, rhinorrhea and/or congestion
- "Wet" or "Dry"





Gustatory Rhinitis

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A photograph of a person's hands using a hand plane to smooth a piece of wood. The person is wearing a blue shirt and a white apron. The background is a workshop with various tools and equipment. The image is overlaid with a teal circular graphic and several smaller teal circles of varying sizes.

Occupational Rhinitis

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**29 y/o new onset severe
nasal congestion w/o
drainage.**

Started with a viral infection

Fever/chills resolved quickly

Congestion lasted and worsening

Only thing that helps is:

OTC Oxymetazoline 3-4 x a day





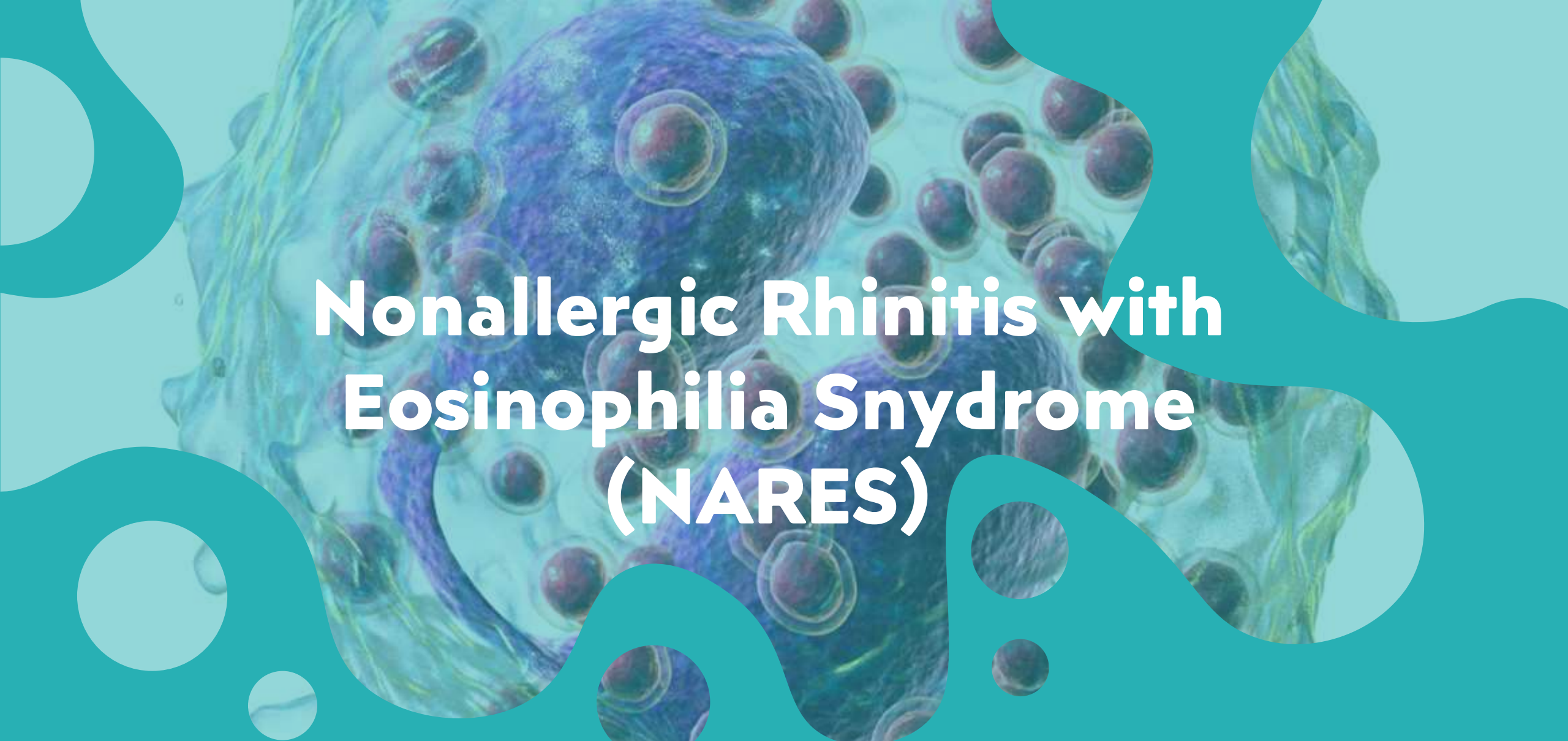
Drug Induced Rhinitis

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Hormonal Rhinitis

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A microscopic image of nasal tissue, showing a large eosinophil (a white blood cell with reddish-orange granules) in the center, surrounded by other cells and structures. The image is overlaid with a teal background featuring abstract, organic shapes.

Nonallergic Rhinitis with Eosinophilia Syndrome (NARES)

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RX Treatment




Nasal sprays

Antihistamines

Leukotriene inhibitors

Decongestants

	Congestion	Rhinorrhea	Sneezing	Nasal Itch	Eye Symptoms	Inflammation
Oral antihistamines						
Sedating (1 st generation)	-	+	+	+	+	-
Nonsedating/low-sedating	-	+	+	+	+	±
Intranasal antihistamines	±	+	+	+	±	±
Decongestants	+	-	-	-	-	-
Intranasal corticosteroids	+	+	+	+	-	+
Oral corticosteroids	+	+	+	±	+	+
Intranasal cromolyn	±	±	±	±	-	±
Intranasal anticholinergics	-	+	-	-	-	-
Leukotriene modifiers	+	+	+	±	±	+

													
Atrovent® (ipratropium bromide) Nasal Spray 0.03% 21 mcg and 0.06% 42 mcg	Astelin® (azelastine HCl) Nasal Spray 137 mcg	Astepro® (azelastine HCl) Nasal Spray 0.15%	Patanase® (olopatadine HCl) Nasal Spray 665 mcg	Beconase AQ® (beclomethasone dipropionate monohydrate) Nasal Spray 42 mcg	Flonase® (fluticasone propionate) Nasal Spray 50 mcg	Nasacort® AQ (triamcinolone acetonide) Nasal Spray 55 mcg	Nasonex® (mometasone furoate monohydrate) Nasal Spray 50 mcg	Omnaris® (ciclesonide) Nasal Spray 50 mcg	Qnasl® (beclomethasone dipropionate) Nasal Aerosol 80 mcg	Rhinocort Aqua® (budesonide) Nasal Spray 32 mcg	Veramyst® (fluticasone furoate) Nasal Spray 27.5 mcg	Zetonna® (ciclesonide) Nasal Aerosol 37 mcg	Dymista® (azelastine hydrochloride and fluticasone propionate) 137 mcg/50 mcg
Aqueous solution Boehringer Ingelheim Generics available	Aqueous solution Meda Pharmaceuticals Generics available	Aqueous solution Meda Pharmaceuticals	Aqueous solution Novartis (Alcon)	Aqueous suspension GlaxoSmithKline	Aqueous suspension GlaxoSmithKline Generics available	Aqueous suspension sanofi-aventis U.S. Generics available	Aqueous suspension Merck & Co. Inc.	Aqueous suspension Sunovion Pharmaceuticals	Nonaqueous solution Teva Respiratory	Aqueous suspension AstraZeneca	Aqueous suspension GlaxoSmithKline	Nonaqueous solution Sunovion Pharmaceuticals	Aqueous suspension Meda Pharmaceuticals
ANTICHOLINERGIC	ANTIHISTAMINES			CORTICOSTEROIDS									COMBINATION

Nasal Sprays

How Fast do Nasal Sprays Work?

Agent	Study design	Onset of action	Maximal effect	First measure of onset
Intranasal steroid/ antihistamine	EEU	5 min (azelastine/fluticasone propionate)	2 wk or greater	5 min
Intranasal decongestant- oxymetazoline	Peak nasal airflow	<10 min	? within an hour	10 min
INAH	EEU	15 min (azelastine)	1 d to 4 wk	15 min
	EEU	20 min (clemastine)	1 d to 4 wk	30 min
Intranasal anticholinergic	Methacholine challenge	15 min (ipratropium)	1 h	15 min
Oral antihistamine	EEU	30-90 min (desloratadine)		30 min
	EEU	45 min (levocetirizine)		15 min
	EEU	60 min (cetirizine)	1-8 d	15 min
	EEU	60-75 min (loratadine)	1-8 d	15 min
Oral antihistamine with decongestant	Single-dose park setting	30 min (loratadine/PSE)	Unknown	15 min
INCS	EEU	1-6 h (ciclesonide)	2-4 wk	1 h
	EEU	2.5 h (mometasone)	4 wk	30 min
	EEU	3-8 h (budesonide)	2-4 wk	1 h
	2-wk seasonal study	8 h (fluticasone furoate)	2 wk	30 min
	Not EEU, park study or other	2-12 h (fluticasone propionate)	2-4 wk	2, 4, 12 h (meta-analysis)
LTRA	EEU	Within 5 h (montelukast)	By wk 2	5 h
Intranasal mast cell stabilizer	2-wk seasonal study	2 wk (cromolyn)	At least 2 wk	1 wk
Intranasal mast cell stabilizer before allergen exposure	EEU, nasal allergen challenge	Application 1-7 min before allergen exposure	N/A	≥10 min



Beconase AQ[®]
 (beclomethasone dipropionate monohydrate)
 Nasal Spray
 42 mcg

Aqueous suspension
 GlaxoSmithKline

Flonase[®]
 (fluticasone propionate)
 Nasal Spray
 50 mcg

Aqueous suspension
 GlaxoSmithKline
 Generics available

Nasacort[®] AQ
 (triamcinolone acetonide)
 Nasal Spray
 55 mcg

Aqueous suspension
 sanofi-aventis

Nasonex[®]
 (mometasone furoate monohydrate)
 Nasal Spray
 50 mcg

Omnaris[®]
 (ciclesonide)
 Nasal Spray
 50 mcg

Aqueous suspension
 Orion
 Pharmaceuticals

Qnasl[®]
 (beclomethasone dipropionate)
 Nasal Aerosol
 80 mcg

Nonaqueous solution
 Teva Respiratory

Rhinocort Aqua[®]
 (budesonide)
 Nasal Spray
 32 mcg

Aqueous suspension
 AstraZeneca

Zetonna[®]
 (ciclesonide)
 Nasal Aerosol
 37 mcg

Aqueous suspension

Intranasal Corticosteroid

Effective for immediate and late-phase inflammatory response
 Most dosed 1-2 times a day
 Helpful for both congestion and drainage

Intranasal Antihistamines

Equal to/or superior to oral antihistamines

More rapid onset than INCS

Some studies show superiority to INCS

Use for allergic and non-allergic rhinitis



Astelin[®]
(azelastine HCl)
Nasal Spray
137 mcg

Aqueous solution
Meda Pharmaceuticals
Generics available



Astepro[®]
(azelastine HCl)
Nasal Spray
0.15%

Aqueous solution
Meda Pharmaceuticals



Patanase[®]
(olopatadine HCl)
Nasal Spray
665 mcg

Aqueous solution
Novartis (Alcon)

ANTIHISTAMINES

Intranasal Anticholinergic

- Fast acting
- Dramatically effective for the runny, faucet like nose
 - ie Vasomotor/gustatory/nonallergic
- Not long lasting.



Decongestant

- De-congests only
- Fast Acting
- Short term use
- Risk of Rhinitis medicamentosa



Intranasal Capsaicin

- Reduces nasal hyperreactivity
- NAR or mixed rhinitis
 - Reduce nasal congestion, rhinorrhea, postnasal drainage, sinus pressure, sinus pain, and headache.
- Small studies.



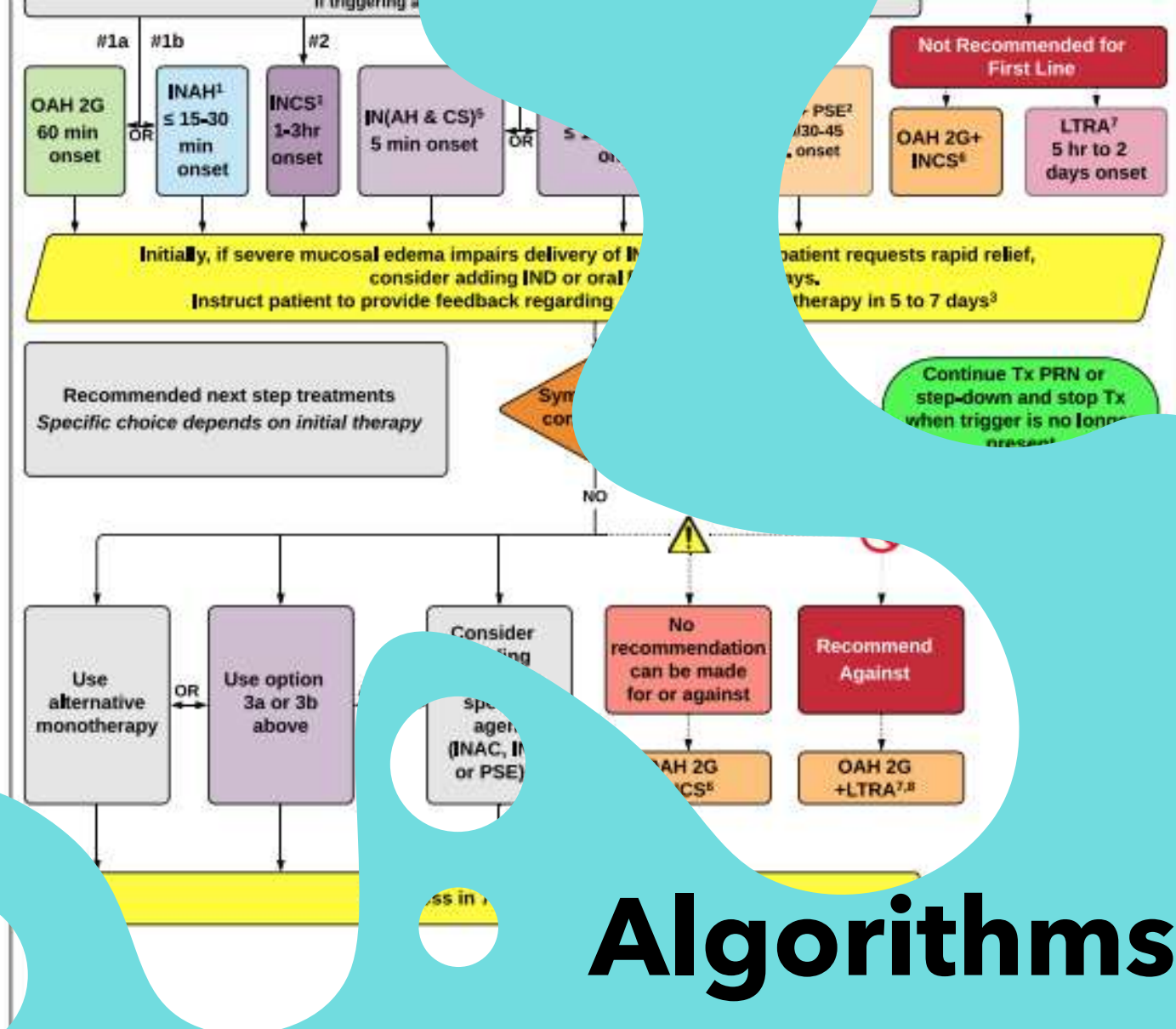
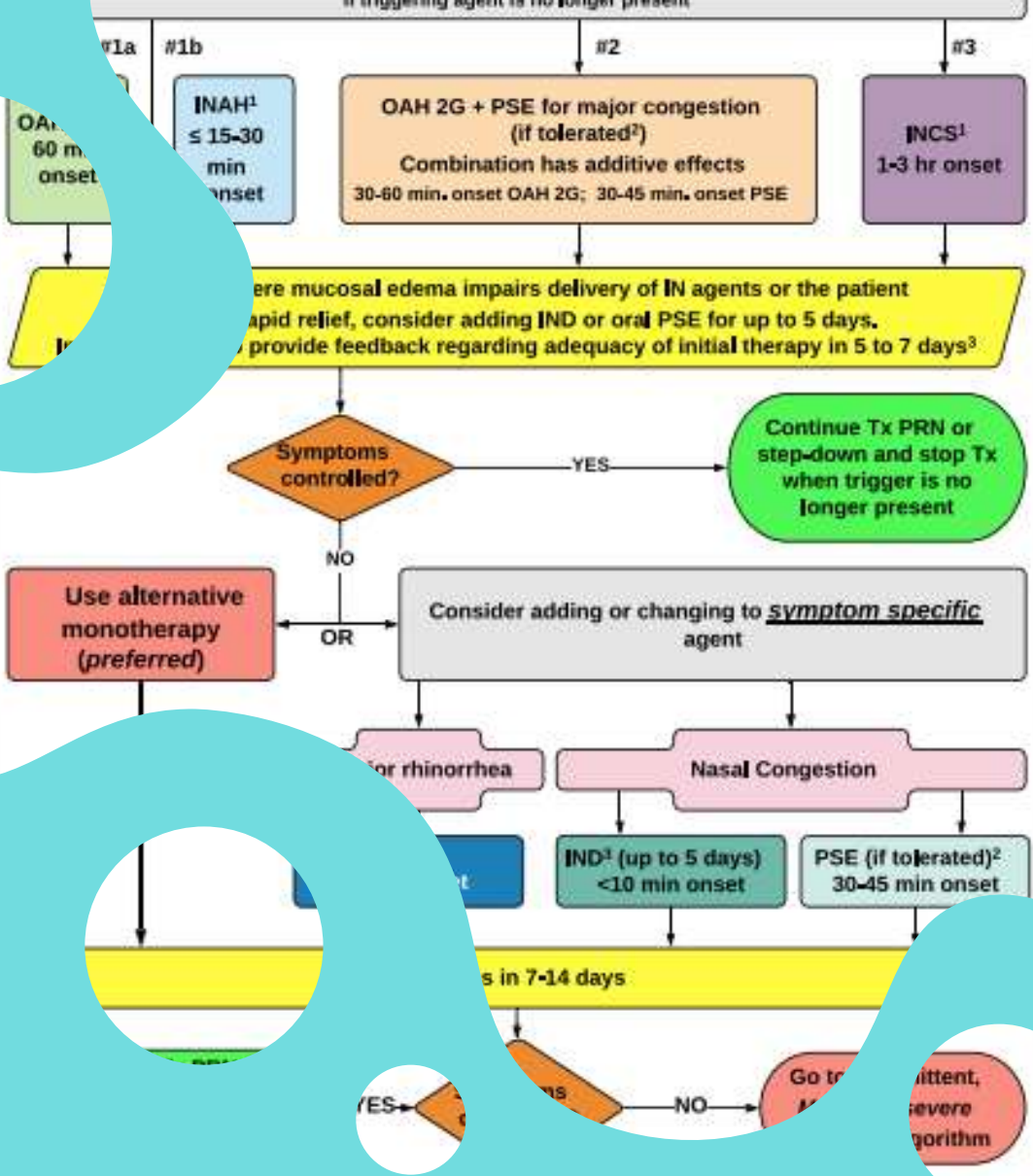
Combination INCS/INAH

Fluticasone/Azelastine
(Dymista)



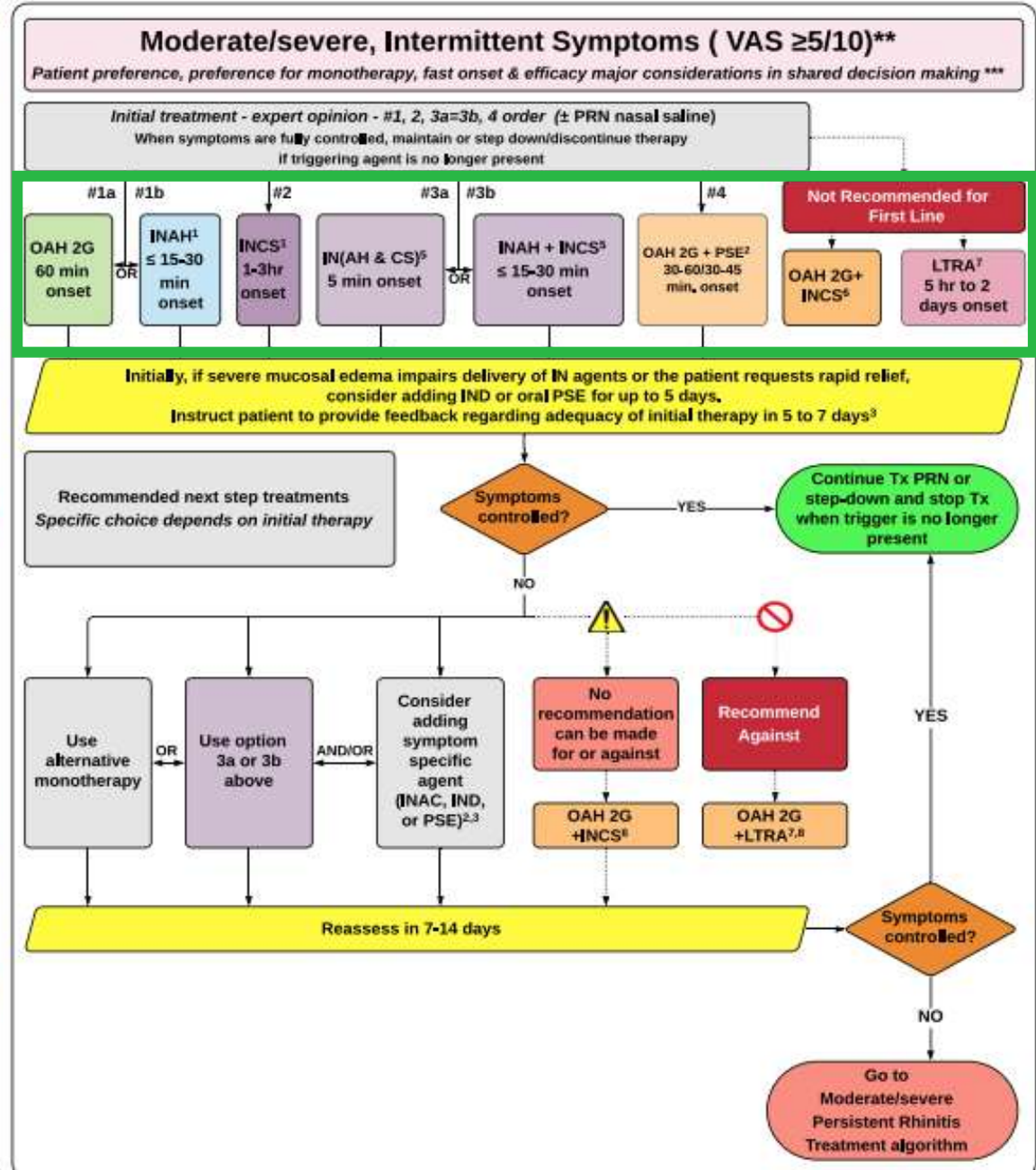
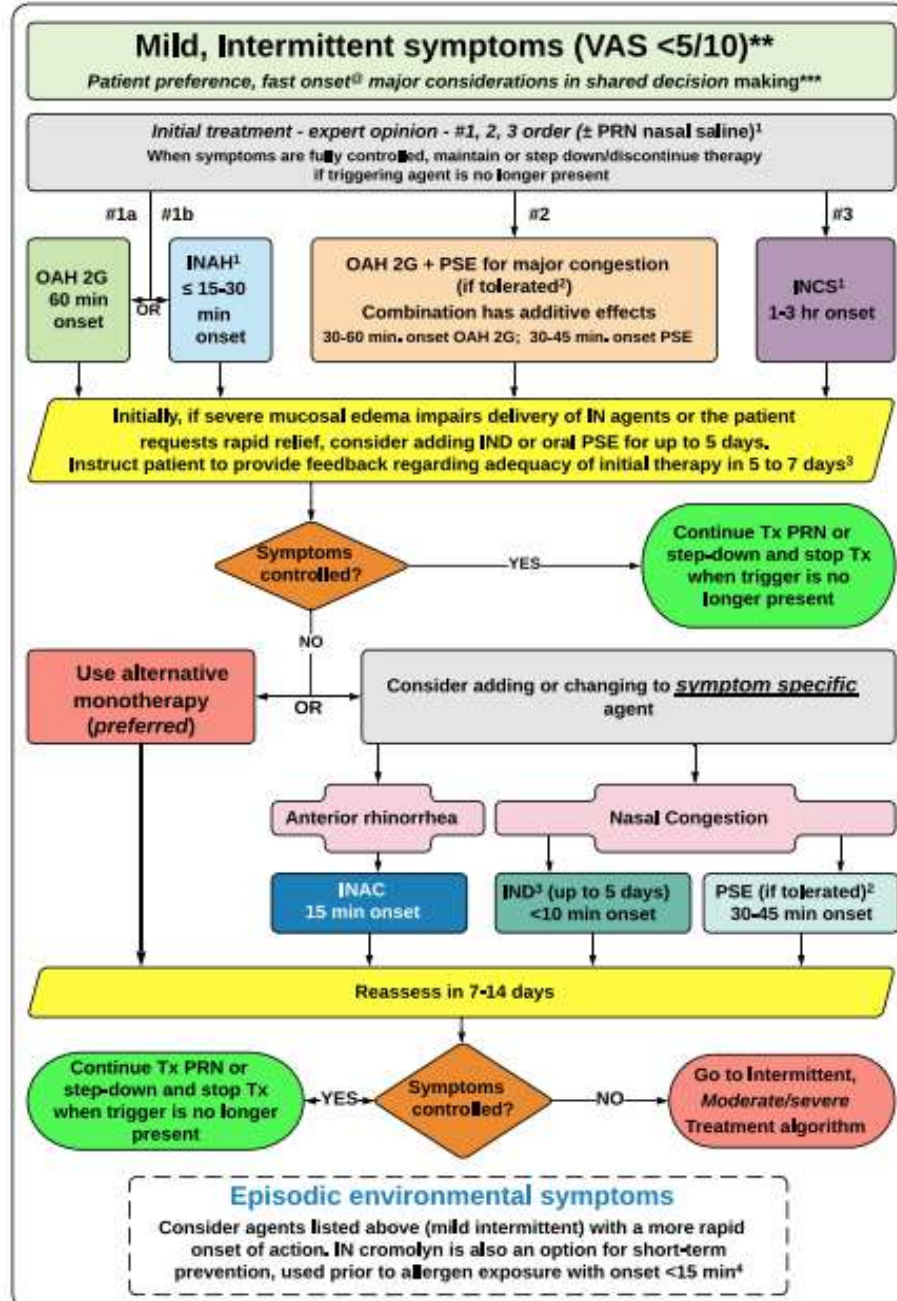
Mometasone/Olopatadine
(Ryaltris)



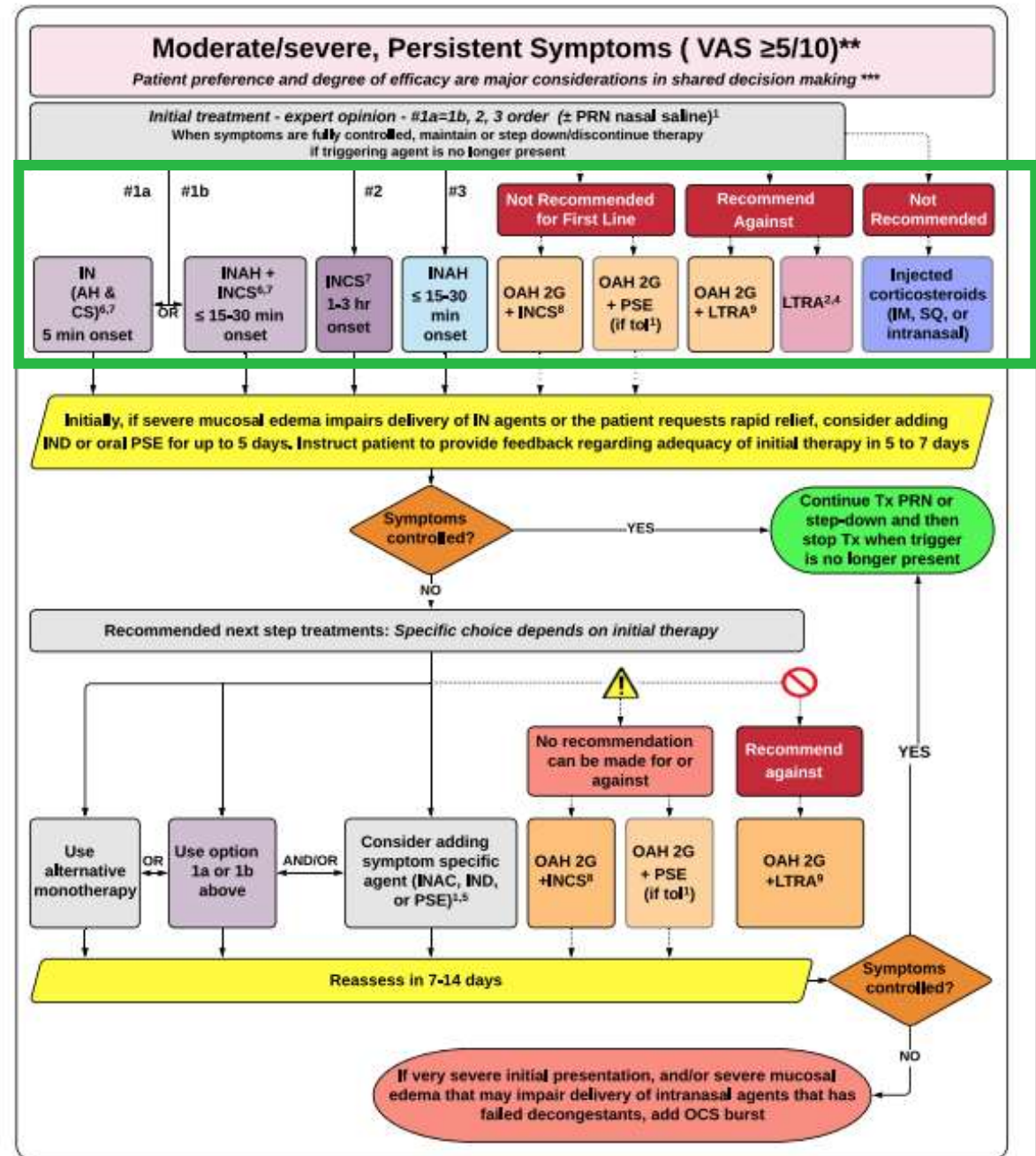
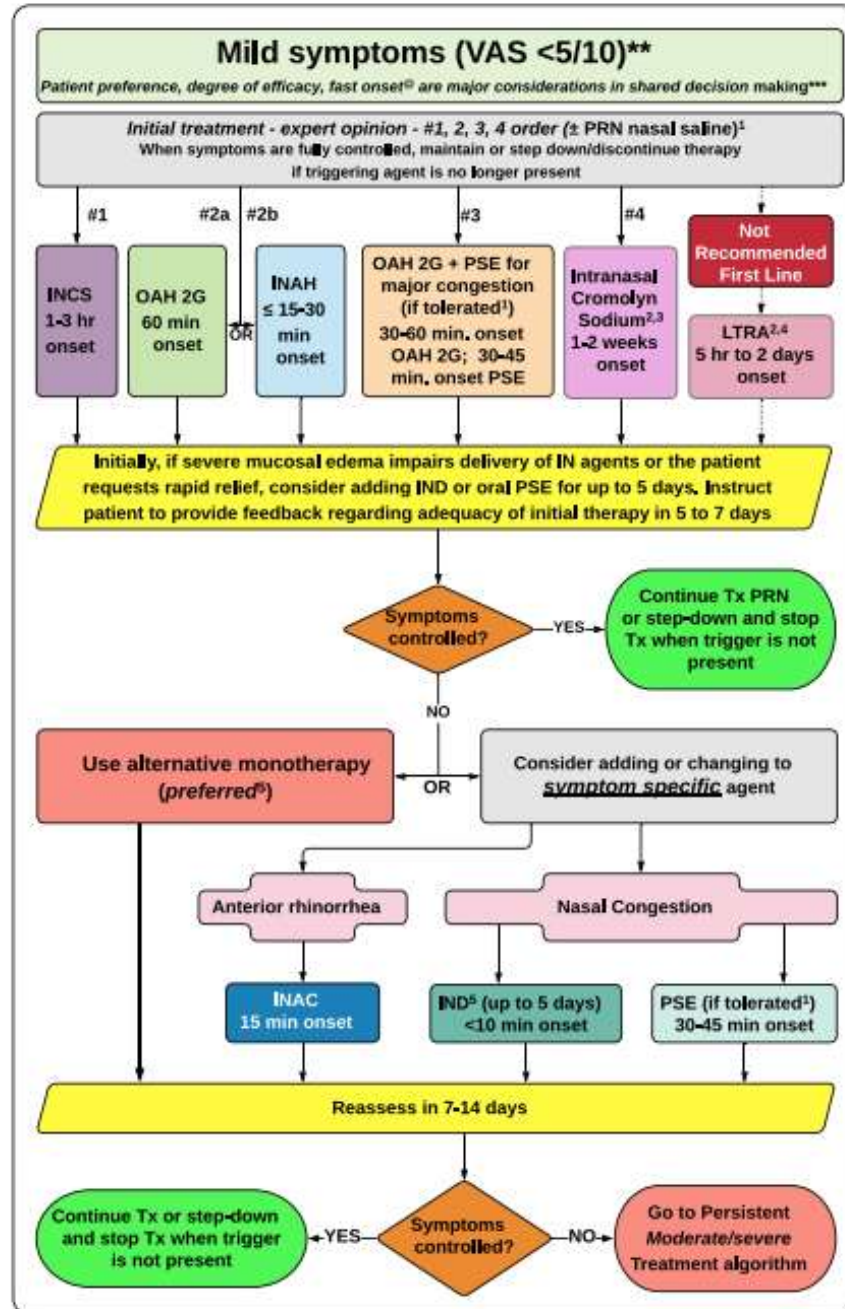


Algorithms

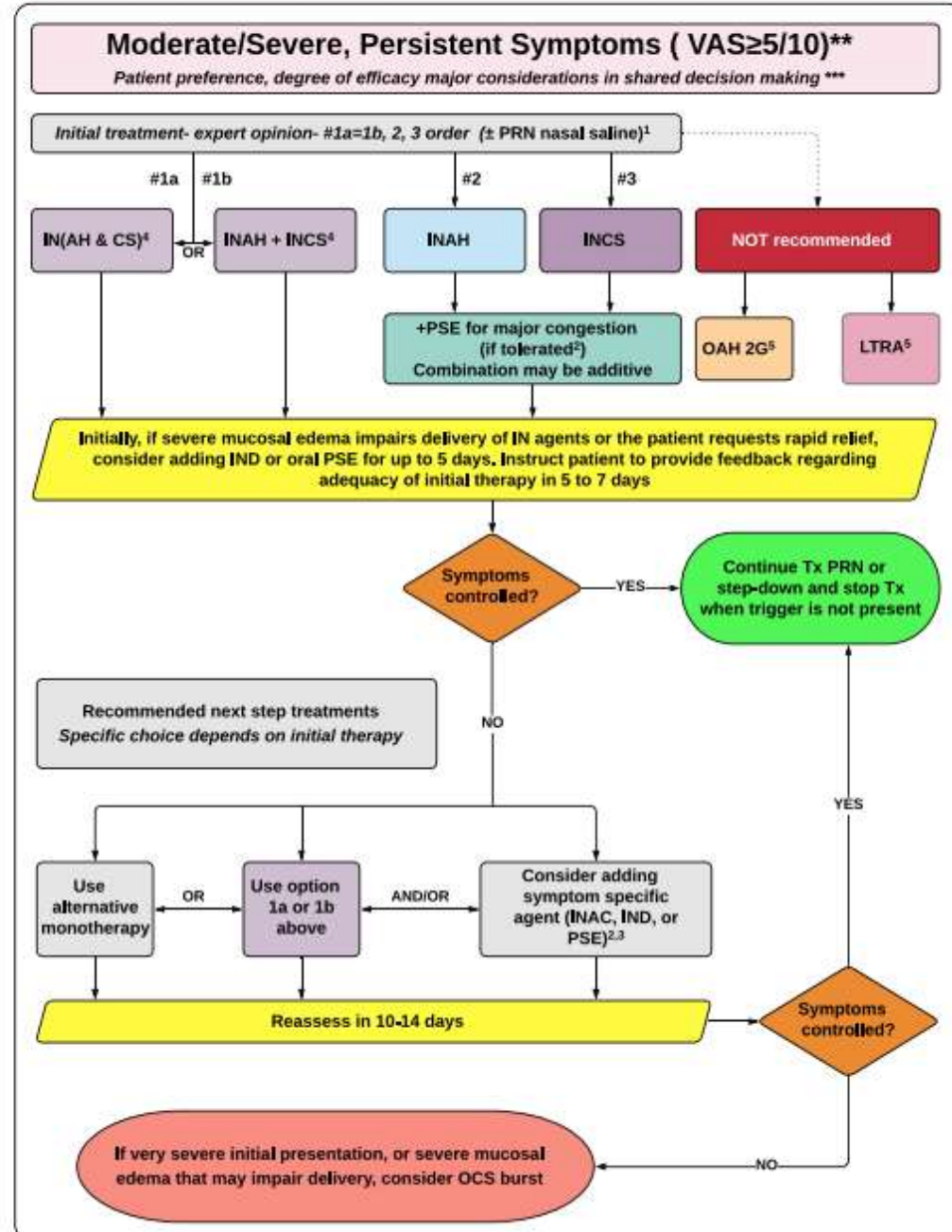
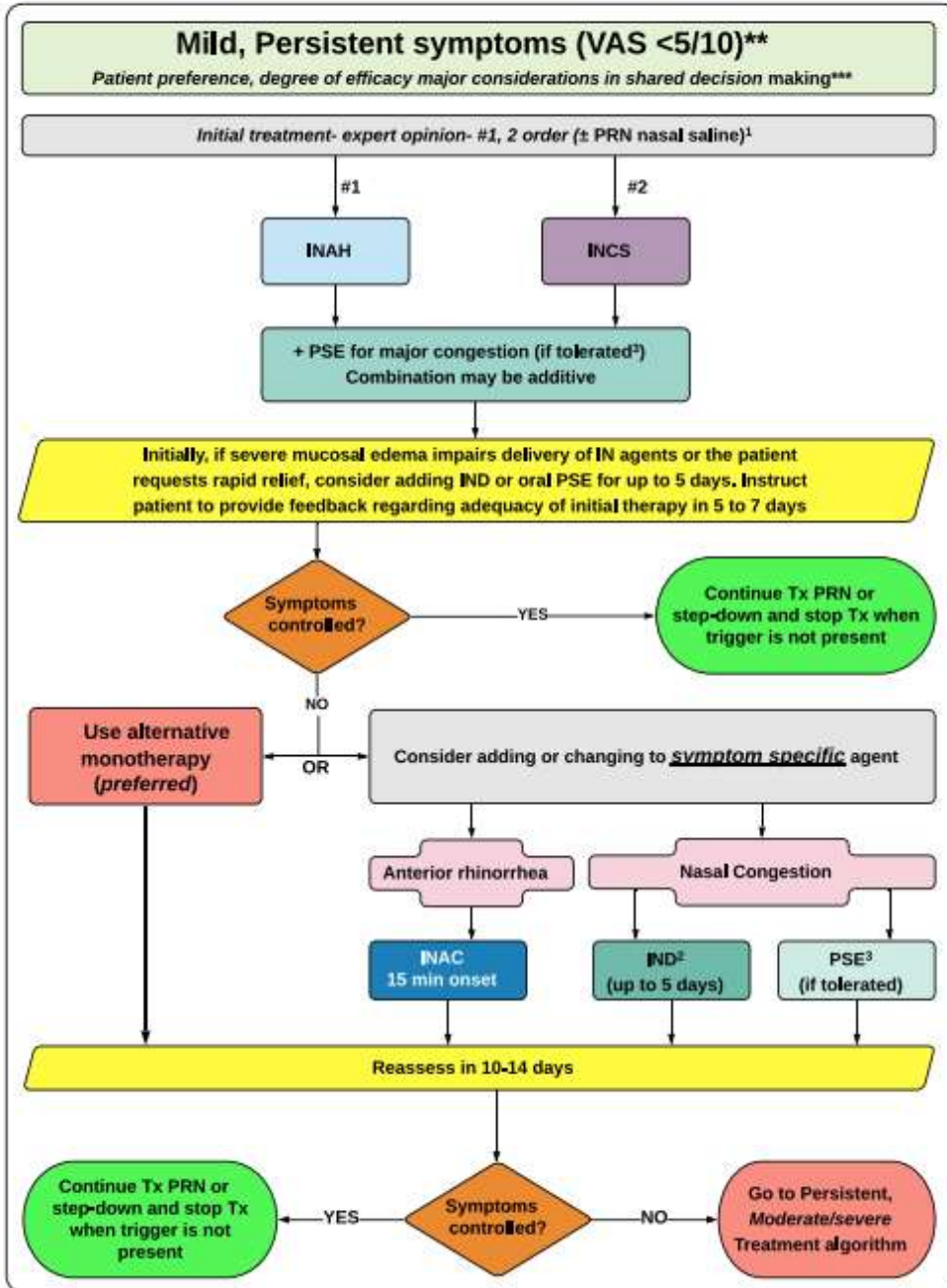
Intermittent Allergic Rhinitis Pharmacologic Treatment - Age 12 and older *



Persistent Allergic Rhinitis Pharmacologic Treatment - Age 12 and older *



Persistent Non-Allergic Rhinitis Pharmacologic Treatment - Age 12 and older *



**38 y/o new onset nasal
congestion, copious
drainage, PND and itchy eyes**

Newly married

Symptoms now year round

Symptoms better at work

Wife has a cat



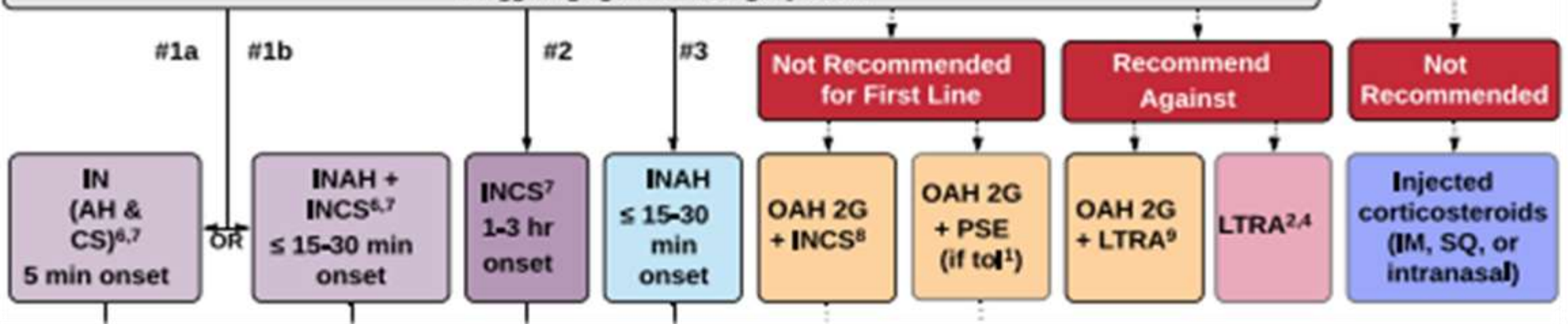
Perennial Rhinitis

Moderate/severe, Persistent Symptoms (VAS $\geq 5/10$)**

*Patient preference and degree of efficacy are major considerations in shared decision making ****

Initial treatment - expert opinion - #1a=1b, 2, 3 order (\pm PRN nasal saline)¹

When symptoms are fully controlled, maintain or step down/discontinue therapy if triggering agent is no longer present



Happy
Nasal
Spraying



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Reference

Practice Parameters for Chronic Rhinitis

- <https://www.aaaai.org/Aaaai/media/Media-Library-PDFs/Allergist%20Resources/Statements%20and%20Practice%20Parameters/Rhinitis-2020-A-practice-parameter-update.pdf>
- Middleton E Jr. Chronic rhinitis in adults. J Allergy Clin Immunol. 1988 May;81(5 Pt 2):971-5. doi: 10.1016/0091-6749(88)90163-7. PMID: 3286737
- Settipane RA. Demographics and epidemiology of allergic and nonallergic rhinitis. Allergy Asthma Proc. 2001 Jul-Aug;22(4):185-9. PMID: 11552666.