

# Demystifying the Drippy Nose

Olsen Center Brown Bag Lunch Series

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4/17/18



# Disclosures





# Objectives

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1	List the most common underlying causes of a runny nose (rhinorrhea)
2	Describe possible first line treatments for rhinorrhea
3	Discuss important indicators warranting referral to a specialist



# What drips out of the Nose?

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❖ **Blood** —→ For another day

❖ **Snot** —→ Color / consistency?

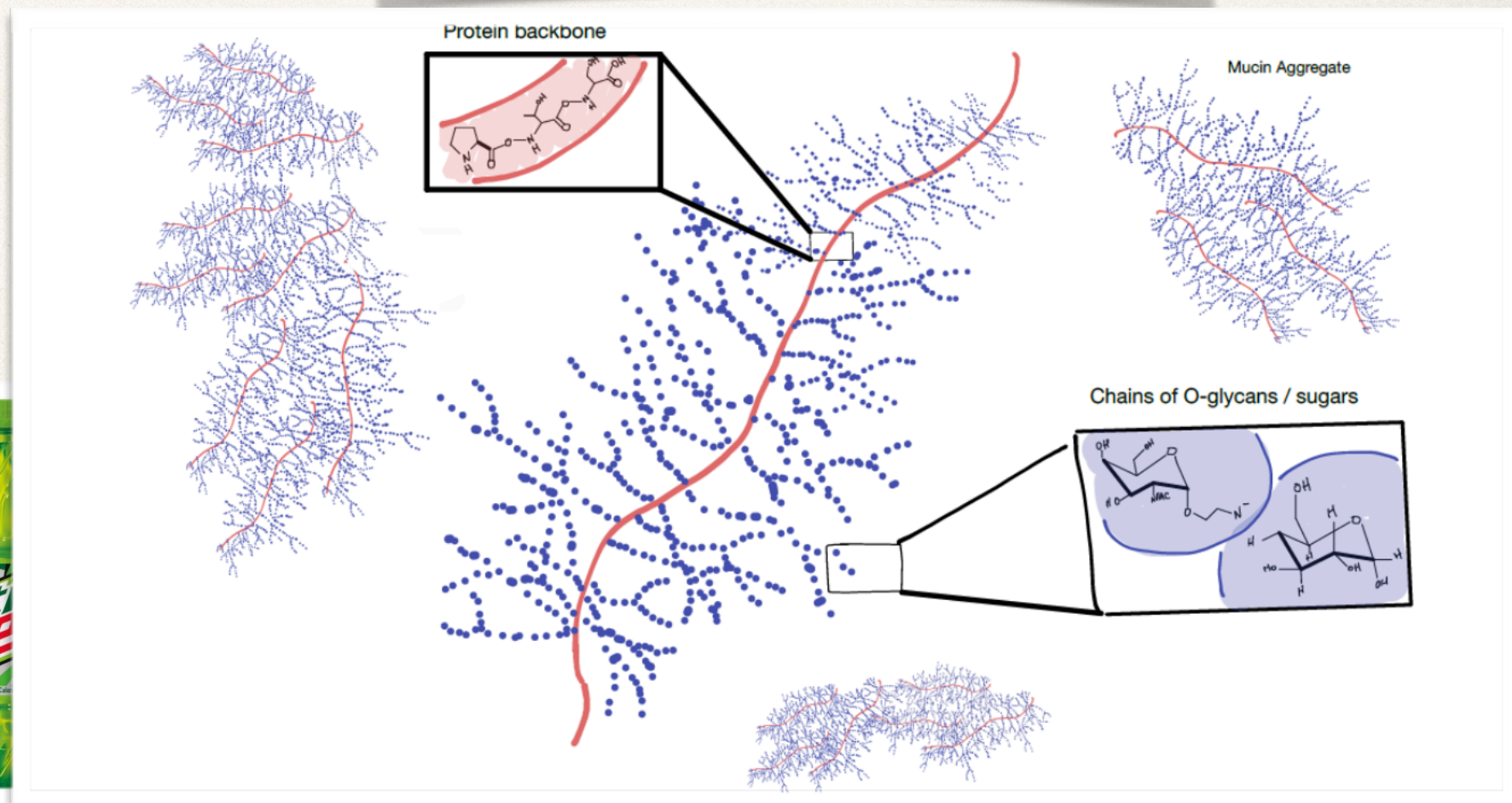
❖ **CSF** —→ Special tests



# Snot

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- ❖ Complex glycoproteins
- ❖ Enzymes: Lysozyme
- ❖ Electrolytes
- ❖ Immunoglobulins
- ❖ Lipids
- ❖ 1-1.5L/day





# Pathologic Snot

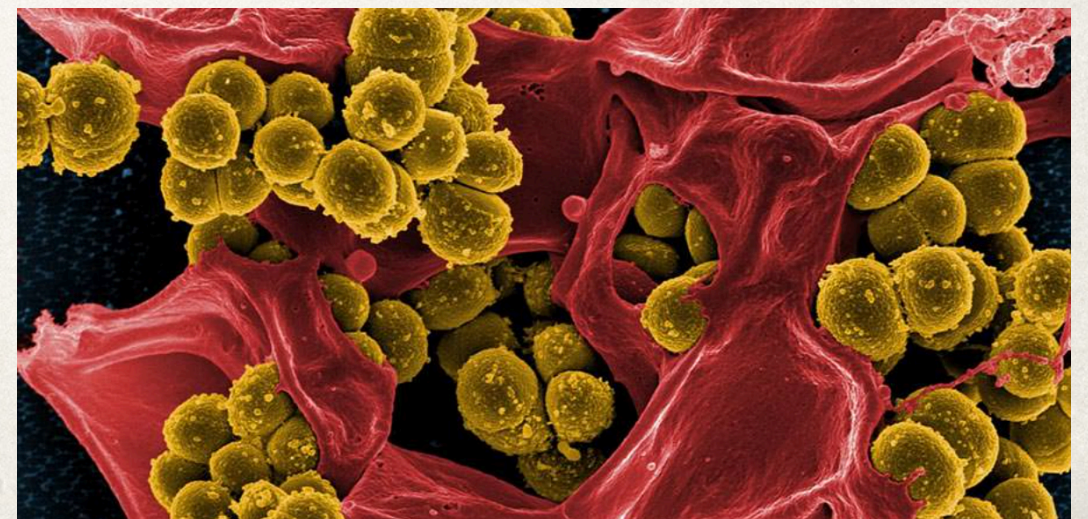
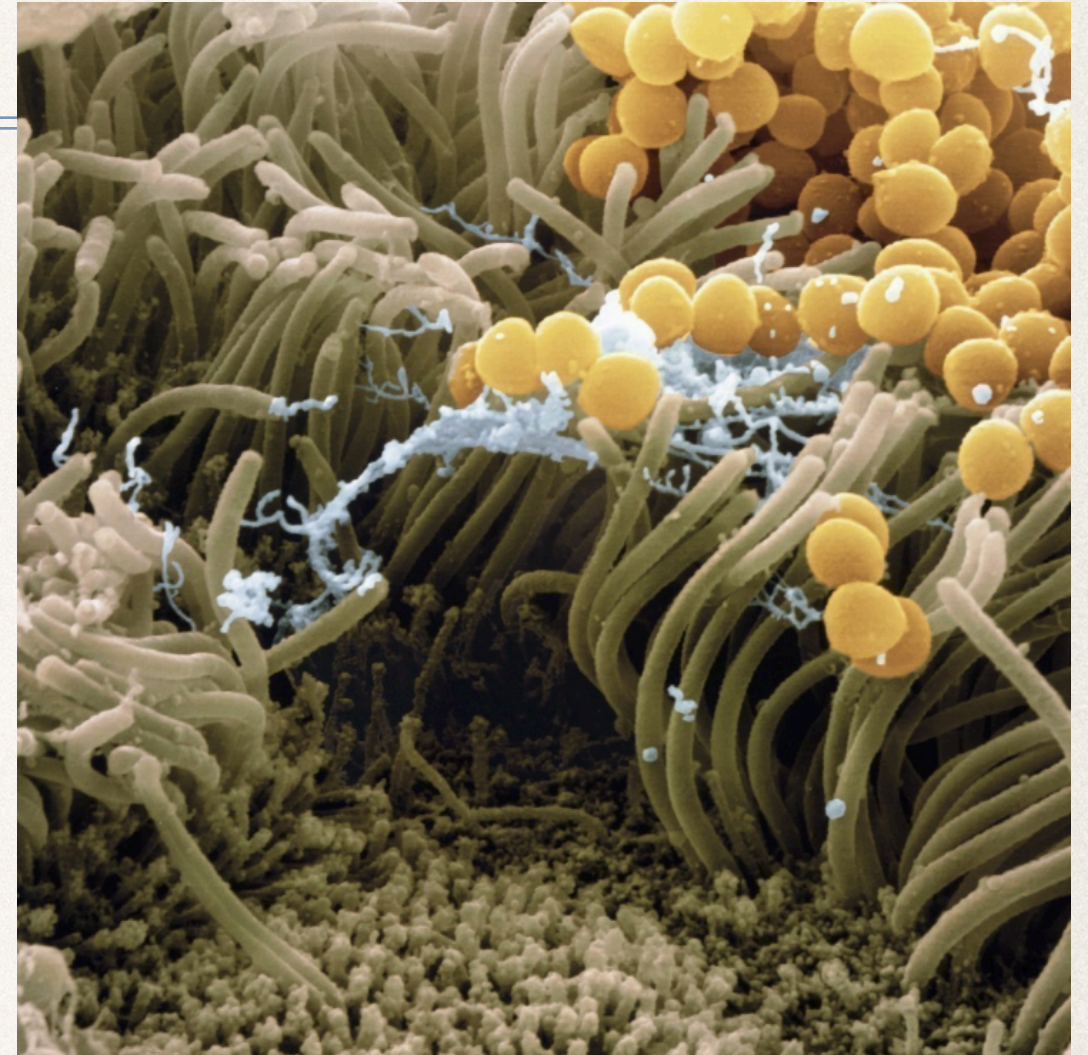
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- ❖ Copious

- ❖ Allergic rhinitis
- ❖ Vasomotor Rhinitis
- ❖ Atrophic Rhinitis

- ❖ Trapped Things

- ❖ Bacteria
- ❖ Virus
- ❖ Fungus \*





# Not Snot...

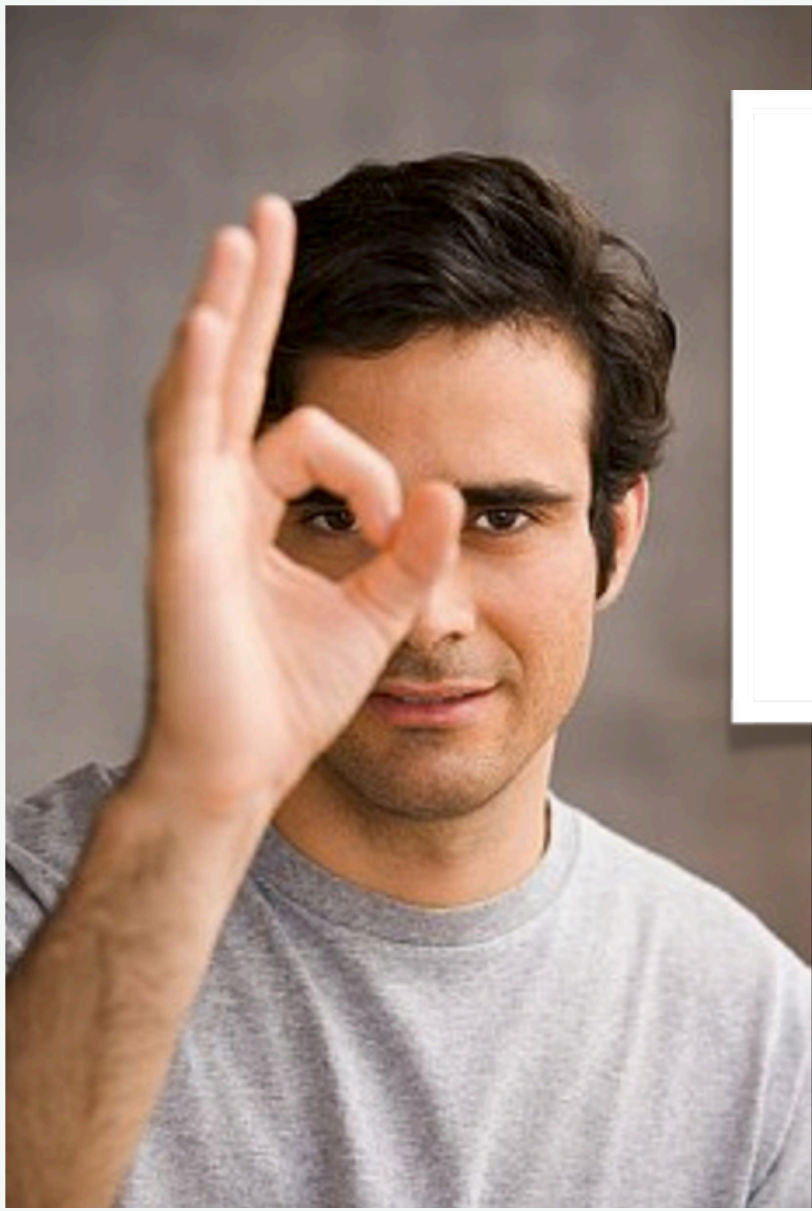
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❖ CSF leak





# What Does the Color Tell Me?



Guideline

## Clinical Practice Guideline (Update): Adult Sinusitis

Richard M. Rosenfeld, MD, MPH<sup>1</sup>, Jay F. Piccirillo, MD<sup>2</sup>,  
Sujana S. Chandrasekhar, MD<sup>3</sup>, Itzhak Brook, MD, MSc<sup>4</sup>,  
Kaparaboyana Ashok Kumar, MD, FRCS<sup>5</sup>, Maggie Kramper, RN, FNP<sup>6</sup>,  
Richard R. Orlandi, MD<sup>7</sup>, James N. Palmer, MD<sup>8</sup>, Zara M. Patel, MD<sup>9</sup>,  
Anju Peters, MD<sup>10</sup>, Sandra A. Walsh<sup>11</sup>, and Maureen D. Corrigan<sup>12</sup>

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SAGE



# Allergic rhinitis

- ❖ Common
- ❖ Impactful
- ❖ Expensive



“American Academy of Allergy, Asthma & Immunology task force on allergic disorders estimated that allergic rhinitis results in 3.5 million lost workdays and 2 million missed school days each year. The latter figure translates into 10 000 children absent from school on any given day because of allergic rhinitis.”



\$291.6 million



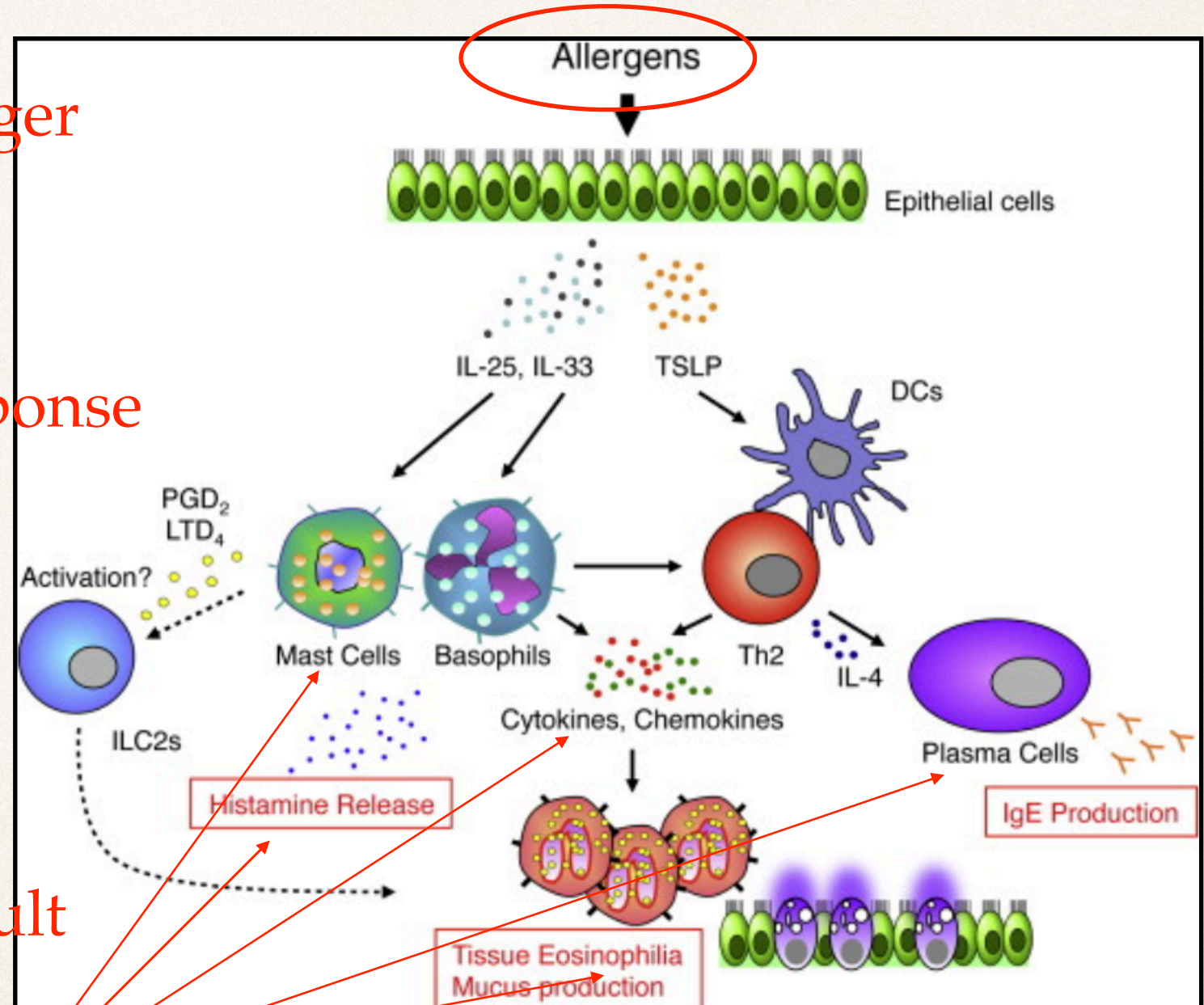
# Allergic Rhinitis

Trigger

Response

Result

therapeutic targets





# Allergic rhinitis

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- ❖ One manifestation of Allergies
- ❖ Other manifestations
- ❖ Seasonal vs. Perennial





# Non-allergic Rhinitis

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- ❖ 7 different subtypes
- ❖ Autonomic imbalance





# Vasomotor Rhinitis

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- ❖ Mediated by Nerves of the Parasympathetic Nervous system.

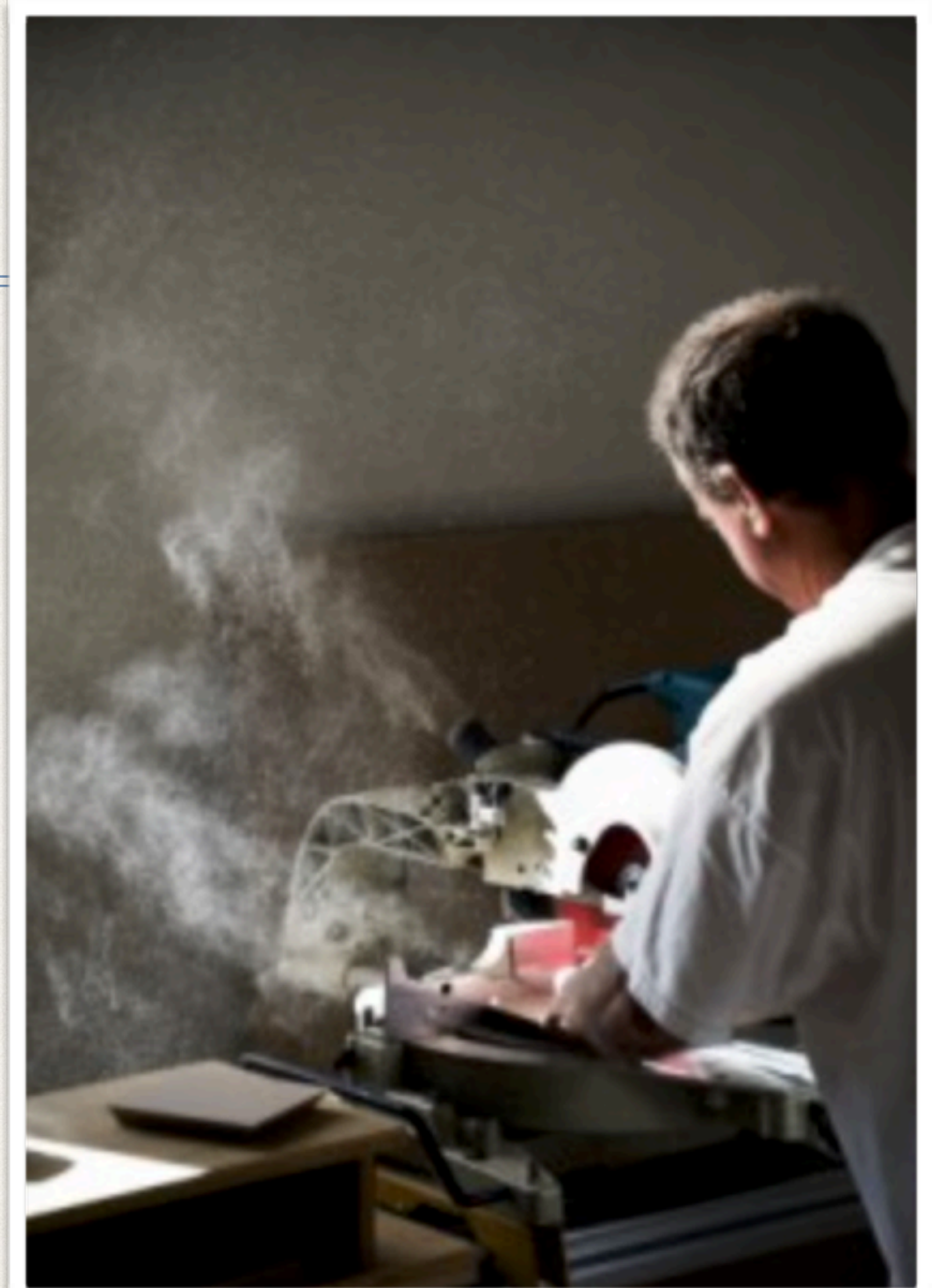




# Vasomotor Rhinitis

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- ❖ Triggers
- ❖ Occupational Rhinitis





# Hormonal rhinitis

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- ❖ Times of hormone imbalance
- ❖ Rhinitis of Pregnancy
- ❖ Hypothyroidism





# Drug induced Rhinitis

aspirin  
cocaine

ibuprofen (Advil, Motrin IB, others)

high blood pressure

(hypertension) medications, such  
as beta blockers

sedatives

antidepressants

oral contraceptives

exogenous estrogens

drugs used to treat erectile  
dysfunction

reserpine

guanethidine

phentolamine

methyldopa,  
chlorpromazine

gabapentin

penicillamine

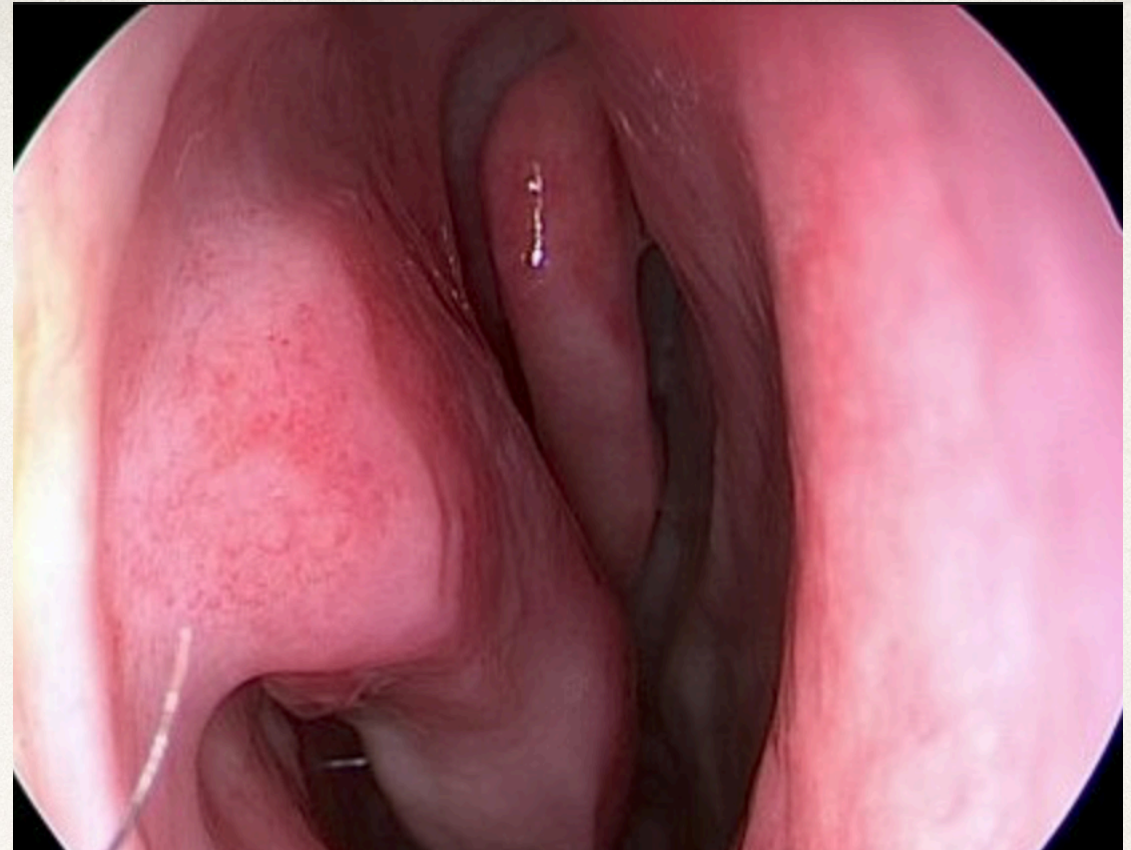
❖ Long list of drugs

❖ Rhinitis  
Medicamentosa





# Rhinitis Medicamentosa



600 x 600 - healthsnap.ca





# Gustatory Rhinitis

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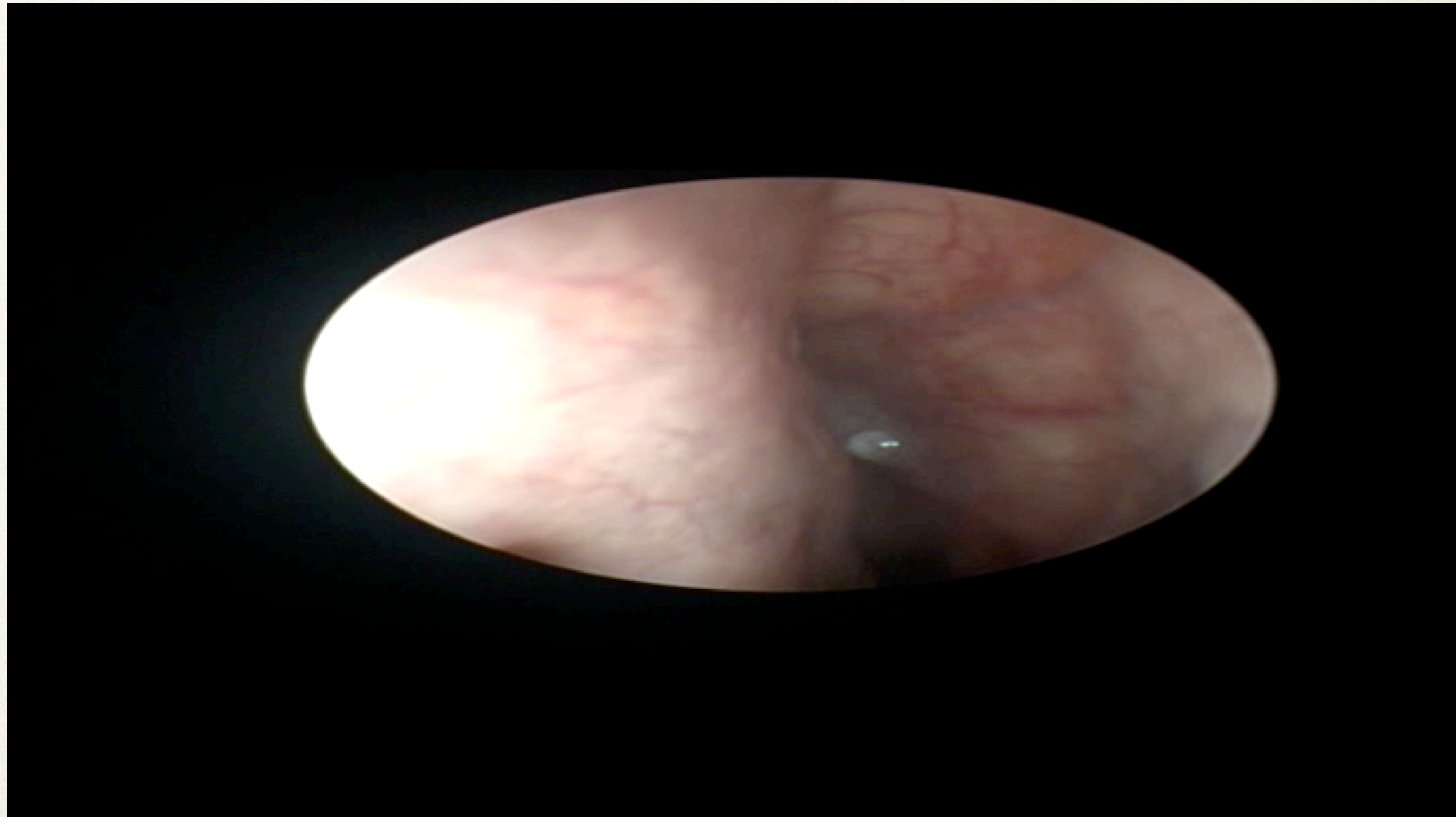


❖ Timing



# CSF Leak

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“I enjoy sitting through a 1 hour lecture on Snot.”

*—No person, ever*



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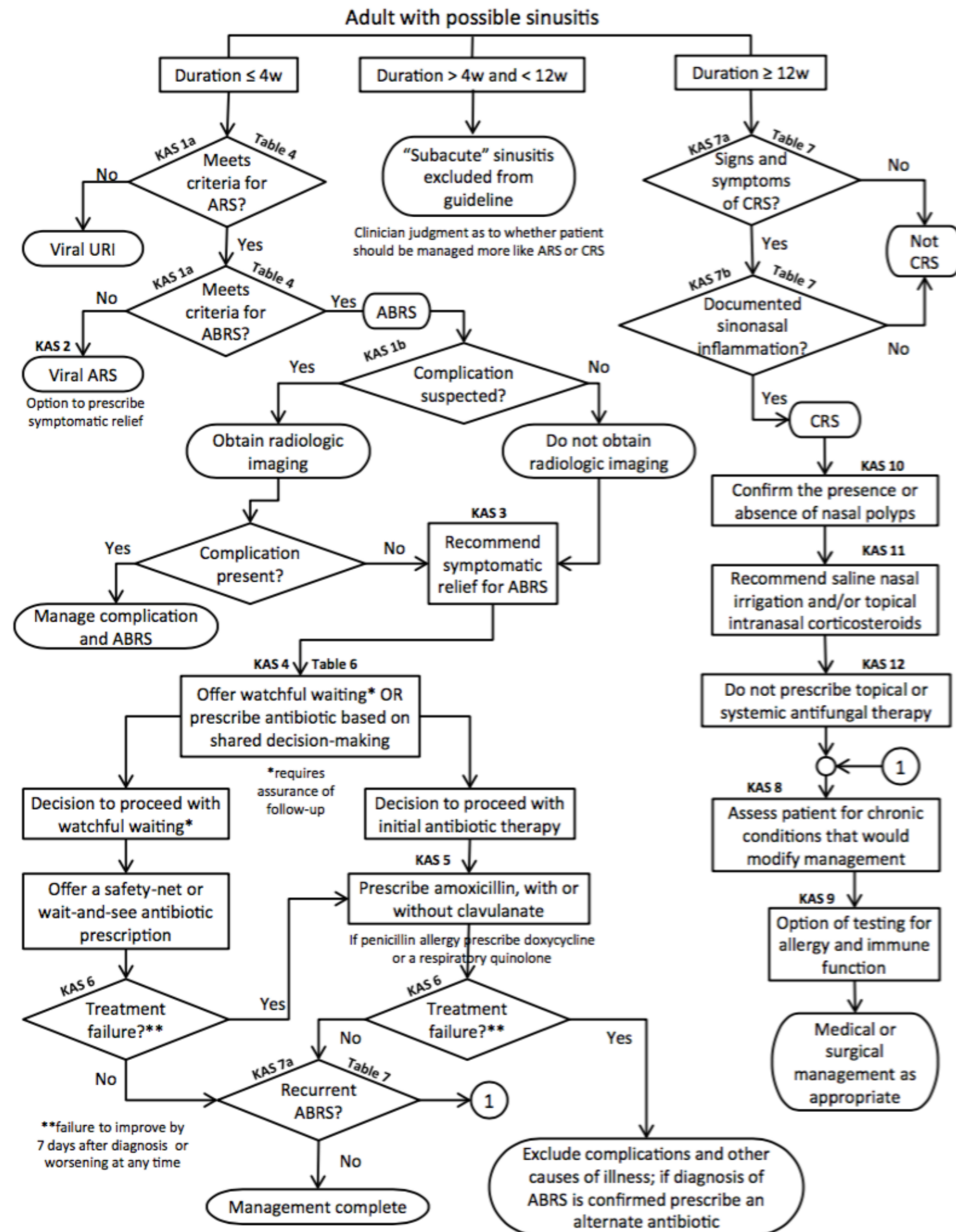
# Treatments

❖ Pills

❖ Sprays

❖ Rinses


❖ Immunotherapy





# Pills

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- 
- ❖ Allergic rhinitis
  - ❖ Nasal Decongestants \*



# Sprays

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- ❖ Nasal Steroids
- ❖ Nasal antihistamines
- ❖ Nasal anti-cholinergic (atrovent)
- ❖ Nasal Decongestants \*
- ❖ Capsaicin
- ❖ \*\* Proper technique





# Nasal Spray Proper Technique





# Hot Pepper Spray



- ❖ Capsacin Spray
- ❖ MOA- thought to reduces nasal hyperreactivity and transient receptor potential cation channel subfamily V, receptor 1 (TRPV1) overexpression in patients with idiopathic rhinitis
- ❖ Data:

Ann Allergy Asthma Immunol. 2011 Aug;107(2):171-8. doi: 10.1016/j.anai.2011.05.016. Epub 2011 Jun 29.

**A randomized, double-blind, parallel trial comparing capsaicin nasal spray with placebo in subjects with a significant component of nonallergic rhinitis.**

Bernstein JA<sup>1</sup>, Davis BP, Picard JK, Cooper JP, Zheng S, Levin LS.



# Rinses

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Lots of evidence to support their use





# Immunotherapy

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# Summary of Treatments

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❖ Avoidance

❖ Allergic Rhinitis:

- Nasal steroid spray

- oral antihistamine

2nd line:

- Nasal antihistamine

- others: Singulair, biologics

Immunotherapy



# Summary of Treatments

## ❖ Non-allergic rhinitis

subtype	treatments
hormonal	<b>nasal steroids, nasal anticholinergics, decongestants*, saline rinses, observation until delivery, topical capsaicin</b>
gustatory	<b>avoidance of offending food, nasal steroids, nasal anticholinergics, decongestants*,</b>
vasomotor	<b>nasal steroids, nasal anticholinergics, decongestants*, saline rinses, topical capsaicin</b>
drug induced	<b>remove offending drug, nasal steroids, nasal anticholinergics, decongestants*, saline rinses, topical capsaicin</b>



# Objectives

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1	List the most common underlying causes of a runny nose (rhinorrhea).
2	Describe possible first line treatments for rhinorrhea.
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# When to see Specialist

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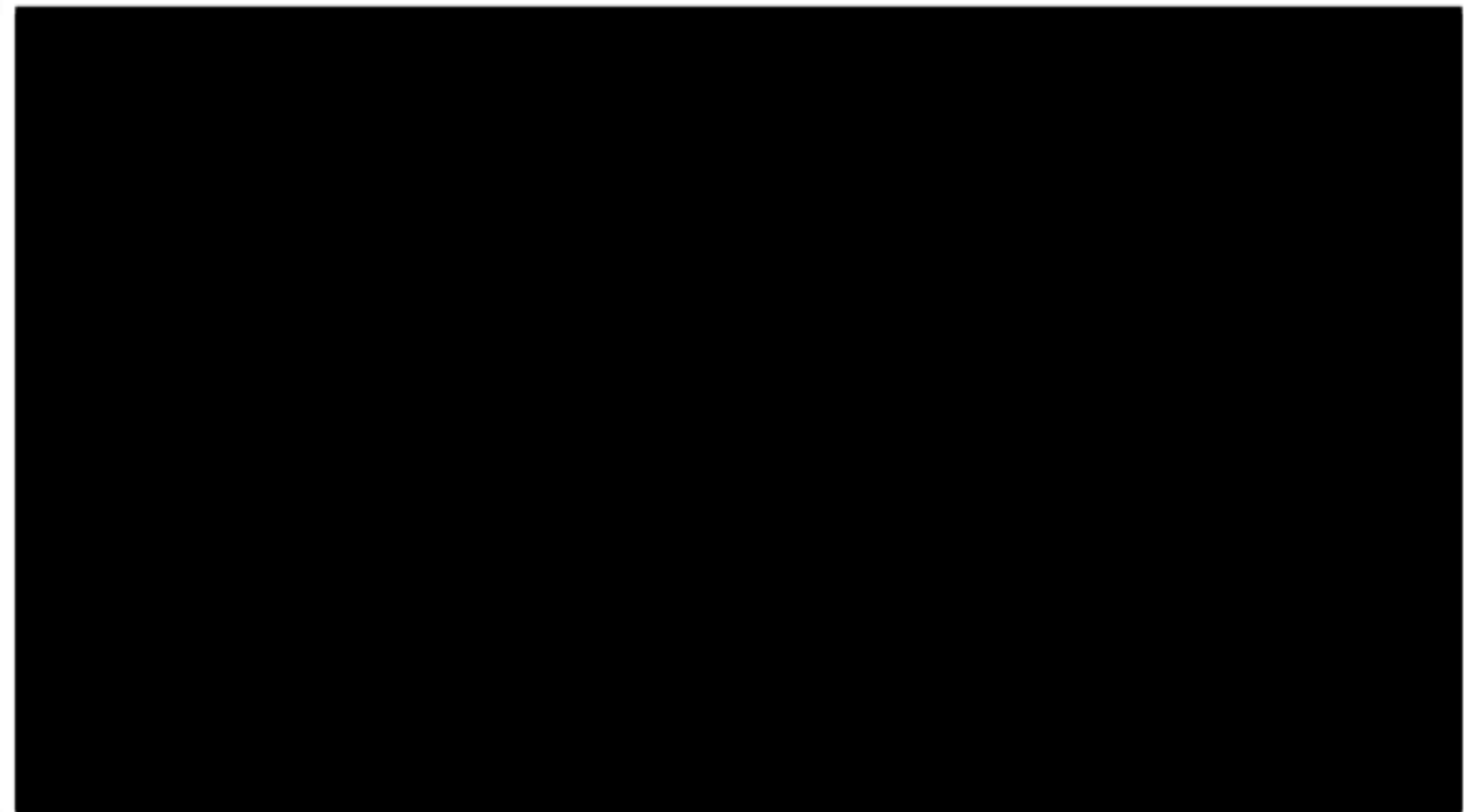
- ❖ CSF leak suspicion.
- ❖ Doesn't improve on standard/ OTC therapy.
- ❖ Loss of smell or taste
- ❖ Chronic or recurrent sinus infections.



# CSF leak

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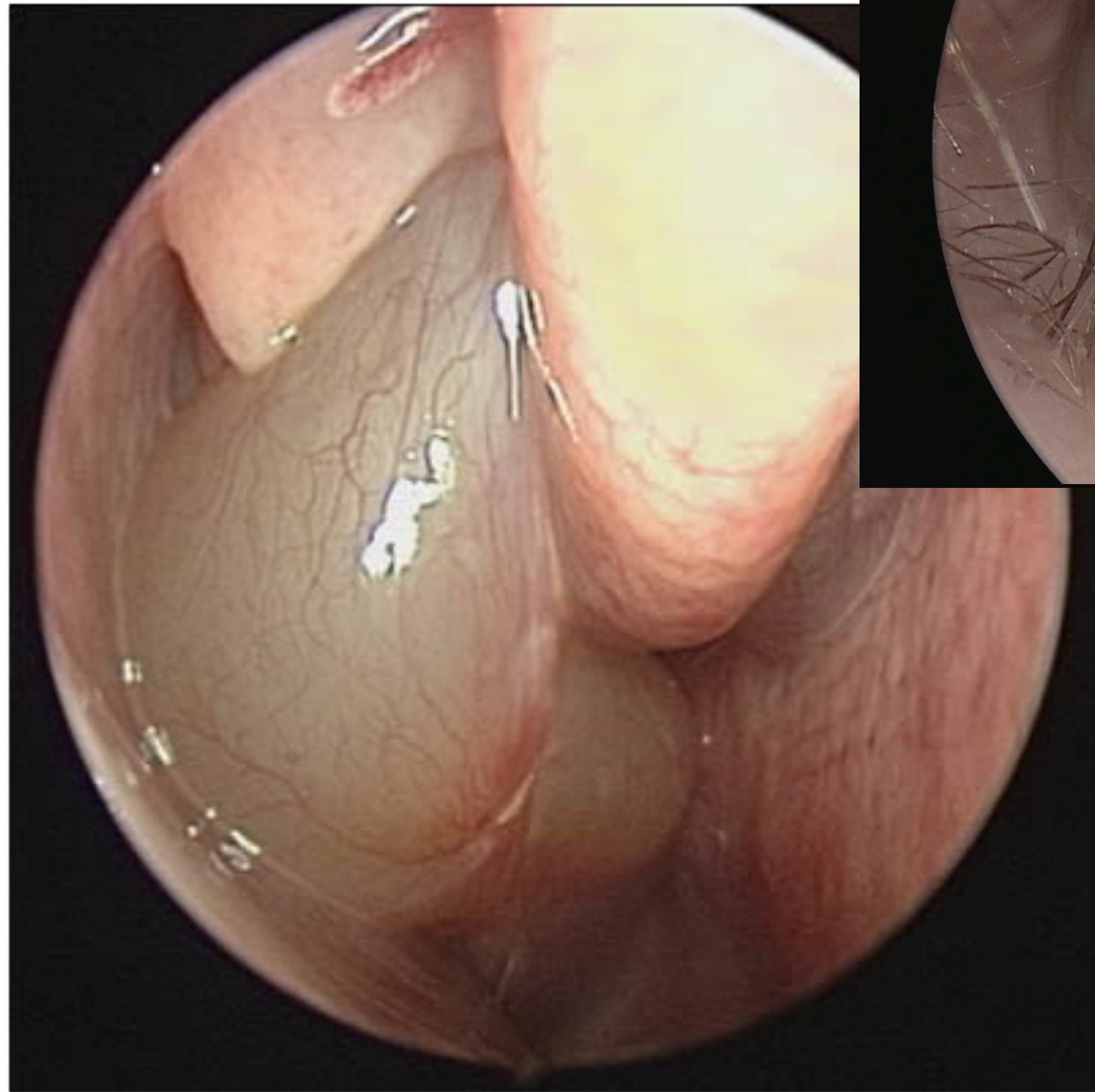
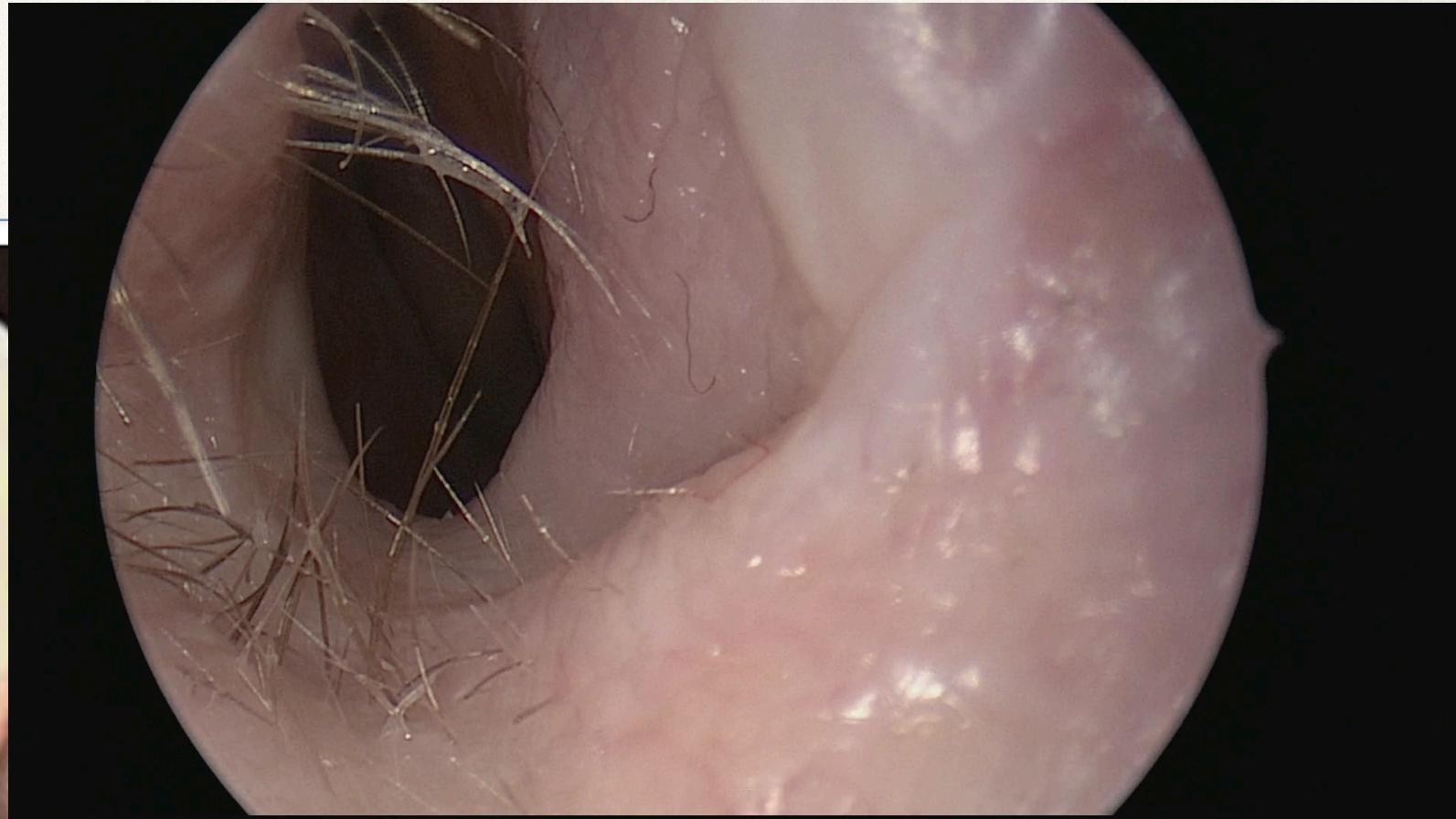
- ❖ UNILATERAL drainage  
&
- ❖ SALTY tasting drainage  
&
- ❖ When valsalva or bend  
over
- ❖ Hx of head trauma,  
sinus or nasal surgery,  
less likely ear surgery.





# Chronic/ Acute Sinusitis

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# Questions??

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# Sources:

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4. Mainous AG, Hueston WG, Eberlein C, Colour of respiratory discharge and antibiotic use, *Lancet*, Volume 350:9084, p1077, October 1997
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6. <https://emedicine.medscape.com/article/874171-overview#a2> 4/11/18