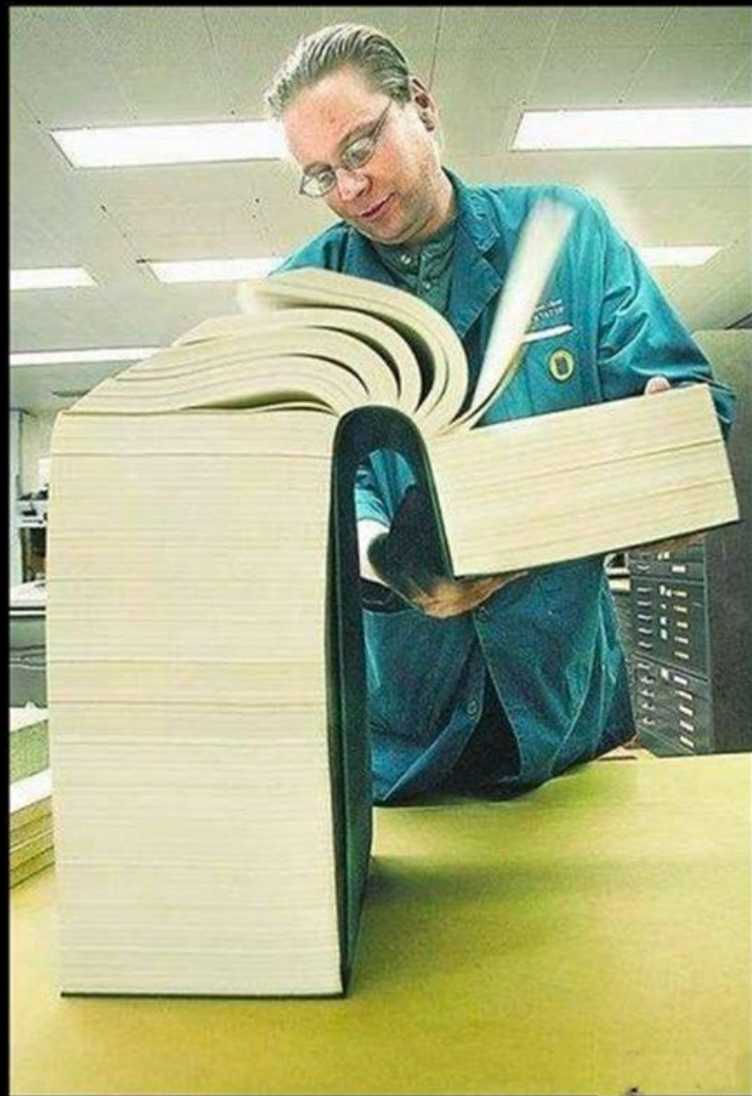


Asthma and Allergic Rhinitis

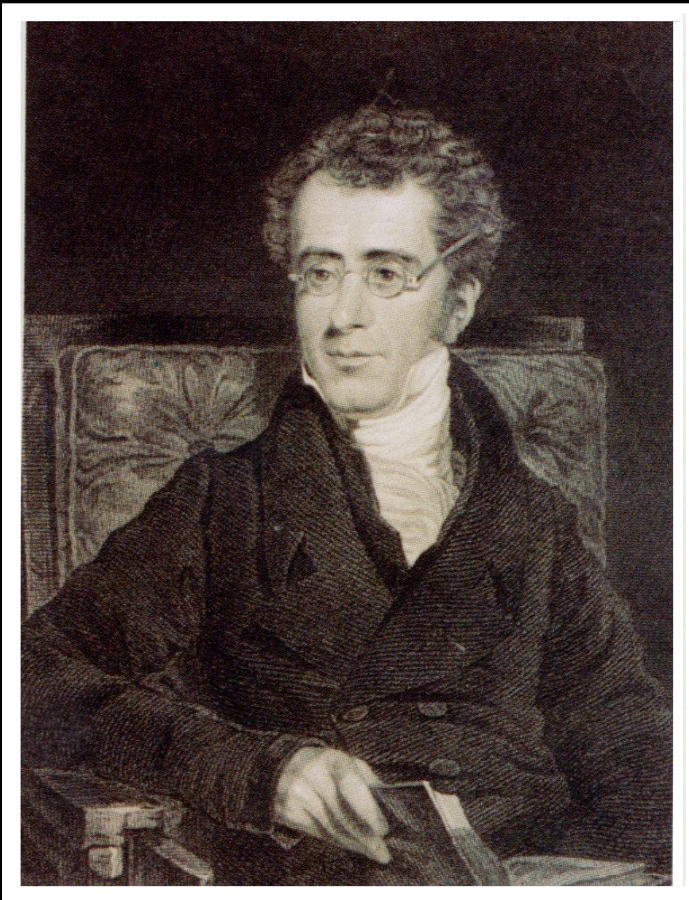
David Long Msc, RGN
Senior Respiratory Nurse Specialist
MPH





First description of hay fever

John Bostock, Med Chir Trans, 1819; 10: 161



"About the beginning or middle of June in every year

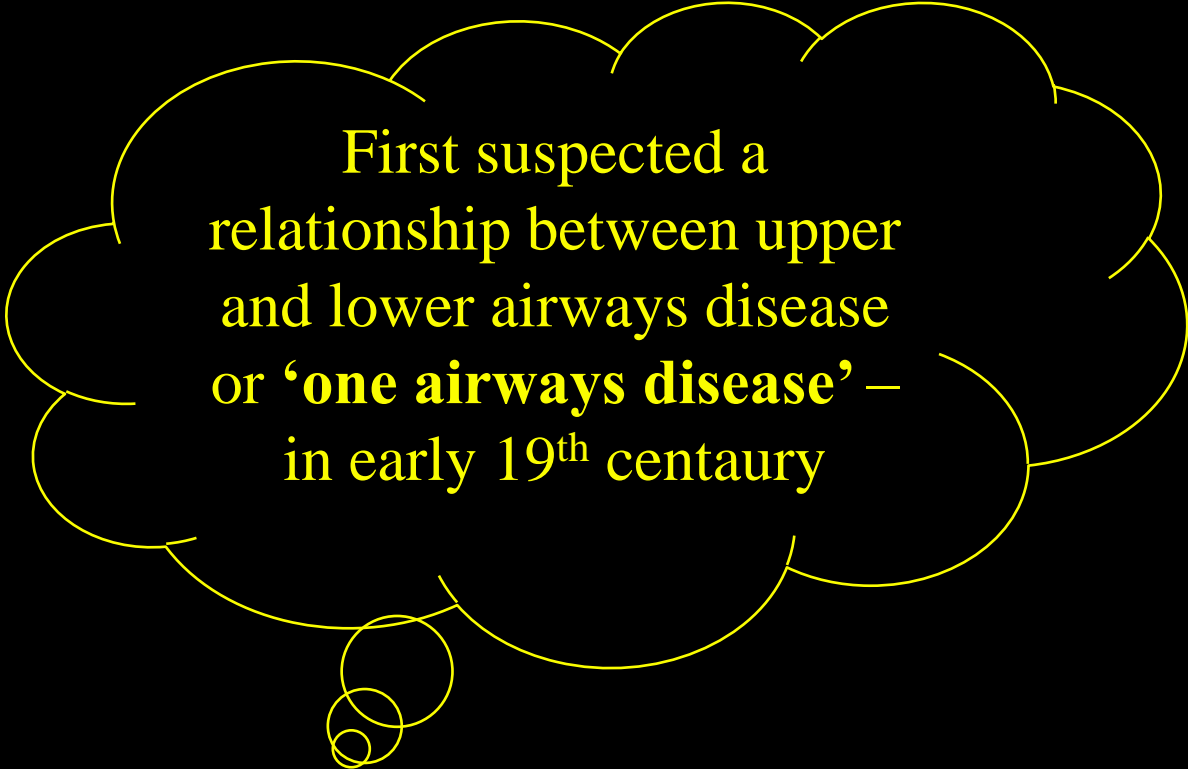
.... A sensation of heat and fulness is experienced in the eyes

.... To this succeeds irritation of the nose producing sneezing

.... To the sneezings are added a further sensation of tightness of the chest, and a difficulty of breathing"

First Description Asthma

Hippocrates (450 B.C) said ‘spasm linked to asthma were more likely to occur among anglers, tailors and metalworkers’.



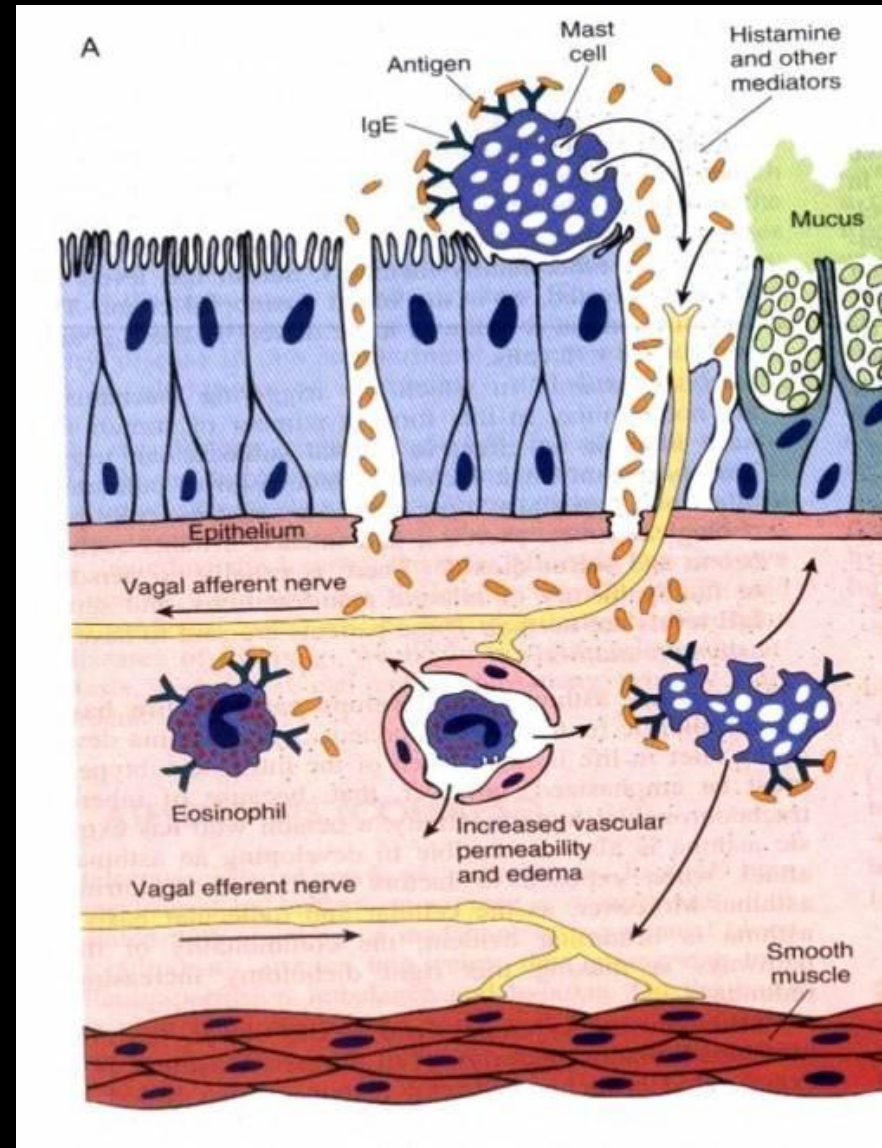
First suspected a relationship between upper and lower airways disease or ‘**one airways disease**’ – in early 19th century

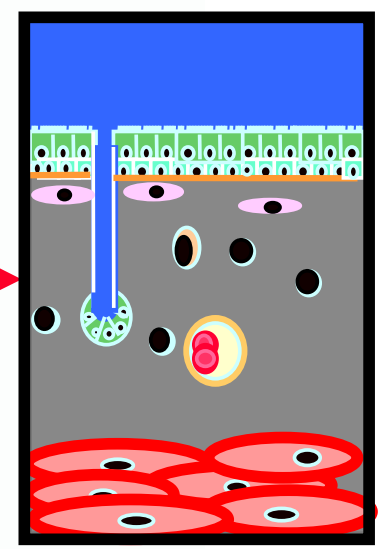
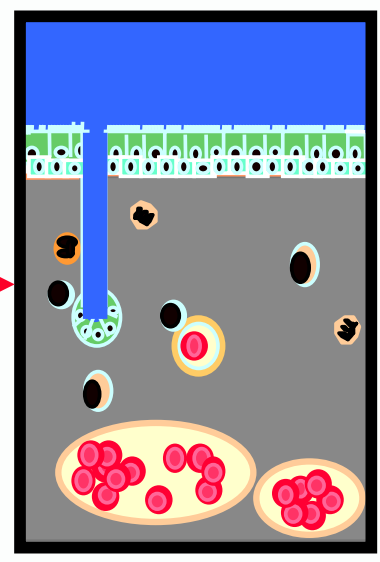
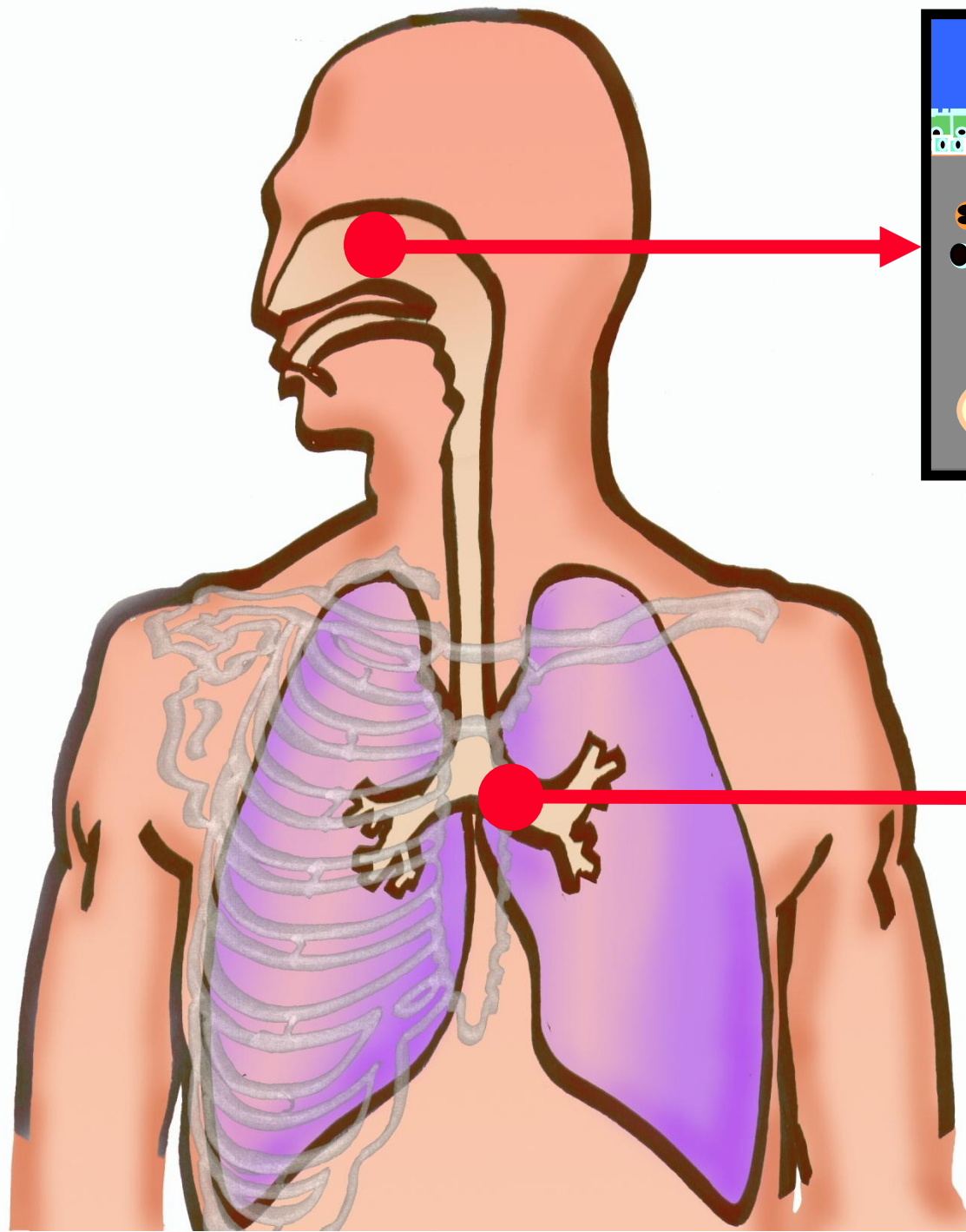
Why are they Linked?

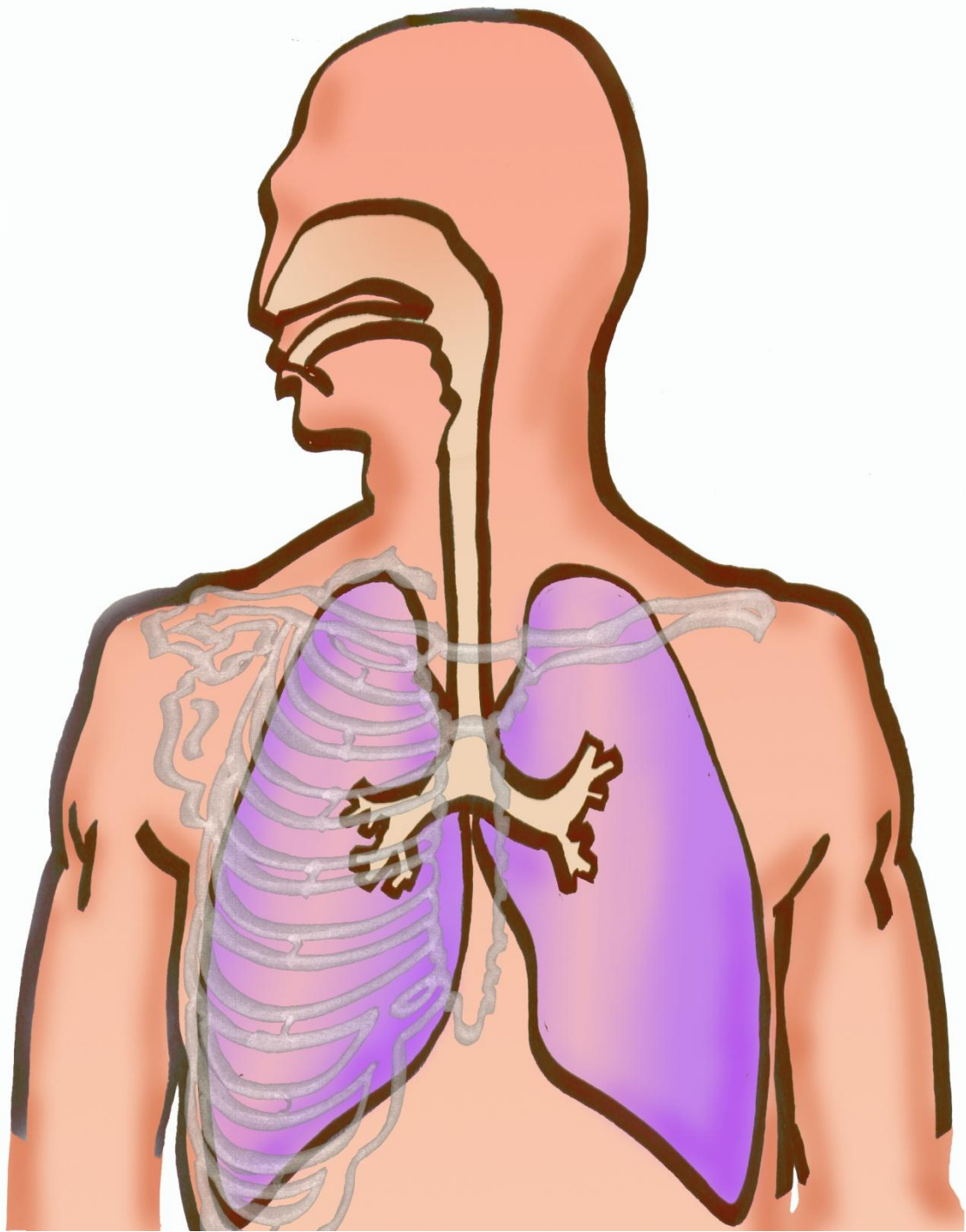
- Loss of air warming purification of nose and mouth
- Postnasal dripping of inflammatory mediators during deep sleep
- Release of cytokines and mediators from nasal mucosa to the circulation
- ‘homing’ of inflammatory cells from bone marrow to both the upper and lower airways (Systemic link)
- Naso – sino - bronchial reflex

Other Similarities

- AR & A are inflammatory diseases and the inflammatory process are similar
- Both have early & late onset phases
- AR Pts often exhibit bronchial responsiveness
- Eosinophils in nasal mucosa asthmatics and vice versa
- Sinus mucosal thickening correlates with severe airways disease.



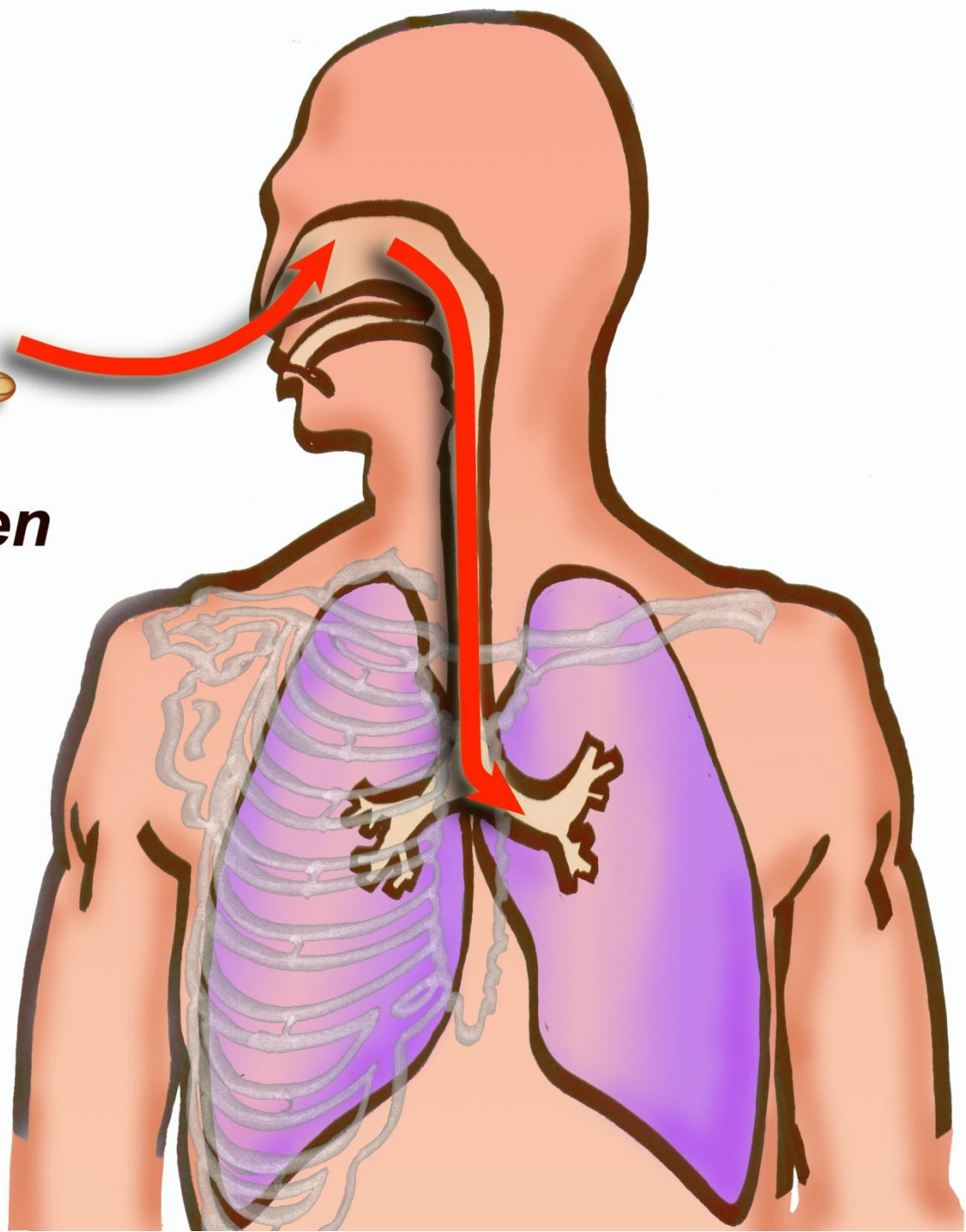


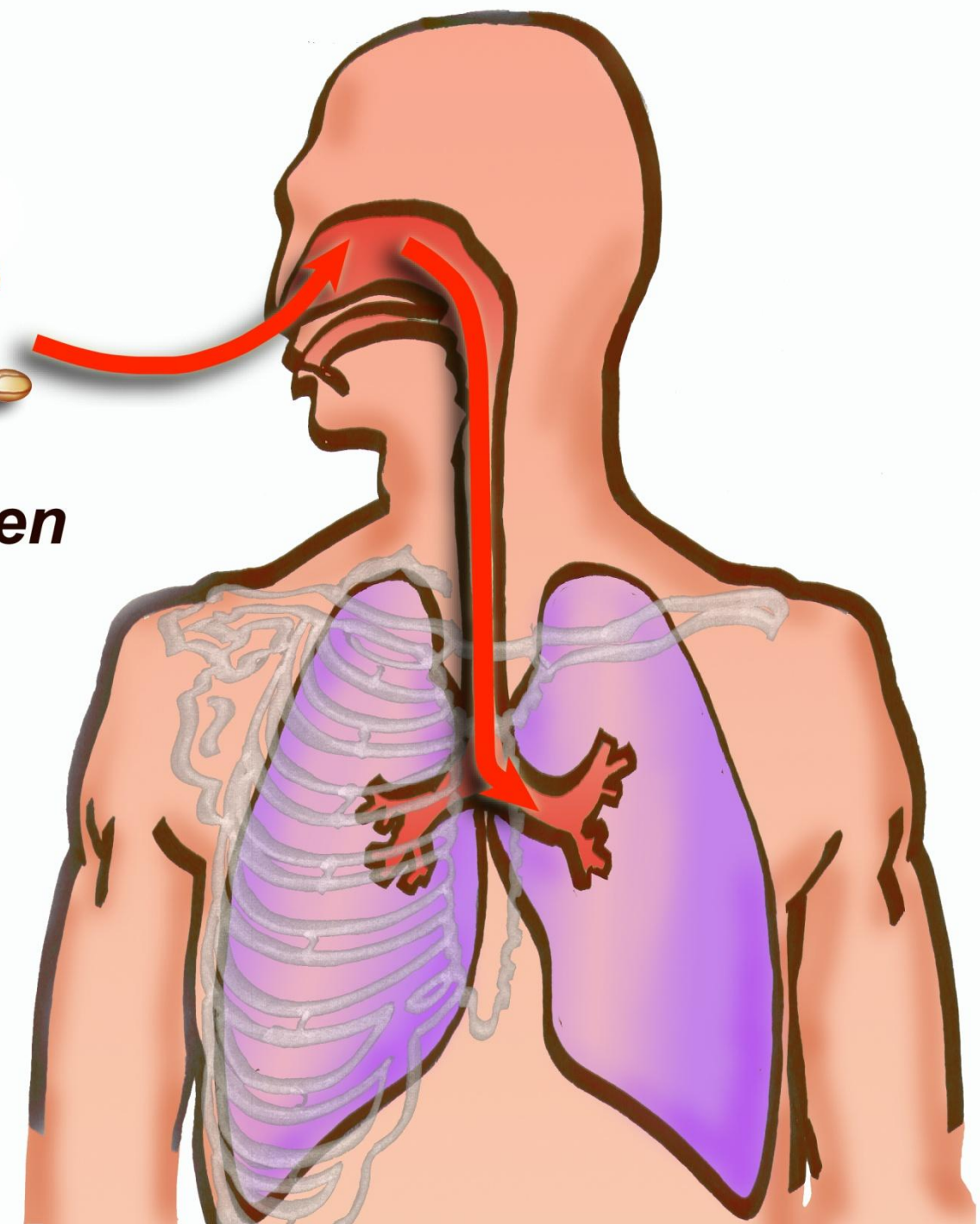


**Fabrice
Laliberté**



Allergen

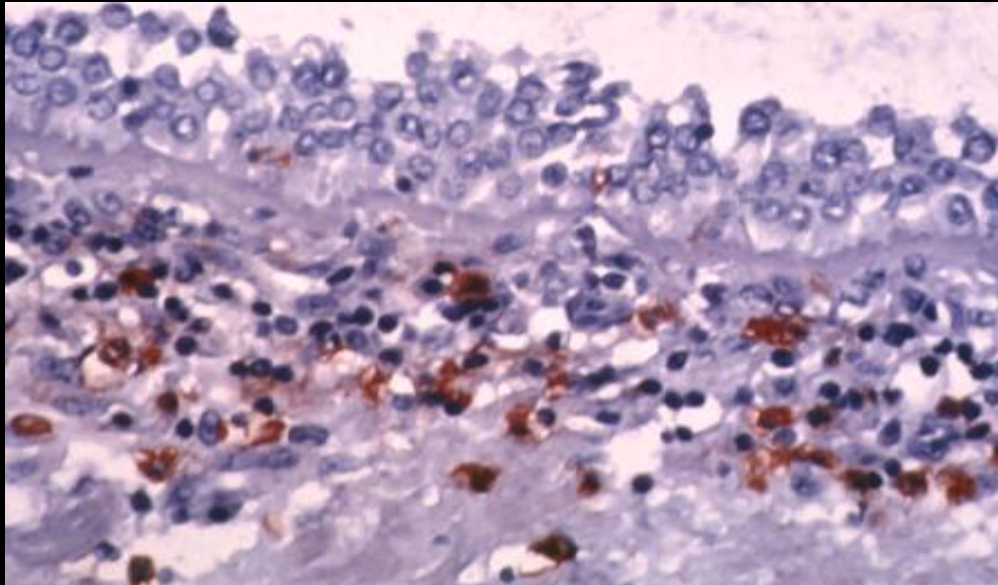






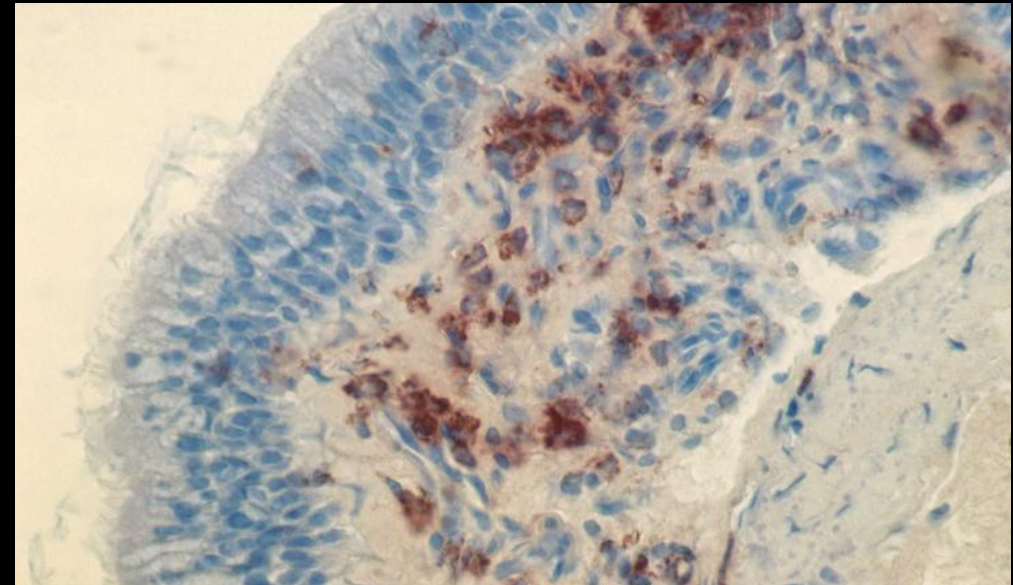
Eosinophils (EG2+ cells) in biopsies of asthmatics

Bronchial mucosa



Bousquet J *et al.* N Engl J Med 1990

Nasal mucosa



Chanez P *et al.* Am J Respir Crit Care Med 1999

Why consider the 'one airway' approach?

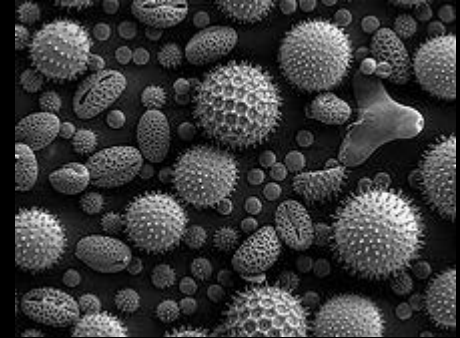
- Majority of Pts diagnosed within primary care where up to 20% population are affected by rhinitis. £££££
- Up to 50% of pts with AR also have asthma & are 3 x more likely to develop asthma as it often precedes this therefore AR is an independent risk factor for asthma
- Up to 90% of patients with asthma experience nasal Sx
- Outcomes show if AR is managed well
 - A improves
 - Sx reduce
 - Overall cost reduce
 - Hospitalisation reduces

Quality-of-Life Issues

- Fatigue
- Concentration
- Nuisance
- Sleep disturbance
- Emotional well being
- Social interactions
- Missing school/work
- Halitosis
- Decreased daily production
- Impaired studying
- Sniffing/snorting
- Blowing nose

Classification of Rhinitis

- Allergic Rhinitis
 - Seasonal allergic rhinitis (SAR)
 - Perennial allergic rhinitis (PAR)
- Nonallergic Rhinitis
 - Infectious
 - Idiopathic or vasomotor
 - Drug-induced
 - Rhinitis medicamentosa
 - Hormonal
 - Anatomical



What features would you expect to see with AR ?

Sx Suggestive AR

2 or more of the following symptoms for > 1 hr on most days

- Watery anterior rhinorrhea (runny nose)
- Sneezing, especially bouts
- Nasal obstruction
- Nasal pruritis (itching)
- Possible conjunctivitis (red itchy eyes)

Other features or markers

- Transverse crease of nose
- Allergic shiners
- Allergic salute



What Do You Need to Know in Addition to Symptoms?

- Age at onset
- Are sx acute, chronic, recurrent, seasonal or perennial?
- What causes the symptoms?
- What is the response to antihistamines?
- Does patient have any pets (cats, dogs, animals with hair)?
- Any associated illnesses (asthma, skin rash, otitis media)?
- Is there a family history of allergy?

What next?

- Could undertake allergen test
 - Negative unlikely to be allergic
 - Positive is likely to be allergic – Classify and start treatment
- RAST test (Radioimmunoassay test)
- Specific Ige test

The RAST test is scored on a scale from 0 to 6:

RAST rating	IgE level (KU/L)	comment
0	< 0.35	ABSENT OR UNDETECTABLE ALLERGEN SPECIFIC IgE
1	0.35 - 0.69	LOW LEVEL OF ALLERGEN SPECIFIC IgE
2	0.70 - 3.49	MODERATE LEVEL OF ALLERGEN SPECIFIC IgE
3	3.50 - 17.49	HIGH LEVEL OF ALLERGEN SPECIFIC IgE
4	17.50 - 49.99	VERY HIGH LEVEL OF ALLERGEN SPECIFIC IgE
5	50.0 - 100.00	VERY HIGH LEVEL OF ALLERGEN SPECIFIC IgE
6	> 100.00	EXTREMELY HIGH LEVEL OF ALLERGEN SPECIFIC IgE



ARIA Classification

Intermittent

- . < 4 days per week
- . or < 4 weeks

Persistent

- . \geq 4 days per week
- . and \geq 4 weeks



Mild

- normal sleep
- & no impairment of daily activities, sport, leisure
- & normal work and school
- & no troublesome symptoms

Moderate-severe

- one or more items*
- . abnormal sleep
- . impairment of daily activities, sport, leisure
- . abnormal work and school
- . troublesome symptoms

in untreated patients



allergen avoidance
indicated when possible

Seasonal
Perennial
Occupational

pharmacotherapy
*safety
effectiveness
easily administered*

costs

immunotherapy
*effectiveness
specialist prescription
may alter the natural course of the disease*

patient education
always indicated



Mild intermittent rhinitis

Options (not in preferred order)

- oral or intranasal anti-H1
- intranasal decongestants
- oral decongestants (not in children)
- Or LTRA

- Oral H1
 - Cetirizine
 - Fexofenadine
 - Loratadine
 - Desloratadine
- Local H1
 - Azelastine
 - Levocabastine
 - Olapatadine
- Oral decongestant
 - Ephedrine
 - Phenylephrine
- Intranasal Decongestants
 - Oxymethazoline



Moderate-severe intermittent rhinitis

Mild persistent rhinitis

Options (not in preferred order)

- oral or intranasal anti-H1
- oral anti-H1 + decongestant
- intranasal CS
- (chromones)
- Or LTRA
- Or immunotherapy

- **Intranasal CS**
 - Beclomethasone dipropionate
 - Budesonide
 - Ciclesonide
 - Fluticasone propionate
- **Oral/Im CS**
 - Dexamethasone
 - Hydrocortisone
 - Prednisalone
- **Chromones**
 - Cromoglycate
 - Nedocromil



Moderate-severe persistent rhinitis

Step-wise approach

- intranasal CS as a first line treatment
- if major blockage: add short course of oral CS or decongestant

Re-assess after 2-4 weeks

- if symptoms present add:
 - oral anti-H1 (\pm decongestants)
- Or LTRA
- Or immunotherapy
- ipratropium

Persistent Rhinitis

- Review Pt 2-4/52
 - If failure Rx step up if improved continue for 1/12
- Review 2-4/52 after step up
 - Improved continue 1/12
 - Failure, refer to specialist but before this review diagnosis/compliance/?infections or other causes



Recommendations

- 1- Patients with persistent rhinitis should be evaluated for asthma**
- 2- Patients with persistent asthma should be evaluated for rhinitis**
- 3- A strategy should combine the treatment of upper and lower airways in terms of efficacy and safety**



1-5

2-5

3-5

4-0

4-5

5-25

F

BBC 2 COLOUR