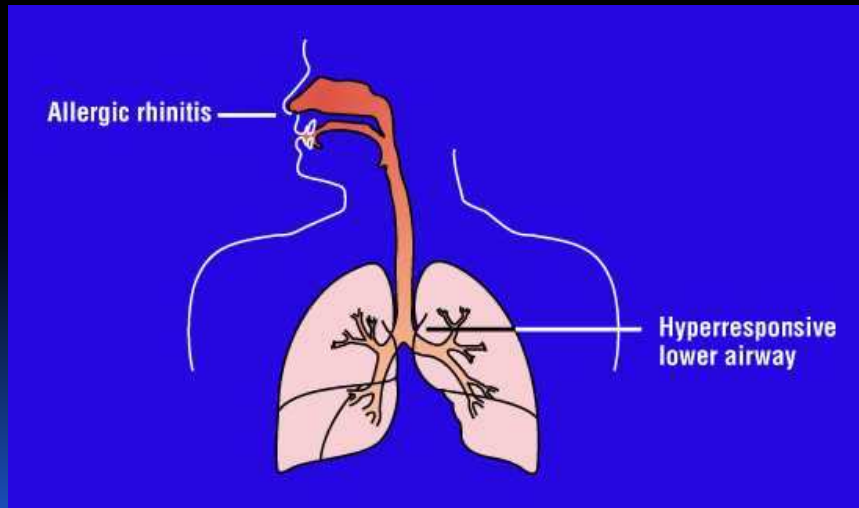


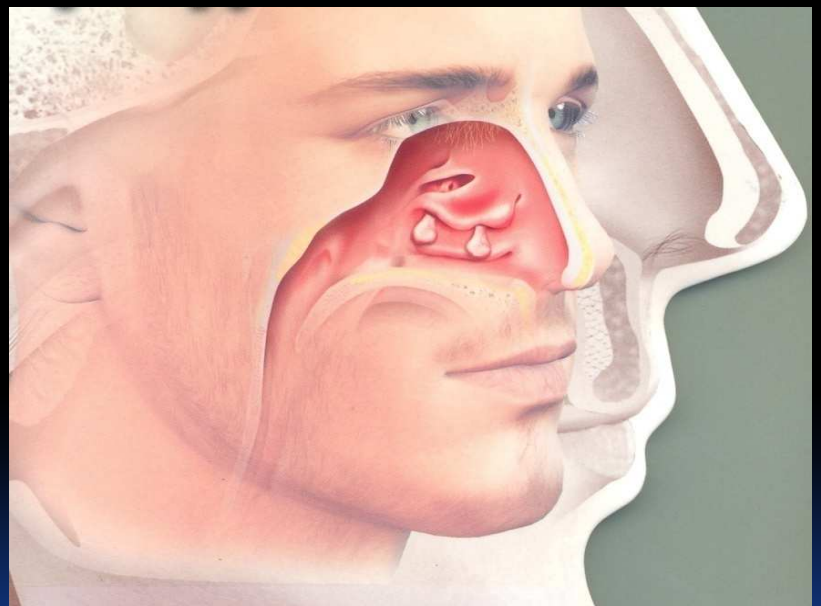
鼻敏感與哮喘

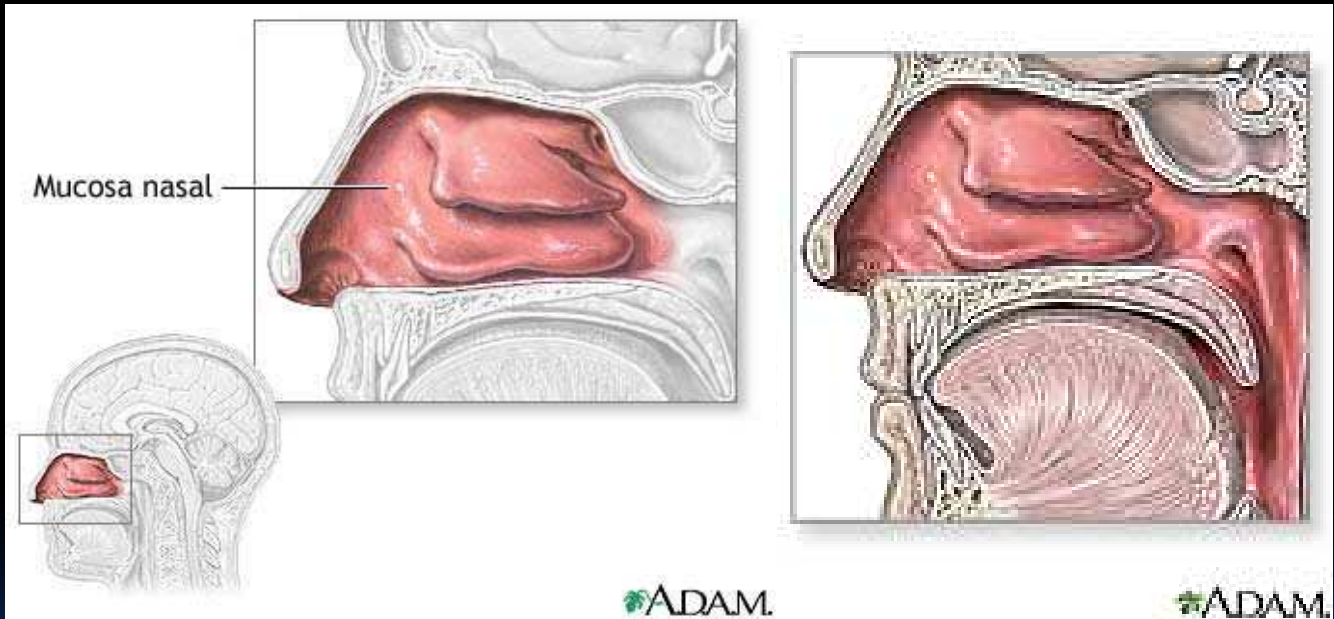
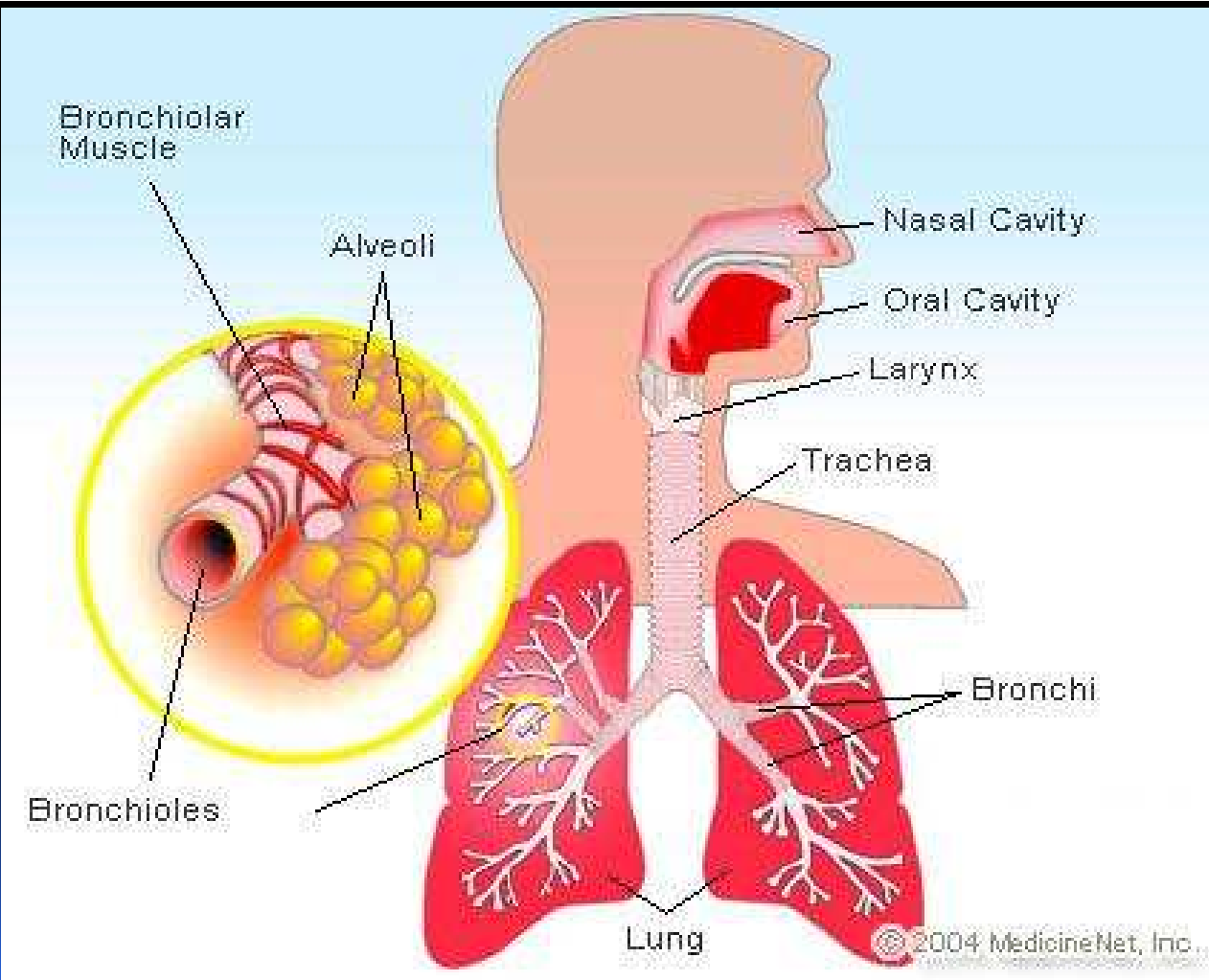
陳真光醫生
呼吸系統科專科醫生



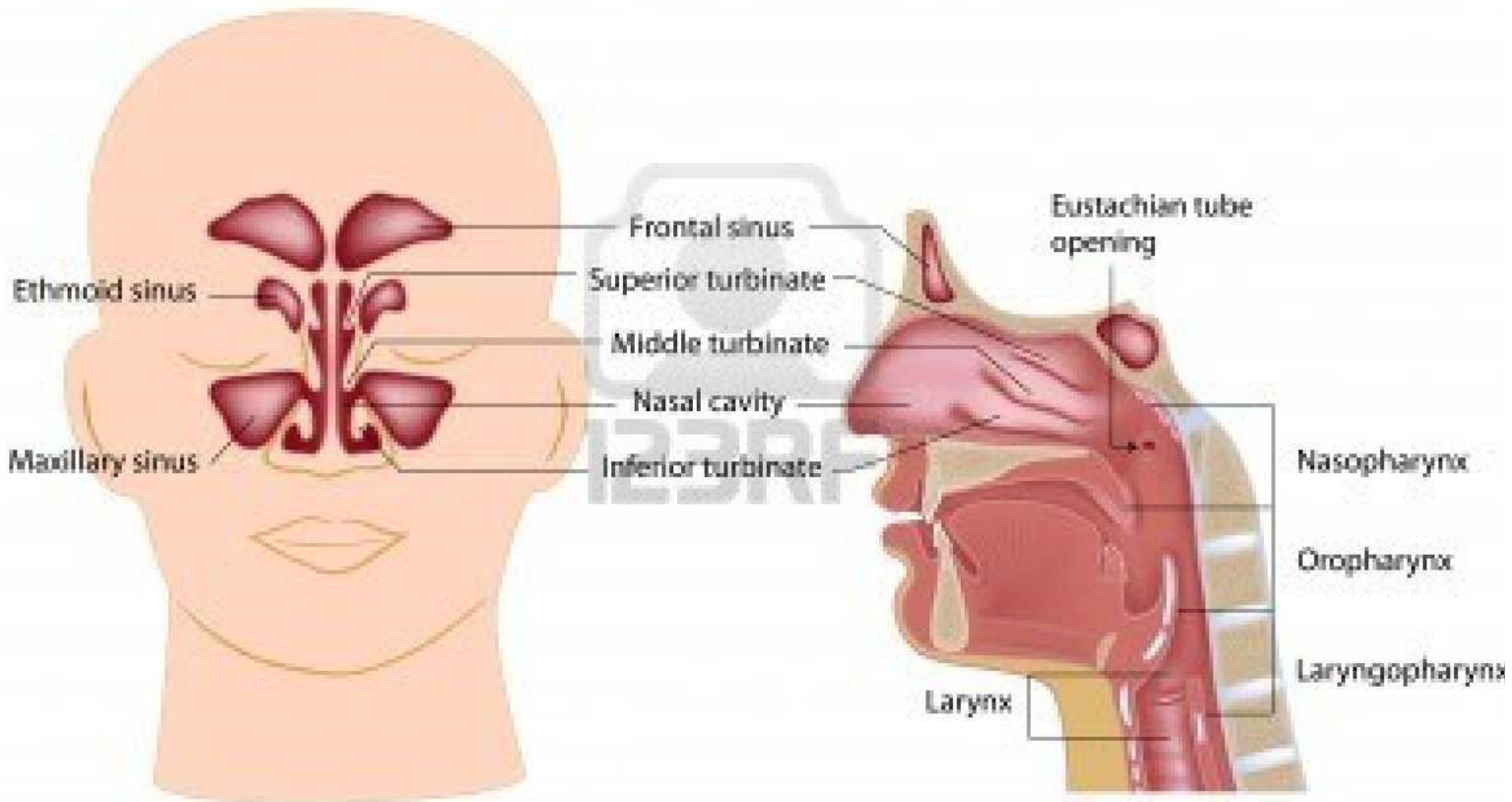
大綱

- 氣管結構
- 臨床表現
- 發病引因
- 治病方針和方法

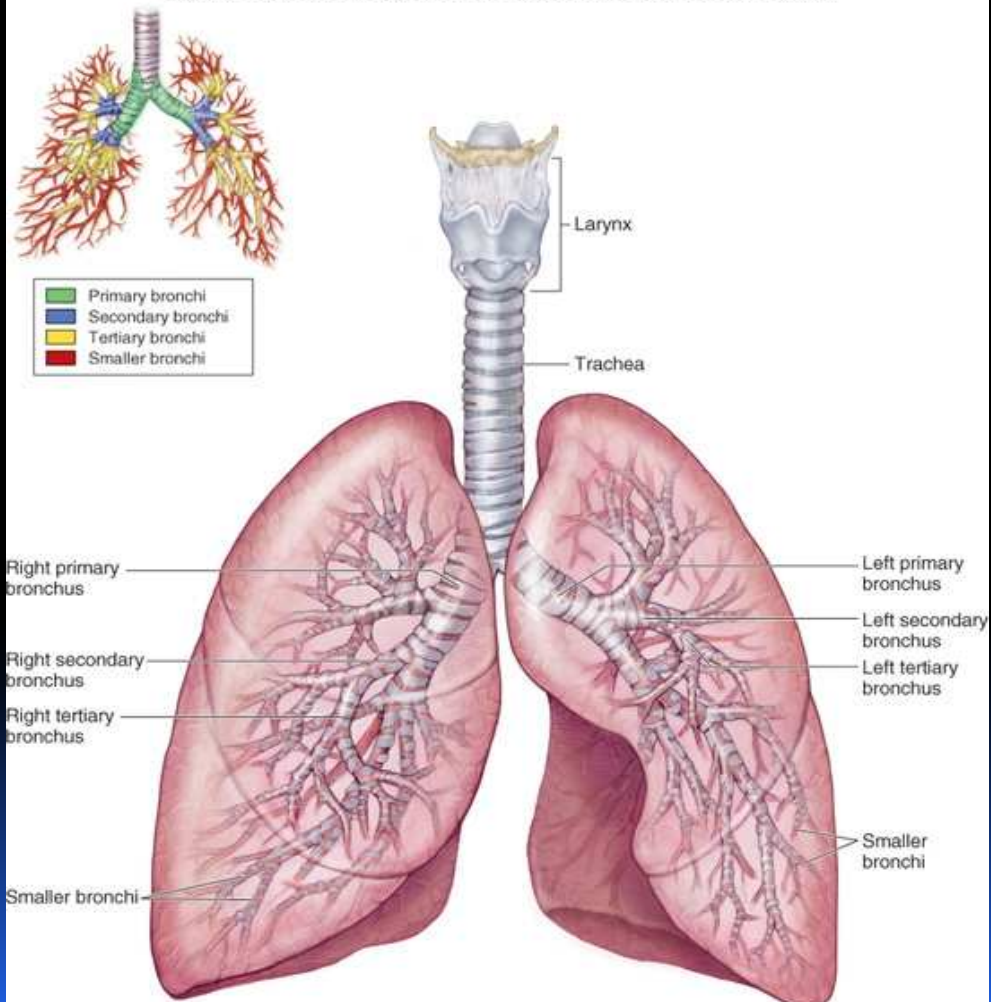




Anatomy of the Nose



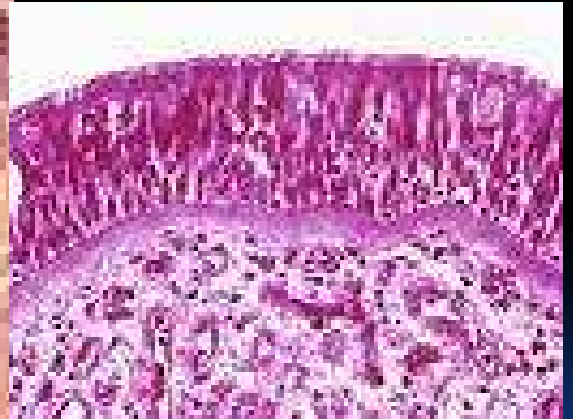
Copyright © The McGraw-Hill Companies, Inc. Permission required for reproduction or display.



鼻粘膜



支氣管粘膜



鼻敏感的主要症狀

- 鼻子癢
- 流鼻涕
- 打噴嚏
- 鼻道阻塞

哮喘的主要症狀

- 咳嗽
- 胸口緊悶
- 呼吸困難
- 鳴響聲

鼻敏感: 其他不適

- 咳嗽
- 眼睛發癢
- 頭痛



FIG. 4-6 The allergic salute is characteristic of children with allergic rhinitis and nasal itching and is usually noticed by parents.



FIG. 4-8 Characteristic adenoid-type facies in a patient with longstanding allergic rhinitis. Note the open mouth and gaping habitus.



FIG. 4-23 Allergic cobblestoning of the conjunctiva in chronic allergic conjunctivitis. This granular appearance is due to edema and hyperplasia of the papillae.



FIG. 4-4 Allergic shiners, or dark circles beneath the eyes, in patient with allergic rhinitis.

成人鼻炎的患病率

AUTHOR	YEAR	AGE RANGE	NUMBER OF SUBJECTS	COUNTRY	PREVALENCE
Droste	1996	20-70	2,167	Netherlands	29.5%
Sakurai	1998	19-65 (males)	2,307	Japan	35.5%
Ng	1994	20-74	2,868	Singapore	10.8%
Bachert	2006	> 15	4,959	Belgium	39.3%
Dinmezel	2005	20-44	995	Turkey	27.7%
Sibbald	1991	16-65	2,969	United Kingdom	24%
Turkeltaub	1991	12-74	12,742	United States	30.5%

鼻炎的類別

- 敏感性
- 感染性
- 其他少見的, 如
 - 因食物刺激臭覺的
 - 因冷空氣刺激的
 - 因荷爾蒙變化的

不一定是鼻炎!

- 鼻竇炎
- 腦水下流
- 外入物件
- 腫瘤
- 免疫性炎症

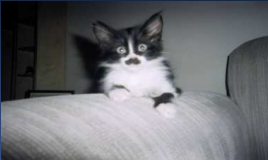
敏感性鼻炎

- 是指因鼻子接觸了外來的敏感原後，身體發動局部性的敏感反應而引起的發炎反應。

何謂敏感反應？

- 體內的幾種發炎細胞和發炎介質／物質針對外來的敏感原所引發的反應。

全球重要來源的過敏原



■ 季節性過敏原

- 草、樹和雜草
- 花粉
- 對...產生影響

■ 常年性過敏原

- 屋塵蟎
- 寵物
- 蟑螂

其他可能的過敏原來源



■ 藥品

- 阿司匹林

■ 職業

- 麵包店塵
- 洗衣粉
- 乳膠手套

■ 食品

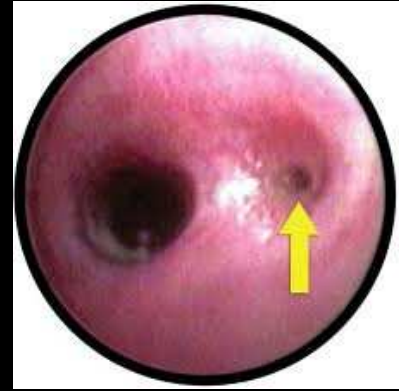
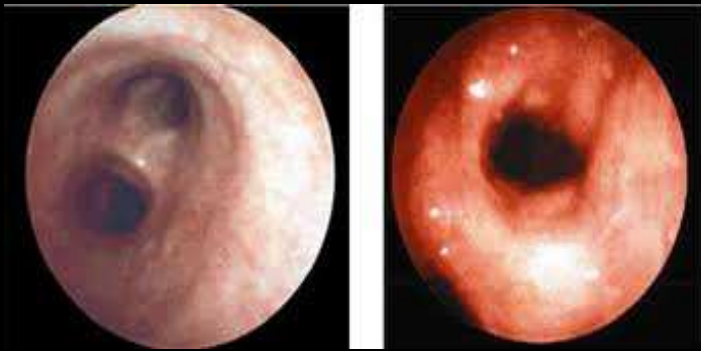
- Tartazine 硫酸
- 堅果
- 柑橘類水果

鼻子和支氣管的敏感反應的特徵

- 粘膜發炎(紅和腫)
- 粘膜變得對一般刺激物過度／容易反應，如
 - 環境溫度的轉變
 - 香水
 - 刺激性化學物
 - 運動



FIG. 4-9 Pale, edematous inferior nasal turbinate of patient with allergic rhinitis, as seen through a fiberoptic rhinoscope. Even though this tool is not routinely used in evaluations, the physical findings are well illustrated, including watery nasal secretions.



敏感病可大可小

鼻敏感

- 鼻敏感主要是鼻子不適引起的辛苦

支氣管敏感

- 氣管敏感可大可小，嚴重的可引發急性呼吸衰竭，甚至特發死亡

食物或口服敏感

- 食物或口服藥物同樣可引發急性重病

千萬不能掉以輕心！！

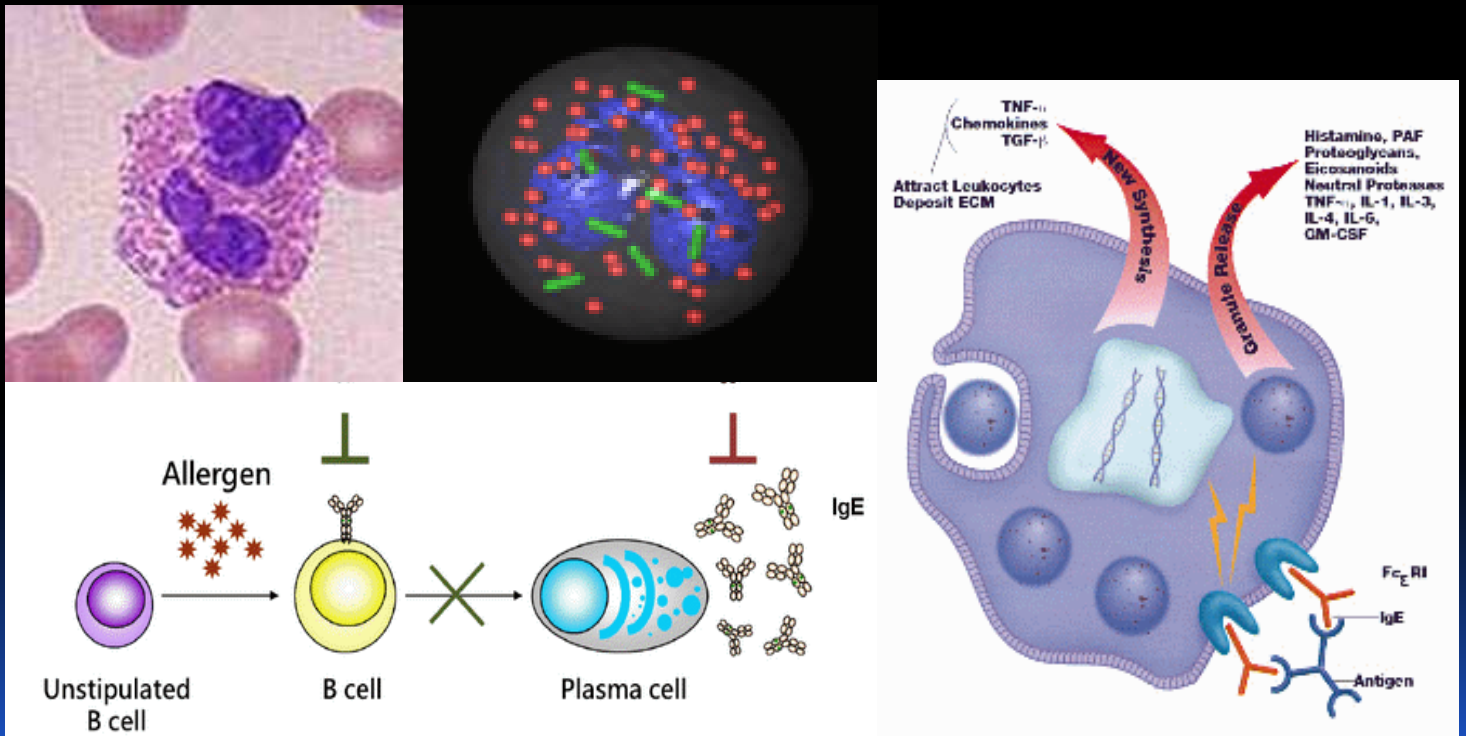
食物過敏症



在過敏反應中的關鍵角色

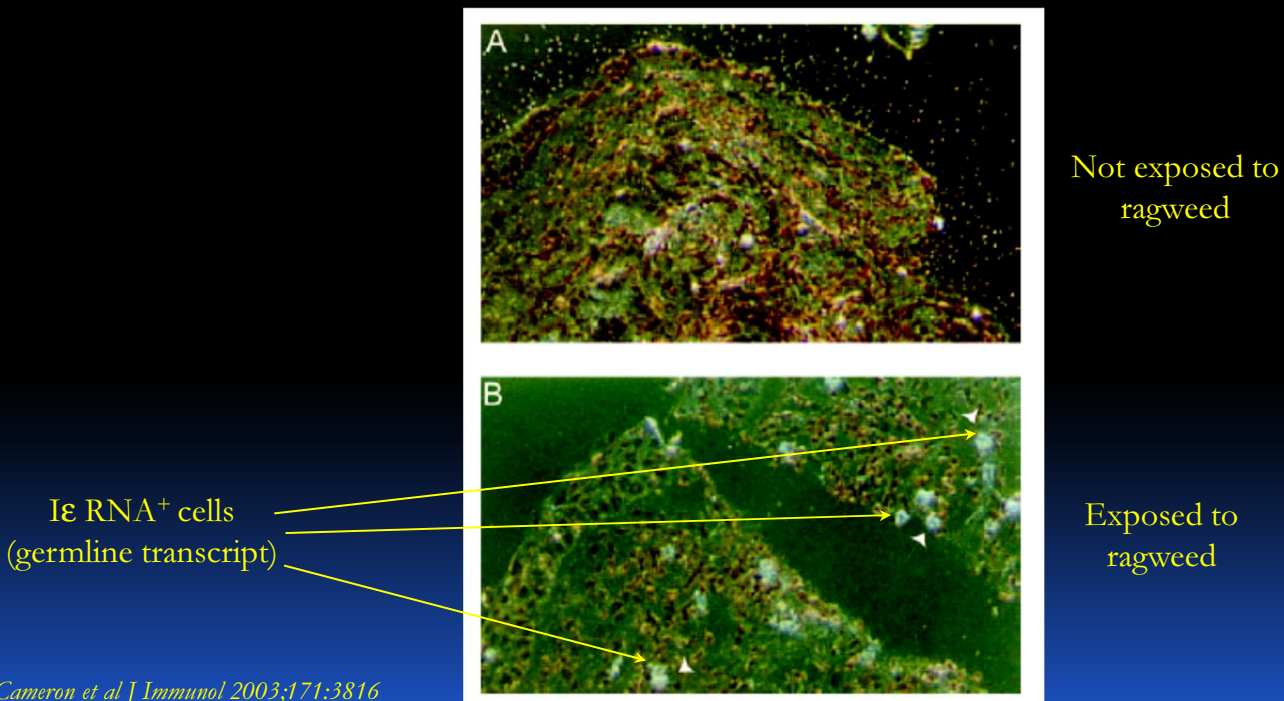
- Eosinophil
- IgE-producing lymphocytes
- Mast cells

在過敏反應中的關鍵角色

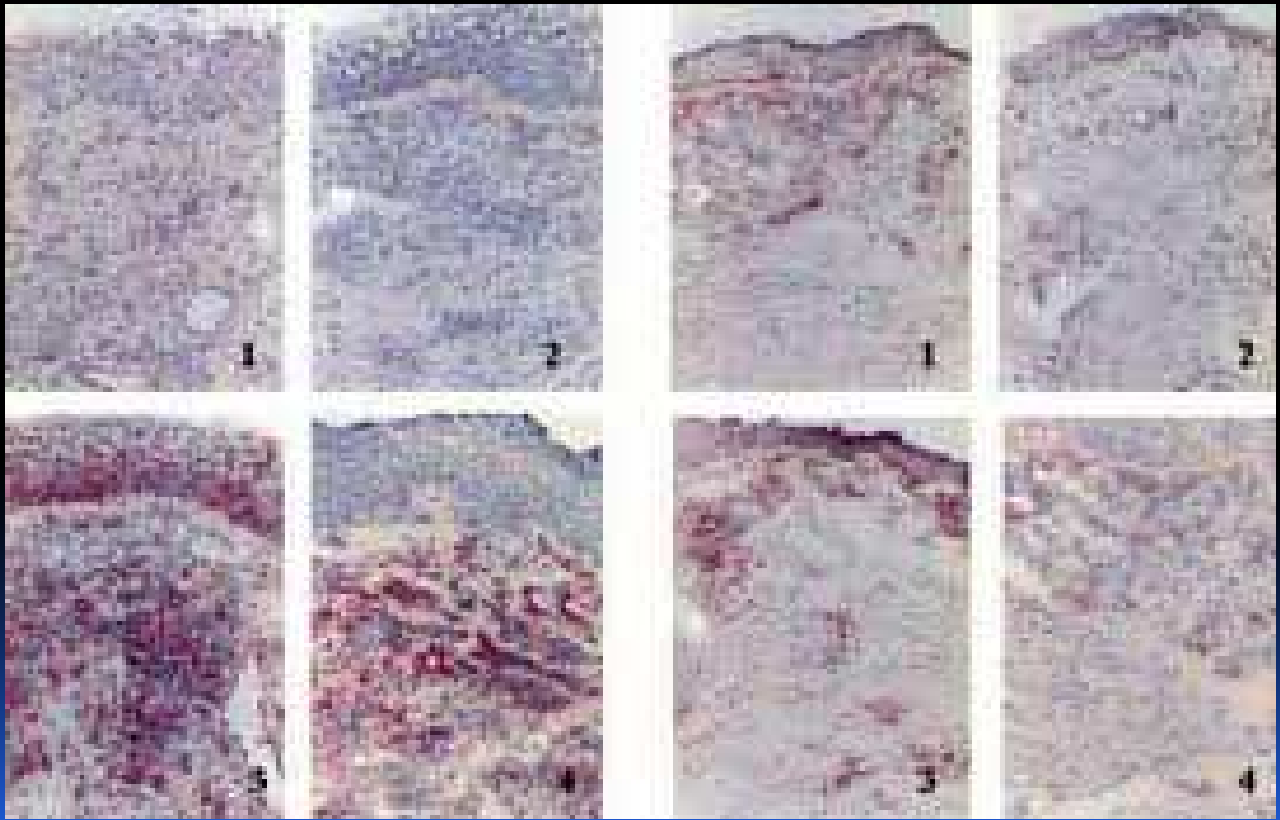


IgE 可以在敏感的鼻粘膜上找到

In situ hybridization for I ϵ mRNA - tissue obtained from subjects with allergic rhinitis

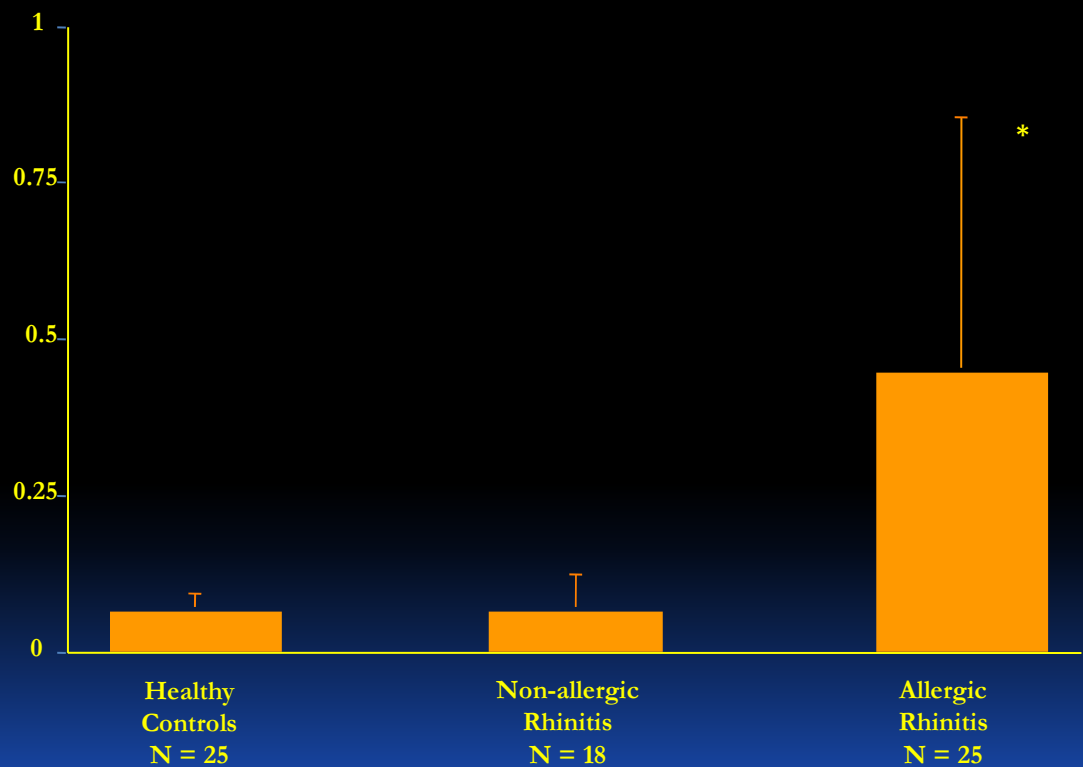


IgE 可以在敏感的支氣管粘膜炎上找到



敏感與非敏感鼻炎的分別

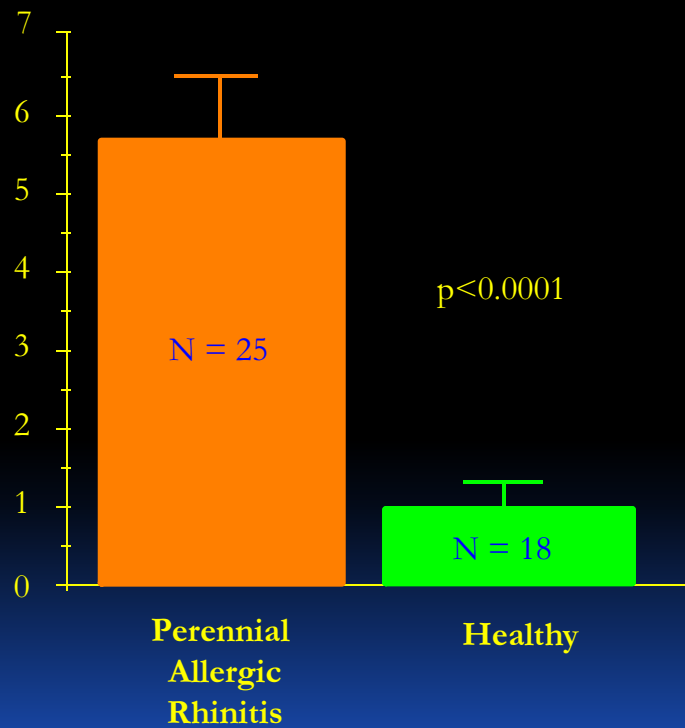
Eosinophils
在刮出皮
細胞上和
全部粘膜
的比率



敏感性鼻炎的高道反應性

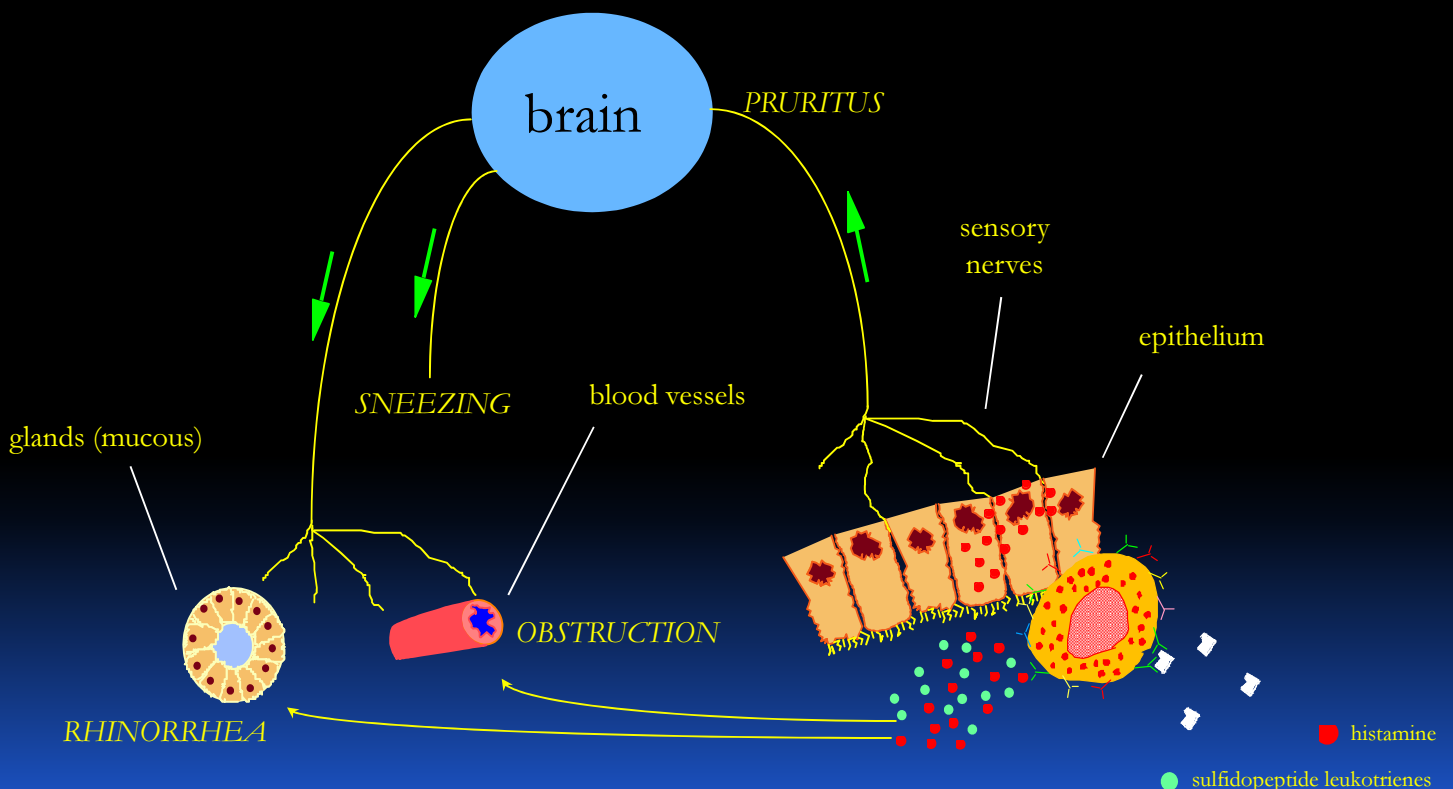
由組胺引起的打噴嚏*

* same dose in both groups

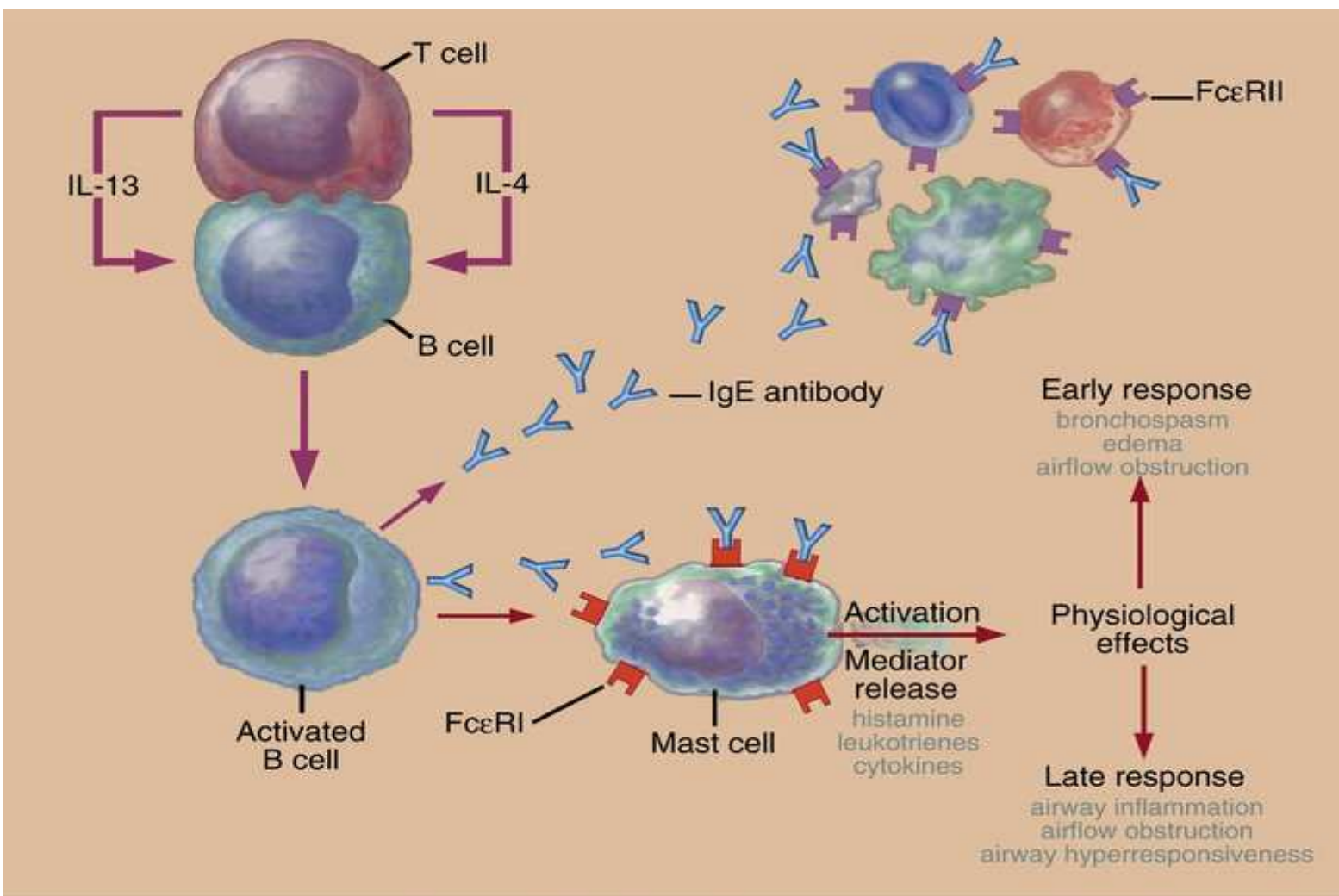
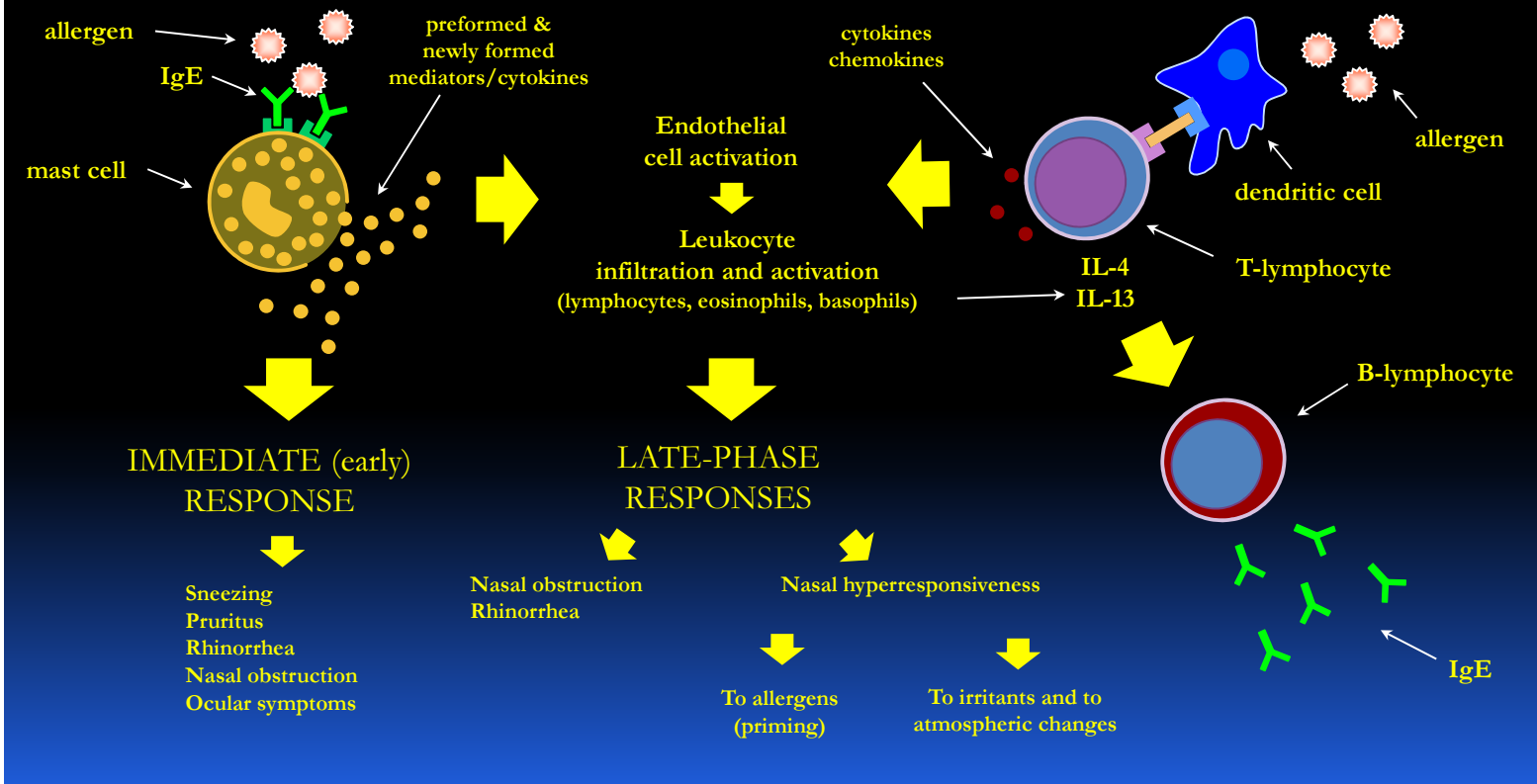


Sanico AM et al: *Int Arch Allergy Immunol* 1999;118:154-158
S. Karger AG, Basel

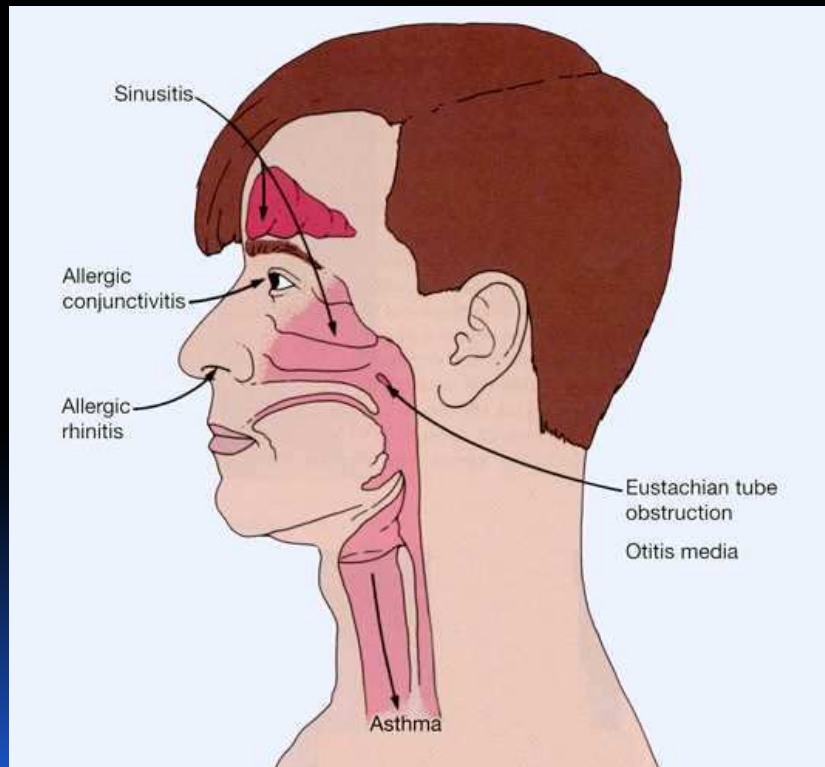
鼻敏感即時反應 (早期階段)



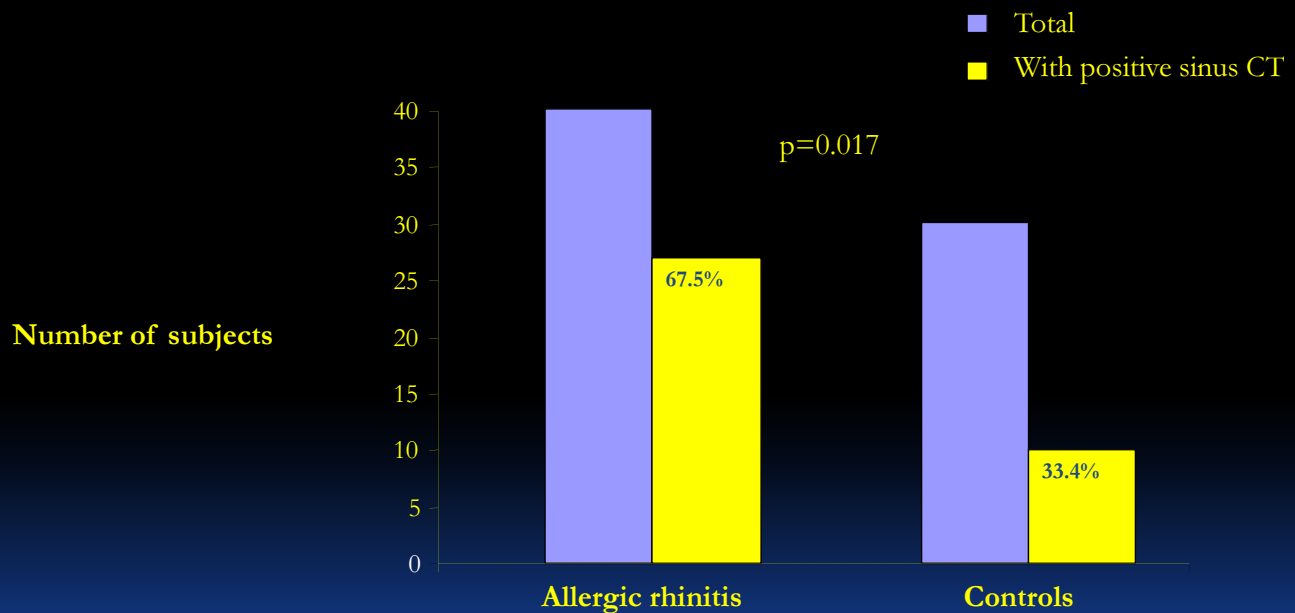
鼻敏感反應



敏感性鼻炎對其他功能的影響



敏感性鼻炎和鼻竇炎的緊密關係



兒童中耳炎的危險因素

	OR	95% CI	P
IgE-sensitization	2.52	1.06–5.99	0.04
Wheezing	8.17	2.68–24.92	<0.001
Nasal obstruction	2.84	0.96–8.36	0.06
Family history of OM	4.39	1.86–10.37	0.001
Daycare attendance	2.29	0.92–5.75	0.08

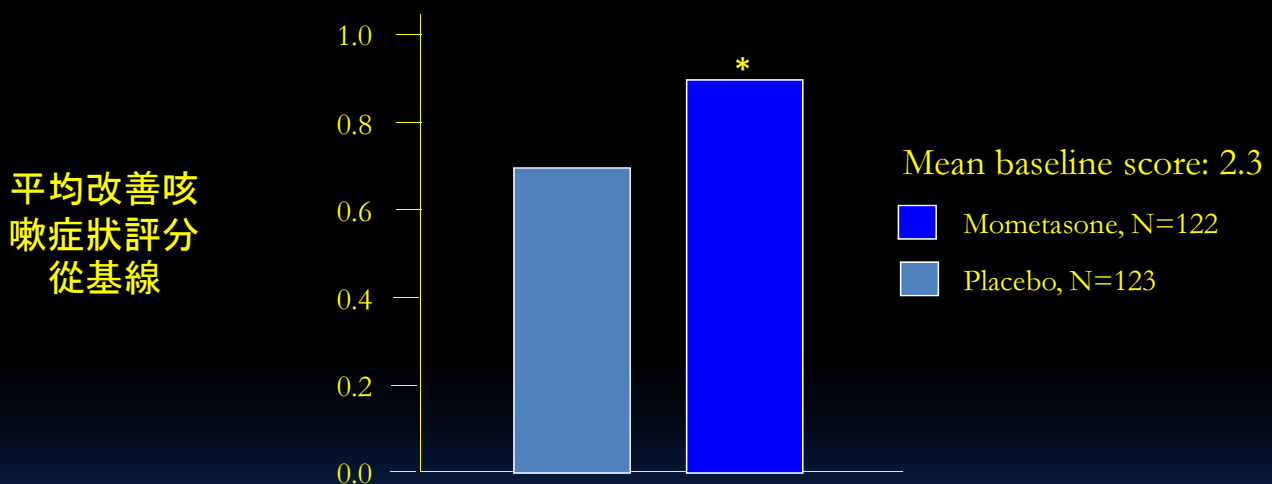
Multivariate logistic regression for risk of OME

Case-control study in children 1-7 years (N=88 cases, N=88 controls)

Chantzi FM et al. Allergy 2006;61:332

鼻治療可以改善季節性過敏鼻炎患者的咳嗽

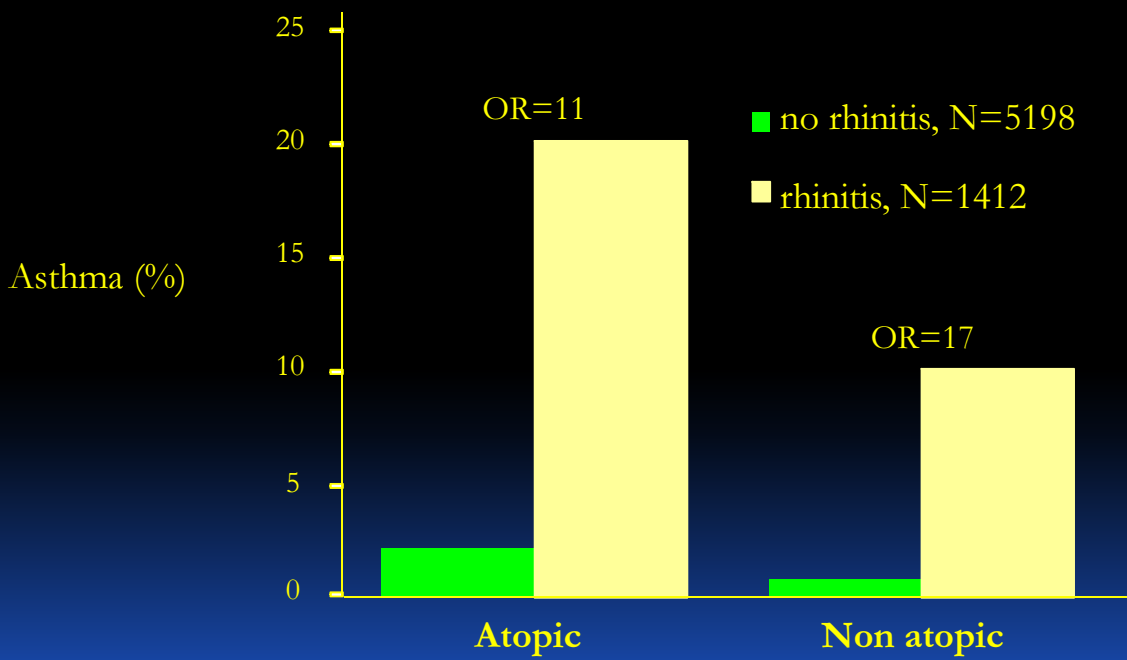
(15-day treatment)



Adapted from Gawchik S et al. Ann Allergy Asthma Immunol 2003;90:416

鼻炎和哮喘的關係

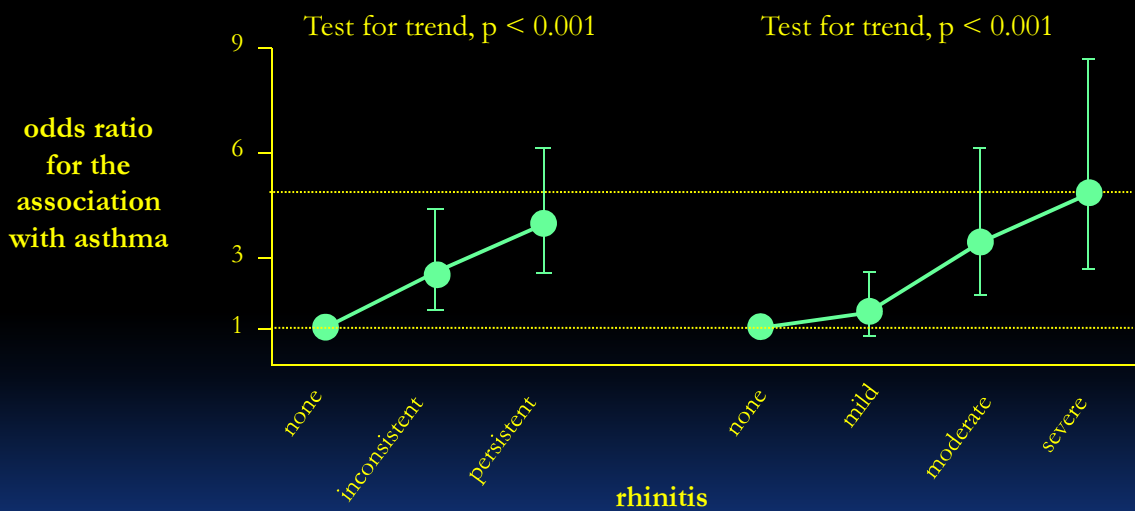
(European Community Respiratory Health Survey)



Adapted from Leynaert B et al. *J Allergy Clin Immunol* 1999; 104:301

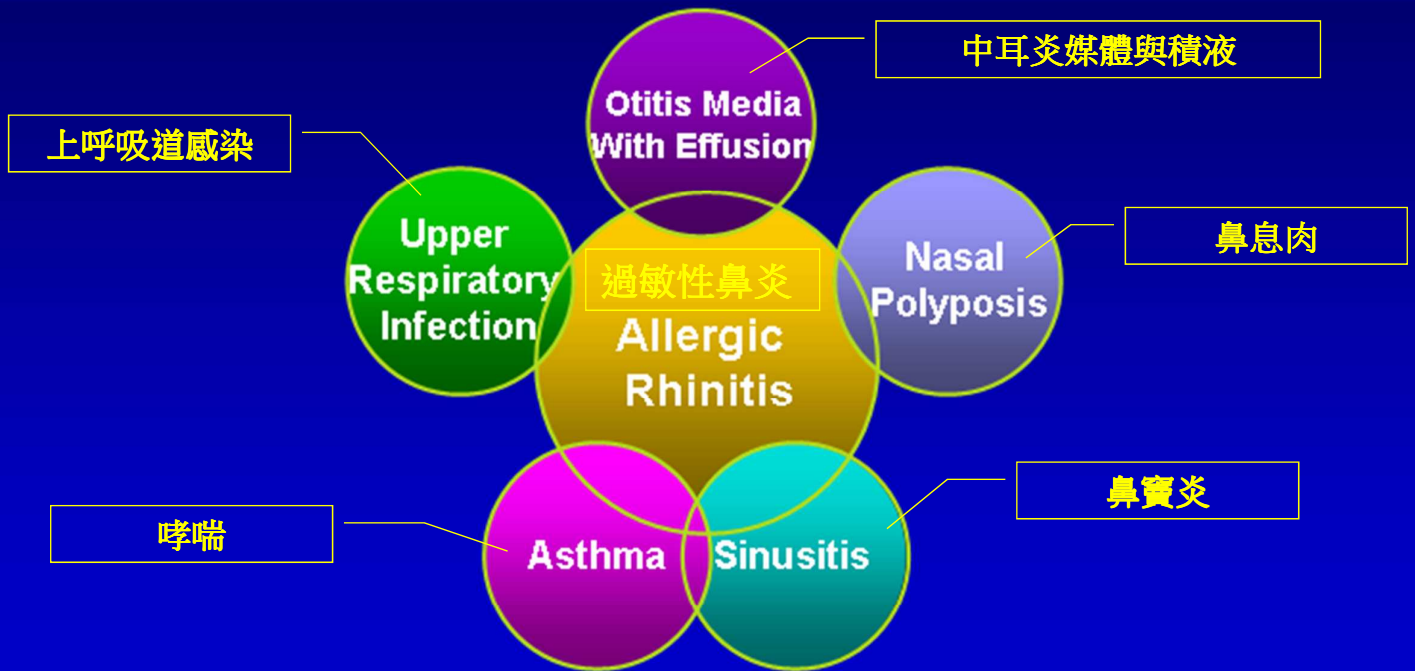
過敏性鼻炎和哮喘的關係

(173 incident cases and 2,177 controls; approx. 10-yr follow-up)



Guerra S et al. *J Allergy Clin Immunol* 2002;109:419

AR and Comorbid Airway Disease



Spector. *J Allergy Clin Immunol.* 1997;99:S773-S780.

過敏皮膚點刺測試

Skin prick test / positive result



抽血化驗和友膚測試的比較

- 費用
- 準確性
- 敏銳性

控制環境可減輕病情嗎？

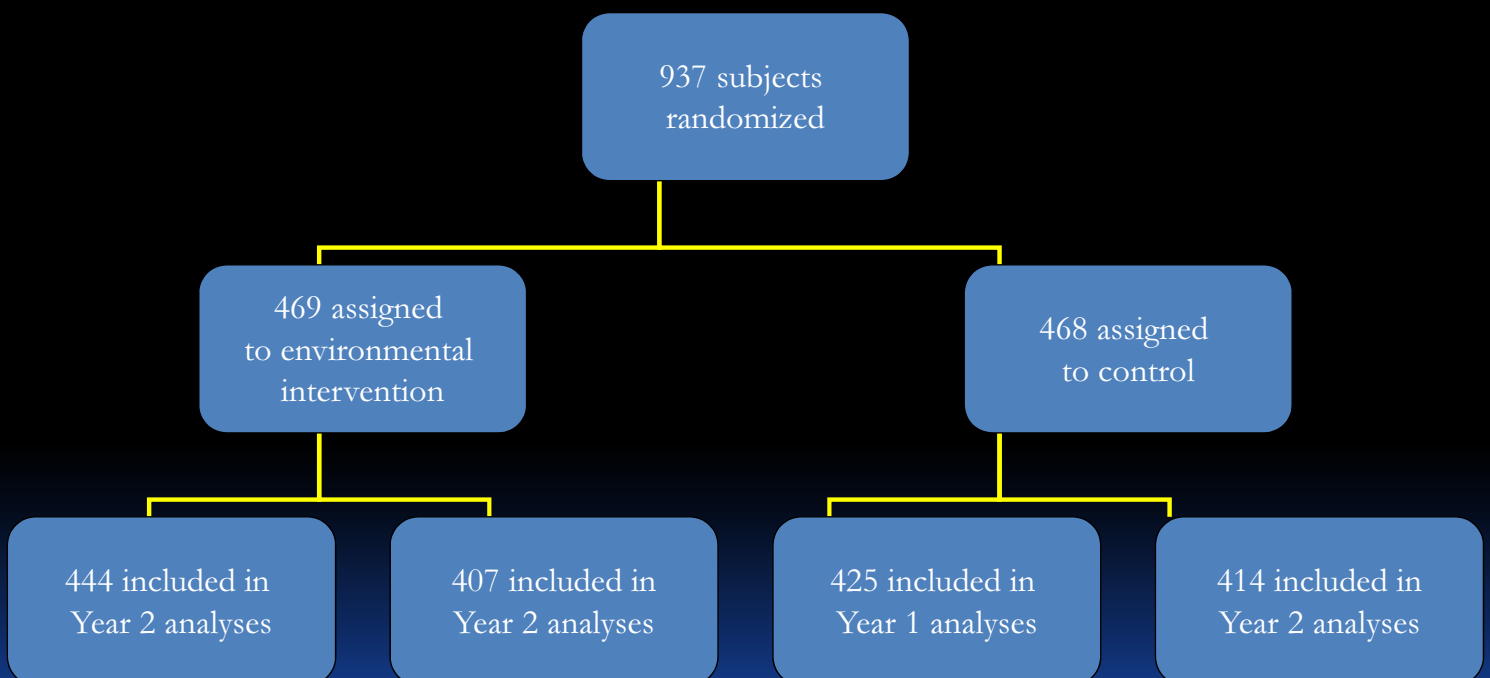
ORIGINAL ARTICLE

Results of a Home-Based Environmental Intervention among Urban Children with Asthma

Wayne J. Morgan, M.D., C.M., Ellen F. Crain, M.D., Ph.D.,
Rebecca S. Gruchalla, M.D., Ph.D., George T. O'Connor, M.D.,
Meyer Kattan, M.D., C.M., Richard Evans III, M.D., M.P.H.,
James Stout, M.D., M.P.H., George Malindzak, Ph.D., Ernestine Smartt, R.N.,
Marshall Plaut, M.D., Michelle Walter, M.S., Benjamin Vaughn, M.S.,
and Herman Mitchell, Ph.D., for the Inner-City Asthma Study Group*

2004;351:1068-80

在城市的美國兒童患有哮喘的環境干預

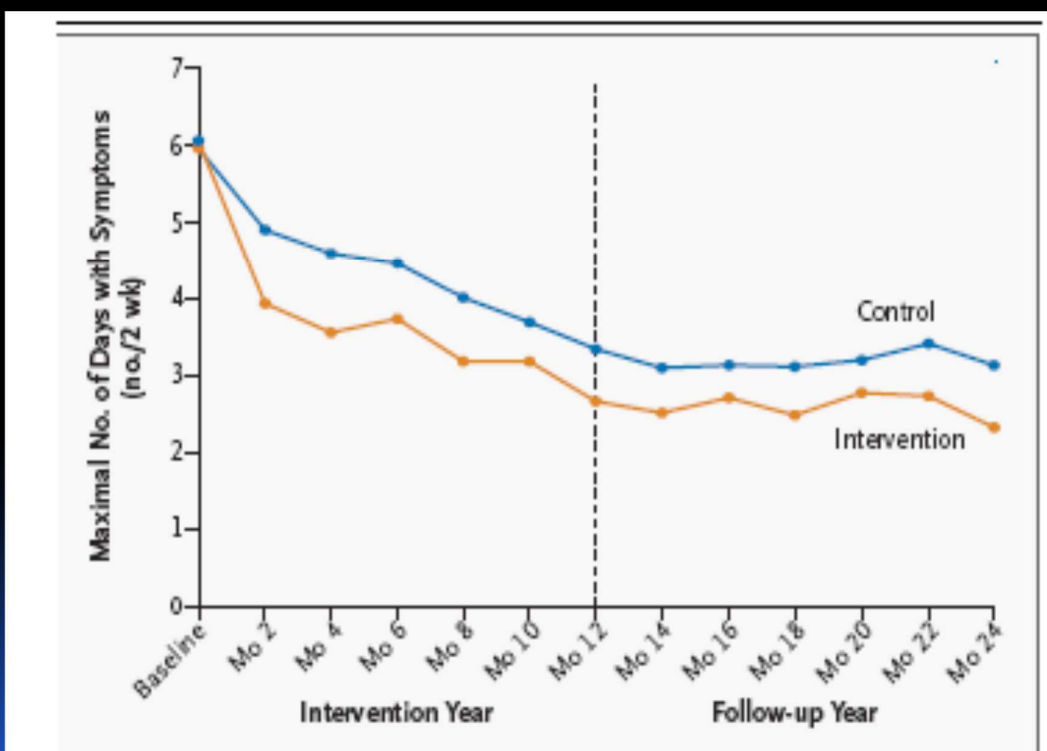


Environmental intervention in urban US children with asthma

- Tailored to
 - Skin test profile
 - Environmental exposure
 - Caretaker's report
- House dust mite
- Passive smoking

Adapted from Morgan WJ et al. New Engl J Med 2004;351:1068-80

在城市的美國兒童患有哮喘的環境干預



治療組之間的差異
統計學顯著性意義
($P < 0.001$), 在這兩
個階段的研究

過敏性鼻炎及其對哮喘的影響

ALLERGIC RHINITIS AND ITS IMPACT ON ASTHMA ARIA

JACI 2001;56: 813-824

ASIAN PACIFIC JOURNAL OF ALLERGY AND IMMUNOLOGY (2009) 27: 237-243

SPECIAL ARTICLE

Allergic Rhinitis and Its Impact on Asthma Update (ARIA 2008) - Western and Asian-Pacific Perspective

Ruby Pawankar¹, Chaweewan Bunnag², Yuzhi Chen³, Takeshi Fukuda⁴, You-Young Kim⁵,
Lan Thi Tuyet Le⁶, Le Thi Thu Huong⁷, Robyn E O'Hehir⁸, Ken Ohta⁹, Pakit Vichyanond²,
De-Yun Wang¹⁰, Nanshan Zhong¹¹, Nikolai Khaltaev¹² and Jean Bousquet^{13,*}

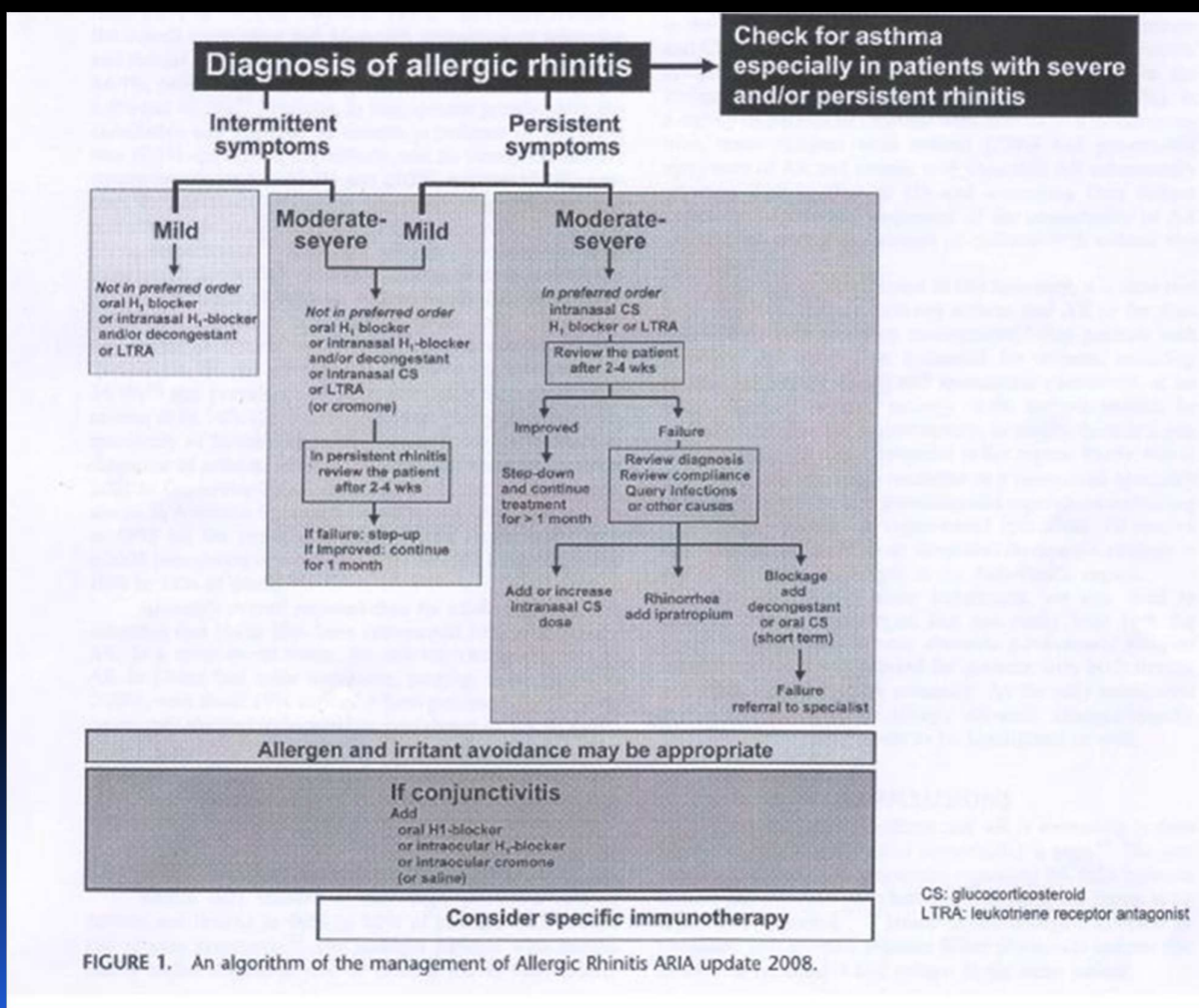
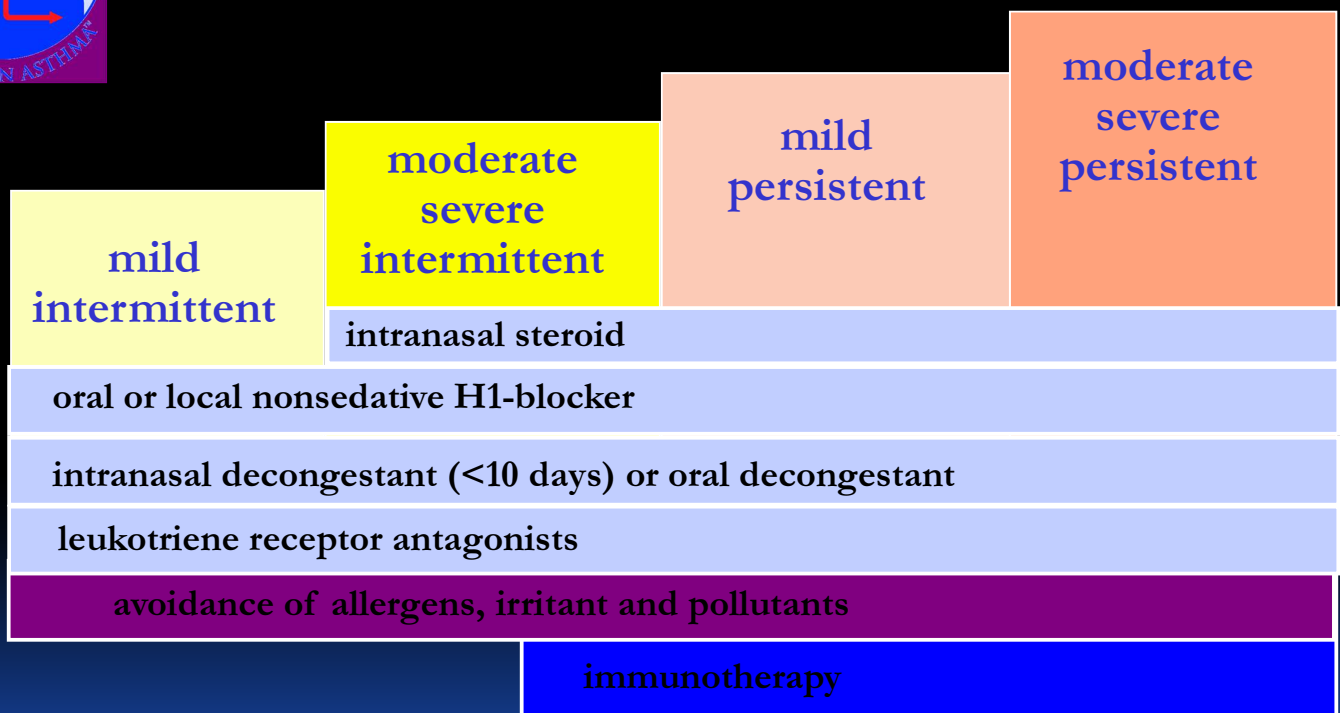


FIGURE 1. An algorithm of the management of Allergic Rhinitis ARIA update 2008.



過敏性鼻炎的管理: ARIA準則



Major Treatment Options

- Environmental control
 - Avoidance of “triggers”
- H1 antagonists
 - Cornerstone of treatment for AR
- Oral and nasal decongestants
 - Effectively reduce nasal congestion
- Nasal corticosteroids
 - Indicated for moderate-to-severe AR
- Immunotherapy
 - Indicated for severe AR, failure or intolerance of other treatments, prevention of onset or worsening of comorbid conditions

Dykewicz et al. *Ann Allergy Asthma Immunol.* 1998;81(5 pt 2):478-518.

藥理作用管理

Agent	Sneezing	Itching	Congestion	Rhinorrhea	Eye
OA	+++	+++	+/-	++	++
NA	+	+	+/-	+	-
ICS	++	++	+++	++	+
OD	-	-	++	-	-
ND	-	-	+++	-	-
MCS	+	+	+	+	-
IND	-	-	-	++	-

口服抗組胺藥

- 第一代:
 - Hydroxyzine (Atarax[®])**
 - Diphenhydramine (Benadryl[®])**
 - Chlorpheniramine (Piriton[®])**
- 第二代:
 - Certirizine (Xyzal, Zyrtec[®])**
 - Loratidine (Clarityne[®])**
 - Fexofenadine (Telfast[®])**
 - Desloratadine (Aerius[®])**

Second-Generation Oral Antihistamines

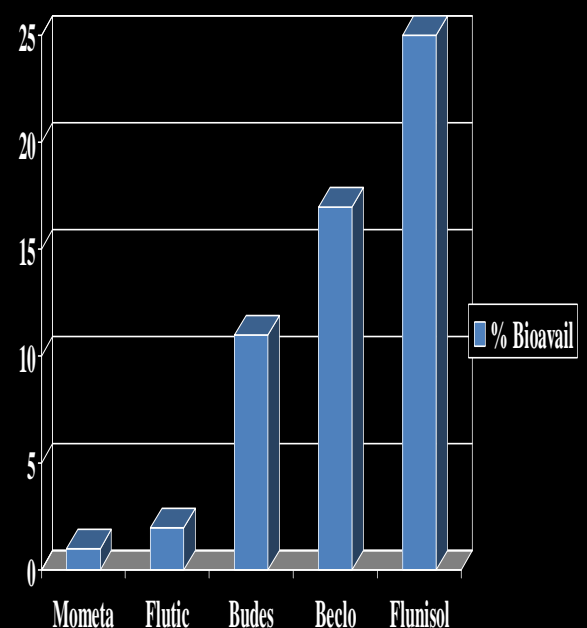
- Available second-generation agents
 - Cetirizine, loratadine, fexofenadine
- First-line therapy for AR
 - All reduce itching, sneezing, rhinorrhea, and allergic conjunctivitis
 - Less effective in reducing nasal congestion
- Second-generation agents are generally well tolerated
- No clinically significant prolongation of QTc intervals

鼻用噴霧劑

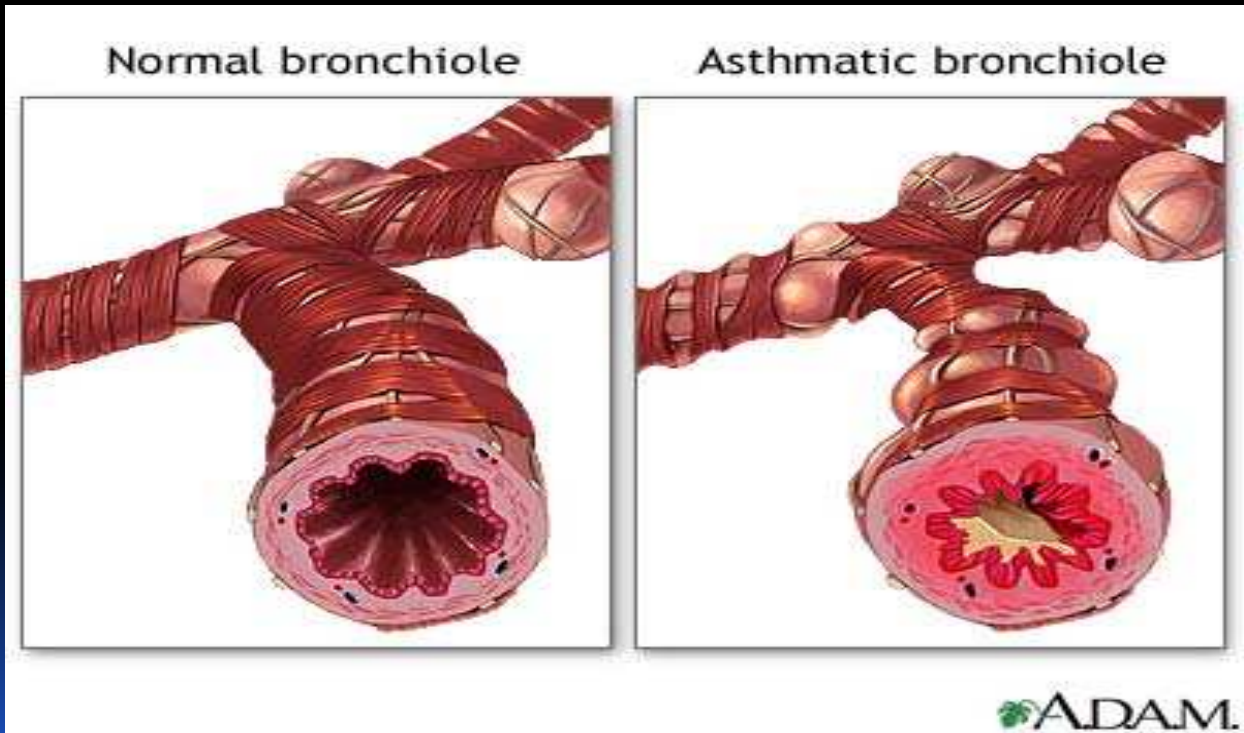
- 鼻類固醇
- Cromolyn (Nasocrom[®])
- Oxymetolazone (Afrin[®])
- Nasal saline (Ocean[®])

鼻類固醇

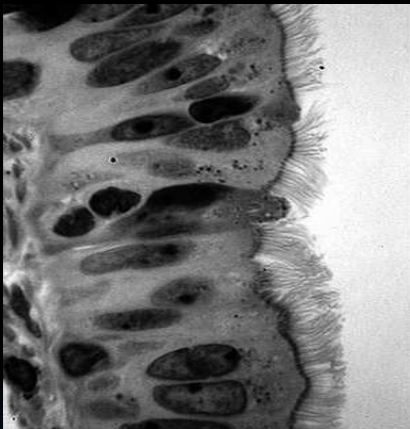
- Mometasone (Nasonex[®])
- Fluticasone (Flixonase[®])
- Budesonide (Rhinocort[®])
- Beconase (Beclomethasone[®])
- Flunisolide (Nasalide[®])



正常 & 哮喘細支氣管



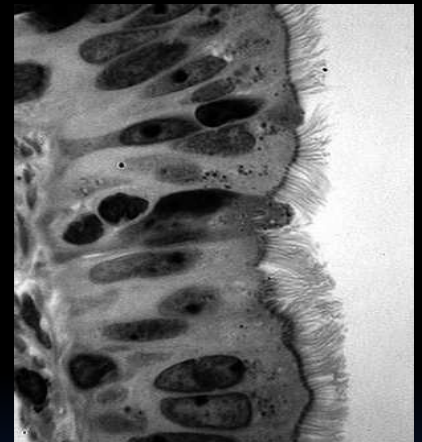
吸入的CS 是維持治療的支柱



Normal

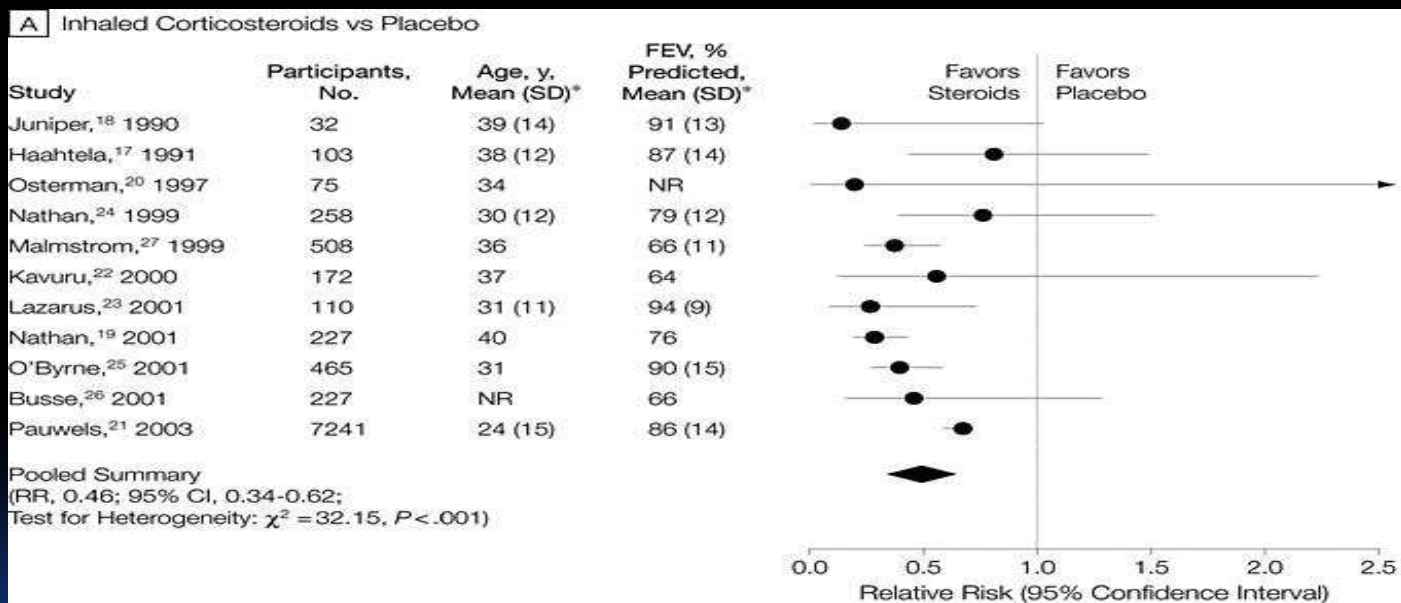


Asthmatic



Treated w ICS

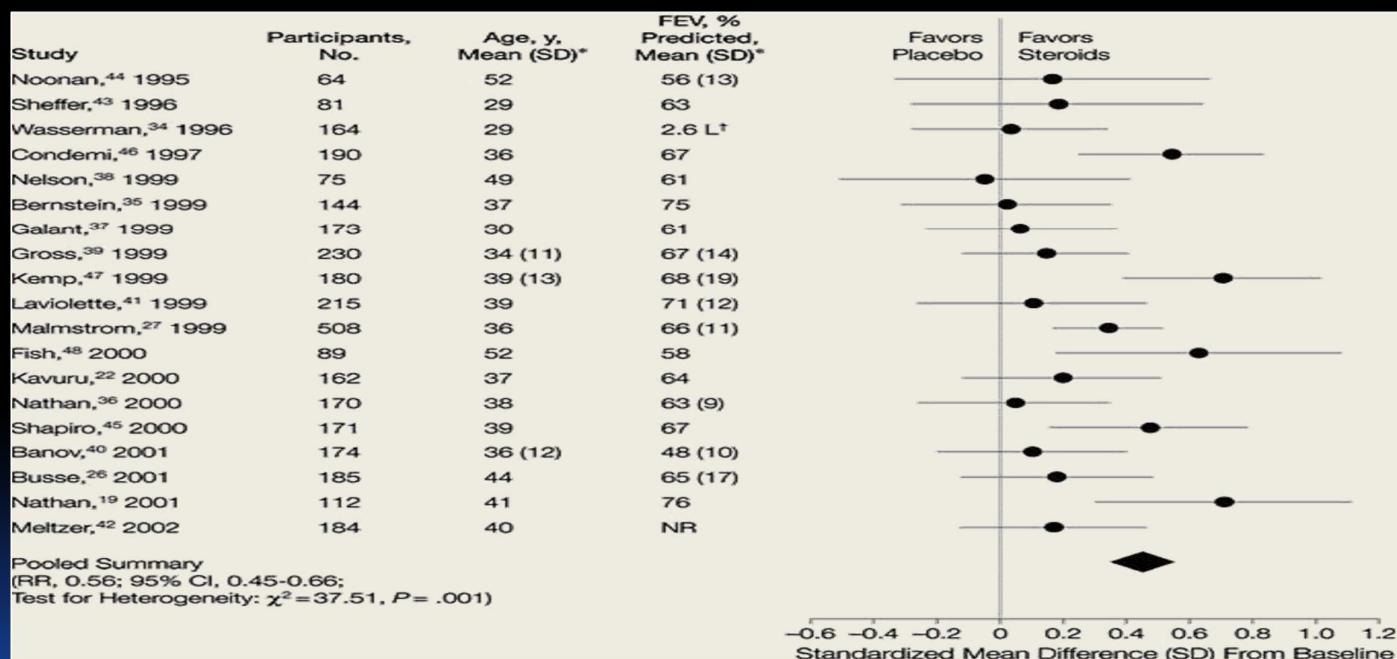
ICS reduced asthma exacerbations by 50% compared w/ placebo



Pharmacological management to reduce exacerbations in adults with asthma: A systemic review and meta-analysis

Sin DD et al. JAMA 2004; 292:367

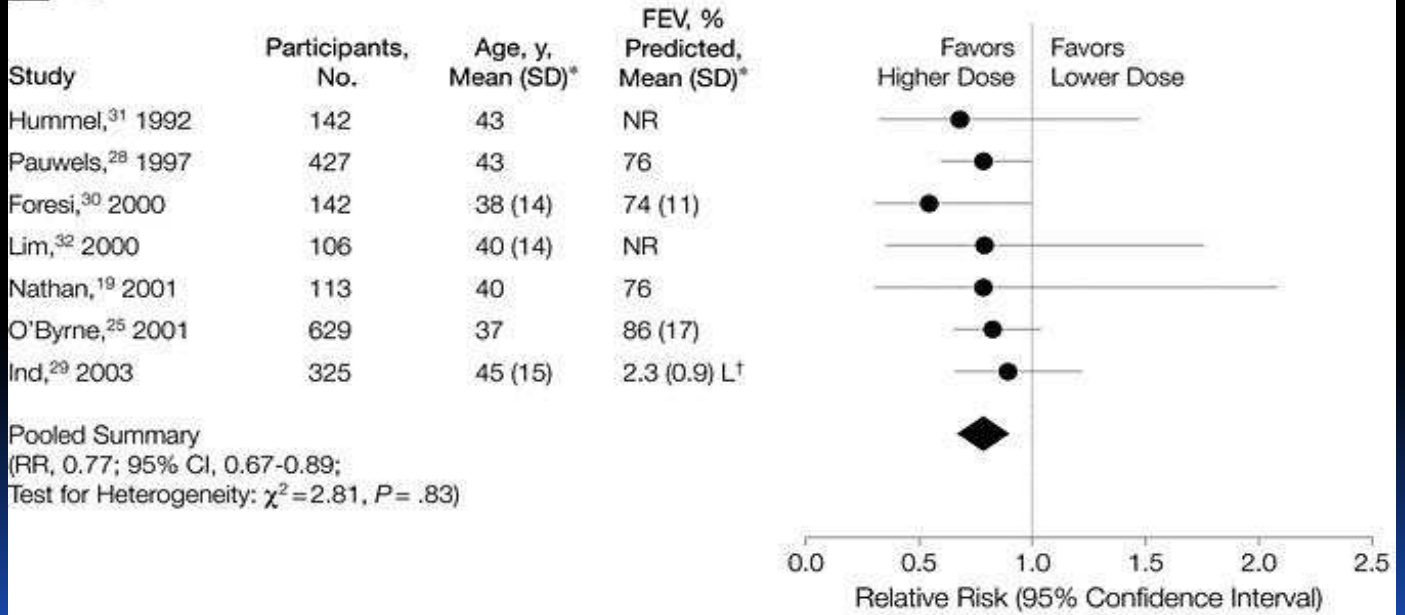
3-4 mos of ICS improved FEV1 by 0.33L



Sin DD et al. JAMA 2004; 292:367

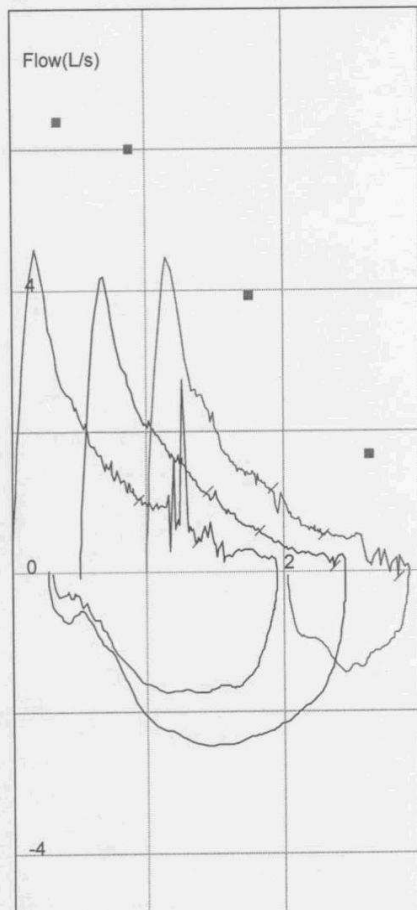
Higher dose (>500 ug/d beclomethasone) reduced exacerbations more than low dose

B Higher Dose vs Lower Dose Inhaled Corticosteroids

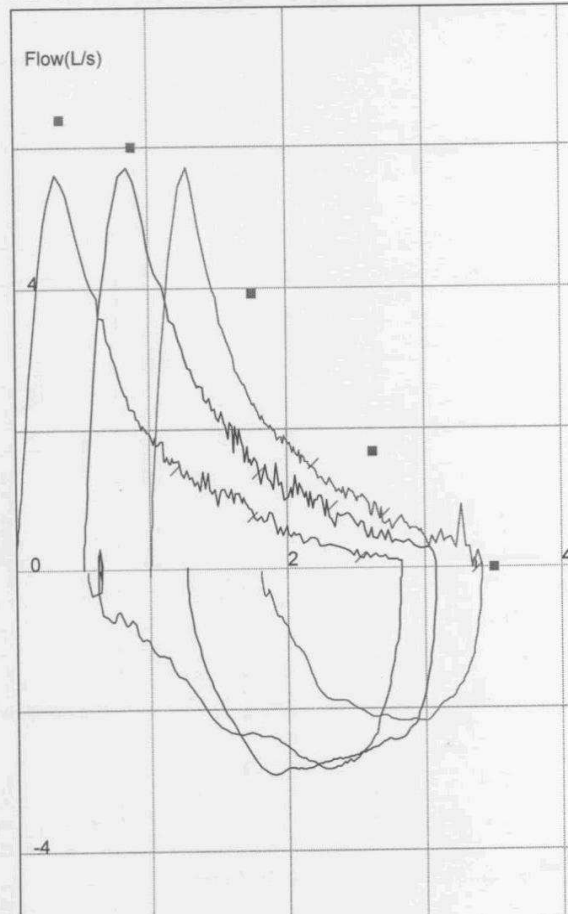


Sin DD et al. JAMA 2004; 292:367

FVC Flow vs. Volume (5 mm/L/sec, 10 mm/L)



FVC Flow vs. Volume (5 mm/L/sec, 10 mm/L)



F/45 Caucasian

**IgE 339,
Cat dander 4/6
Dog dander 3/6
Rodent pets 3/6
Dust mites 2/6**

GINA 2009年哮喘控制分類



Characteristic	Controlled (All of the following)	Partly Controlled (Any measure present in any week)	Uncontrolled
Daytime symptoms	None (twice or less/week)	More than twice/week	Three or more features of partly controlled asthma present in any week
Limitations of activities	None	Any	
Nocturnal symptoms/ awakening	None	Any	
Need for reliever/ rescue treatment	None (twice or less/week)	More than twice/week	
Lung function (PEF or FEV ₁) [†]	Normal	< 80% predicted or personal best (if known)	

B. Assessment of Future Risk (risk of exacerbations, instability, rapid decline in lung function, side-effects)

Features that are associated with increased risk of adverse events in the future include:

Poor clinical control, frequent exacerbations in past year, ever admission to critical care for asthma, low FEV₁, exposure to cigarette smoke, high dose medications.

2009年GINA治療指南

Step 1	Step 2	Step 3	Step 4	Step 5
Asthma education Environmental control				
As needed rapid-acting β_2 -agonist	As needed rapid-acting β_2 -agonist			
Controller options***	Select one	Select one	To Step 3 treatment, select one or more	To Step 4 treatment, add either
	Low-dose inhaled ICS*	Low-dose ICS plus long-acting β_2 -agonist	Medium-or high-dose ICS plus long-acting β_2 -agonist	Oral glucocorticosteroid (lowest dose)
	Leukotriene modifier**	Medium-or high-dose ICS Low-dose ICS plus leukotriene modifier	Leukotriene modifier Sustained release theophylline	Anti-IgE treatment
		Low-dose ICS plus sustained release theophylline		

* ICS = inhaled glucocorticosteroids

**= Receptor antagonist or synthesis inhibitors

*** = Preferred controller options are shown in shaded boxes

2006年GINA指南：控制藥的處理步驟

Steps	1	2	3	4	5
Controllers	Optional			Add ≥ 1	Add ≥ 1
Low-dose ICS					
Leukotriene modifiers		OR	AND	✓	
Theophylline			AND	✓	
LA-BA			AND		
Higher-dose ICS			OR	AND	
Oral steroids					✓
Anti-IgE					✓

結論

1. 氣管和外界有很大的關係
2. 對一些比較敏感的人來說，鼻敏感和哮喘是長期病患，會帶來身體不適，學校工作社交不方便，不能上學上班，以至有生命危險。
3. 鼻敏感和哮喘有密切關係
 1. 有鼻敏感的人要留意氣管
 2. 處理哮喘時也要處理鼻的健康
4. 醫療方針
 1. 要針對敏感原
 2. 要抗炎
 3. 要處理不適的病徵

GLORIA Global Resources
in Allergy™

**Module 1:
Allergic Rhinitis**



***Updated:
June 2011***

**Thank You !
謝謝 !**