

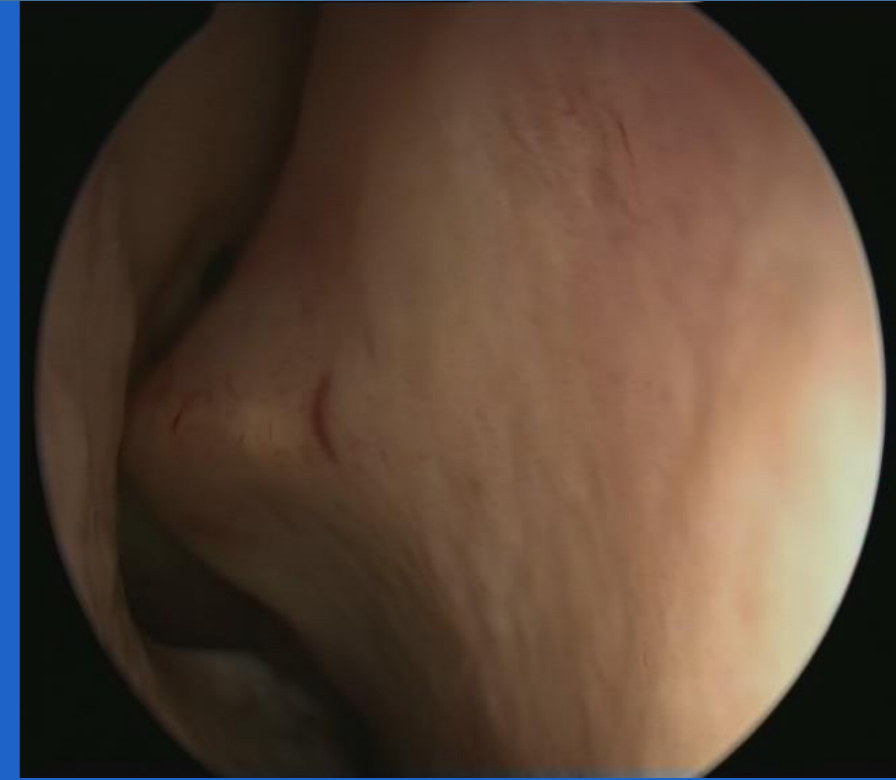
# ALLERGEENSPECIFIEKE IMMUNOTHERAPIE: POLLEN EN MIJTEN

Prof Dr Philippe GEVAERT

# Case 1

## Woman 34y

- Nasal obstruction
- Dyspnea, Nightly coughing
- Not enough air!
  
- Nasal endoscopy
- CT-sinus: septum deviation
  
- Skin prick tests: HDM: 6mm
- Lab: Total IgE = 162 kU/L
- Specific IgE HDM = 50 kU/L
  
- Lung function: FEV1 72%
- Feno = 56 ppb



## Uncontrolled with medication

- Long term overuse of decongestants
- Ventolin: several times/day
- GP: shot of depot systemic corticoids

# SEVERE CHRONIC UPPER AIRWAY DISEASE (SCUAD)

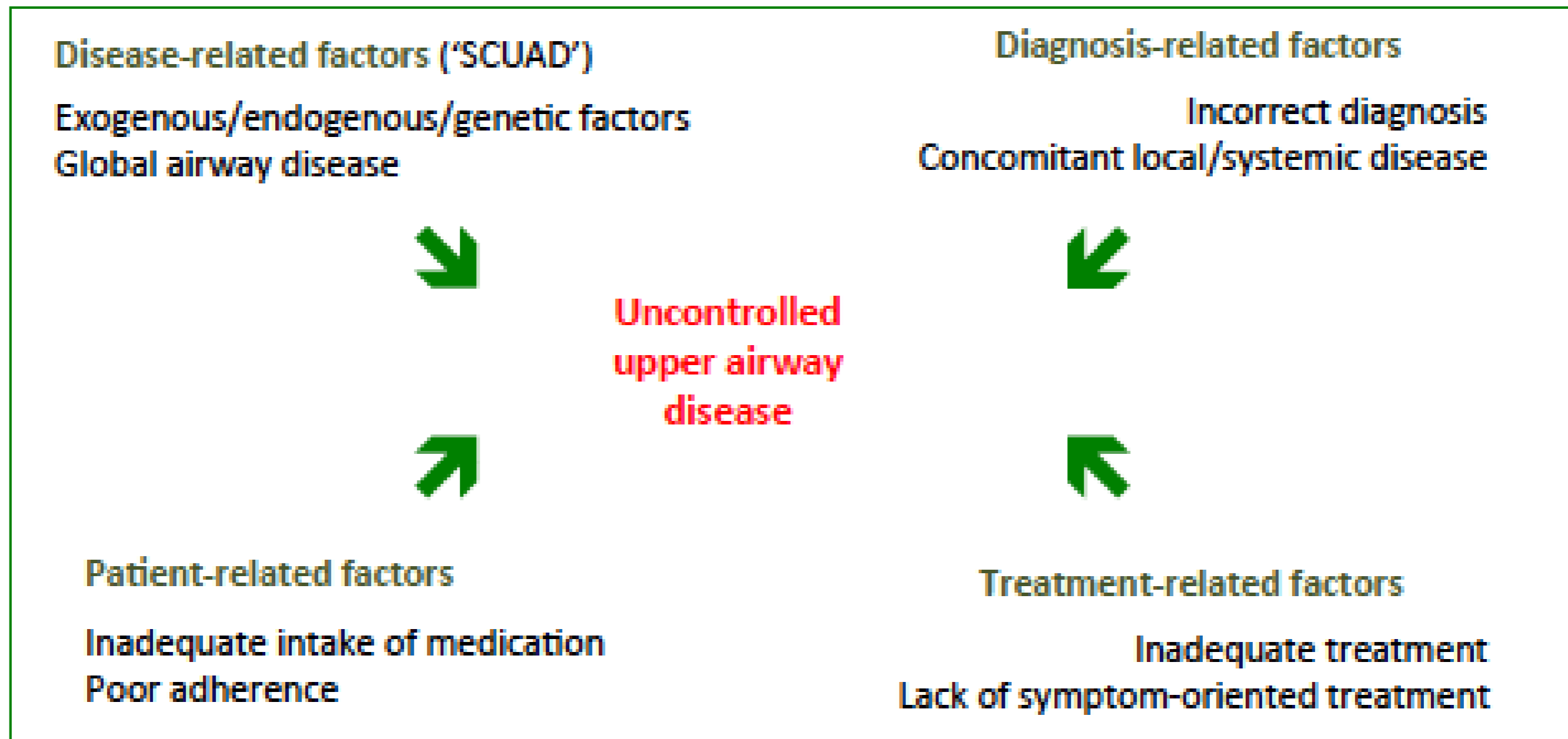
## **Unmet needs in severe chronic upper airway disease (SCUAD)**

Jean Bousquet, MD,<sup>a\*†</sup> Claus Bachert, MD,<sup>b\*</sup> Giorgio W. Canonica, MD,<sup>c\*†</sup> Thomas B. Casale, MD,<sup>d†</sup>  
Alvaro A. Cruz, MD,<sup>e</sup> Richard J. Lockey, MD,<sup>f†</sup> and Torsten Zuberbier, MD,<sup>g\*</sup> on behalf of the extended Global Allergy and Asthma European Network, World Allergy Organization and Allergic Rhinitis and its Impact on Asthma Study Group<sup>§</sup> *Montpellier, France, Ghent, Belgium, Genova, Italy, Omaha, Neb, Salvador, Brazil, Tampa, Fla, and Berlin, Germany*

- SCUAD defines those patients whose symptoms are **inadequately controlled** despite adequate (ie, effective, safe, and acceptable) pharmacologic treatment based on guidelines.
- These patients have impaired quality of life, social functioning, sleep, and school/work performance.
- Prevalence: **Rhinitis > 20%**  
**CRSwNP > 60%**

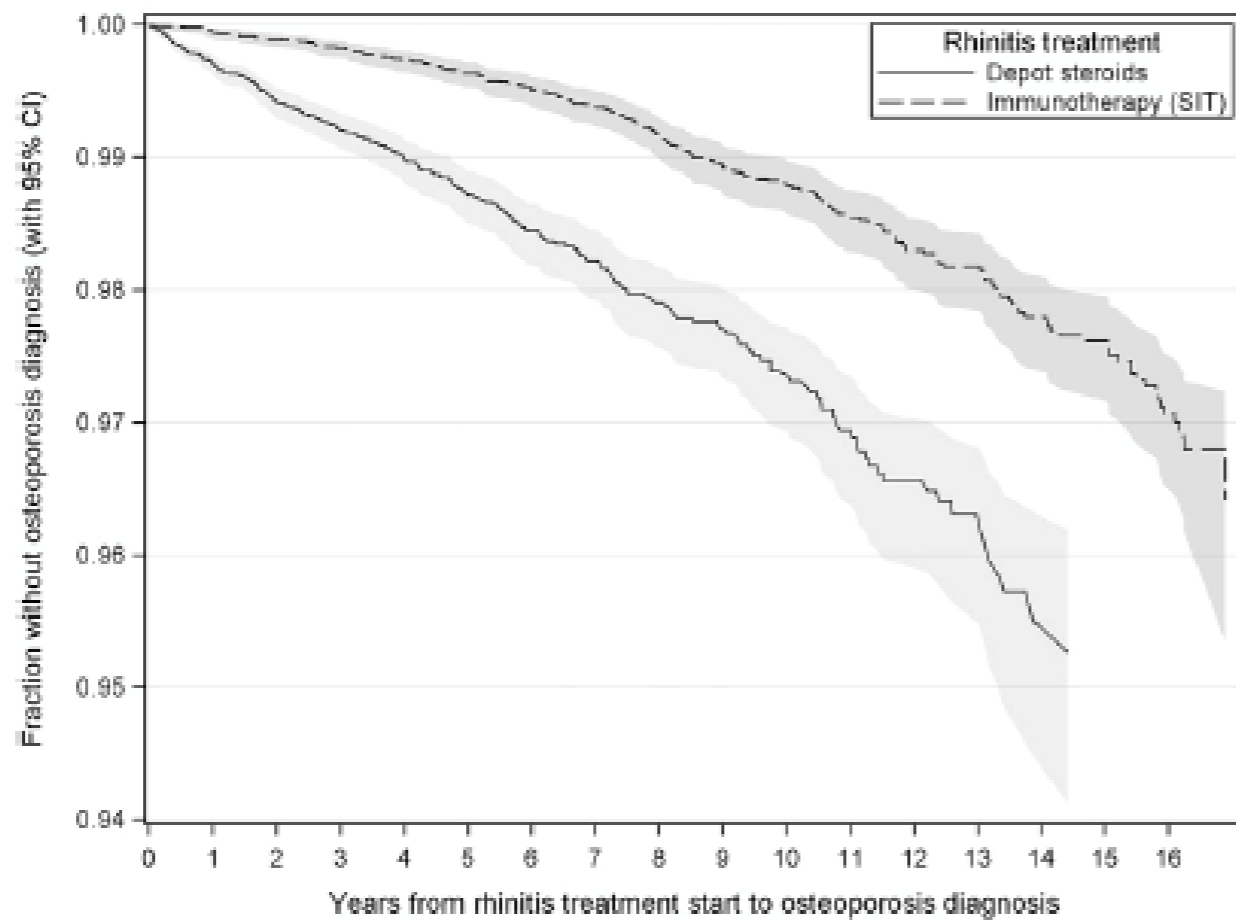
# Uncontrolled allergic rhinitis and chronic rhinosinusitis: where do we stand today?

P. W. Hellings<sup>1</sup>, W. J. Fokkens<sup>2</sup>, C. Akdis<sup>3</sup>, C. Bachert<sup>4</sup>, C. Cingi<sup>5</sup>, D. Dietz de Loos<sup>2</sup>, P. Gevaert<sup>4</sup>

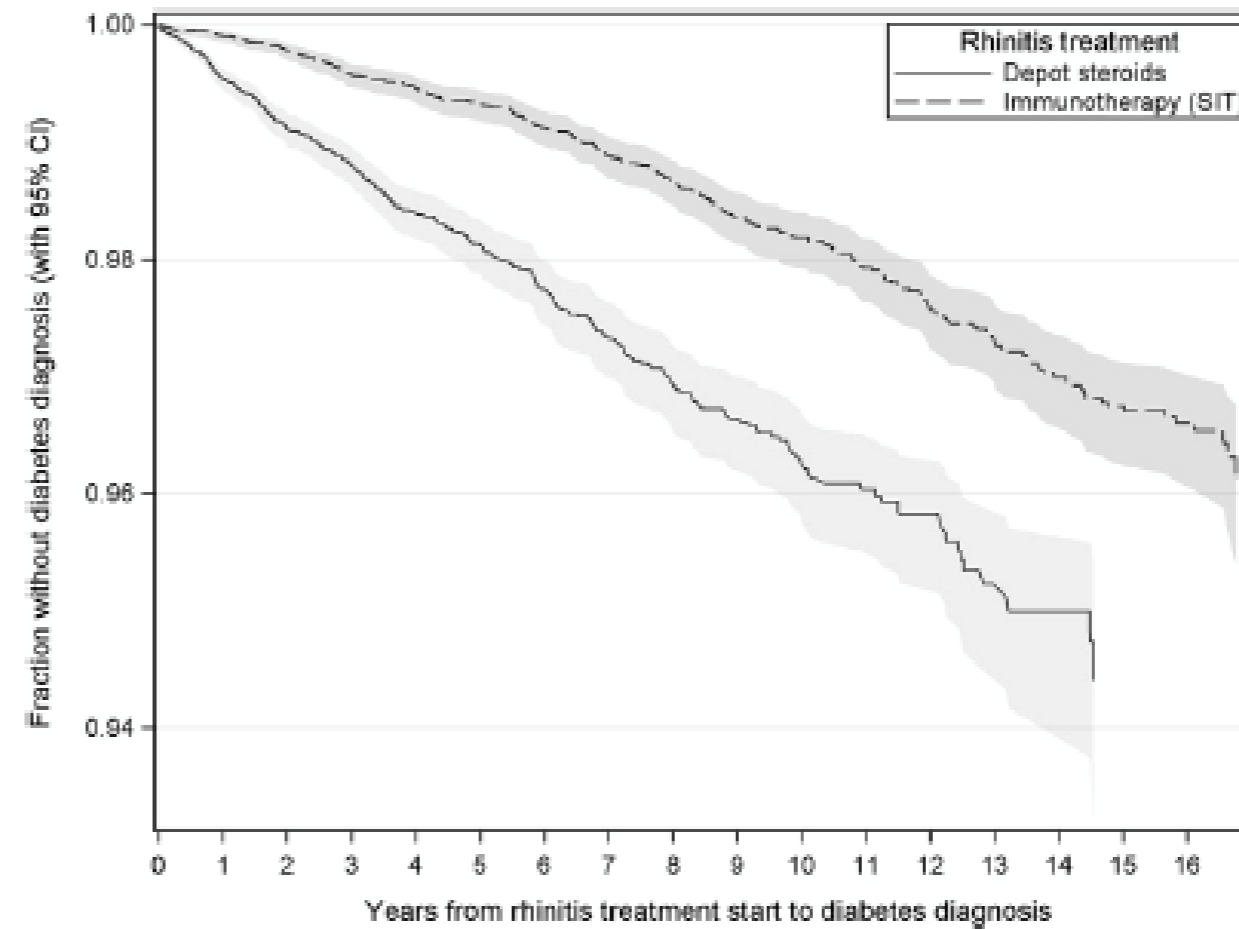


# Treating allergic rhinitis with depot-steroid injections increase risk of osteoporosis and diabetes

Kristian Aasbjerg<sup>a,\*</sup>, Christian Torp-Pedersen<sup>b</sup>, Allan Vaag<sup>c</sup>, Vibeke Backer<sup>a</sup>

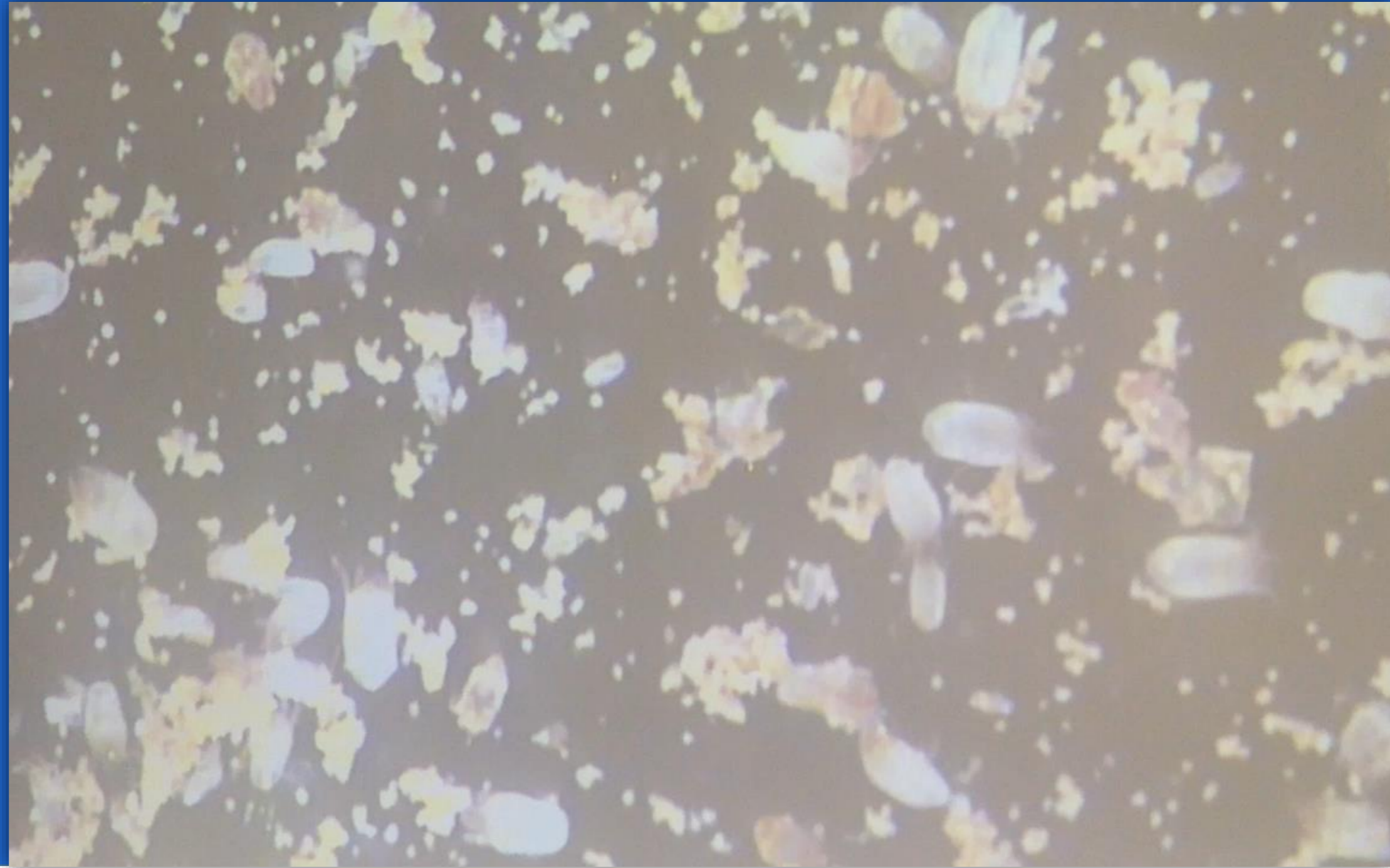


**Osteoporosis**



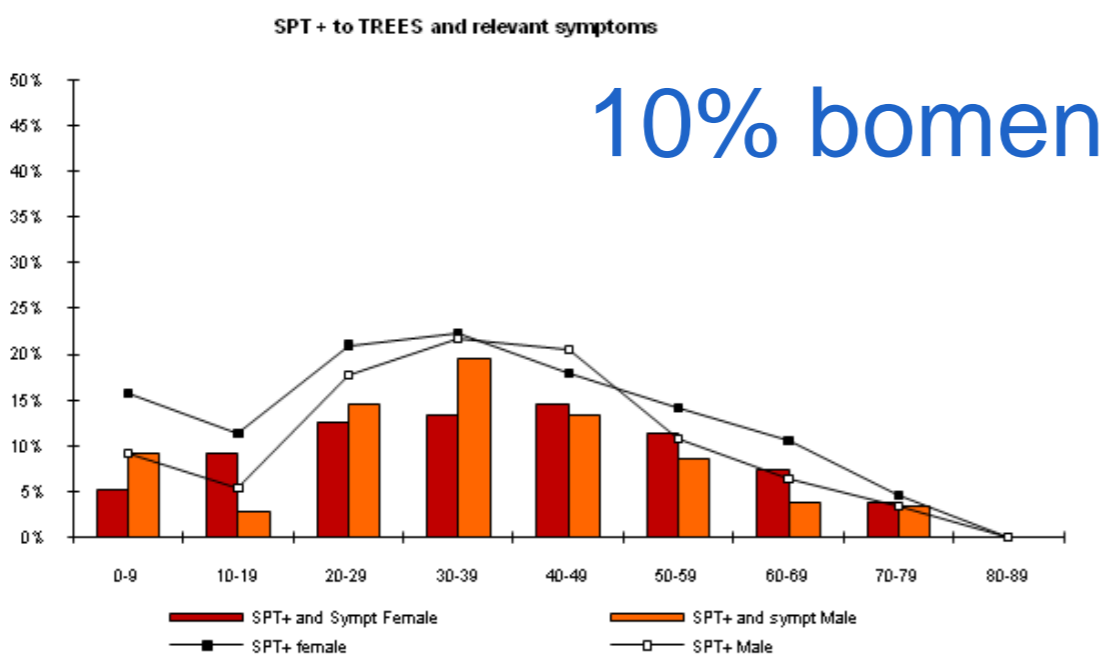
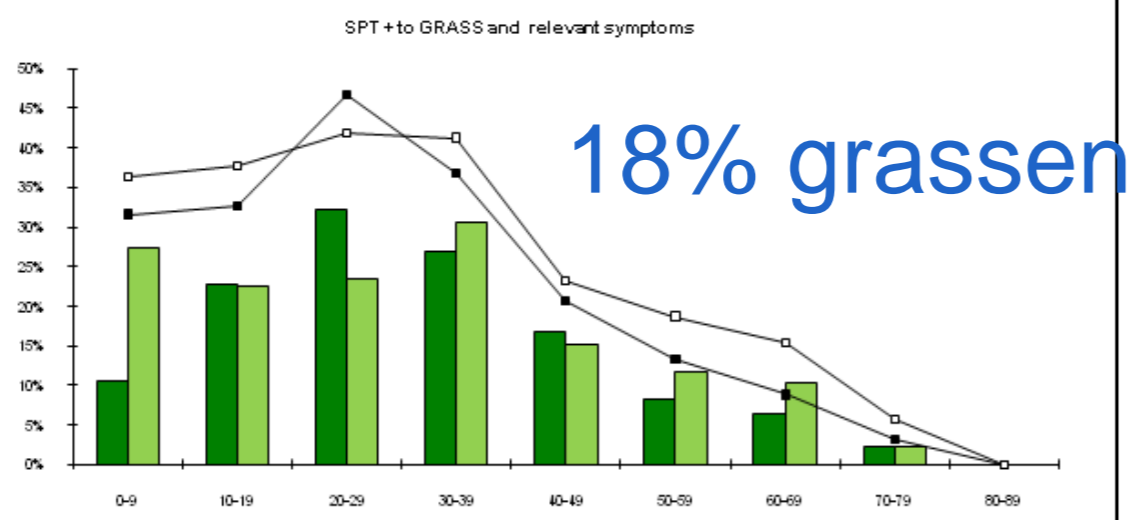
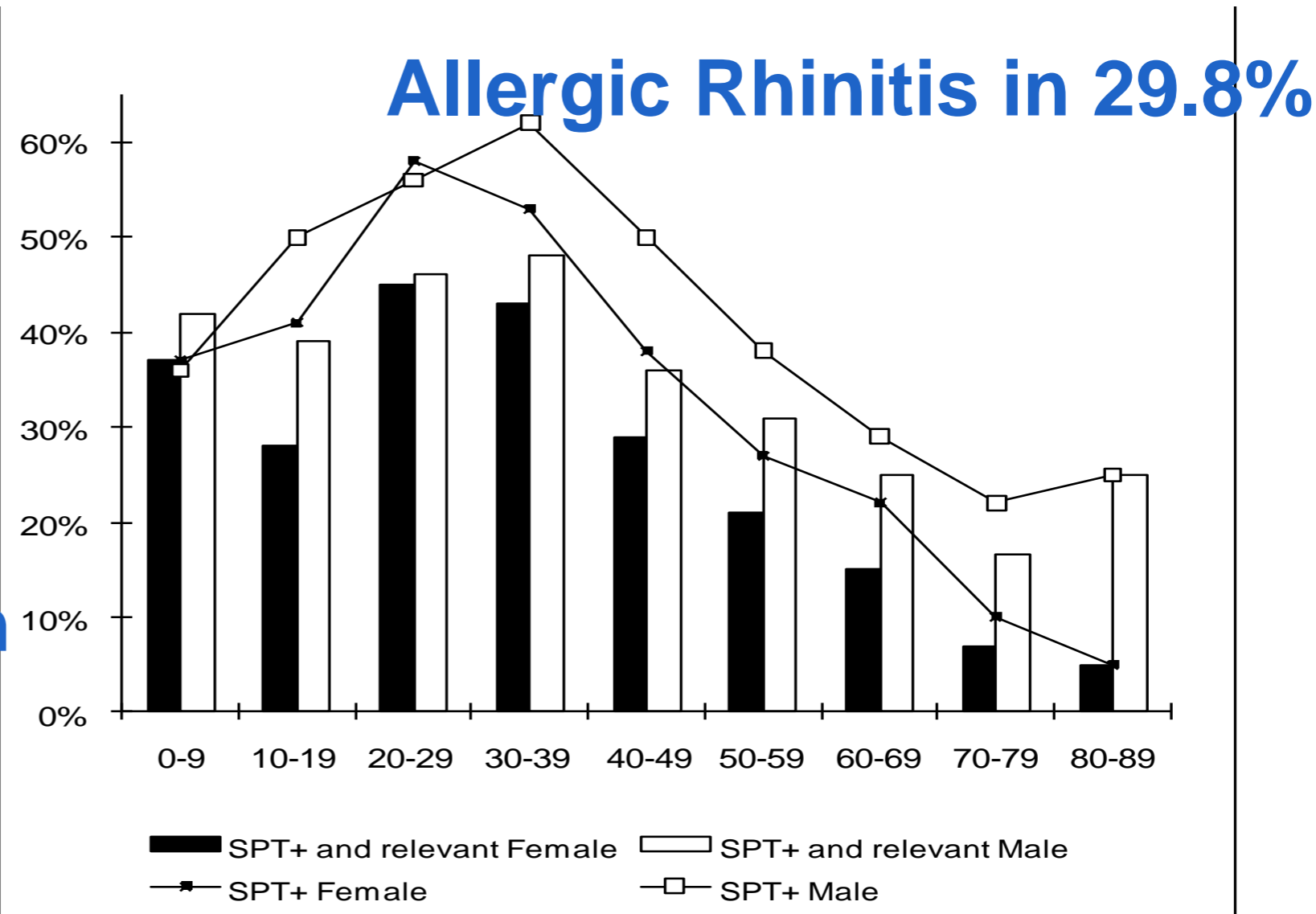
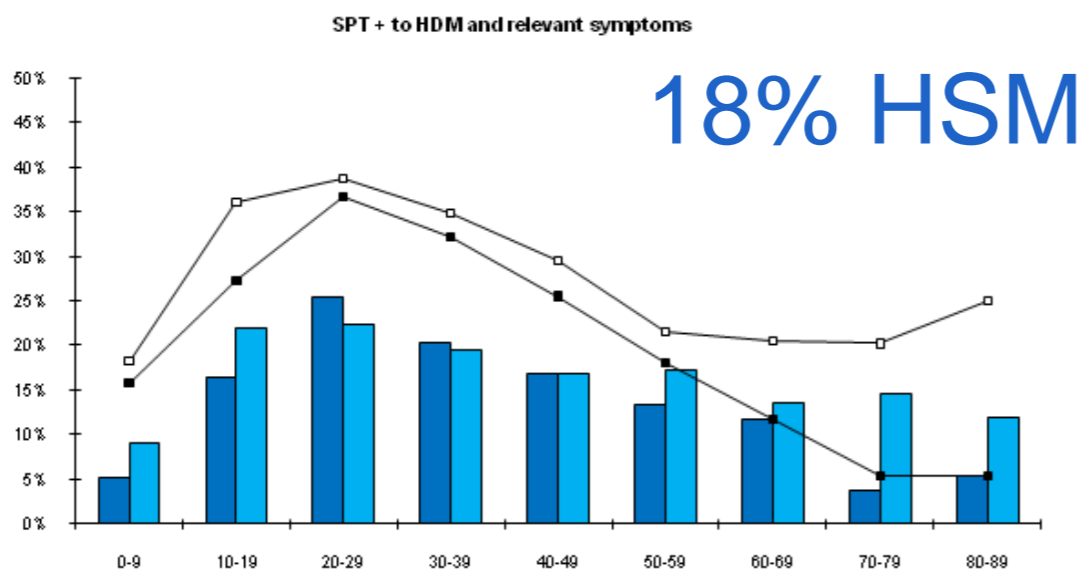
**Diabetes**

# HUISSTOFMIJT ALLERGIE





# HUIDALLERGIETESTEN OP DE ACCENTA BEURS IN FLANDERS EXPO (N=2320)

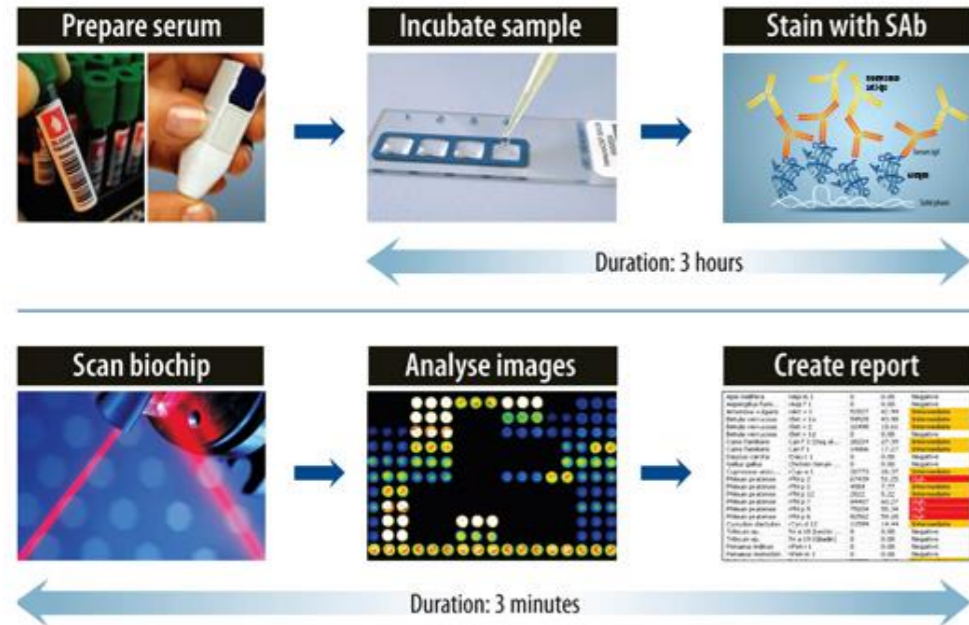






# RELIABLE MITE-SPECIFIC IGE TESTING IN NASAL SECRETIONS BY MEANS OF ALLERGEN MICROARRAY.

Berings M1, Arasi S2, De Ruyck N3, Perna S4, Resch Y5, Lupinek C5, Chen KW5, Vrtala S6, Pajno GB7, Bachert C3, Lambrecht BN8, Dullaers M9, Valenta R5, Matricardi PM4, Gevaert P3.



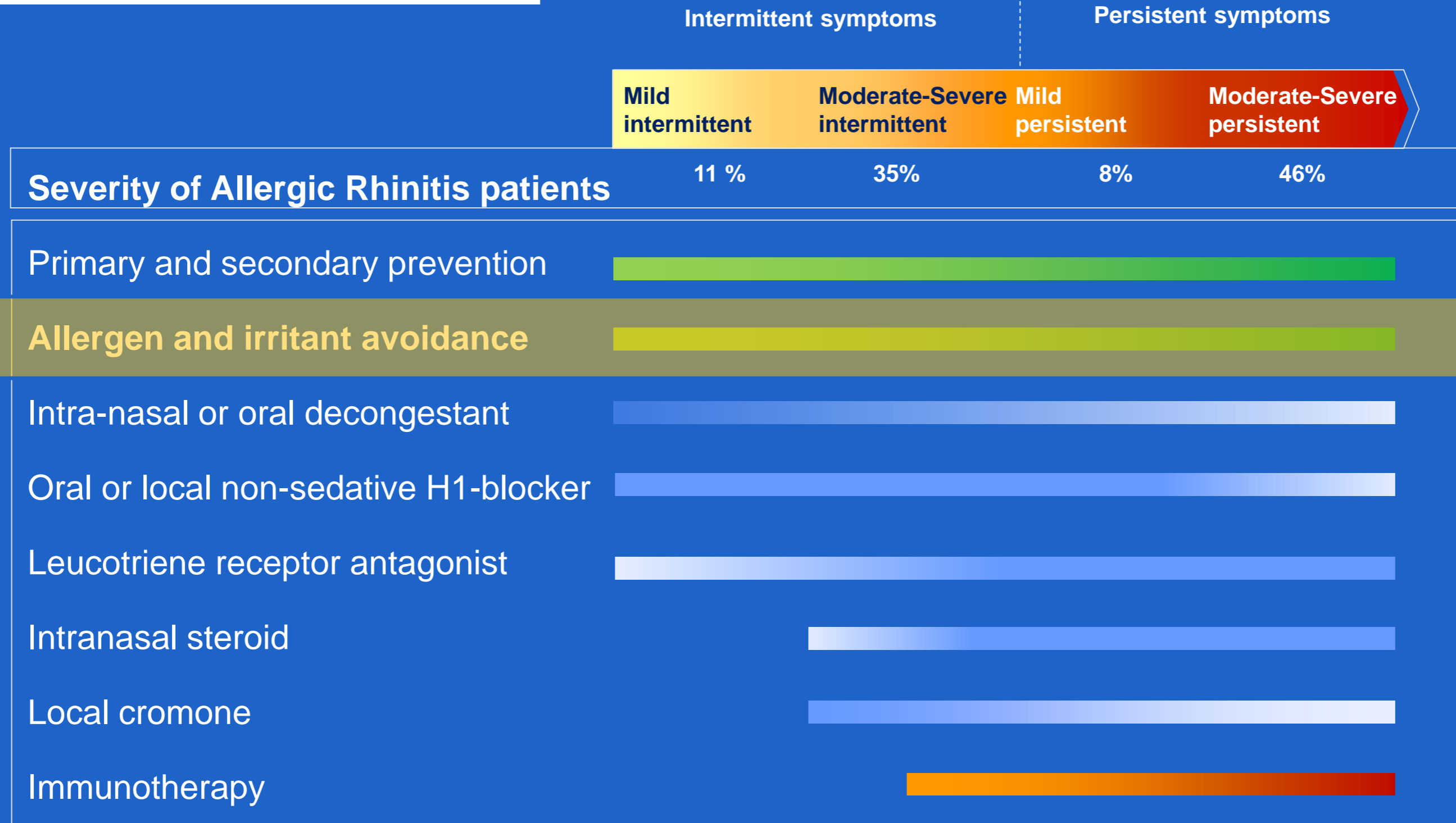
ImmunoCap ISAC



	FD										
	Sensitivity		Specificity		PPV		NPV		Accuracy, %	LR+	LR-
	%	95% CI*	%	95% CI*	%	95% CI*	%	95% CI*			
<b>Any major molecules†</b>	<b>90</b>	<b>73-98</b>	<b>100</b>	<b>83-100</b>	<b>100</b>	<b>82-100</b>	<b>91</b>	<b>75-98</b>	<b>95</b>	$\infty$	<b>0.1</b>
nDer p 1	46	26-66	100	85-100	100	62-100	73	58-85	78	$\infty$	0.5
nDer f 1	68	46-85	100	85-100	100	73-100	81	66-91	86	$\infty$	0.3
rDer p 2	90	73-98	100	83-100	100	81-100	91	76-98	95	$\infty$	0.1
rDer f 2	90	73-98	100	83-100	100	81-100	91	76-98	95	$\infty$	0.1
rDer p 23	81	61-93	100	85-100	100	77-100	87	72-96	92	$\infty$	0.2
<b>Other molecules</b>											
rDer p 4	0	0-53	98	90-100	0	0-99	88	77-95	86	0.0	1.0
rDer p 5	80	44-97	100	89-100	100	52-100	96	87-100	97	$\infty$	0.2
rDer p 7	78	40-97	100	90-100	100	47-100	96	87-100	97	$\infty$	0.2
rDer p 21	57	18-90	100	90-100	100	28-100	95	85-99	95	$\infty$	0.4
<b>All molecules‡</b>	<b>71</b>	<b>63-77</b>	<b>100</b>	<b>99-100</b>	<b>98</b>	<b>93-100</b>	<b>93</b>	<b>91-95</b>	<b>94</b>	<b>167.4</b>	<b>0.3</b>

	SP										
	Sensitivity		Specificity		PPV		NPV		Accuracy, %	LR+	LR-
	%	95% CI*	%	95% CI*	%	95% CI*	%	95% CI*			
<b>Any major molecules†</b>	<b>87</b>	<b>69-96</b>	<b>100</b>	<b>83-100</b>	<b>100</b>	<b>81-100</b>	<b>88</b>	<b>72-97</b>	<b>93</b>	$\infty$	<b>0.1</b>
nDer p 1	58	37-78	100	85-100	100	68-100	78	63-89	83	$\infty$	0.4
nDer f 1	48	28-69	100	85-100	100	64-100	72	57-84	78	$\infty$	0.5
rDer p 2	86	68-96	100	83-100	100	80-100	88	73-97	93	$\infty$	0.1
rDer f 2	86	68-96	100	83-100	100	80-100	88	73-97	93	$\infty$	0.1
rDer p 23	81	61-93	100	85-100	100	77-100	87	72-96	92	$\infty$	0.2
<b>Other molecules</b>											
rDer p 4	14	0-58	98	90-100	50	1-99	89	78-96	88	7.4	0.9
rDer p 5	70	35-93	90	78-97	58	28-85	94	82-99	86	6.9	0.3
rDer p 7	67	30-93	100	90-100	100	42-100	94	84-99	95	$\infty$	0.3
rDer p 21	57	18-90	100	90-100	100	28-100	95	85-99	95	$\infty$	0.4
<b>All molecules‡</b>	<b>68</b>	<b>60-75</b>	<b>99</b>	<b>98-100</b>	<b>95</b>	<b>90-98</b>	<b>93</b>	<b>91-94</b>	<b>94</b>	<b>80.3</b>	<b>0.3</b>

# TREATMENT AR



# EFFECTIVENESS OF AVOIDANCE MEASURES IN RHINITIS AND ASTHMA FOR CERTAIN INDOOR ALLERGENS



Measure

Evidence of effect on allergen levels

Evidence of clinical benefit

## HOUSE DUST MITES

Encase bedding in impermeable covers

Some

None (adults): Evidence A  
**Some (children): Evidence B**

Wash bedding on a hot cycle (55–60° C)

Some

None: Evidence A

Replace carpets with hard flooring

Some

None: evidence A

Acaricides and/or tannic acid

Weak

None: Evidence A

Minimize objects that accumulate dust

None

None: Evidence B

Use vacuum cleaners with integral HEPA filter and double-thickness bags

Weak

None: Evidence B

Remove, hot wash or freeze soft toys

None

None: Evidence B

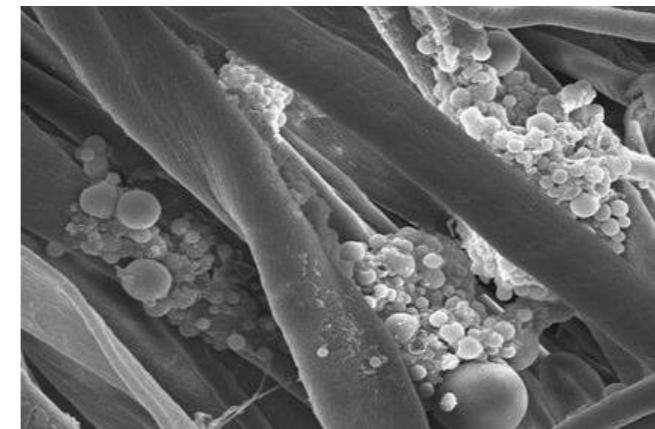
# PUROTEX HOEZEN (SMARTSLEEVE VAN BEKAERT TEXTILES)

## Eerste Pro-biotische methode

- pro-biotische bacterieën (Bacillus sp.)
- voeden zich met de excreten (fecal pellets) van HDM
- reductie van hoeveelheid HDM allergeen in beddengoed

Labo setting ...

Real Life setting?

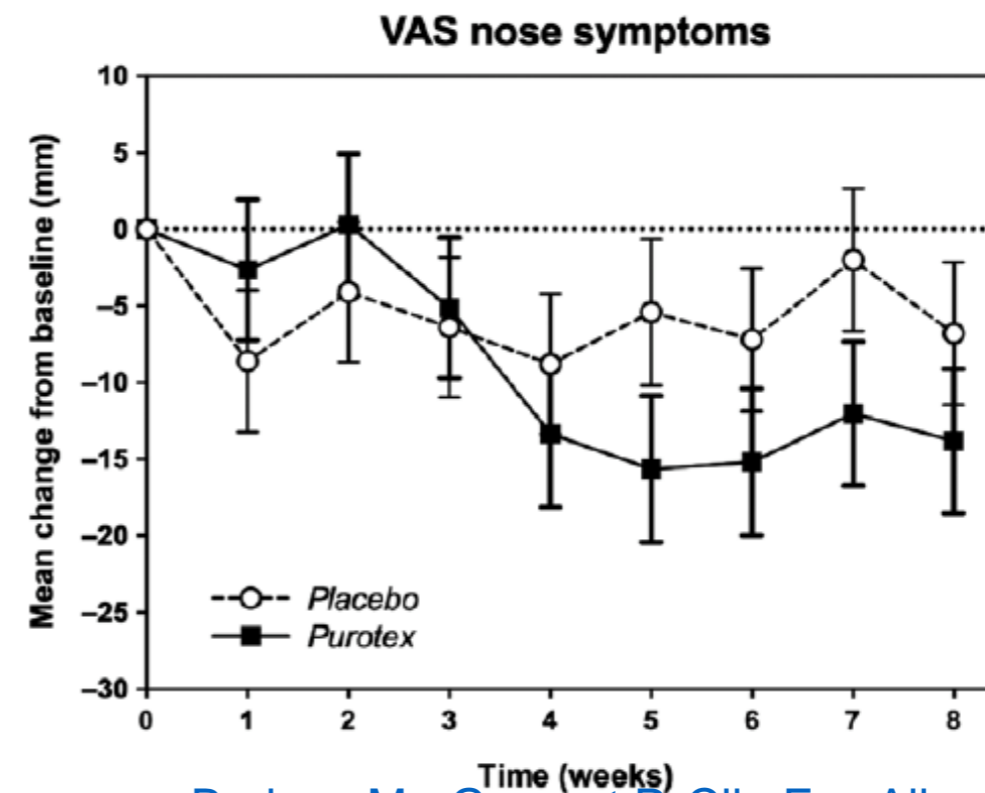
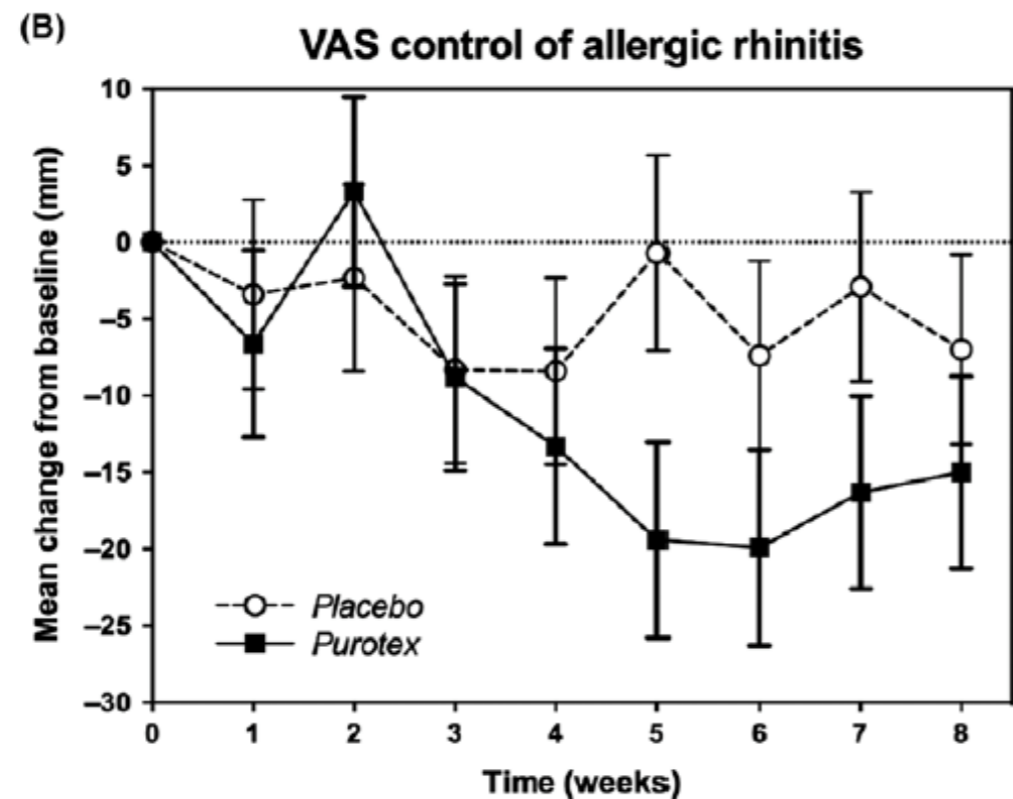
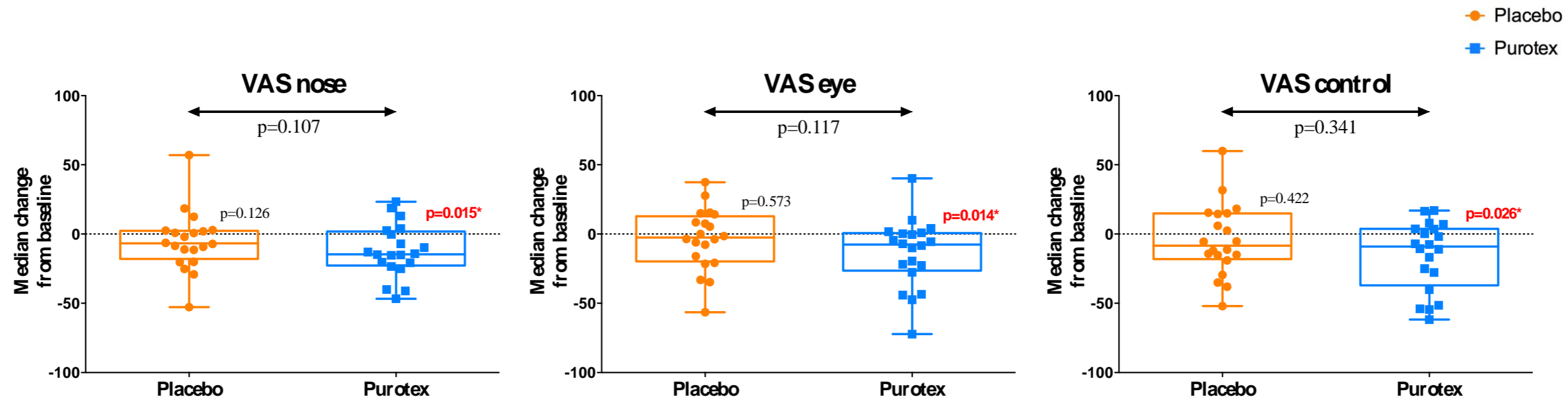




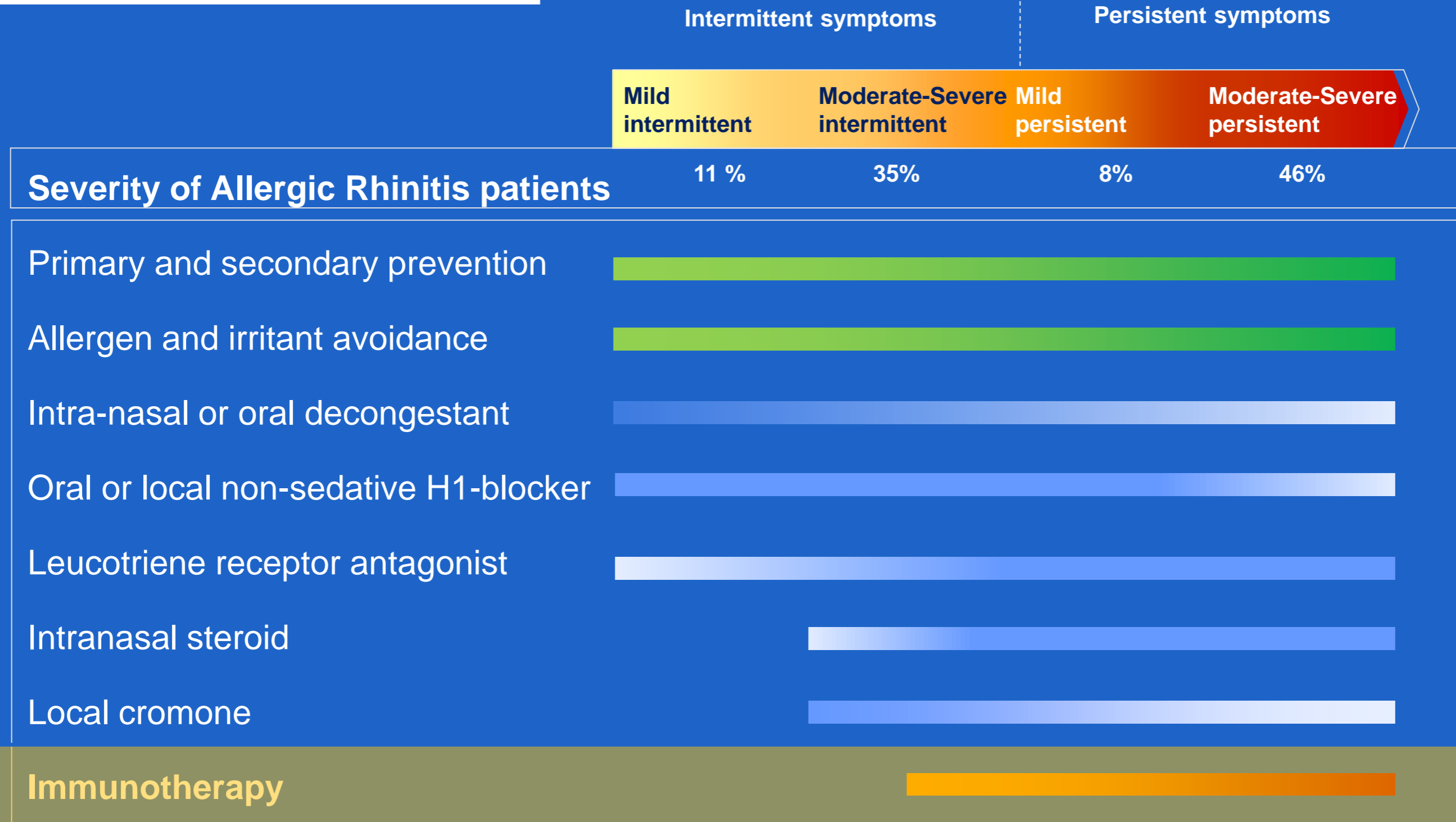
# SYMPTOMEN, KWALITEIT VAN LEVEN EN SLAAP



**SIGNIFICANTE VERBETERING VAN VERSCHILLENDE SYMPTOOM- EN QOL SCORES MET PUROTEX HOEZEN EN GEEN ENKELE SIGNIFICANTE VERANDERING MET PLACEBO HOEZEN**

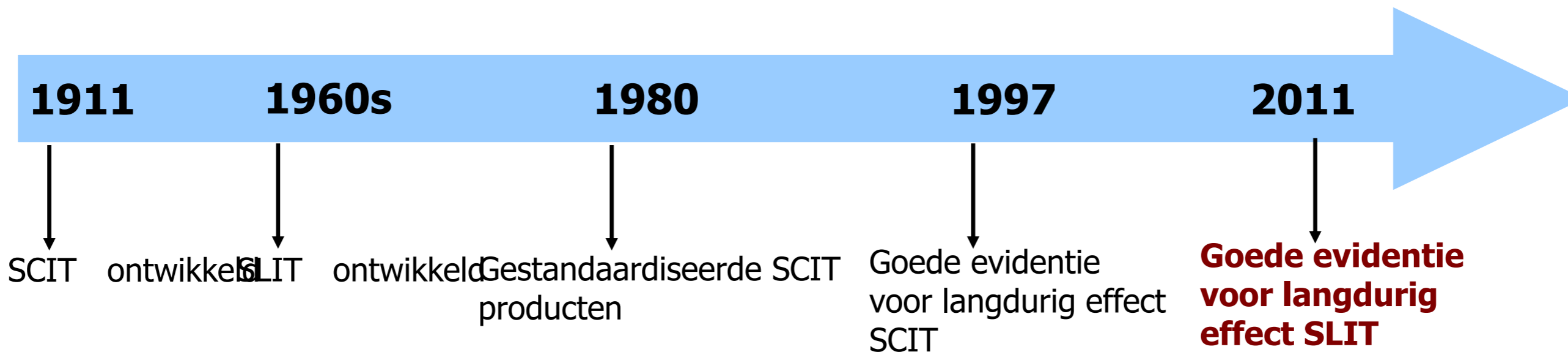


# TREATMENT AR





# 100 JAAR IMMUNOTHERAPIE

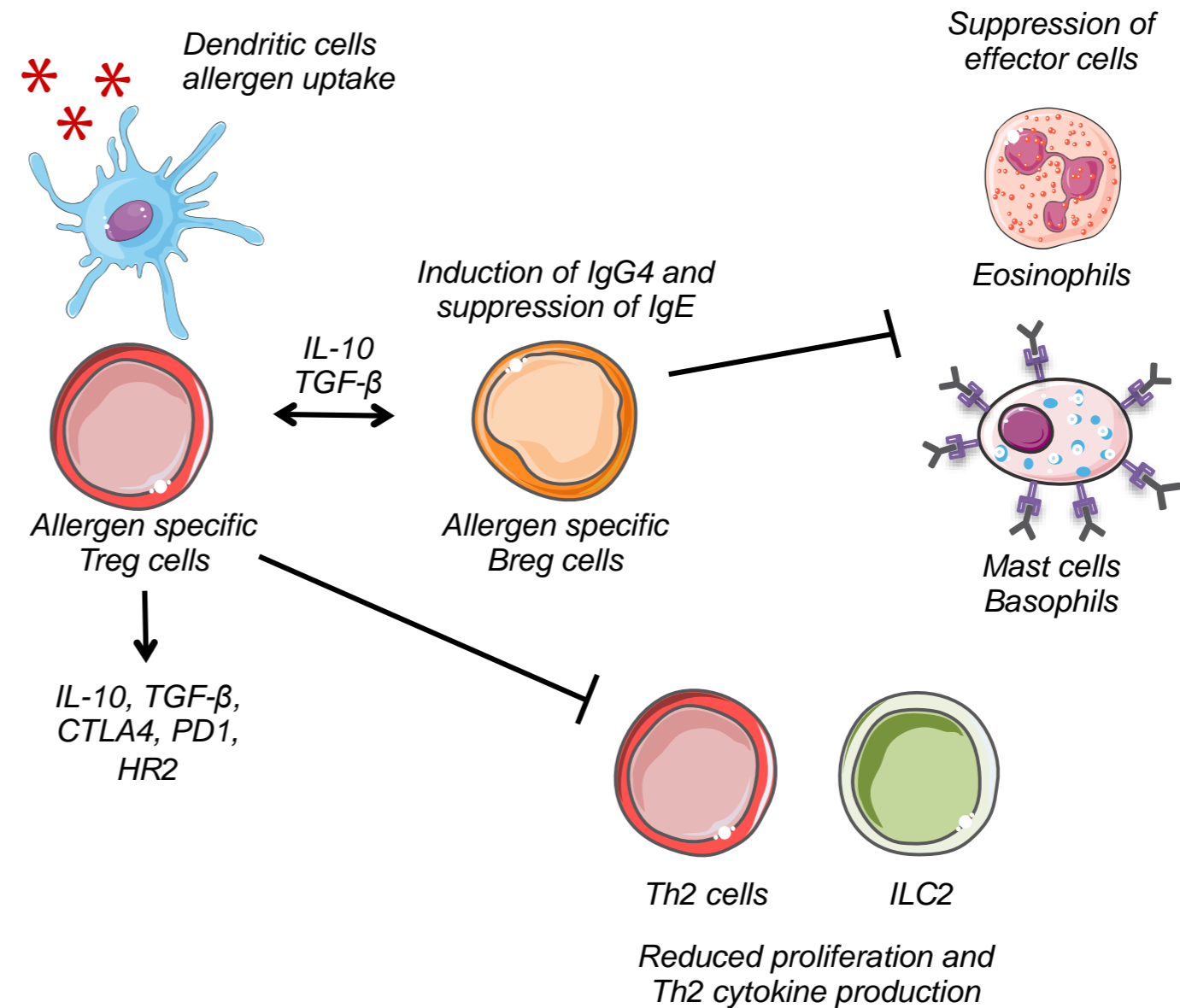


	<b>SCIT</b>	<b>SLIT</b>
<b>'Efficacy'</b>	Bewezen	Bewezen
<b>'Long-term efficacy'</b>	Bewezen	Bewezen
<b>Preventie van Astma (kinderen)</b>	Gedocumenteerd	Gedocumenteerd

# ALLERGEN SPECIFIC IMMUNOTHERAPY (AIT)

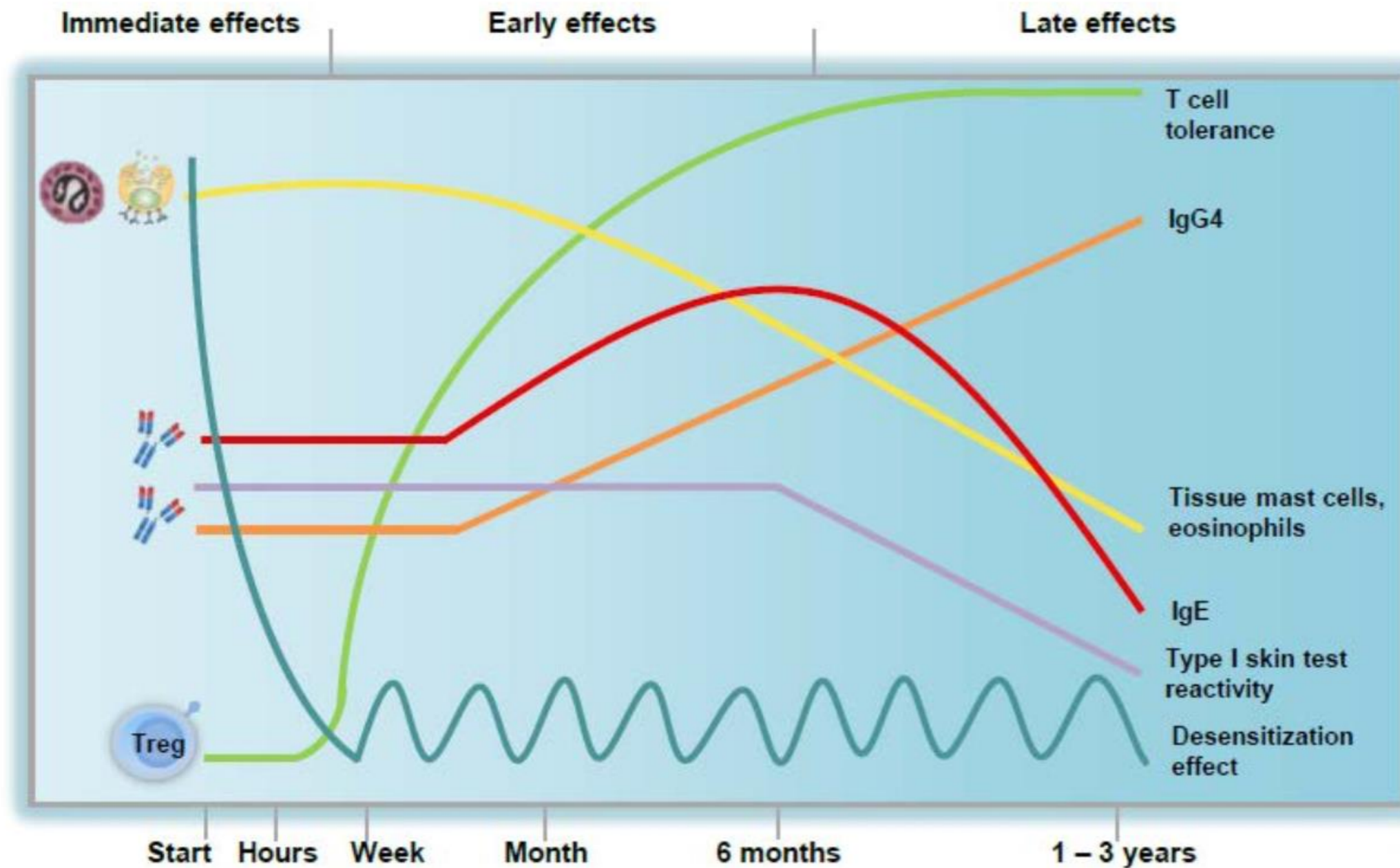
## Induction of tolerance

- Induction of T-regs and B-regs
- IL-10 and TGFbeta
- Induction of IgG4





# THE MODE OF ACTION OF ALLERGEN SPECIFIC IMMUNOTHERAPY **TIMING**



Induction of Tregs and Bregs.  
Suppression of Th2-Th1 cells

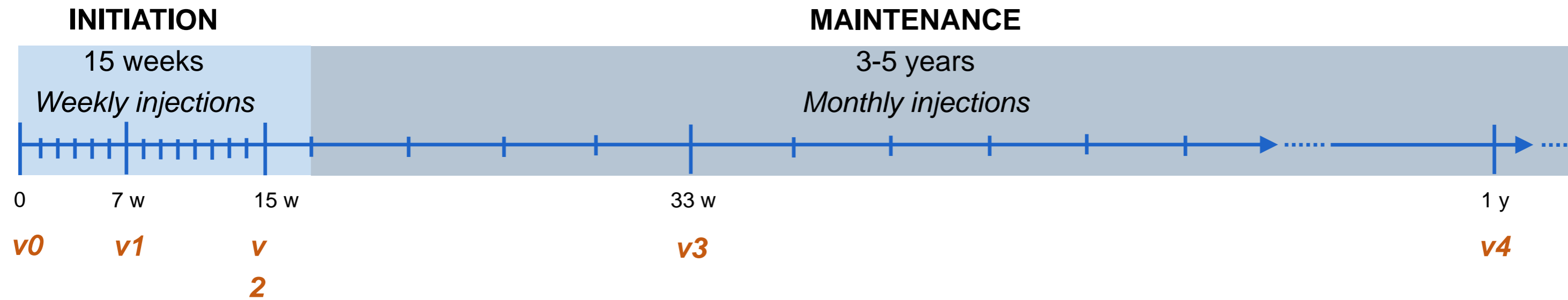
+ decreased allergen specific lymphocyte proliferation

Very early basophils and mast cell tolerance

**Figure 1:** Evolution of immunological markers during SIT (based on Soyer et al.<sup>13</sup>)

## → PROSPECTIVE STUDY (real life!)

- HDM SCIT (Dpt + Dfa, Alutard SQ 510, ALK Albelo)



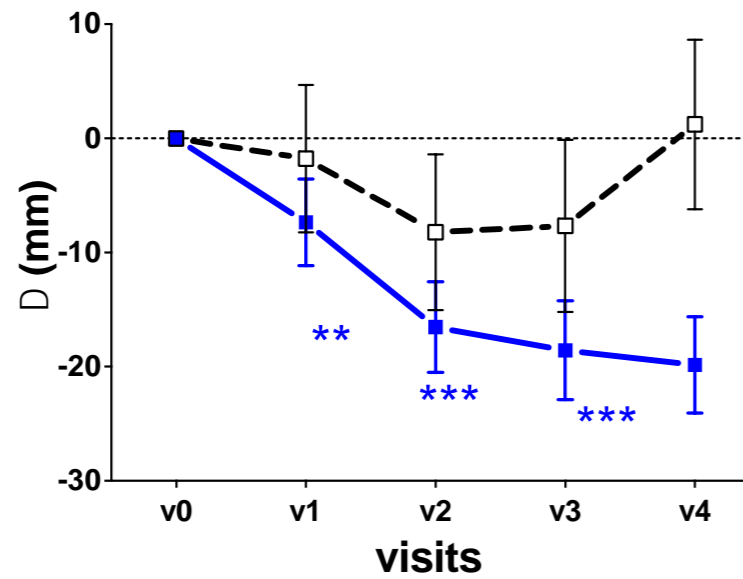
**23 HDMIT:** patients with HDM AR undergoing HDM SCIT (→ *was not performed in all HDMIT patients!*)  
**+ 10 HDMA (same time line):** patients with HDM AR not undergoing HDM SCIT  
(+ 9 HC subjects: single measurement of basophil activation)

# Subcutaneous house dust mite immunotherapy is associated with suppression of allergen-induced basophil activation: a prospective study.

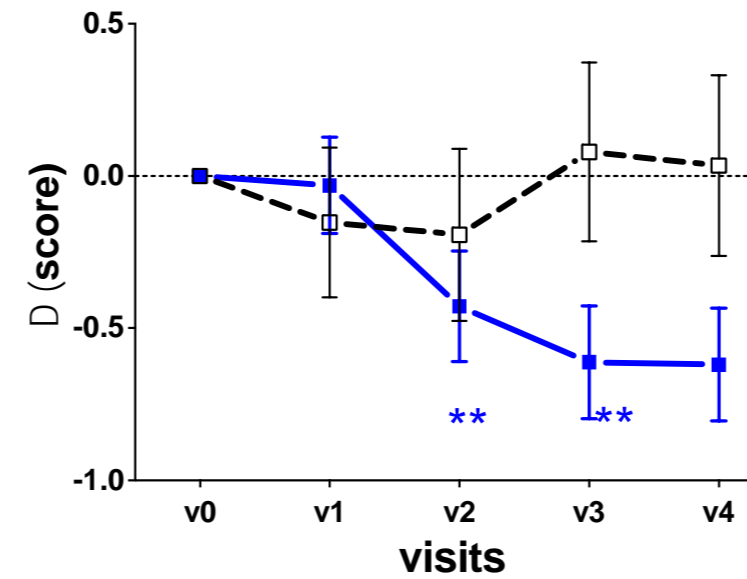


Margot Berings

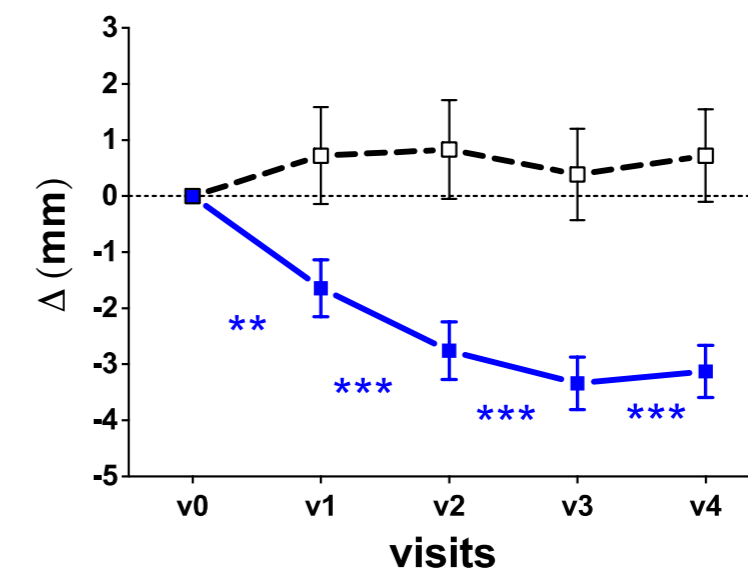
### VAS control of AR



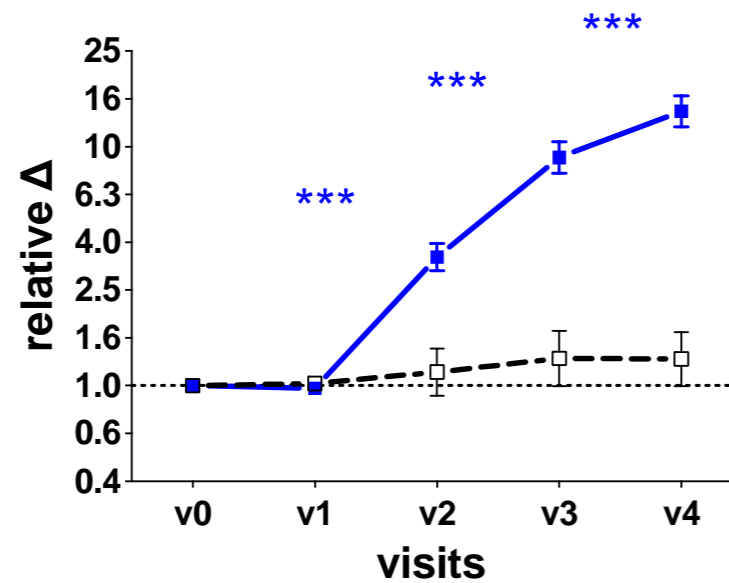
### CSMS



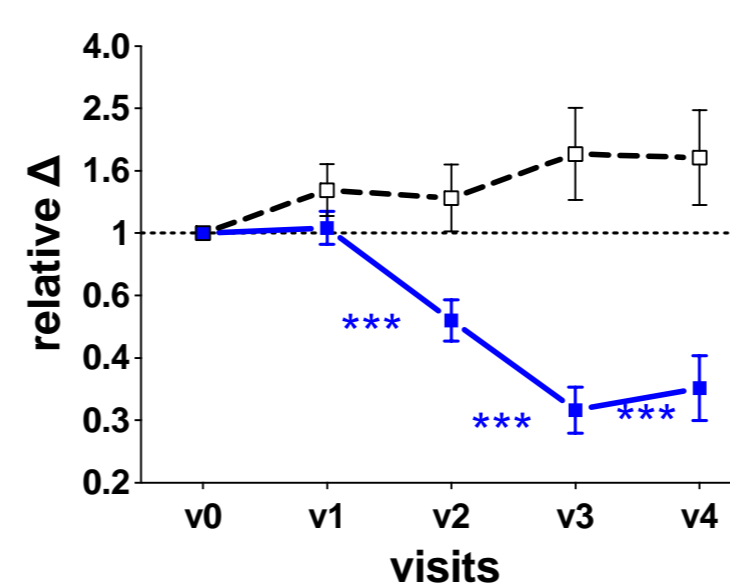
### SPT response to D.pt



### Serum D.pt sIgG<sub>4</sub>



### CD-sens





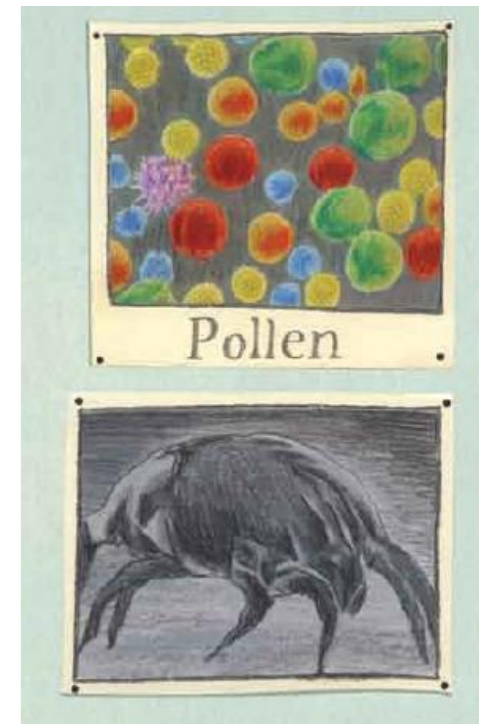
# ALLERGEEN-SPECIFIEKE IMMUNOTHERAPIE (AIT)





# IMMUNOTHERAPIE OF ALLERGIEVACCINATIE

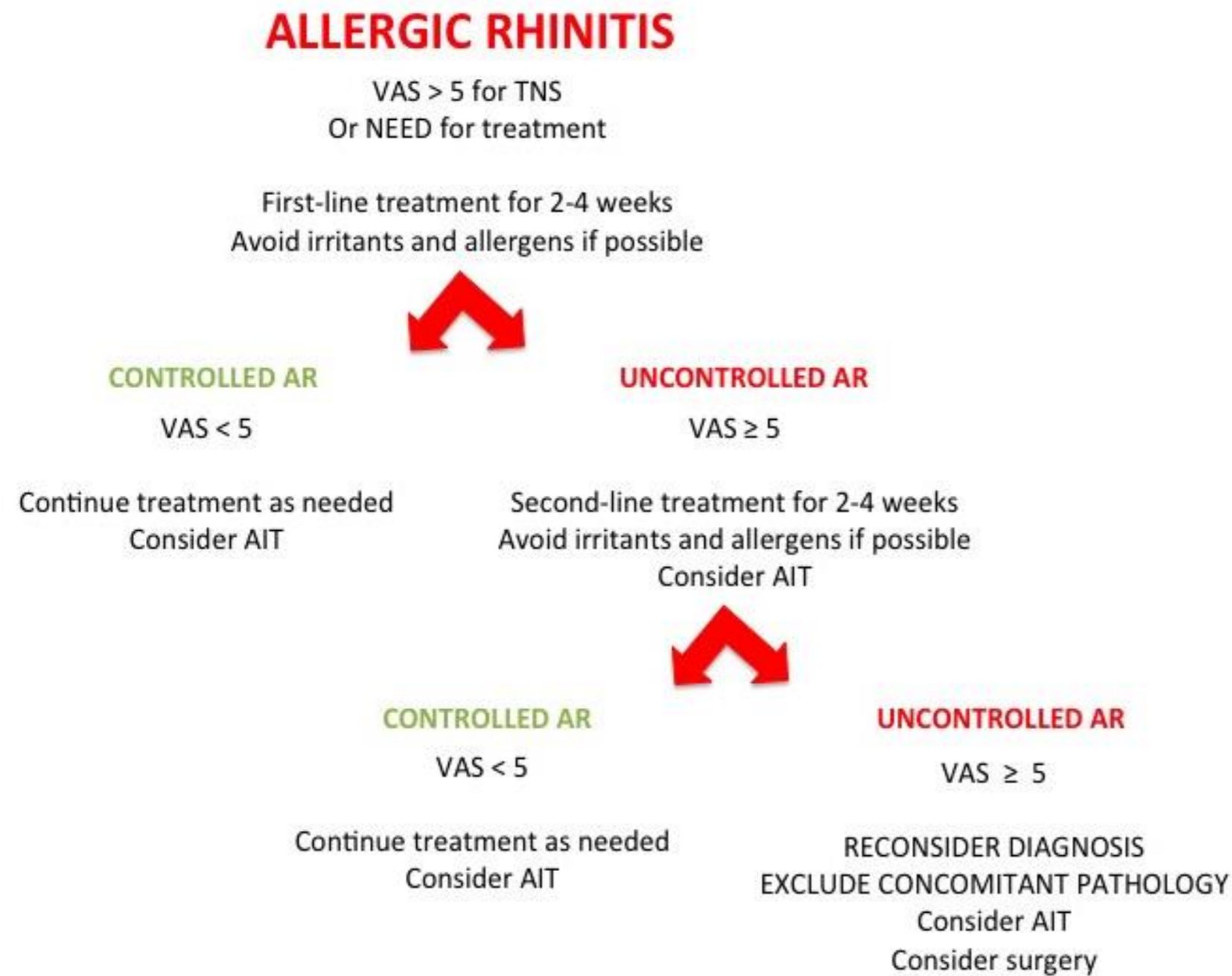
- Relatieve indicatie: allergische rhinitis en astma
  - Bomen
  - Grassen
  - Huisstofmijt
- Absolute indicatie: wespen en bijen steken bij veralgemeende reactie / anafylaxie





# POSITIONING THE PRINCIPLES OF PRECISION MEDICINE IN CARE PATHWAYS FOR ALLERGIC RHINITIS AND CHRONIC RHINOSINUSITIS

Hellings PW, Fokkens WJ, Bachert C, Akdis CA, Bieber T, Agache I, Bernal-Sprekelsen M, Canonica GW, Gevaert P, Joos G, Lund V, Muraro A, Onerci M, Zuberbier T, Pugin B, Seys SF, Bousquet Allergy. 2017 Mar 17



## GRADED IMPLEMENTATION of PRECISION MEDICINE

← Prediction of success  
Participation

← Prediction of success  
Prevention strategy  
Participation

← Personalized care  
Prediction of success  
Prevention strategy  
Participation



# GRASS

Effect is dose and product specific!

22	Studien <sup>1</sup> mit positivem Wirksamkeitsnachweis - GRÄSERPOLLEN 1-2016 Tabelle als Entscheidungsgrundlage zur Verordnungs- oder Erstattungsfähigkeit i. S. einer Positiv- oder Negativliste ungeeignet	Zulassung <sup>2</sup> (Jahr)	Kinder- studie	SMS vs.ES	Patienten in Auswertung / Patienten randomisiert	Auswertungs- verfahren
6	<b>Allergoide SCIT Allergene</b>					
1	<b>Allergovit*</b> Corrigan CJ. For the Study Group: Kettner J, Doerner C, Cromwell O, Narkus A. Efficacy and safety of preseasonal-specific immunotherapy with an aluminum-adsorbed six-grass pollen allergoid. <i>Allergy</i> . 2005; 60: 801-807.	1992		SMS	143 / 154	PP
1	<b>Clustold*</b> Klimek L, Uhlig J, Mäsger R, Rettig K, Pflaar O. A high polymerized grass pollen extract is efficacious and safe in a randomized double-blind, placebo-controlled study using a novel up-dosing cluster-protocol. <i>Allergy</i> . 2014 Dec; 69(12): 1629-1638.			SMS	102/121	PP
1	<b>Depigold*</b> Alvarez-Cuesta E, Aragonese-Gilson E, Martín-García C, Berge-Gimeno P, Gonzalez-Mancebo E, Cuesta-Herranz J. Immunotherapy with depigmented glutaraldehyde-polymerized extracts: changes in quality of life. <i>Clin Exp Allergy</i> . 2005; 35: 572-578.			ES	53 / 53	ITT*
1	<b>Depiquick*</b> Pflaar O, Urry Z, Robinson DS, Sager A, Richards D, Hawrylowicz CM, Brütigam M, Klimek L. A randomized placebo-controlled trial of rush preseasonal depigmented polymerized grass pollen immunotherapy. <i>Allergy</i> . 2012;67:272-279			SMS	179 / 195	FAS
2	<b>Pollinex quattro*</b> Drochenberg KJ, Wheeler AW, Stübner P, Horak F. A well-tolerated grass pollen-specific allergy vaccine containing a novel adjuvant, monophosphoryl lipid A, reduces allergic symptoms after only four preseasonal injections. <i>Allergy</i> . 2001; 56: 498-505.			SMS	124 / 141	PP
	DuBuske LM, Frew AJ, Horak F, Keith PK, Corrigan CJ, Aberer W, Holdich T, Fischer von Weikersthal-Drochenberg KJ. Ultrashort-specific immunotherapy successfully treats seasonal allergic rhinoconjunctivitis to grass pollen. <i>Allergy Asthma Proc</i> . 2011; 32:239-247			SMS	343 / 1028	PP**
4	<b>Nicht modifizierte SCIT Allergene</b>					
	<b>ALK-depot SQ*</b> Dolz I, Martínez-Cáceres C, Bartolomé JM, Cimarra M. A double-blind, placebo-controlled study of immunotherapy with grass-pollen extract Alutard SQ during a 3-year period with initial rush immunotherapy. <i>Allergy</i> . 1996; 51: 489-500.	1990		ES	28 / 30	PP
4	Frew AJ, Powell RI, Corrigan CJ, Durham SR; UK Immunotherapy Study Group. Efficacy and safety of specific immunotherapy with SQ allergen extract in treatment-resistant seasonal allergic rhinoconjunctivitis. <i>J Allergy Clin Immunol</i> . 2006; 117: 319-325.			ES	365 / 410	PP
	Roberts G, Hurley C, Turcanu V, Lock G. Grass pollen immunotherapy as an effective therapy for childhood seasonal allergic asthma. <i>J Allergy Clin Immunol</i> . 2006; 117: 263-268.		ja	SMS	35 / 39	PP
	Vorney VA, Gogo M, Frew AJ, Aber VR, Kay AB, Durham SR. Usefulness of immunotherapy in patients with severe summer hay fever uncontrolled by antiallergic drugs. <i>Brit Med J</i> . 1991; 302: 265-269.			ES	35 / 40	PP
1	<b>Allergoide SLIT Allergene</b>					
	<b>LAIS*</b> Bordignon V. Efficacia di una nuova immunoterapia per graminacee ad assorbimento orale. Studio parallel eseguito per tre anni. <i>G Ital Allergol Immunol Clin</i> 1994; 4: 153-9			ES	unklar / 60	nicht berichtet
11	<b>Nicht modifizierte SLIT Allergene</b>					
	<b>Grazax*</b> Blais M, Maloney J, Nolte H, Gowchik S, Yao R, Skoner DP. Efficacy and safety of timothy grass allergy immunotherapy tablets in North American children and adolescents. <i>J Allergy Clin Immunol</i> . 2011; 127: 64-71.	2006	ja	SMS	307 / 345	FAS
	Bufe A, Eberle P, Franke-Beckmann E, Funck J, Kimmig M, Klimek L, Knecht R, Stephan V, Tholstrup B, Weishaar C, Kaiser F. Safety and efficacy in children of an SQ-standardized grass allergen tablet for sublingual immunotherapy. <i>J Allergy Clin Immunol</i> . 2009; 123: 167-173.		ja	ES	238 / 253	FAS
	Dahl R, Kapp A, Colombo G, de Monchy JGR, Rak S, Emminger W, Rivas MF, Ribel M, Durham SR. Efficacy and safety of sublingual immunotherapy with grass allergen tablets for seasonal allergic rhinoconjunctivitis. <i>J Allergy Clin Immunol</i> . 2006; 118: 434-440.			ES	568 / 634	FAS
7	Dahl R, Stender A, Rak S. Specific immunotherapy with SQ standardized grass allergen tablets in asthmatics with rhinoconjunctivitis. <i>Allergy</i> . 2006; 61: 185-190.			ES	93 / 114	PP
	Durham SR, Yang WH, Pedersen MR, MSc-Pharm, Johansen N, MSc-Chem Eng, Rak S. Sublingual immunotherapy with once-daily grass allergen tablets: A randomized controlled trial in seasonal allergic rhinoconjunctivitis. <i>J Allergy Clin Immunol</i> . 2006; 117: 802-9.			ES	640 / 855	PP ***
	Nelson HS, Nolte H, Creticos P, Maloney J, Wu J, Bernstein DL. Efficacy and safety of timothy grass allergy immunotherapy tablet treatment in North American adults. <i>J Allergy Clin Immunol</i> . 2011; 127: 72-80.			SMS	391 / 439	FAS
	Maloney J, Bernstein DL, Nelson H, Creticos P, Hébert J, Noonan M, Skoner D, Zhou Y, Kaur A, Nolte H. Efficacy and safety of grass sublingual immunotherapy tablet, MK-7243: a large randomized controlled trial. <i>Ann Allergy Asthma Immunol</i> . 2014; 112: 146-153		ja (270/283)	SMS	1301/1501	FAS
	<b>Oralair*</b> Didier A, Malling HJ, Worm M, Horak F, Jäger S, Montagut A, André C, de Beaumont O, Melac M. Optimal dose, efficacy, and safety of once-daily sublingual immunotherapy with a 5-grass pollen tablet for seasonal allergic rhinitis. <i>J Allergy Clin Immunol</i> . 2007; 120: 1338-1345.	2008		ES	569 / 628	FAS
	Didier A, Worm M, Horak F, Sussman G, de Beaumont O, Le Gall M, Melac M, Malling HJ. Sustained 3-year efficacy of pre- and coseasonal 5-grass-pollen sublingual immunotherapy tablets in patients with grass pollen-induced rhinoconjunctivitis. <i>J Allergy Clin Immunol</i> . 2011; 128: 559-566.			SMS	461 / 633	FAS
4	Wahn U, Tabar A, Kuno P, Halken S, Montagut A, de Beaumont O, Le Gall M; SLIT Study Group. Efficacy and safety of 5-grass-pollen sublingual immunotherapy tablets in pediatric allergic rhinoconjunctivitis. <i>J Allergy Clin Immunol</i> . 2009; 123: 160-166.		ja	ES	266 / 278	FAS
	Cox LS, Casale TB, Noyak AS, Bernstein DL, Creticos PS, Ambrosine L, Melac M, Zeldin RK. Clinical efficacy of 300IR 5-grass pollen sublingual tablet in a US study: The importance of allergen-specific serum IgE. <i>J Allergy Clin Immunol</i> . 2012; 130: 1327-34			SMS	438 / 473	FAS

# TREE

8 Studien <sup>1</sup> mit positivem Wirksamkeitsnachweis - Frühlüher-/Birkenpollen 1-2016 Tabelle als Entscheidungsgrundlage zur Verordnungs- oder Erstattungsfähigkeit i. S. einer Positiv- oder Negativliste ungeeignet		Zulassung <sup>2</sup> (Jahr)	Kinder- studie	SMS vs. ES	Patienten in Auswertung / Patienten randomisiert	Auswertungs- verfahren
<b>3 Allergoide SCIT Allergene</b>						
<b>Depigoid®</b>						
1	Höiby AS, Strand V, Robinson DS, Sager A, Rak S. Efficacy, safety, and immunological effects of a 2-year immunotherapy with Depigoid birch pollen extract: a randomized, double-blind, placebo-controlled study. <i>Clin Exp Allergy</i> 2010;40:1062-1070			SMS	45 / 61	PP
<b>Pollinex quattro®</b>						
1	Drachenberg KJ, Heinzkil M, Urban E. Kurzzeit-Immuntherapie mit Baumpollen-Allergoiden und dem Adjuvanz Monophosphoryl Lipid A. Ergebnisse einer randomisierten, doppelblinden, plazebokontrollierten Multicenterstudie. <i>Allergologie</i> . 2002; 25: 466-474.			SMS	58 / 84	PP
<b>Purethal®</b>						
1	Cauppens JL, Bullens D, Kleinjans H, van der Werf J and the PURETHAL Birch Efficacy Study Group. Immunotherapy with a modified birch pollen extract in allergic rhinoconjunctivitis: clinical and immunological effects. <i>Clinical &amp; Experimental Allergy</i> 2009; 39: 1903-1909	1989		ES	58/62	PP*
<b>3 Nicht modifizierte SCIT Allergene</b>						
<b>ALK-depot SQ®</b>						
2	Arvidsson MB, Löwhagen O, Rak S. Effect of 2-year placebo-controlled immunotherapy on airway symptoms and medication in patients with birch pollen allergy. <i>J Allergy Clin Immunol</i> . 2002; 109: 777-783.	1990		ES	46 / 49	PP
	Bjdtger U, Poulsen LK, Jacobi HH, Malling HJ. The safety and efficacy of subcutaneous birch pollen immunotherapy – a one-year, randomized double-blind, placebo-controlled study. <i>Allergy</i> . 2002; 57: 297-305.		ES	33 / 35	PP	
<b>ALK 7®</b>						
1	Balda BR, Wolf H, Baumgarten C, Klimek L, Rasp G, Kunkel G, Müller S, Mann W, Hauswald B, Heppt W, Przybilla B, Amon U, Bischoff R, Becher G, Hummel S, Frösch PJ, Rustemeyer T, Jäger L, Brähler R, Luger T, Schnitzler J. Tree-pollen allergy is efficiently treated by short-term immunotherapy (STI) with seven preseasonal injections of molecular standardized allergens. <i>Allergy</i> . 1998; 53: 740-748.	1997		ES	61/111	PP**
<b>0 Allergoide SLIT Allergene</b>						
<b>2 Nicht modifizierte SLIT Allergene</b>						
<b>Staloral®</b>						
2	Khinchí MS, Poulsen LK, Carat F, André C, Hansen AB, Malling HJ. Clinical efficacy of sublingual and subcutaneous birch pollen allergen-specific immunotherapy: a randomized, placebo-controlled, double-blind, double-dummy study. <i>Allergy</i> . 2004; 59: 45-53.	2005		ES	58/71	PP
	Worm M, Rak S, de Blay F, Malling HJ, Melac M, Cotic V, Zeldin RK. Sustained efficacy and safety of a 300iR daily dose of a sublingual solution of birch pollen allergen extract in adults with allergic rhinoconjunctivitis: results of a double-blind, placebo-controlled study. <i>Clinical and Translational Allergy</i> 2014, 4:7		FAS	500/574	FAS	

# MITE

2 Studien <sup>1</sup> mit positivem Wirksamkeitsnachweis - Milbenallergene 1-2016 Tabelle als Entscheidungsgrundlage zur Verordnungs- oder Erstattungsfähigkeit i. S. einer Positiv- oder Negativliste ungeeignet		Zulassung <sup>2</sup> (Jahr)	Kinder- studie	SMS vs. ES	Patienten in Auswertung / Patienten randomisiert	Auswertungs- verfahren
<b>2 Allergoide SCIT</b>						
<b>Depigoid®</b>						
2	Ameal A, Vega-Chicote JM, Fernández S, Miranda A, Carmona MJ, Rondán MC, Reina E, García-González JJ. Double-blind and placebo-controlled study to assess efficacy and safety of a modified allergen extract of <i>Dermatophagoides pteronyssinus</i> in allergic asthma. <i>Allergy</i> . 2005; 60: 1178-1183.	2004		ES	55 / 63	PP
	García-Robaina J-C, Sánchez I, de la Torre F, Fernández-Caldas E, Casanovas M. Successful management of mite-allergic asthma with modified extracts of <i>Dermatophagoides pteronyssinus</i> and <i>Dermatophagoides farinae</i> in a double-blind, placebo-controlled study. <i>J Allergy Clin Immunol</i> . 2006; 118: 1026-1032.		ES	64 / 64	ITT	
<b>0 Nicht modifizierte SCIT Allergene</b>						
<b>0 Allergoide SLIT Allergene</b>						
<b>1 Nicht modifizierte SLIT Allergene</b>						
	Demoly P, Emminger W, Rehm D, Backer V, Tommerup L, Kleine-Tabbe J. Effective treatment of house dust mite-induced allergic rhinitis with 2 doses of the SQ HDM SLIT-tablet: Results from a randomized double-blind, placebo-controlled phase III trial. <i>J Allergy Clin Immunol</i> . 2015 Aug 17. pii: S0091-6749(15)00935-5. doi: 10.1016/j.jaci.2015.06.036.	2015		SMS	653/338	FAS

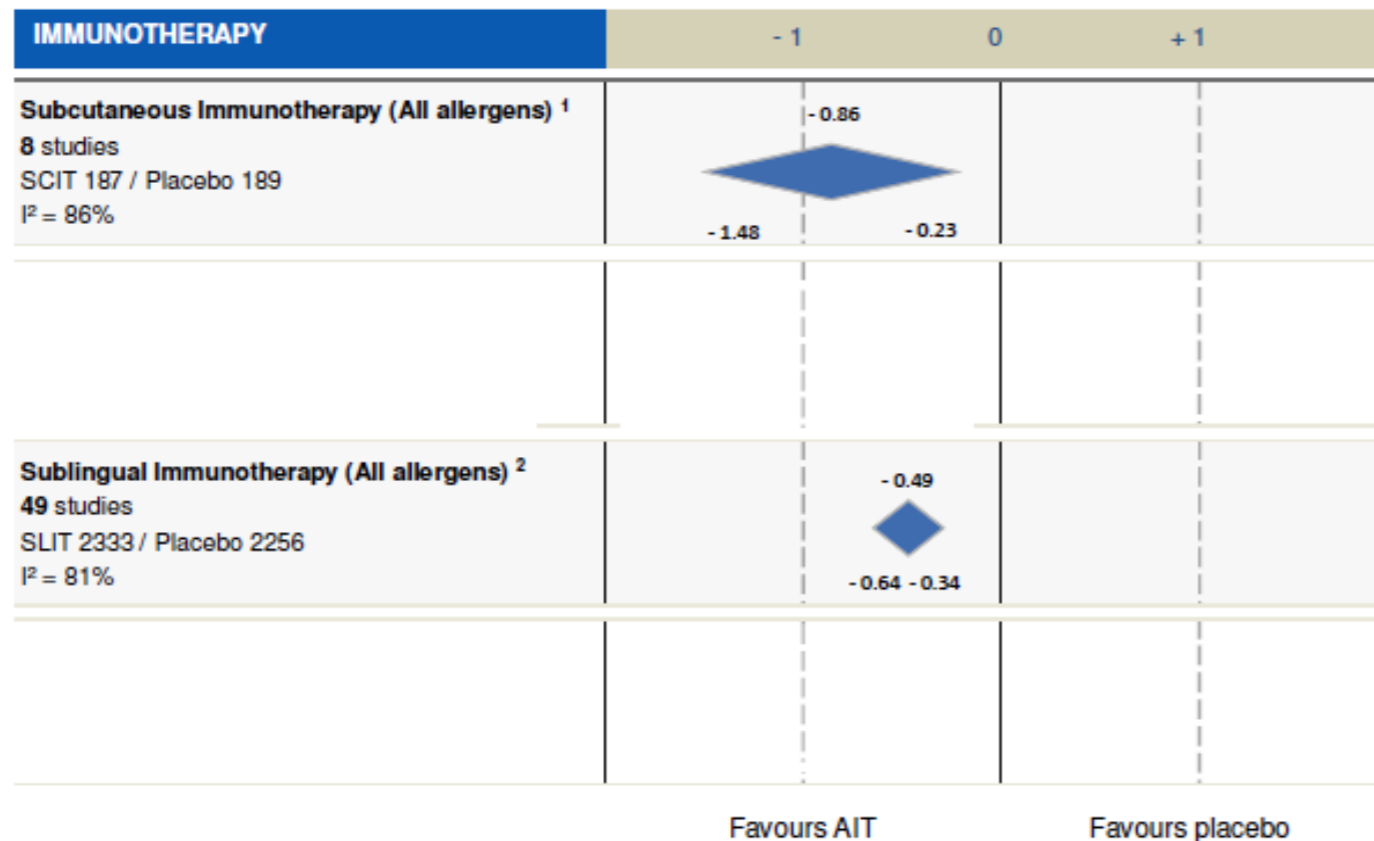




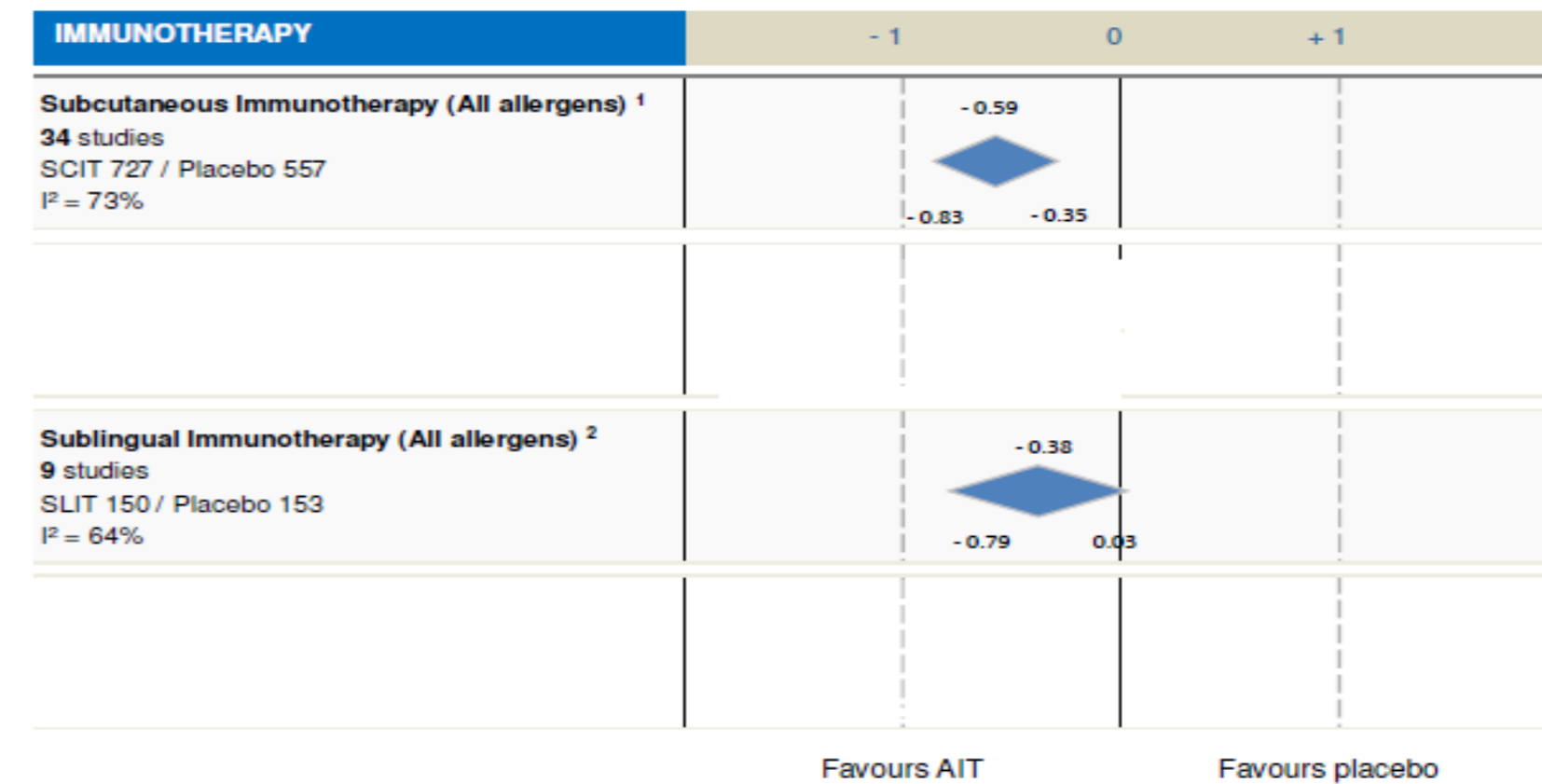
# Verschillende soorten AIT?

	Subcutane immunotherapie (SCIT)	Sublinguale immunotherapie (SLIT)
Voorbeelden	Rechtstreeks te bestellen bij firma (bv. Stallergenes, Hal Allergy of ALK)	Grassen: Grazax <sup>®</sup> , Oralair <sup>®</sup> Mijten: Acarizax, Actair
Effectiviteit	Werkzaamheid bewezen	Werkzaamheid bewezen

## Effect op Allergische Rinitis



## Effect op Astma



<sup>1</sup> Calderon MA et al. Cochrane Database of Systematic Reviews 2013, No.: CD007163 [In press]

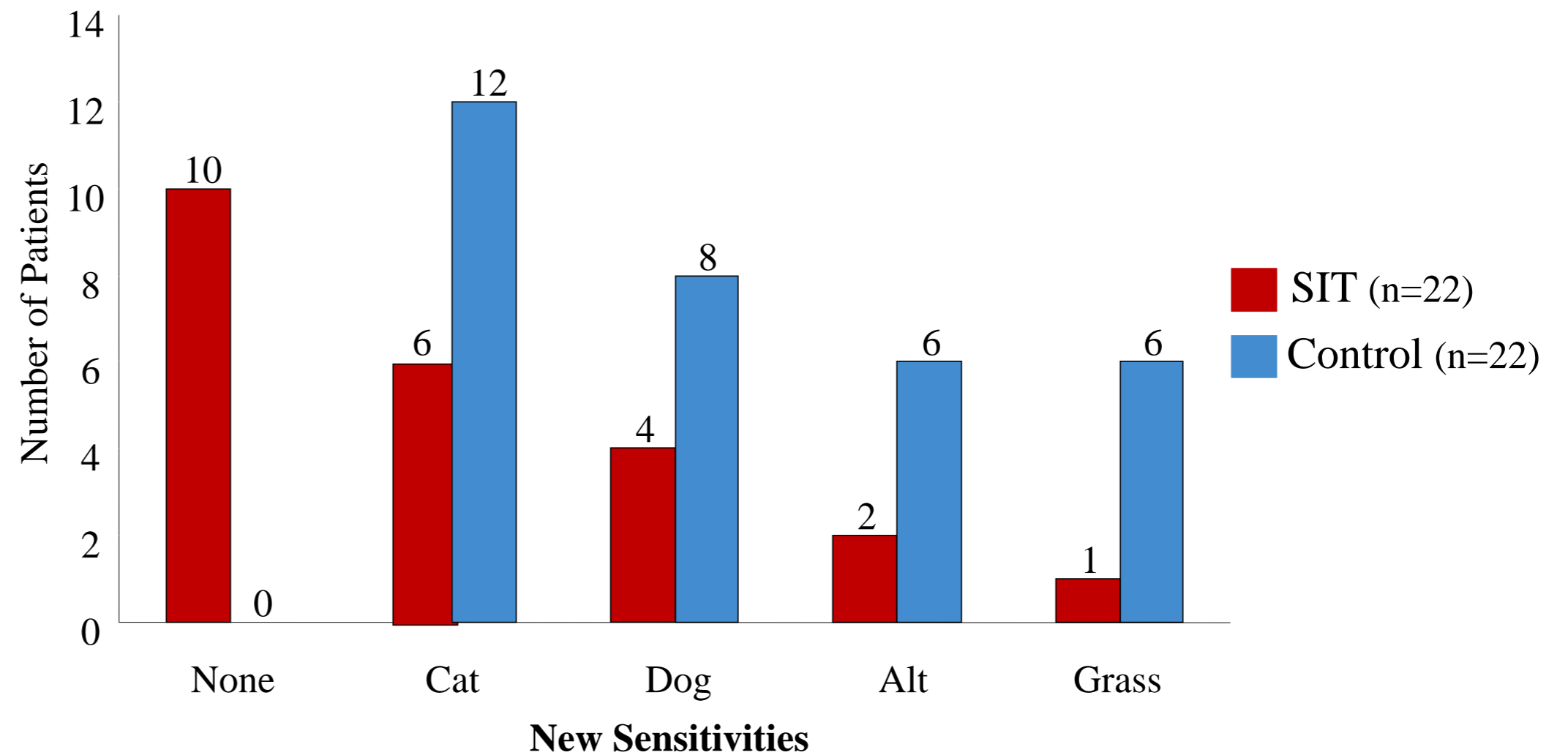
<sup>2</sup> Radulovic S et al. Cochrane Database Syst Rev. 2010 Dec 8;(12):CD002893.

<sup>1</sup> Abramson MJ et al. Cochrane Database Syst Rev. 2010 Aug 4; (8): CD001186.

<sup>2</sup> Calamita Z et al. Allergy 2006; 61: 1162-72.

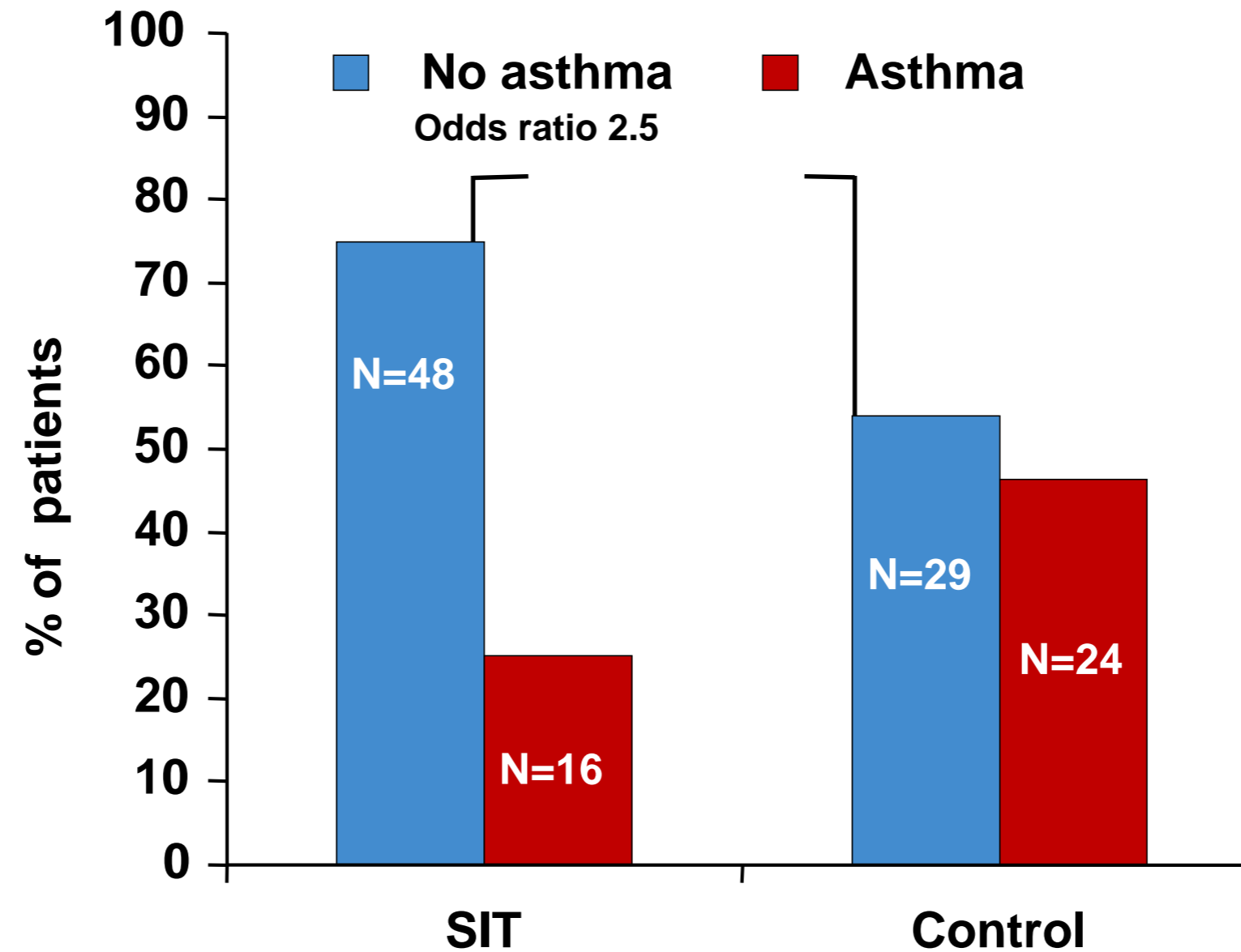
# ALLERGIEVACCINATIE VERMINDERT OPKOMEN NIEUWE ALLERGIEËN

Monosensitized Children under 6 years with Asthma  
HDM sensitisation for 2 years  
Not RCT, PC, DB study  
3-year follow-up



# ALLERGIEVACCINATIE VERMINDERT ONTWIKKELING VAN ASTMA

In children with moderate/severe allergic rhinitis  
10 years follow-up (N=117)







# SUBLINGUALE IMMUNOTHERAPIE VOOR HUISSTOFMIJT

# P003 – DOSE FINDING IN A HDM EXPOSURE CHAMBER

## Objective:

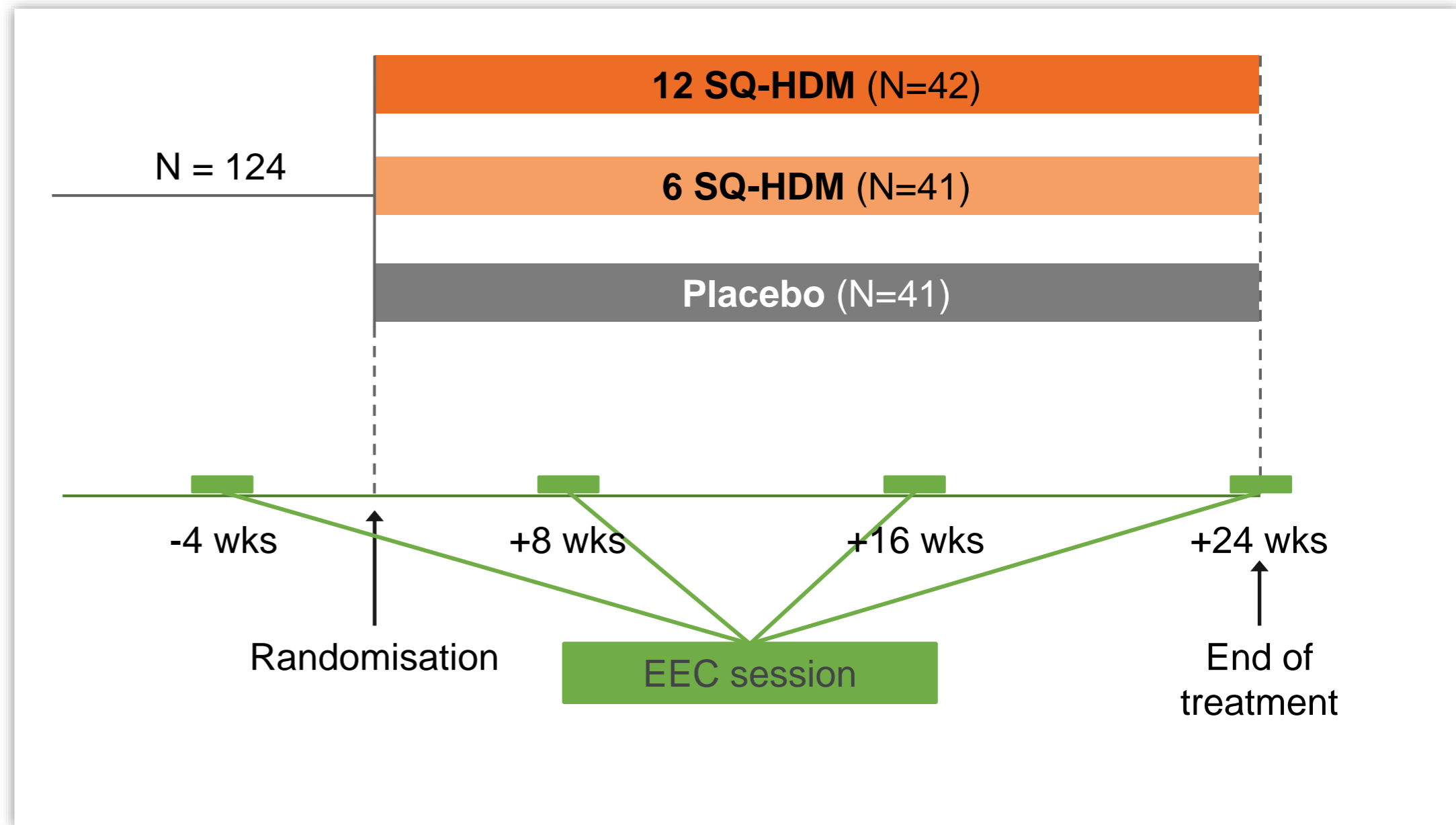
- Reduce rhinitis symptoms

## Population:

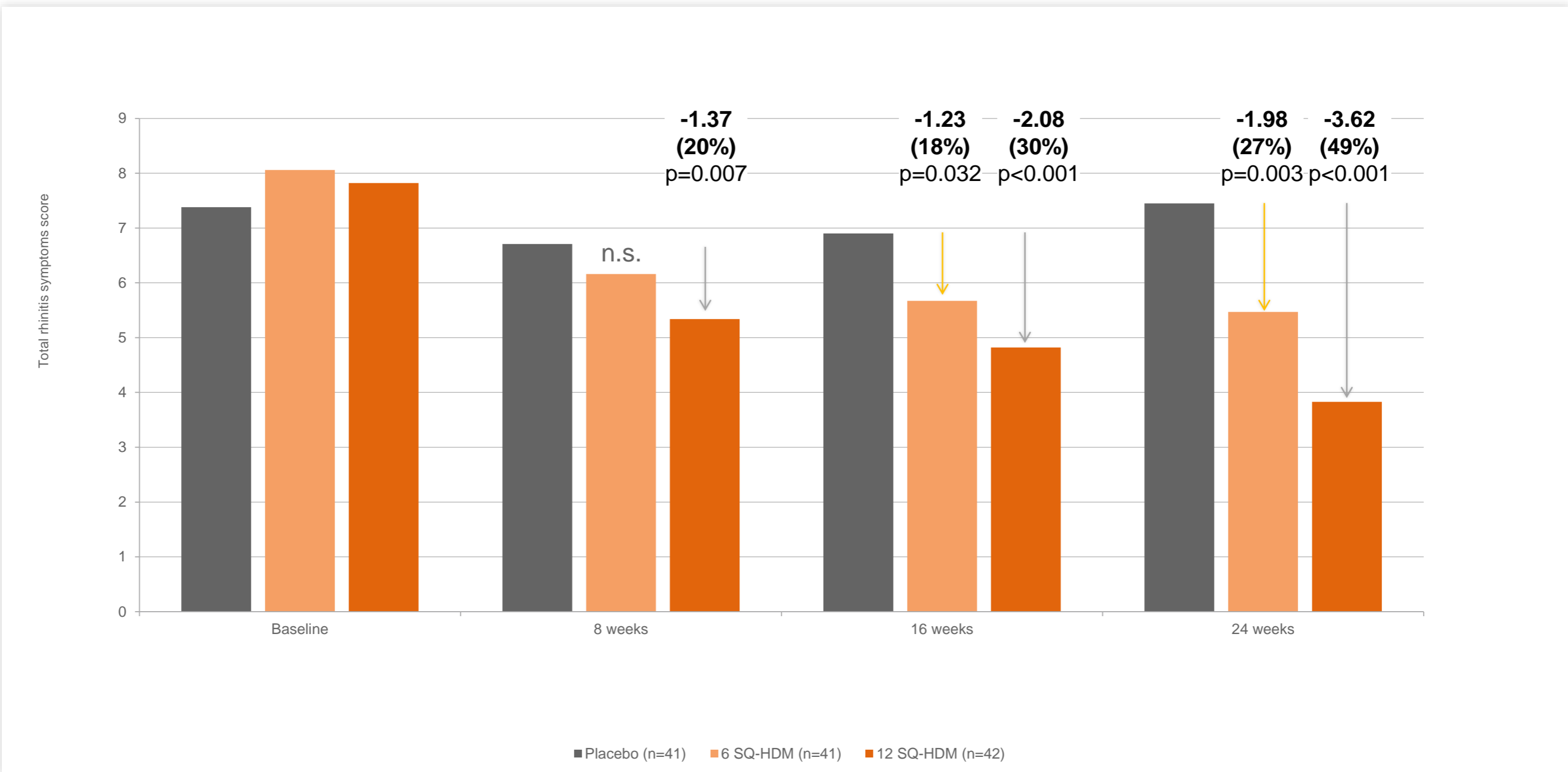
- Moderate-to-severe HDM allergic rhinitis
- +/- mild asthma

## Primary endpoint:

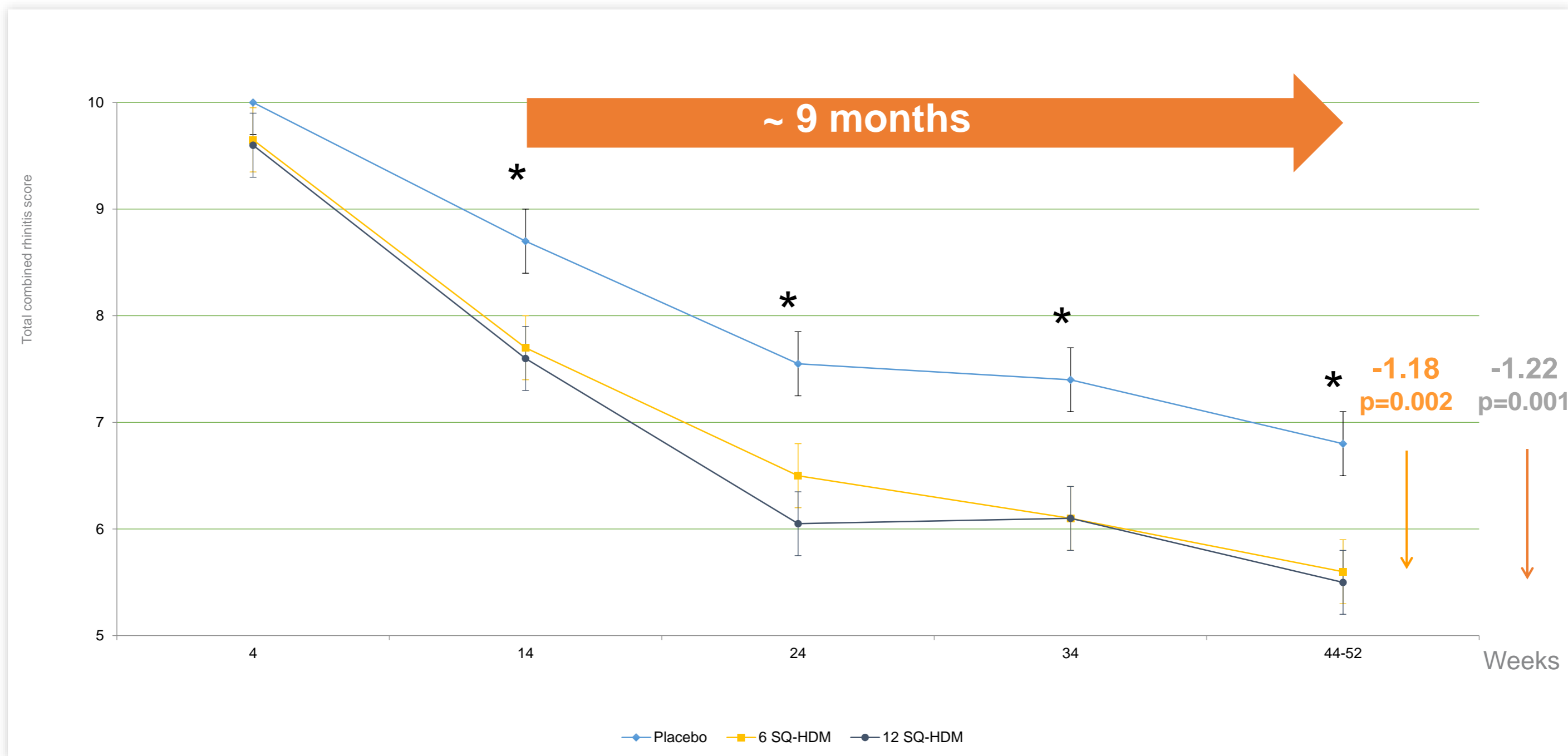
- Total nasal symptoms score (TNSS) at 24-week challenge



# P003 – CLEAR DOSE-RESPONSE WITH EARLY ONSET OF EFFECT WITHIN 8 WEEKS



# MERIT (MT-06) – YEAR AROUND TREATMENT EFFECT WITH EARLY ONSET OF EFFECT AT 14 WEEKS





# MITRA (MT-04) – ALLERGIC ASTHMA

## CONFIRMATORY

### Objective:

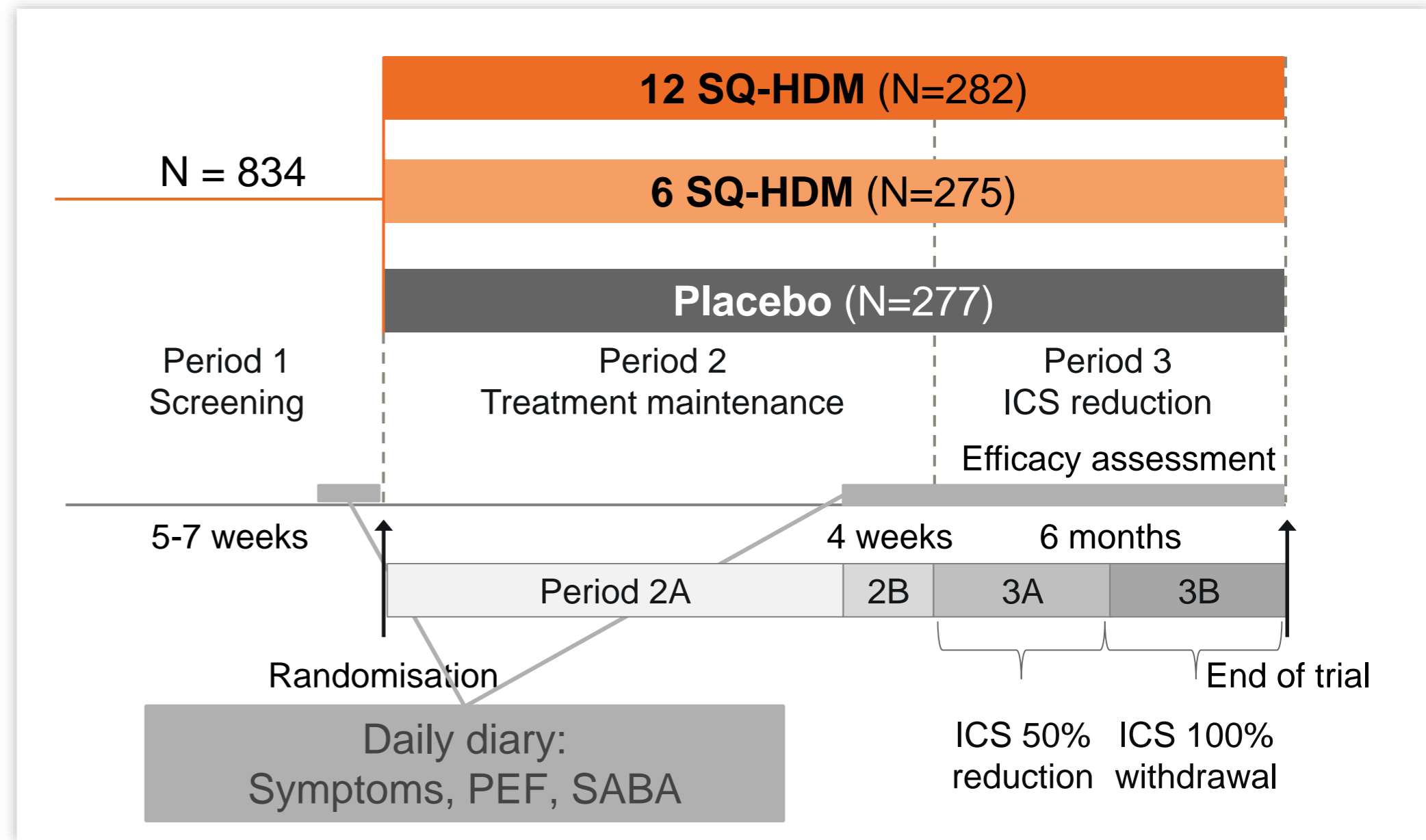
- Improve asthma control assessed by reduced risk of asthma exacerbation

### Population:

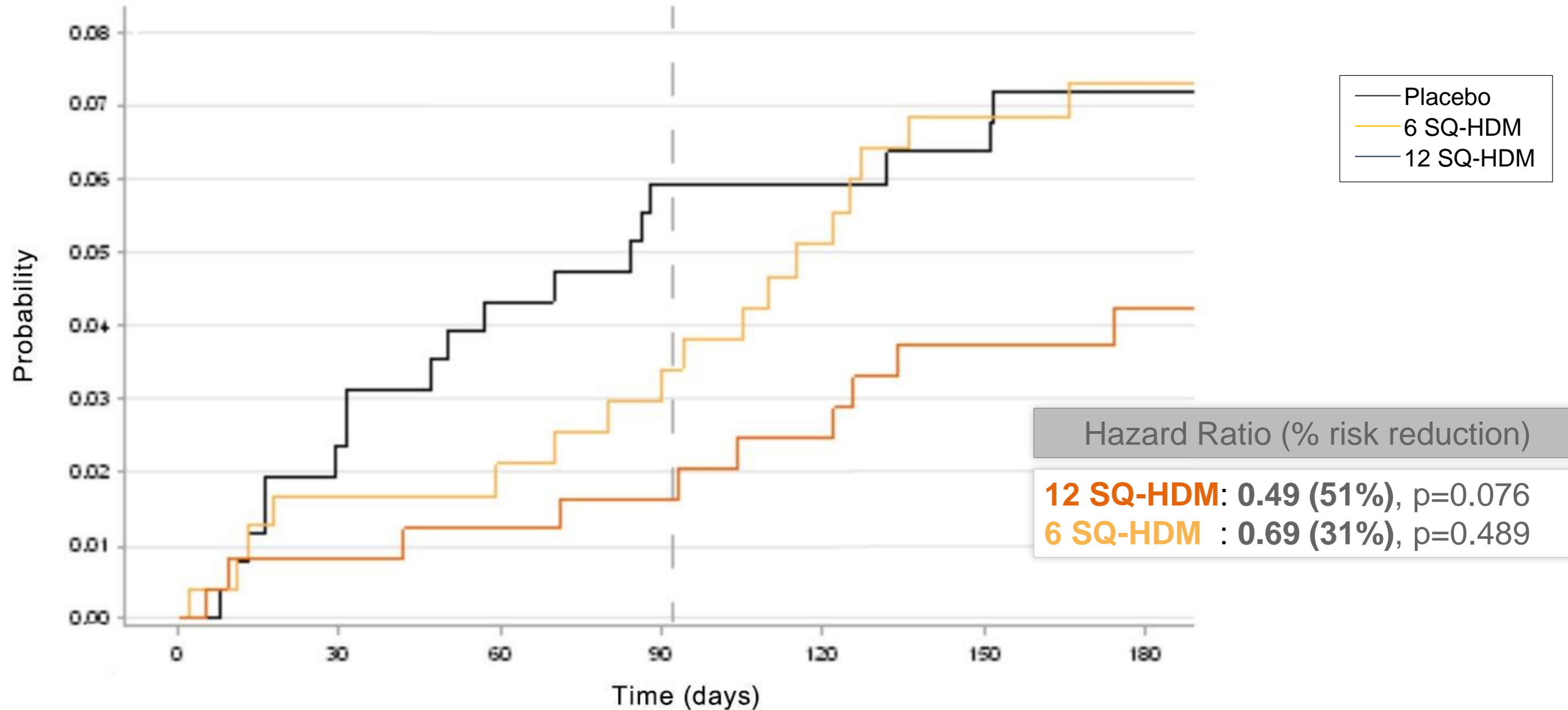
- Moderate-to-severe HDM allergic asthma
- Partly controlled asthma
- Mild-to-severe HDM allergic rhinitis

### Primary endpoint:

- Time to first moderate or severe asthma exacerbation
- Pre-specified MCID: hazard ratio of 0.7

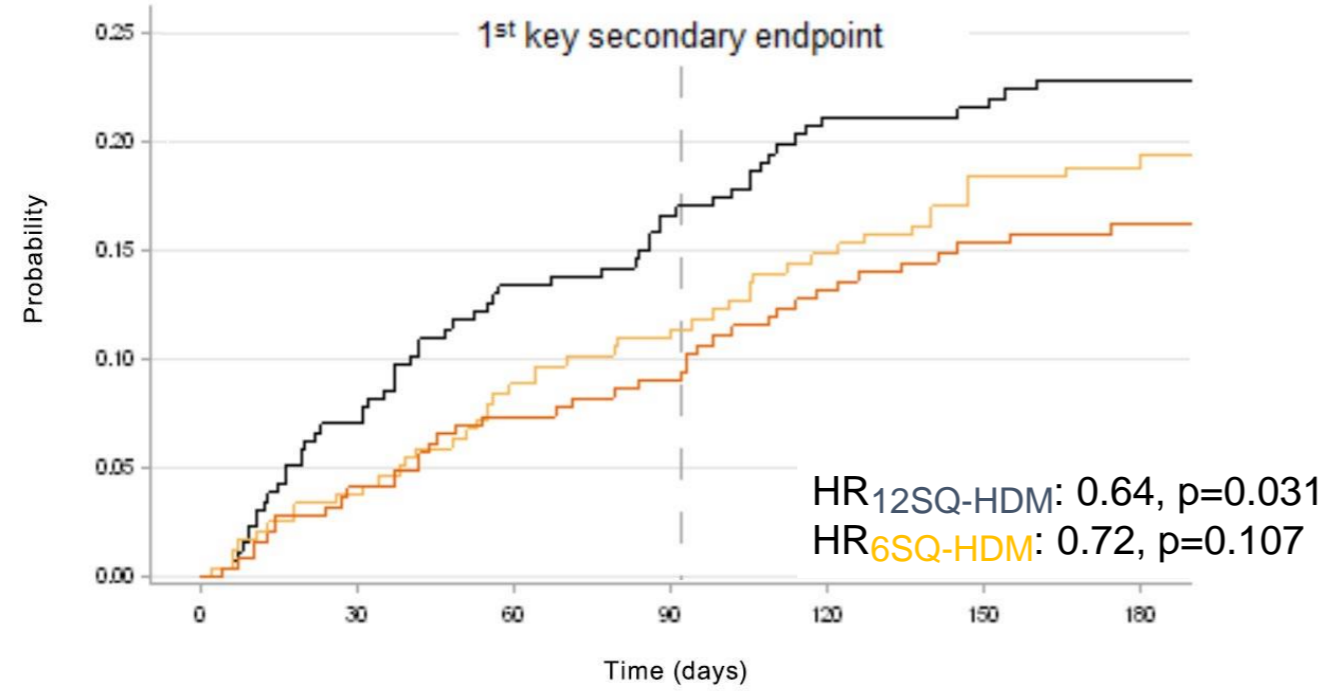


# REDUCED RISK OF SEVERE ASTHMA EXACERBATION

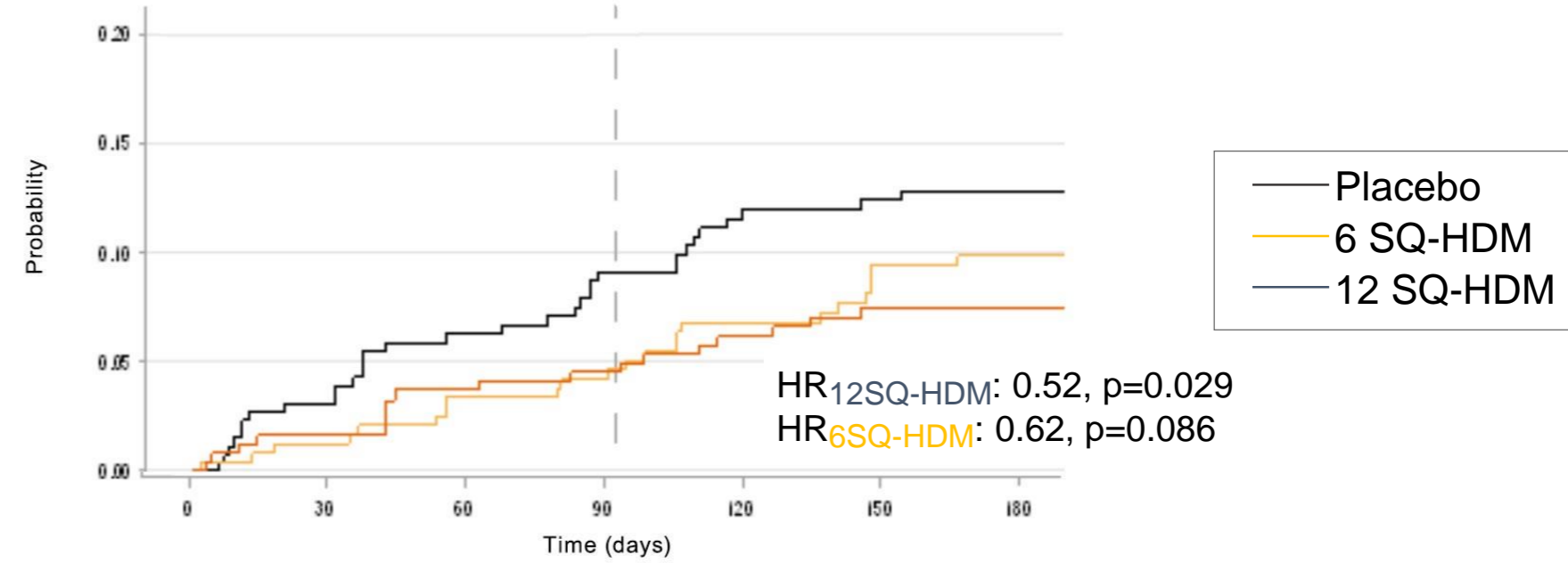




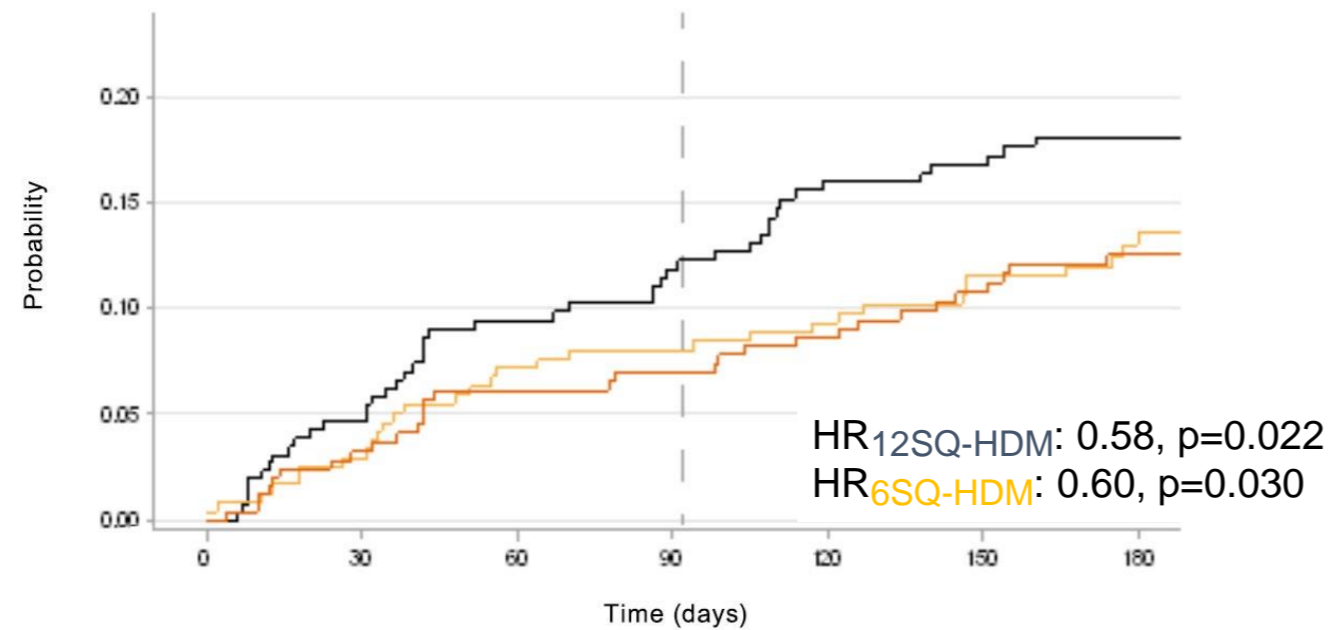
### Deterioration in symptoms



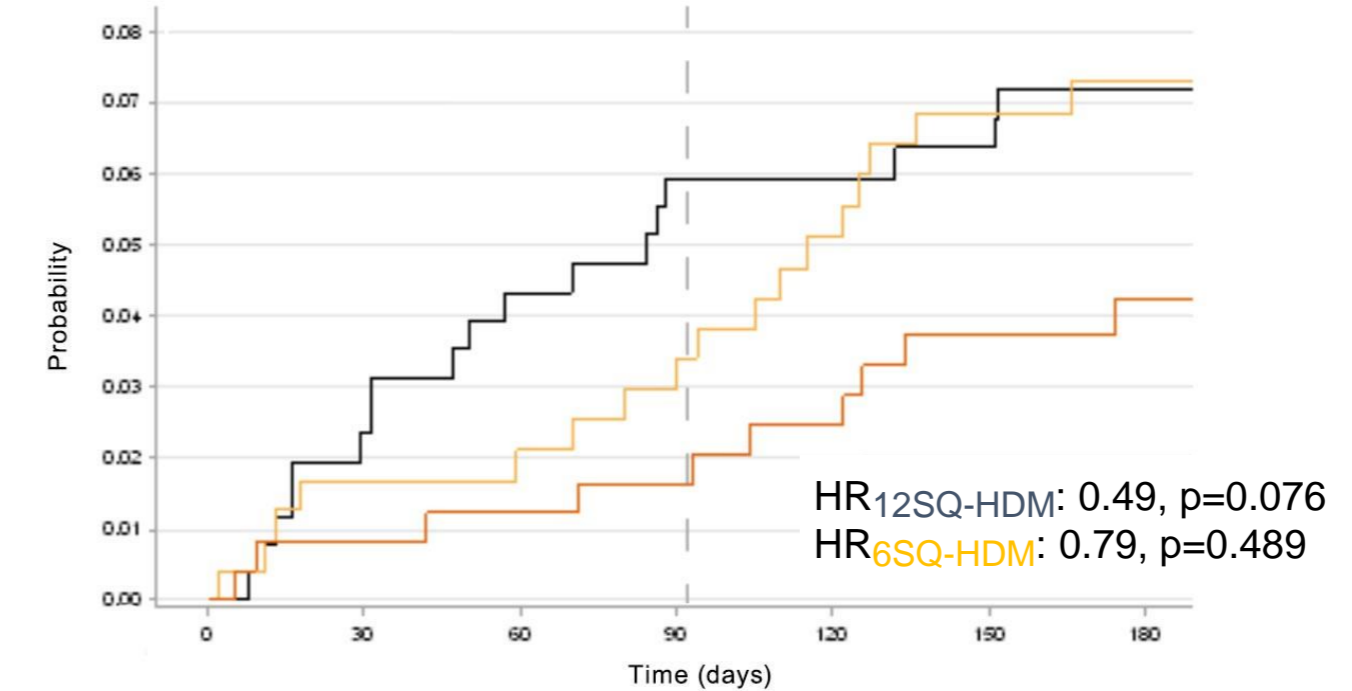
### Increased use of SABA



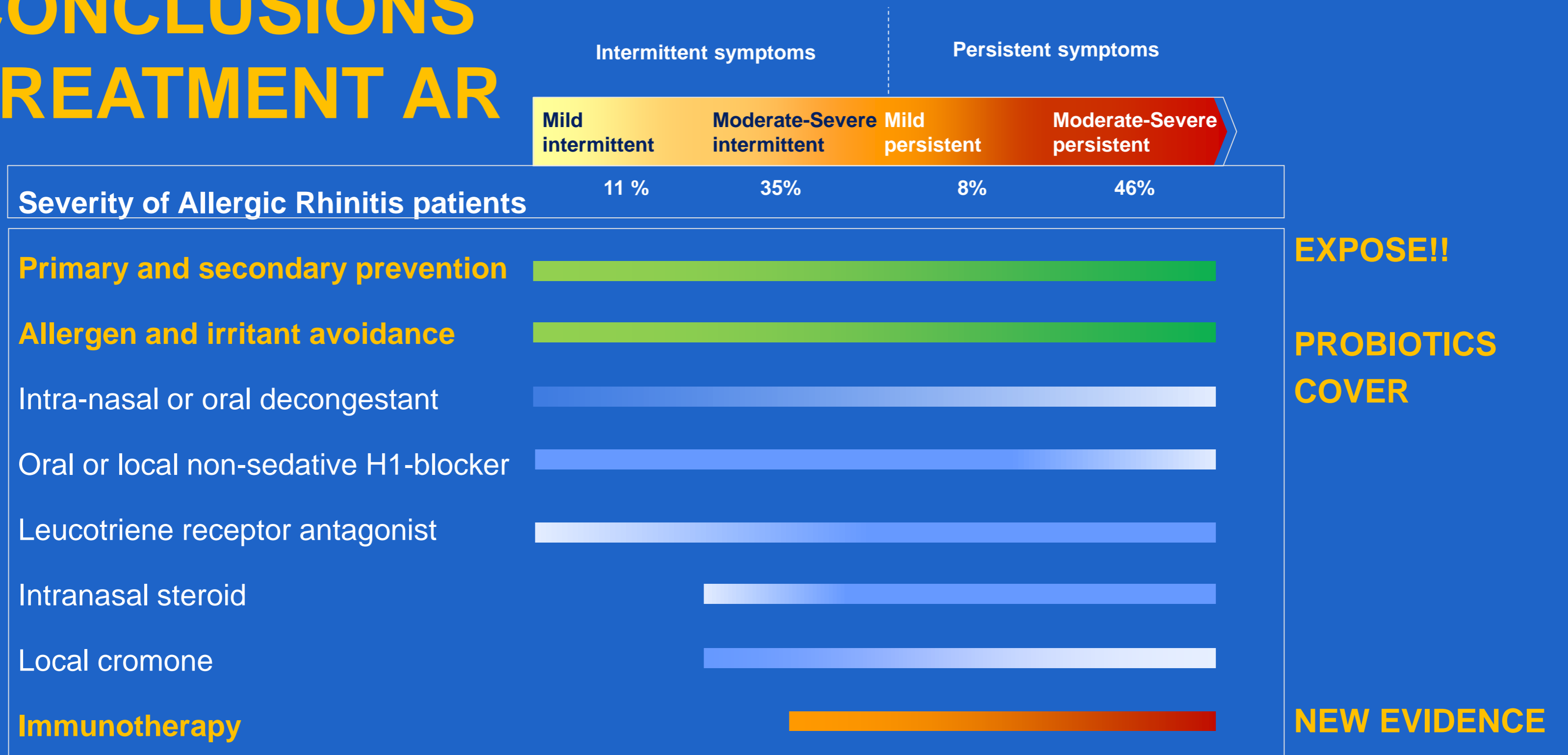
### Deterioration in lung function



### Severe asthma exacerbation



# CONCLUSIONS TREATMENT AR





# ALLERGEEN-SPECIFIEKE IMMUNOTHERAPIE (AIT)

## Voordeel?

- Enige behandeling die **verloop van allergie** kan **veranderen**:
  - $\Delta$  immuunrespons patiënt voor specifiek allergeen = **behandeling AR**
  - Preventie progressie AR  $\rightarrow$  astma
  - Preventie ontwikkelen nieuwe sensitisaties
- Simultane behandeling van alle klinische tekenen van allergie
- Symptomen  $\downarrow$
- Nood andere allergiemedicatie  $\downarrow$
- Kwaliteit van leven  $\uparrow$

## Voor wie?

- Patiënten met ongecontroleerde AR ondanks adequate farmacotherapie
- Patiënten met onverdraagzame bijwerkingen van farmacotherapie
- Patiënten die langdurig gebruik GM willen vermijden



# Allergienetwerk UZ-Gent

Centraal allergienummer: 09 332 67 08.

Sectoroverschrijdende zorg voor patiënten met allergie

Neus-Keel-oorheelkunde: Prof Philippe Gevaert - immunotherapie aeroallergenen

Longziekten: Prof G. Joos, Prof Brusselle, Prof B Lambrecht - immunotherapie wespen en bijen

Huidziekten: Prof Dr H. Lapeere

Dienst Kindergastro-enterologie: Prof M. Van Winckel - Dr. S. Van Biervliet

Dienst Kinderlongziekten: Prof F. De Baets - Dr J Willekens immunotherapie Kinderen

Dienst Anesthesiologie: Prof M. Coppens

Spoedgevallendienst: Prof Dr Peter De Paepe

voedsel



huid



neus



longen



hevige  
reactie

