Reunión Pediátrica de APAP Canarias
COM de Tenerife, 16 de Octubre de 2019

Introducción de Alimentación complementaria

Enfoque alergológico

Dra Paloma Poza Guedes
Médico Alergólogo- H.U. de Canarias
Doctor en Medicina

Conflictos de interés

Dra Paloma Poza Guedes

- FEA en H.U. Canarias
- Cargos científicos:
  - Vocal de JD de SEAIC y de SCAIC
  - Comité de Alergia Alimentaria de SEAIC y EAACI
- Colaboraciones científicas: ponencias, symposium, ensayos clínicos
  - LETI, ALK, Roxxal, DIATER, Merck, Inmunotek, Stallergenes
  - GSK, MSD, Astra, MEDA, Novartis, Chiesi
  - Revisora de JIACI/FundaciónSEAIC/ CCFCPS

- Patentes, Participación como socio ejecutivo/económico: NO

ESP/FFT/0073/18 01/2019

Prevention – To feed or not to feed?

ALLERGIES ARE A GLOBAL HEALTH PROBLEM

World Allergy Week 2019
The Global Problem of Food Allergy
7–13 April • www.worldallergyweek.org

4 BILLION PEOPLE

Worldwide prevalence by 2050, with earlier onset and more severe symptoms.

55-151 BILLION EURO

Estimate health costs to manage allergy.

50% OF EU

Half of the EU population is predicted to have an allergy by 2025.

El Impacto de la Alergia Alimentaria

Según el estudio* de las Sociedades Miembro de WAO:

- La mayoría de los países declaran un **incremento** en la alergia a los alimentos
- Ningún país ha reportado una disminución en los últimos 10 años
- El impacto está aumentando tanto en países **desarrollados** como **en vías de desarrollo (**sobretodo **niños)**
- Muchos de los países encuestados han informado sobre la *falta de datos confiables* y la necesidad de más estudios

*WAO-WUN Survey on Food Allergy 2013, in progress, contact WAO President

www.worldallergyweek.org

WORLD ALLERGY ORGANIZATION
A World Federation of Allergy, Asthma & Clinical Immunology Societies

El Problema Creciente de la Alergia Alimentaria

- A nivel mundial, unos 220-250 millones de personas pueden sufrir de alergia a los alimentos.*
- La **gravedad** y la **complejidad** también está aumentando.
- Las alergias alimentarias se complican por otras enfermedades alérgicas, tales como **Asma** y **Dermatitis atópica**.
- La **incidencia** de alergia a los alimentos es mayor en los niños (5-8%) que en los adultos (1-2%).

*Extrapolado de European Population Statistics en: Mills EN, Mackie AR, Burny P, Beyer K, Frewer L et al. The prevalence, cost and basis of food allergy across Europe. *Allergy* 2007; 62:717-722

Fuente: Fiocchi A, Sampson HA. "Food Allergy", Section 2.5, in WAO White Book on Allergy, Pawankar R, Canonica GW, Holgate ST, and Lockey RF, editors (Milwaukee, Wisconsin: World Allergy Organization, 2011), pp 47-53.

EUROPREVALL

(«Prevalencia, coste y base de las alergias alimentarias en Europa»)

- **OBJETIVO**: analizar las complejas **interacciones** que se producen entre la ingesta de alimentos y el metabolismo, el sistema inmunitario, la dotación genética y los factores socioeconómicos, con el fin de identificar los principales **factores de riesgo**.

- El fin último: proporcionar la información y las herramientas necesarias para que los responsables políticos, los legisladores y la industria alimentaria puedan **gestionar de forma eficaz** las alergias alimentarias en Europa.

- Los datos epidemiológicos han permitido obtener una idea clara de la cantidad de población europea en **situación de riesgo**, así como una indicación de la importancia relativa de los diferentes alimentos.

Financiado con arreglo a: FP6-FOOD (1 Junio 2005 – 31 Diciembre 2009)

Presupuesto general: € 18 340 982

Aportación de la UE: € 14 329 838

Coordinado por:
INSTITUTE OF FOOD RESEARCH

European Commission

EUROPREVALL — Resultado resumido

Project ID: 514000

Financiado con arreglo a: FP6-FOOD

EuroPrevall Birth Cohort

Keil T et al. Allergy 2010; 65: 482–490.
McBride D et al. Pediatr Allergy Immunol 2012: 23: 230–239.

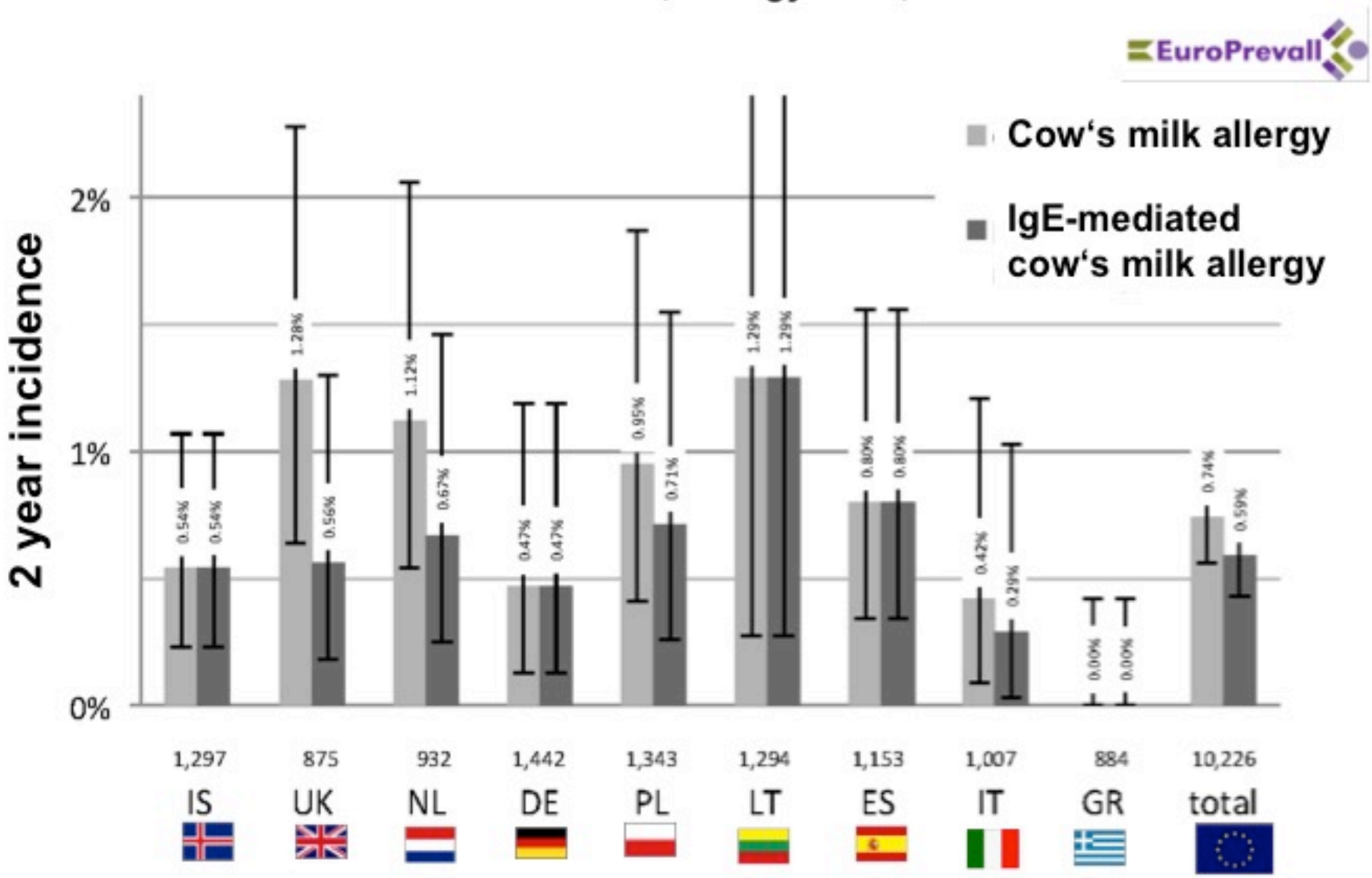
12,049 children were recruited and followed until 2 years of age:

- Germany
- Greece
- Iceland
- Italy
- Lithuania
- Netherlands
- Poland
- Spain
- UK

EuroPrevall

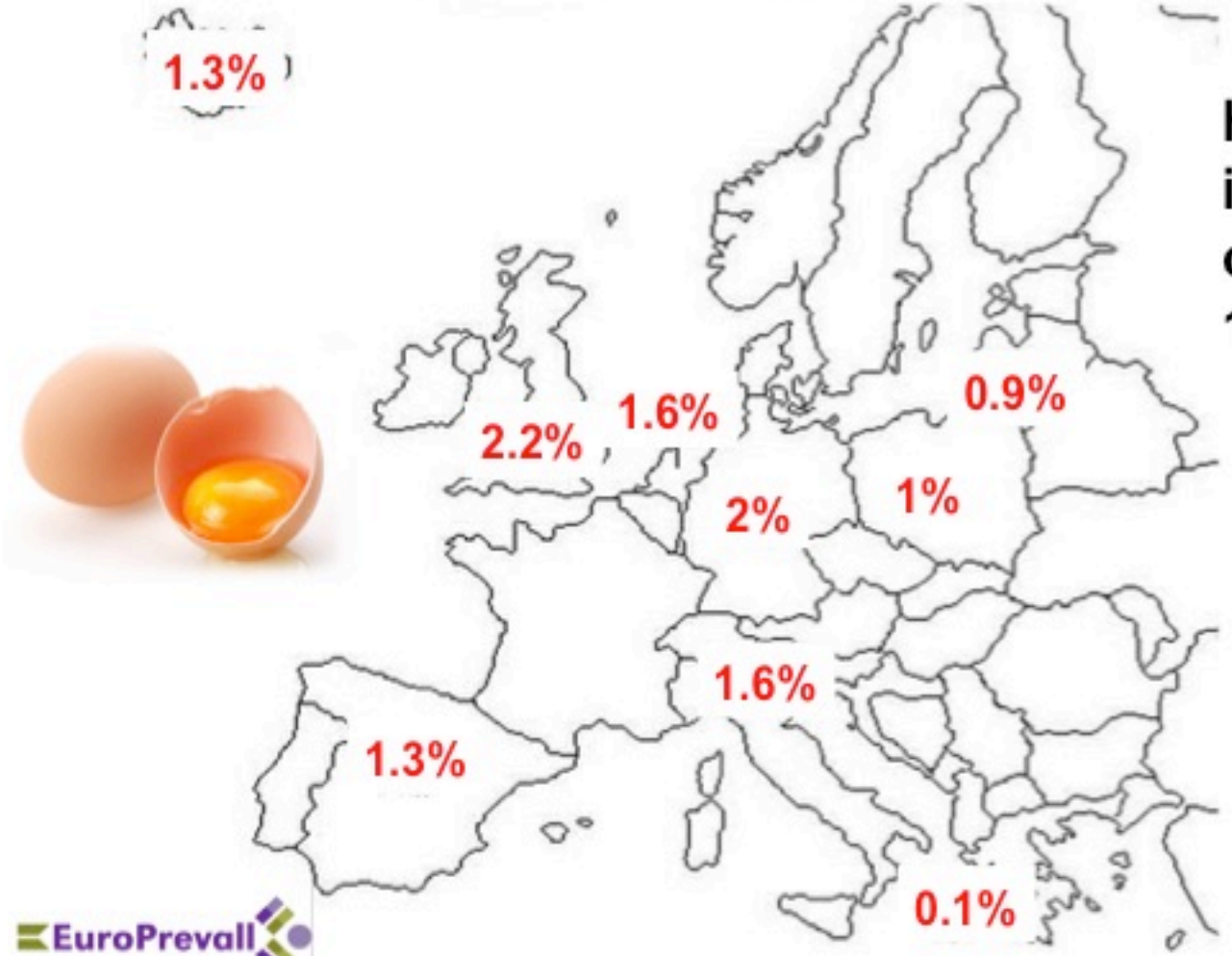
Cows Milk Allergy in Europe

Schoemaker AA et al, Allergy 2015,70:963-72



Hen‘s Egg Allergy and natural tolerance development in Europe

Xepapadaki *P et al, Allergy 2016 Mar;71(3):350-7.*



Hen’s egg allergy in the first 2 years of life:
1.2% of children

50% of children gained natural tolerance within 1 year

EuroPrevall

Food Allergy is a common disease with many different faces

Immediate type reaction

Atopic eczema

Gastro-intestinal diseases

Pollen-associated food allergy

IgE-mediated

LIVING WITH A RARE DIAGNOSIS
-FPIES IN A WORD-

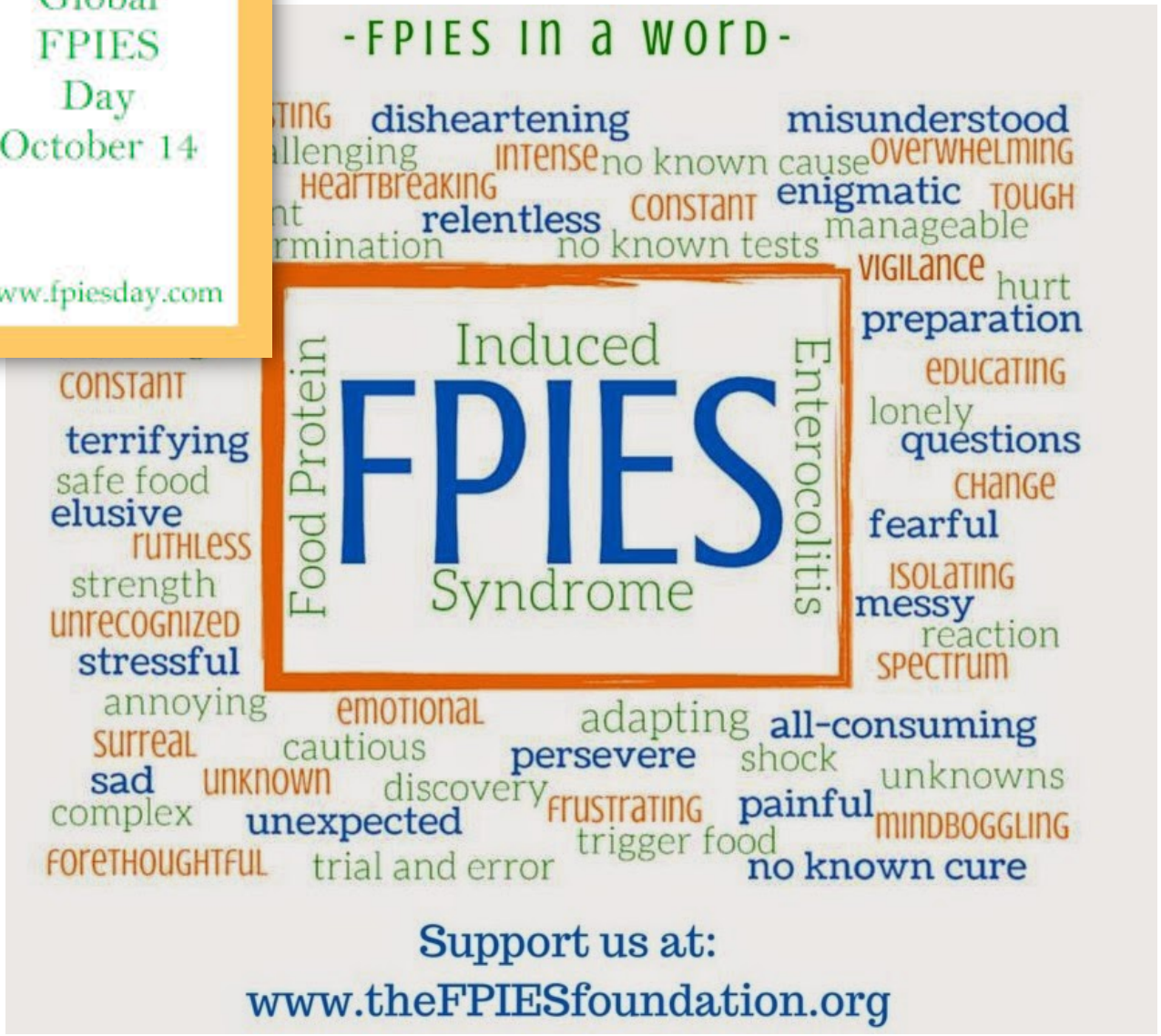


Table 2 Diagnostic criteria for infant diseases presenting with predominantly gastrointestinal symptoms.

1. Infantile colic	Rome III Criteria (2006):[25] all of the following characteristics from birth to 4 months of age: 1. episodes of paroxysms of irritability, fussing, or crying that starts and stops without obvious causes; 2. episodes lasting three or more hours/day for three days/week for at least one week; no failure to thrive.
2. Infant regurgitation (''physiological reflux'')	Rome III Criteria (2006):[25] All of the following characteristics in otherwise healthy infants: 1. two or more regurgitations per day for three or more weeks; no retching, hematemesis, aspiration, apnea, failure to thrive, feeding or swallowing difficulties, or abnormal posture.
3. Functional intestinal constipation	Rome III Criteria (2006)[25] and ESPGHAN/NASPGHAN guideline (2014):[30] duration of at least on month of two or more of the following characteristics: 1. fewer than three bowel movements a week; 2. at least one weekly episode of fecal incontinence after sphincter control; 3. history of excessive retention of feces; 4. history of pain and/or difficulty in bowel movements; 5. presence of large fecal mass in the rectum; 6. history of elimination of large-diameter feces that can clog the toilet. Additional symptoms: irritability, decreased appetite, and early satiety. These symptoms disappear after elimination of large amounts of feces.
4. Functional diarrhea (''irritable bowel syndrome'')	Rome III Criteria (2006):[25] all of the following characteristics: 1. daily painless, recurrent passage of three or more large, unformed stools; 2. duration longer than 4 weeks; 3. onset between 6 and 36 months of age; 4. passage of stools during waking hours; 5. No failure to thrive if caloric intake is adequate.
5. Infantile dyschezia	Roma III Criteria (2006):[25] It should include the two following characteristics in infants younger than 6 months: 1. at least 10 min of straining and crying before successful passage of soft stools; 2. no other health problems.
6. Gastroesophageal reflux disease (GERD)	NASPGHAN/ESPGHAN Guideline (2009):[26] It is present when gastroesophageal reflux causes symptoms that are uncomfortable and/or complications. Clinical manifestations suggestive of GERD before 18 months: recurrent regurgitations and/or vomiting accompanied by failure to thrive; stressed behavior or crying without explanation.
7. Allergy to cow's milk protein	Brazilian Consensus (2007)[31] and ESPGHAN Guideline (2012):[27] adverse reaction, reproducible, caused by an immune reaction triggered by antigen(s) of certain food(s). In infants, it is often a delayed reaction (non-IgE-mediated). In a group of 159 infants with suspected allergy to cow's milk protein, the following gastrointestinal signs and symptoms were found (each infant could have more than one clinical manifestation): regurgitation and vomiting in 53.5%; colic in 34.0%; diarrhea in 25.2%, of which approximately 30% with blood; blood in the stool in 14.5%; and constipation in 15.7%. Weight and length deficit were commonly observed.[32] In most cases, the diagnosis must be confirmed by challenge test with the suspected food, to be performed four to 12 weeks after the start of the elimination diet when the symptoms have already been controlled.[27,31]

WP in iFAAM

- We will consolidate data from several dietary intervention studies aimed at food allergy prevention.
- This will allow the future development of dietary guidelines in a more effective manner.

RECOMENDACIONES DE LA ASOCIACIÓN ESPAÑOLA DE PEDIATRÍA SOBRE LA ALIMENTACIÓN COMPLEMENTARIA

Dra. Marta Gómez Fernández-Vegue
Comité de Lactancia Materna y Comité de Nutrición de la Asociación Española de Pediatría

Fecha del documento: 9 de noviembre de 2018

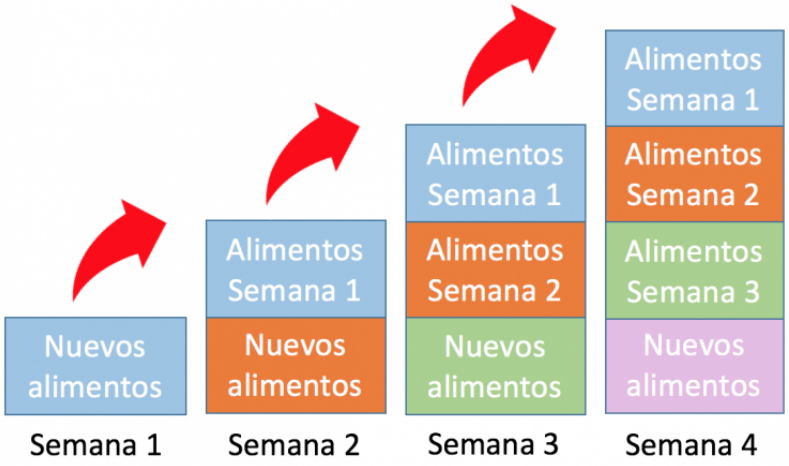
AEP Asociación Española de Pediatría CLM Comité de Lactancia Materna

AEP Asociación Española de Pediatría CN Comité de Nutrición

Plan de comidas BLW (1er mes)

DÍA 1	DÍA 2	DÍA 3	DÍA 4	DÍA 5	DÍA 6	DÍA 7
		vC 	vC 		vC 	
DÍA 8	**DÍA 9**	**DÍA 10**	**DÍA 11**	**DÍA 12**	**DÍA 13**	**DÍA 14**
	vC 	vC 				
DÍA 15	**DÍA 16**	**DÍA 17**	**DÍA 18**	**DÍA 19**	**DÍA 20**	**DÍA 21**
Fe 	vC 	Fe 		Fe 	Fe 	Fe 
DÍA 22	**DÍA 23**	**DÍA 24**	**DÍA 25**	**DÍA 26**	**DÍA 27**	**DÍA 28**
Fe 		Fe 	Fe 	Fe 		Fe 

Introducción de alimentos en el primer mes BLW



RECOMENDACIONES :

- **Anotar cuándo toma por primera vez cada alimento.** Ya que saber cómo lo ha hecho facilita el diagnóstico de alergias o intolerancias si aparecen.
- **Observar si le sientan bien.** Si aparecen erupciones en la piel, vómitos, diarrea, o molestias tras tomar por primera vez un alimento hay que estudiar si tiene alergia o intolerancia a él.
- **Intenta tener en casa una dieta sana y variada.** Porque el niño acabará comiendo lo mismo que tú y si tú no comes sano el niño no lo hará.

ALIMENTOS PARA EL BEBÉ DURANTE EL PRIMER AÑO

- +1 AÑO — CHOCOLATE
- 1 AÑO — LECHE
- 12 MESES — LEGUMBRES
- 10º MES — HUEVOS
- 9º MES — PESCADO
- 8º MES — LÁCTEOS
- 7º MES — CARNE
- +6 MESES — VERDURAS
- +6 MESES — FRUTAS
- 6º MES — CEREALES

ocu La fuerza de tus decisiones

ALIMENTACIÓN COMPLEMENTARIA

- Introducir los alimentos de uno en uno
- En pequeñas cantidades
- Con 1 ó 2 semanas de separación

COMPROBAR ALERGIAS E INTOLERANCIAS

LAS PRIMERAS FRUTAS

LAS FRUTAS MÁS ALÉRGICAS

Se irán añadiendo progresivamente

Allergology International 67 (2018) 24–31

Contents lists available at ScienceDirect

Allergology International

journal homepage: http://www.elsevier.com/locate/alit

Invited Review Article

Recent advancement to prevent the development of allergy and allergic diseases and therapeutic strategy in the perspective of barrier dysfunction

Osamu Natsume [a, b], Yukihiro Ohya [b, *]

[a] Division of Pediatrics, Hamamatsu University School of Medicine, Shizuoka, Japan
[b] Division of Allergy, Department of Medical Subspecialties, National Center for Child Health and Development, Tokyo, Japan

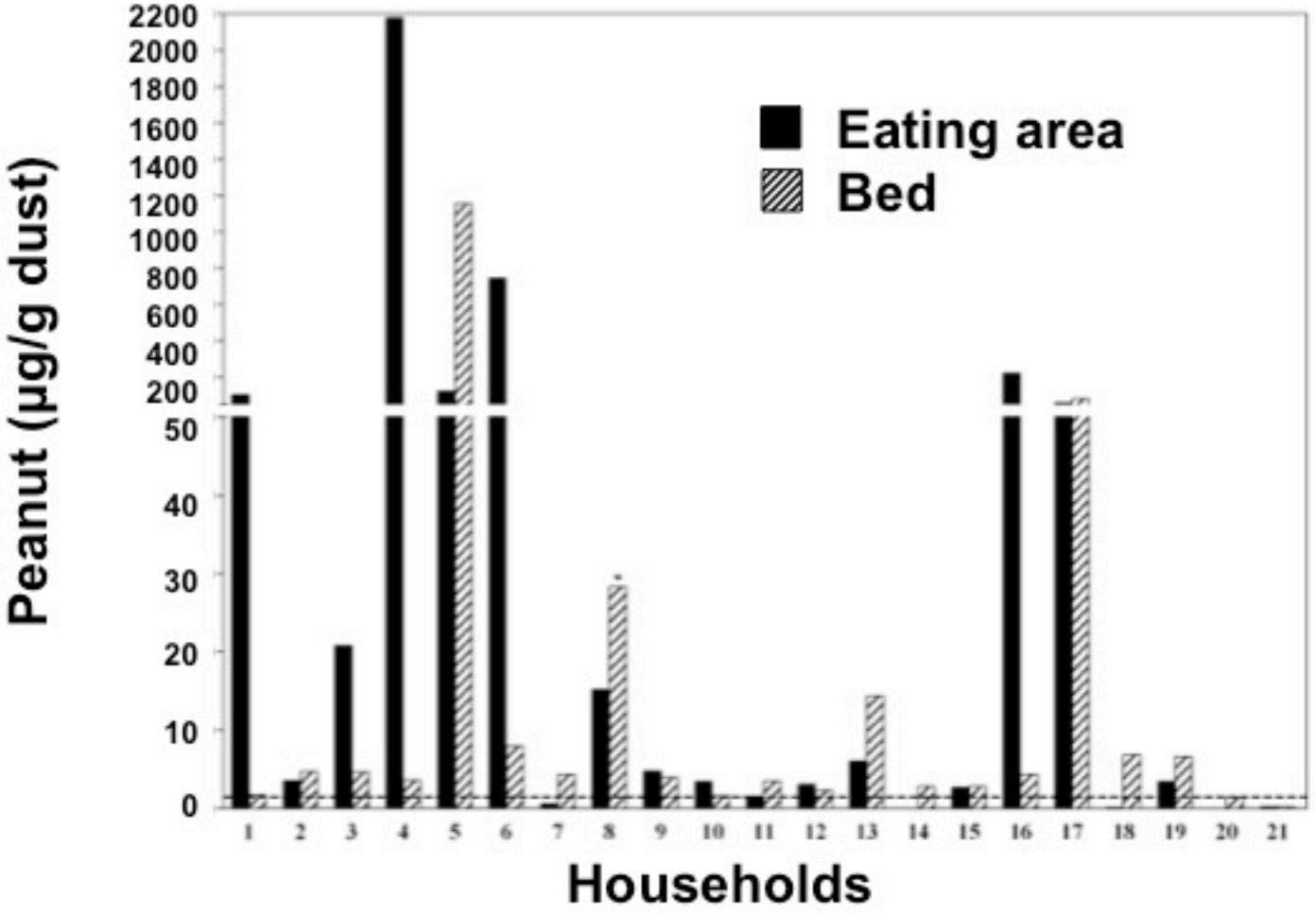
- ✧ Las primeras recomendaciones para evitar la sensibilización se fundamentaban en la inmadurez intestinal.
- ✧ La *American Academy of Pediatrics guideline* recomienda en <u>niños de alto riesgo</u>:
- evitar alimentos sólidos hasta los 6 meses de edad.
- Huevo hasta los 2 años
- Frutos secos y pescado hasta los 3 años

No datos concluyentes posteriores.

In 2006, Osborn *et al.*[38] reported that there is limited evidence that prolonged feeding with a hydrolyzed formula reduces infant and childhood allergy in high-risk infants who are unable to be completely breast fed compared with a cow's milk formula by meta-analysis. Boyle *et al.*[39] reported meta-analysis showing that there was no preventive effect of a hydrolyzed formula during infancy for developing allergic diseases, including cow's milk allergy. The guidelines of the EAACI and the American Academy of Allergy Asthma and Immunology[22,40] recommended hydrolyzed milk formula for high-risk infants whose breast feeding was insufficient for the first 4 months. Meanwhile, the guidelines of the JSPACI[21,41] did not positively recommend hydrolyzed milk formula for preventing allergic diseases. Further studies need to be performed to determine whether hydrolyzed formula is recommended.

Peanut Allergens in House Dust

Trendelenburg V et al, Allergy 2013; 68: 1460–1462.



LEAP study: Design

Intervention group; SPT-Positive Stratum (n=47)

n=319

Intervention group; SPT-Negative Stratum (n=272)

Recruitment:
2006 ----------2009

2009
----------2014

n = 640 infants with severe eczema and/or egg allergy

Control Group; SPT-Positive Stratum (n=51)

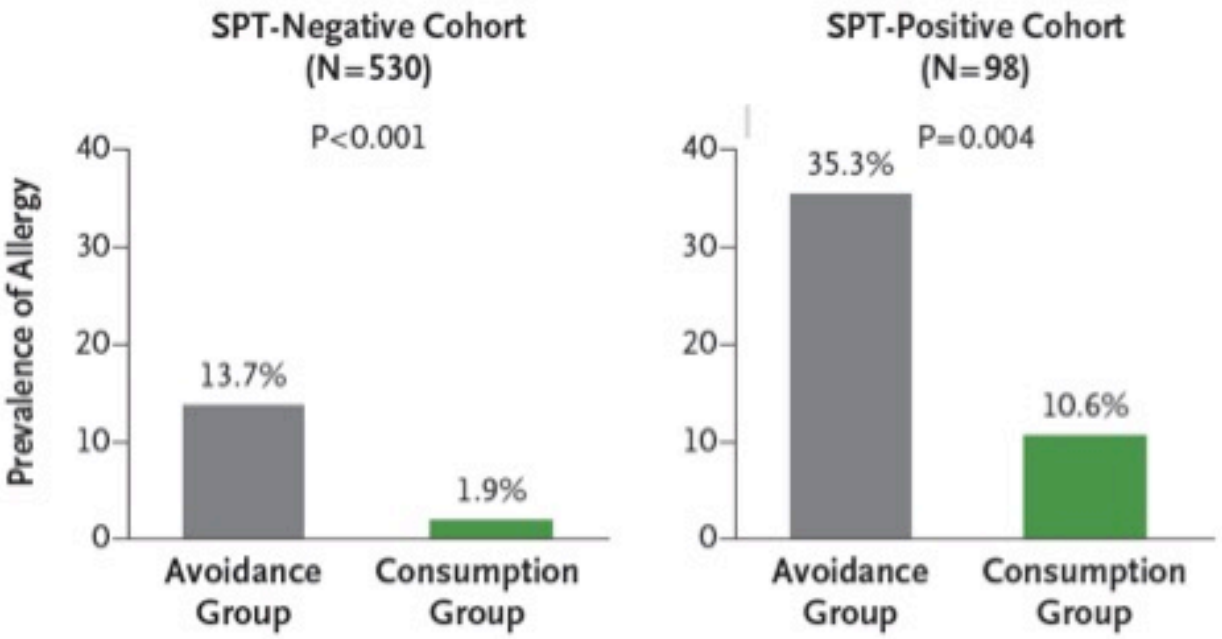
n=321

Control Group; SPT-Negative Stratum (n=270)

Age at clinic visits: **4-11 months** **12 months** **30 months** **60 months**

Adapted from: Du Toit G, et al. *N Engl J Med* 2015;372:803–13.

LEAP study: Results

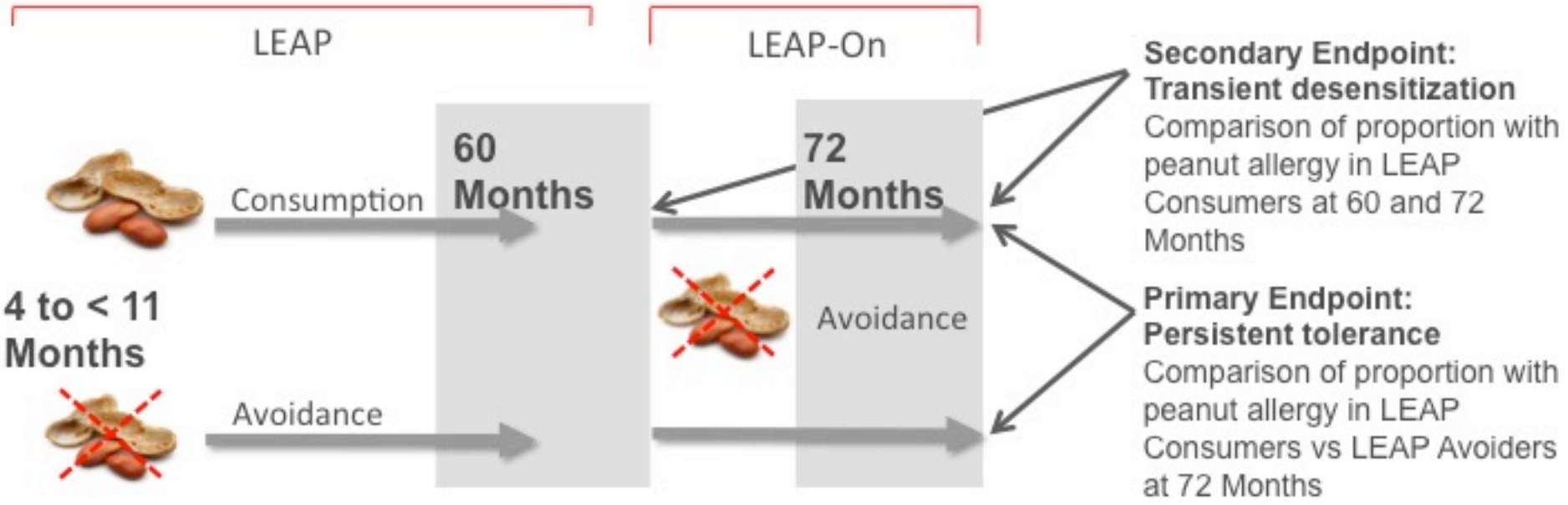


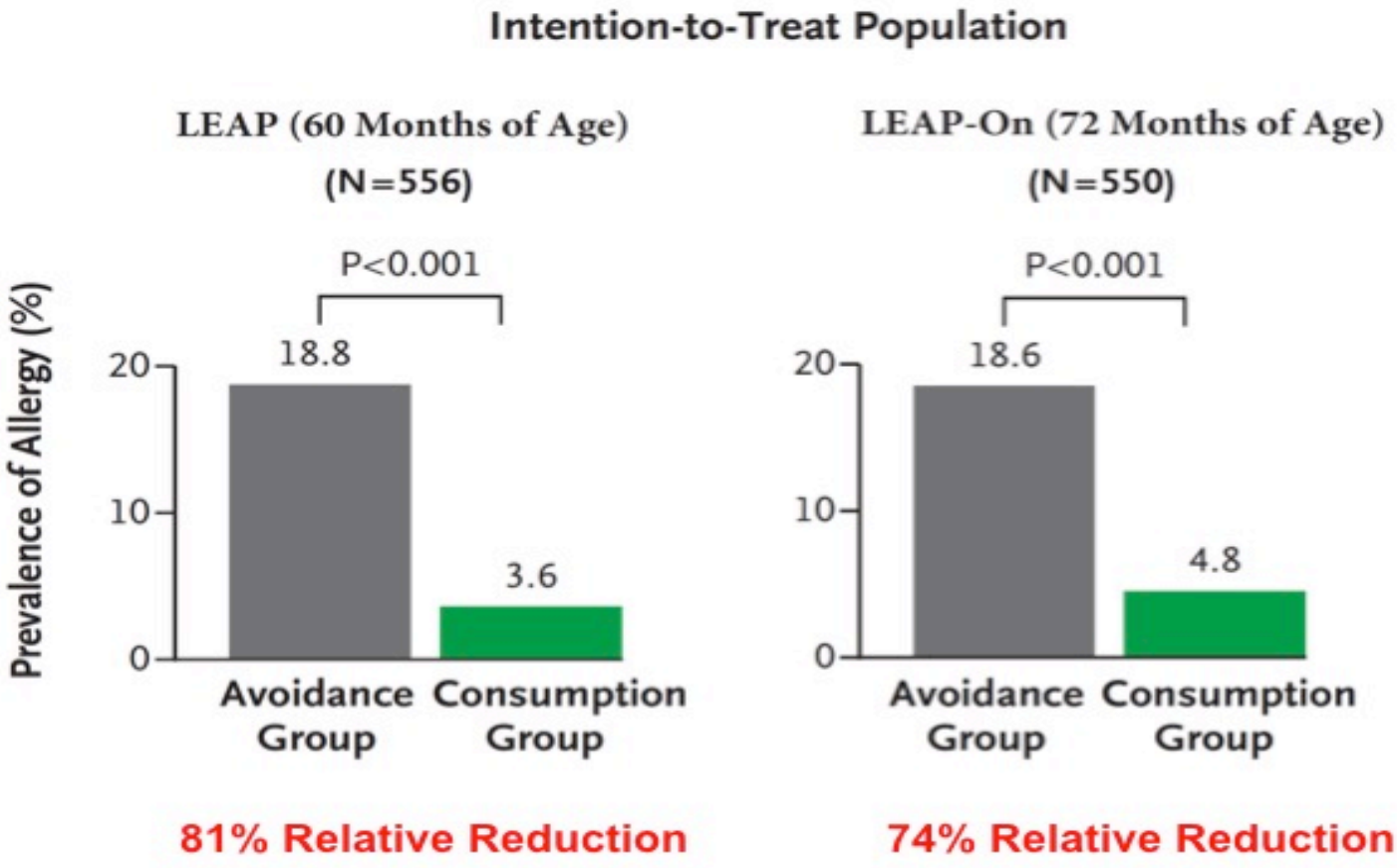
86% Relative Reduction

70% Relative Reduction

Adapted from: Du Toit G, et al. *N Engl J Med* 2015;372:803–13.

LEAP–On Study





The LEAP and LEAP-On studies together demonstrate that the **early introduction of peanut** induces unresponsiveness to peanut that **persists** following 12 months of avoidance.

Changing management

2007

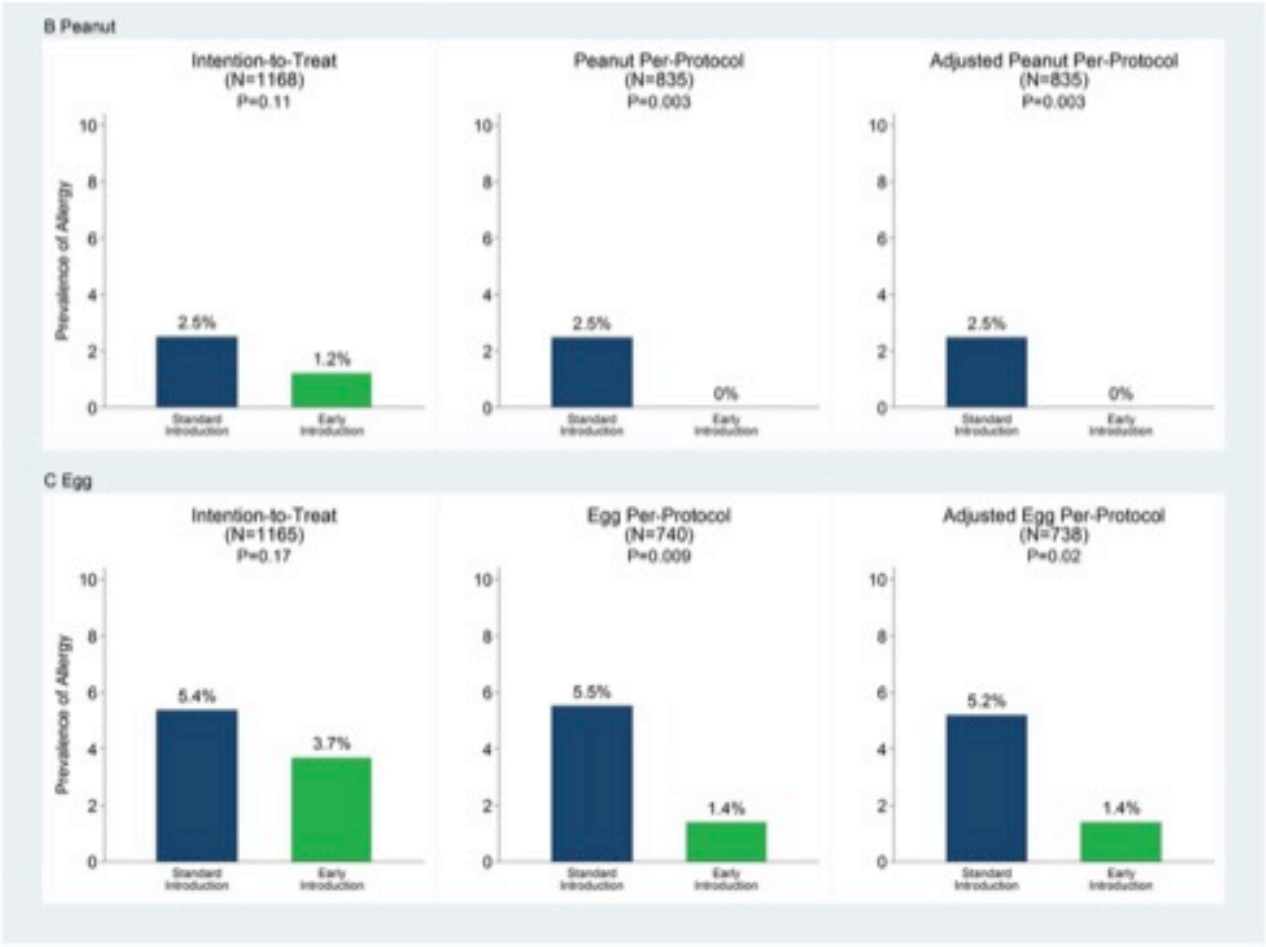
- Avoid allergenic foods in hope of prevention
- Strictly avoid allergens
- Ensure nutritional sufficiency
- Educate on management of reactions
- Wait and watch for development of tolerance

2015

- Early active introduction to induce tolerance before allergy develops
- A balancing act between avoiding allergens and promoting acquisition of tolerance[1]
- Active attempts to induce tolerance

1. Katz A, *et al. J Pediatr* 2013;163:620–2

Prevalence of allergy to Peanut and/or Egg

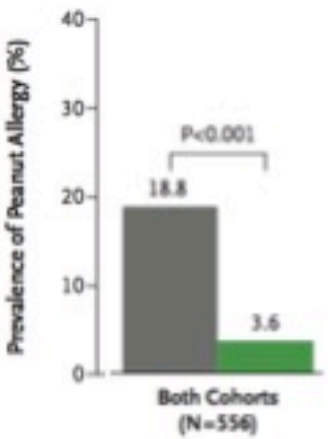


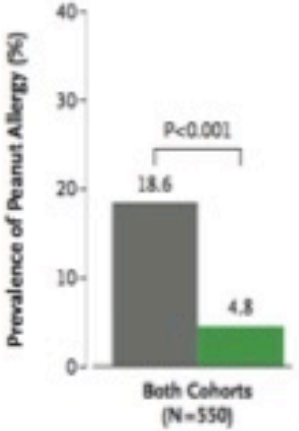
Per-protocol – 100% Significant reduction in Peanut allergy prevalence in EIG

Per-protocol – 75% Significant reduction in Egg allergy prevalence in EIG

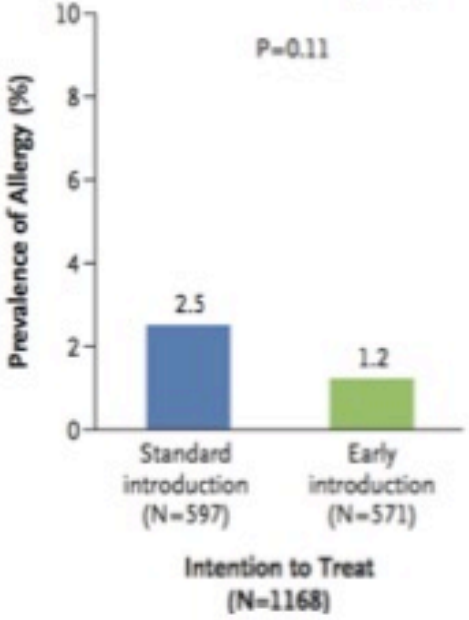
Perkin M, Logan K, Tseng A et al. Randomized trial introducing allergenic foods in breastfed infants. March 4th 2016, at NEJM.org

- **LEAP** (UK)
  - *Du Toit G et al. N Engl J Med 2015*
  - *Du Toit G et al, N Engl J Med 2016*





- **EAT** (UK)
  - *Perkin MR, N Engl J Med 2016*



Study	Population 	Intervention 	Primary and secondary outcomes
HEAP Germany	**General population** *Bellach J et. al.* *J Allergy Clin Immunol 2016*	3x/Woche hen's egg-/ placebo-powder from 4-6 until 12 month of age	Hen's egg sensitization (primary) and hen's egg allergy (secondary)
STAR Australia	**Infants with eczema** *Palmer DJ et al.* *J Allergy Clin Immunol 2013*	Daily hen's egg-/placebo-powder from 4 to 8 months of age, than baked egg	IgE-mediated hen's egg allergy at 12 month of age (SPT+ and oral provocation)
STEP Australia	**Infants without eczema but hereditary risk** *Palmer DJ et. al.* *J Allergy Clin Immunol 2016*	Daily hen's egg-/placebo-powder from 4 to 10 months of age, than baked egg	IgE-mediated hen's egg allergy at 12 month of age (SPT+ and oral provocation)
BEAT Australia	Positive family history / hen's egg-specific IgE <0.35 kU/l at 4 months of age	Daily hen's egg-/placebo-powder from 4-6 until 12 month of age, no dietary restrictions from 8 months of age	IgE-mediated hen's egg allergy at 12 month of age (SPT+ and oral provocation)

ARTICLES | VOLUME 389, ISSUE 10066, P276-286, JANUARY 21, 2017

Two-step egg introduction for prevention of egg allergy in high-risk infants with eczema (PETIT): a randomised, double-blind, placebo-controlled trial

Osamu Natsume, MD * • Shigenori Kabashima, MD * • Junko Nakazato, MD • Kiwako Yamamoto-Hanada, MD • Masami Narita, MD • Mai Kondo, MD • et al. et al. Show all authors • Show all authors • Show footnotes

Published: December 08, 2016 • DOI: https://doi.org/10.1016/S0140-6736(16)31418-0 •

Looking at **allergic march**, AD is the first clinical manifestation with the highest incidence in the first year of life and those affected develop other allergic diseases such as food allergy, asthma, and allergic rhinitis later in childhood in most patients.

We think that it is important not only to **introduce oral immune tolerance** by early hen's egg consumption, but **to prevent sensitization** via skin to prevent the development of FA.

We hypothesize that to prevent future allergic march, an appropriate **intervention for AD**, which emerges at the first stage of allergic march, is important to be considered.

ARTICLES | VOLUME 389, ISSUE 10066, P276-286, JANUARY 21, 2017

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Published: December 08, 2016 • DOI: https://doi.org/10.1016/S0140-6736(16)31418-0 •

DCCP en Lactantes 4-5m + D.A. -> 12meses seguimiento

- Placebo: 37,7%
- Activo: 8,3%

Immune tolerance is not considered to be induced merely by orally taking allergenic foods from the early stage of infancy.

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Invited Review Article

Recent advancement to prevent the development of allergy and allergic diseases and therapeutic strategy in the perspective of barrier dysfunction

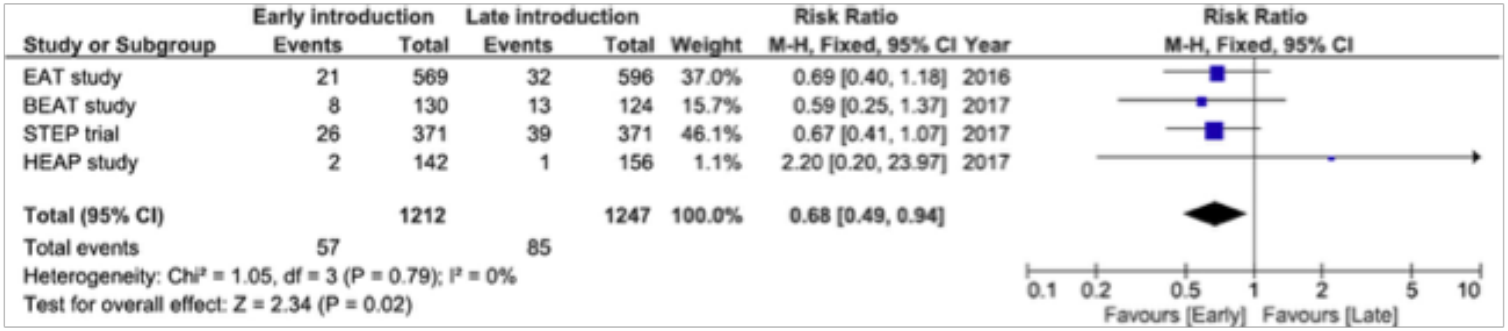
Osamu Natsume [a, b], Yukihiro Ohya [b, *]

The EAT study,[24] STEP study,[28] BEAT study,[29] and HEAP study[30] did not show significant preventative effects on the onset of egg allergy by early introduction of egg. One of the reasons for their failure to show the significance might have been attributable to the smaller sample size caused by the inclusion criteria which included infants without eczema. The risk ratio, which we calculated, for developing hen's egg allergy in these four studies was 0.68 (95% CI: 0.49–0.94, Fig. 2). Birth cohort studies showed that eczema in infants was a risk factor of developing food allergy[32–34] and the severity of eczema was related to the strength of allergens sensitization.[35] The STAR study[27] and the PETIT study[31] recruited infants with eczema. The STAR study[27] paused recruitment during the study because 31% (15/49) of participants experienced allergic reactions to the study powder, which was pasteurized raw whole egg powder. Therefore, the STAR study showed only a tendency of a preventive effect. The PETIT study[31] was the first RCT showed a preventative effect on egg allergy by applying infants with low-dose heated whole egg powder, without adverse events caused by either egg nor pla-

Table 1
Summary of randomized, clinical trials on preventing egg allergy.

Study name (Country)	Subjects	Period of intervention	Amount and frequency of intake as intervention	Timing of the primary outcome	Results (Prevalence of immediate egg allergy)	Adverse events (% in the early-introduction group)
EAT study[24] (United Kingdom)	General population	3 to 6 months old	Equivalent to approximately half of a heated egg, twice a week	3 years old	No difference (significant difference in per-protocol analysis)	No difference
BEAT study[29] (Australia)	Family history of allergic disease, but infants had no sensitization to egg	4 to 8 months old	Equivalent to approximately 1/16 of a raw egg, every day	1 year old	No difference	Significant difference (8.5%)
HEAP study[30] (German)	General population without sensitization to egg	4–6 to 12 months old	Equivalent to approximately one third of a raw egg, three times a week	1 year old	No difference	Significant difference (9.20%)
STEP study[28] (Australia)	Maternal history of allergic disease, but the infants had no eczema	4–6 to 8 months of age	Equivalent to approximately 1/14 of a raw egg, every day	1 year old	No difference	Significant difference (6.10%)
STAR trial[27] (Australia)	Atopic dermatitis	4 to 8 months old	Equivalent to approximately one sixth of a raw egg, every day	1 year old	No difference	Significant difference (31%)
PETIT study[31] (Japan)	Atopic dermatitis	6 to 12 months of age	Equivalent to approximately 0.2 g of a boiled egg between 6 and 9 months of age, 1.1 g of a boiled egg between 9 and 12 months old, every day	1 year old	Significant difference	No difference

EAT, Enquiring about Tolerance; BEAT, Beating Egg Allergy Trial; HEAP, Hen's Egg Allergy Prevention; STEP, Starting Time of Egg Protein; STAR, Solids Timing for Allergy Reduction; PETIT, Prevention of Egg allergy with Tiny amount Intake.



Yamamoto-Hanada et al. Clin Transl Allergy (2018) 8:47
https://doi.org/10.1186/s13601-018-0233-8

Clinical and Translational Allergy

STUDY PROTOCOL Open Access

Early aggressive intervention for infantile atopic dermatitis to prevent development of food allergy: a multicenter, investigator-blinded, randomized, parallel group controlled trial (PACI Study)—protocol for a randomized controlled trial

Kiwako Yamamoto-Hanada[1], Tohru Kobayashi[2], Hywel C. Williams[3], Masashi Mikami[4], Mayako Saito-Abe[1], Kumiko Morita[1,5], Osamu Natsume[1,6], Miori Sato[1], Motoko Iwama[1], Yumiko Miyaji[1], Makiko Miyata[1], Shinichiro Inagaki[1], Fukuie Tatsuki[1], Narita Masami[1], Shoji F. Nakayama[7], Hiroshi Kido[8], Hirohisa Saito[9] and Yukihiro Ohya[1*]

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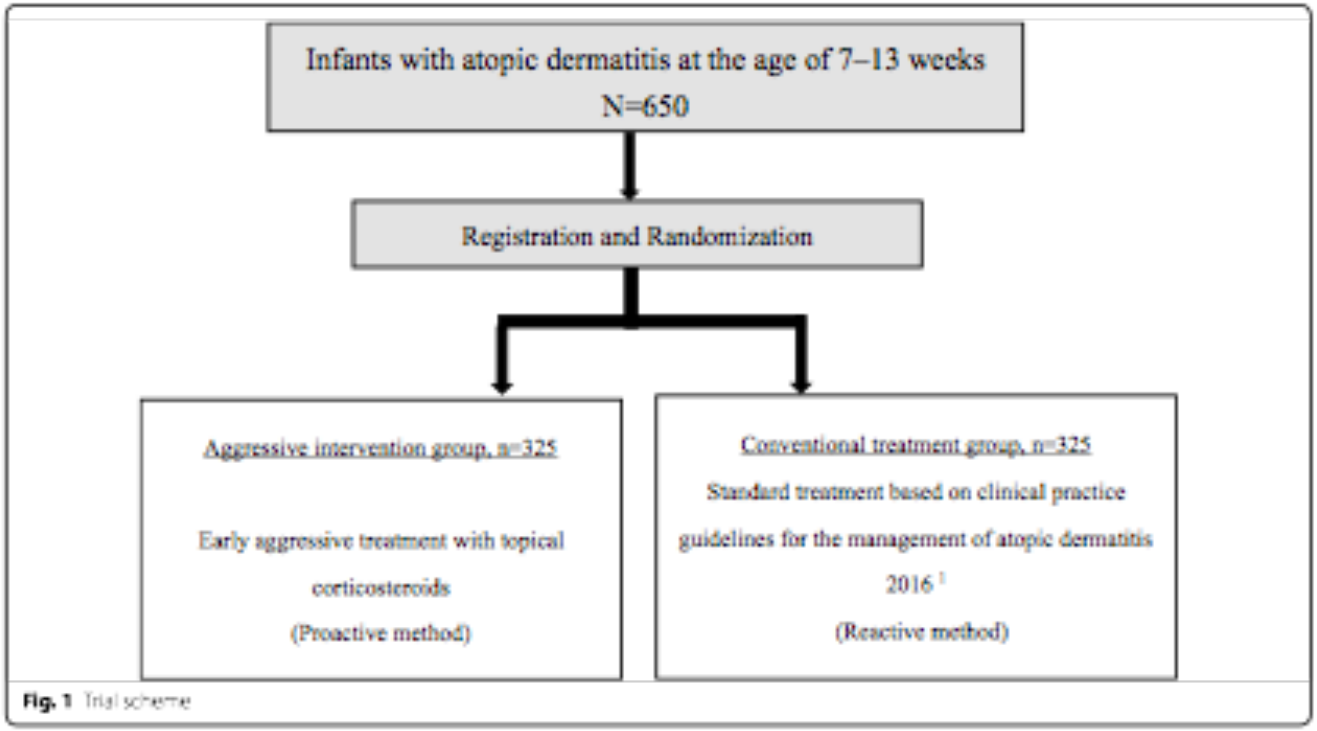
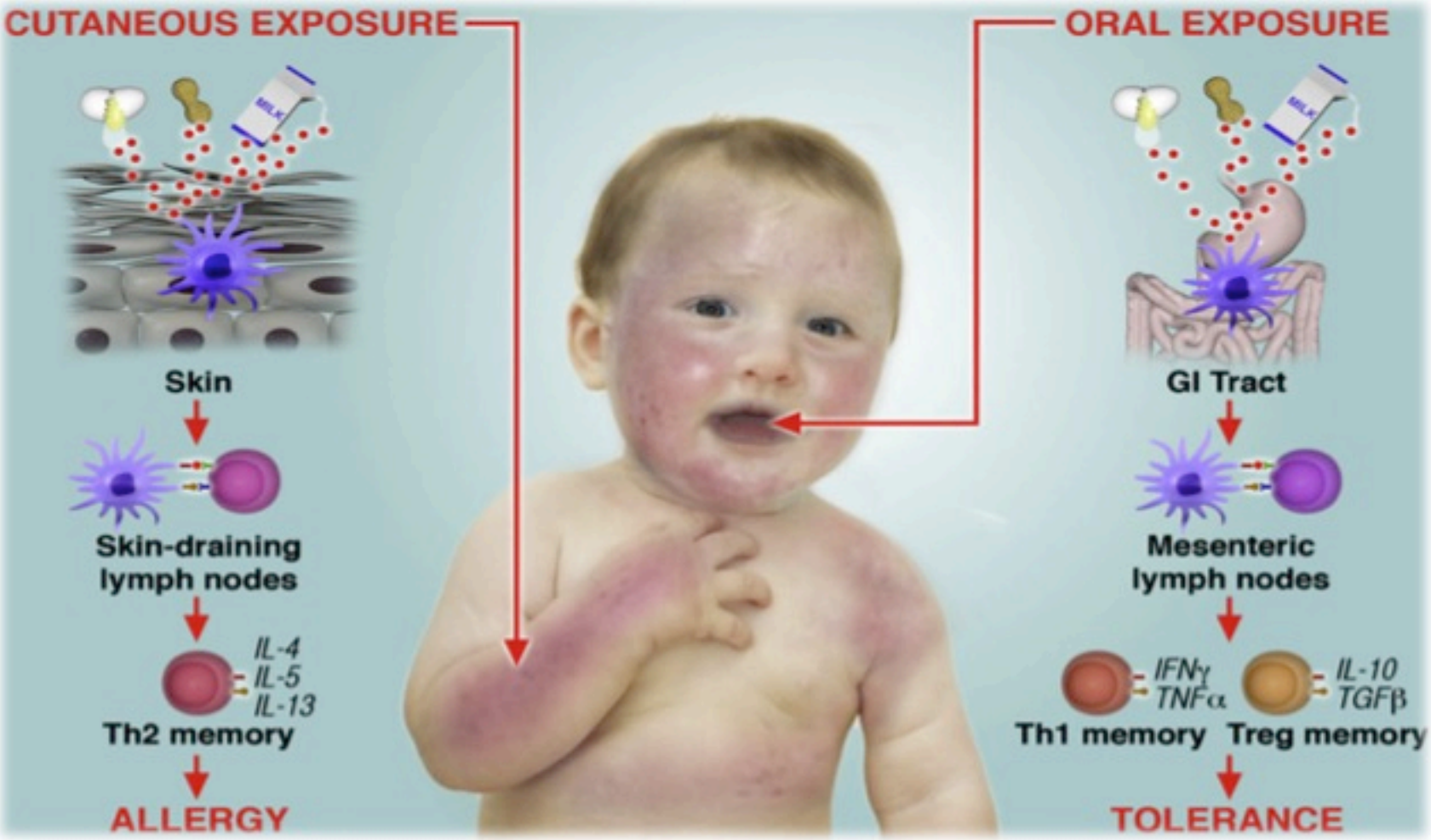


Fig. 1 Trial scheme

Clinical Tolerance to Food and Eczema

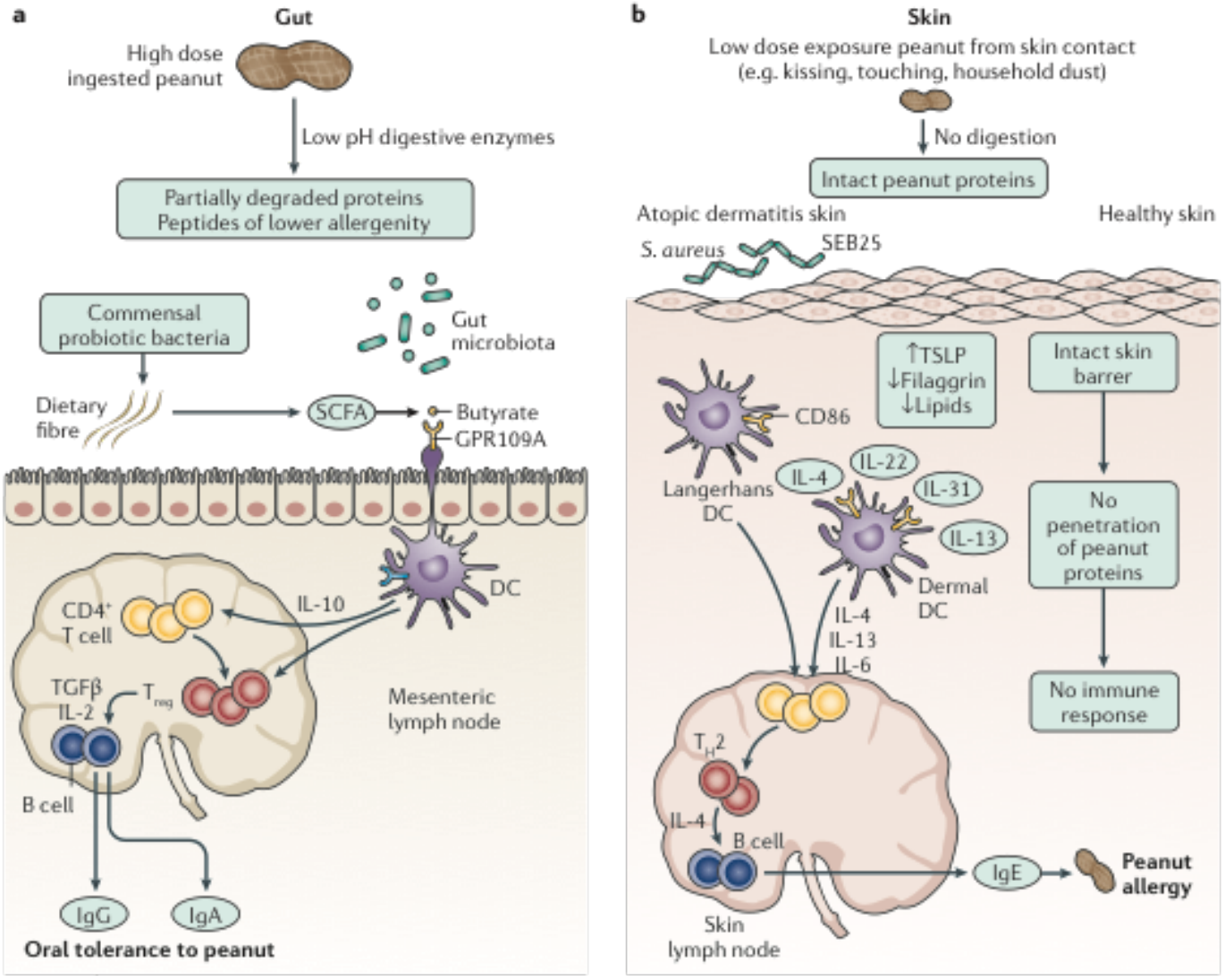
Lack G. J Allergy Clin Immunol 2012;129:1187-97



NATURE REVIEWS | GASTROENTEROLOGY & HEPATOLOGY

Food allergy and the gut

Anna Nowak-Wegrzyn[1], Hania Szajewska[2] and Gideon Lack[3]



Allergology International 68 (2019) 391–393

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journal homepage: http://www.elsevier.com/locate/alit

Letter to the Editor

Egg antigen was more abundant than mite antigen in children's bedding: Findings of the pilot study of the Japan Environment and Children's Study (JECS)

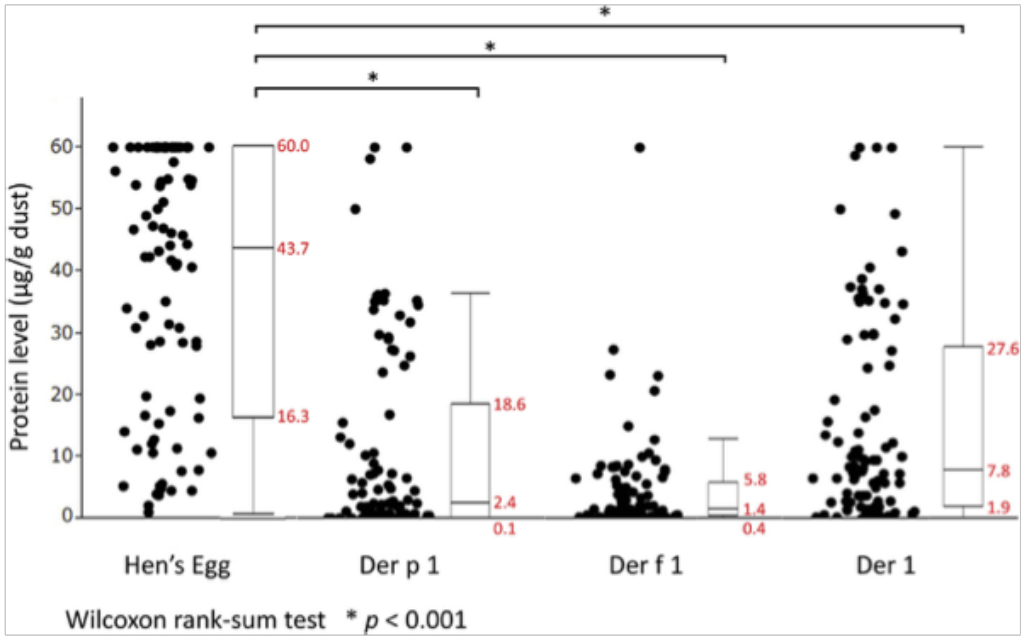


Fig. 1. Egg and house dust mite allergen (Der 1, Der p 1, and Der f 1) protein levels in the dust samples collected from the homes of participants aged 3 years in the JECS pilot study. The egg protein level was significantly higher than the Der 1, Der p 1, or Der f 1 proteins levels ($p < 0.001$, Wilcoxon rank-sum test).

nutrients

MDPI

Article

Fish Consumption at One Year of Age Reduces the Risk of Eczema, Asthma and Wheeze at Six Years of Age

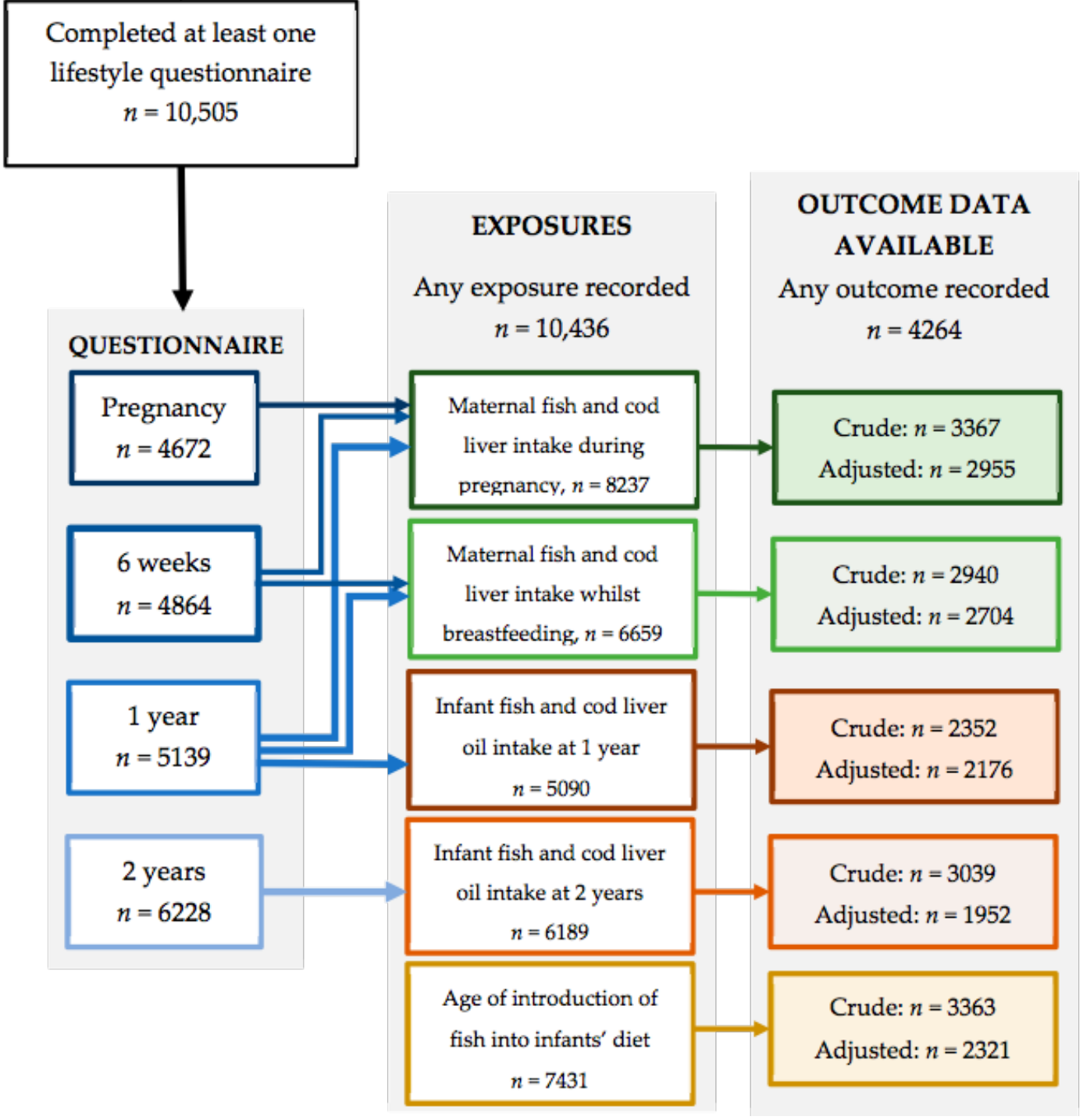
Torbjørn Øien [1,*], Astrid Schjelvaag [1,2], Ola Storrø [1], Roar Johnsen [1] and Melanie Rae Simpson [1,3]

1. Introduction

Since the 1950s, we have witnessed a dramatic increase in the prevalence of allergy-related diseases, such as eczema (atopic dermatitis), asthma, allergic rhinoconjunctivitis (ARC, hay fever) and food allergies [1]. At the same time, there exists a large variability in the prevalence and severity of these diseases, not just between countries, but also across regions within the same country. This variability suggests environmental characteristics, such as eating habits, may influence the local prevalence [2]. Changes in dietary habits have also been flagged as one of the potential drivers of the increasing prevalence of allergy-related diseases. In particular, higher consumption of omega-6 polyunsaturated fatty acids (*n*-6 PUFAs) and lower consumption of omega-3 fatty acids (*n*-3 PUFAs) has been highlighted as one of the major changes in the Western diets which has occurred over the same time period as allergy-related disease prevalence has risen [3]. Plausible biologically mechanisms can explain a causal relationship between increased dietary *n*-6 PUFAS and allergy-related diseases [4].

Oily fish is a major dietary source of *n*-3 PUFAs, and several epidemiological studies have shown protective effects from eating fish during both pregnancy [14–17] and infancy [18–20] on the development of allergy-related diseases in childhood, however the results are conflicting. A small RCT,

We have previously published results from the Prevention of Allergy among Children in Trondheim (PACT) study describing a 30% reduction in doctor-diagnosed asthma at two years of age after a community-based lifestyle intervention designed to increase fish and cod liver oil intake, reduce tobacco exposure and reduce indoor dampness during pregnancy and the first two years of life [24].


Completed at least one lifestyle questionnaire
n = 10,505
QUESTIONNAIRE
Pregnancy
n = 4672
6 weeks
n = 4864
1 year
n = 5139
2 years
n = 6228
EXPOSURES
Any exposure recorded
n = 10,436
Maternal fish and cod liver intake during pregnancy, n = 8237
Maternal fish and cod liver intake whilst breastfeeding, n = 6659
Infant fish and cod liver oil intake at 1 year
n = 5090
Infant fish and cod liver oil intake at 2 years
n = 6189
Age of introduction of fish into infants' diet
n = 7431
OUTCOME DATA AVAILABLE
Any outcome recorded
n = 4264
Crude: n = 3367
Adjusted: n = 2955
Crude: n = 2940
Adjusted: n = 2704
Crude: n = 2352
Adjusted: n = 2176
Crude: n = 3039
Adjusted: n = 1952
Crude: n = 3363
Adjusted: n = 2321

nutrients

MDPI

Article

Fish Consumption at One Year of Age Reduces the Risk of Eczema, Asthma and Wheeze at Six Years of Age

Torbjørn Øien [1,*], Astrid Schjelvaag [1,2], Ola Storrø [1], Roar Johnsen [1] and Melanie Rae Simpson [1,3]

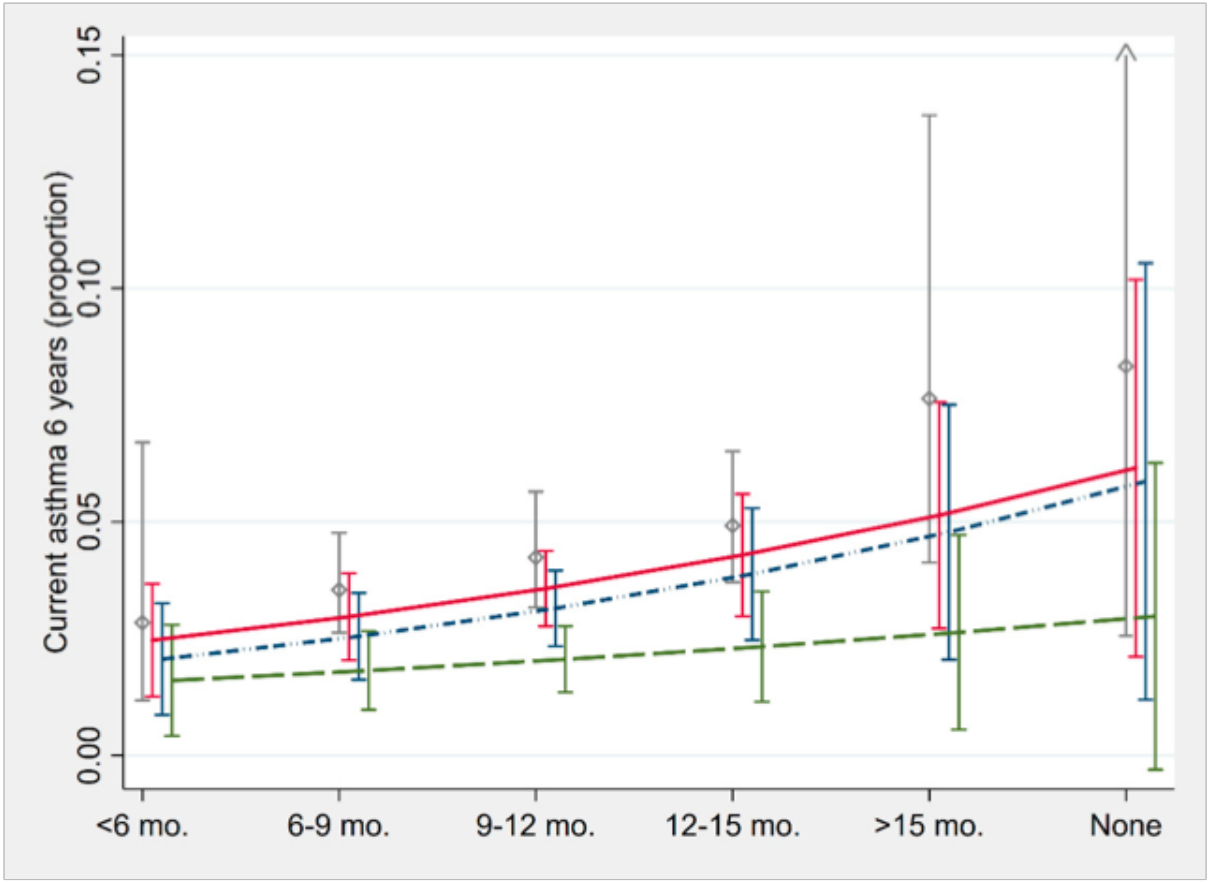


Figure 2. The proportion of children with current asthma at six years of age over the age fish was introduced into the infants' diet. This graph presents the observed proportions (grey diamonds) and

Pediatric Allergy and Immunology

PRO AND CON DISCUSSION

Early introduction of food reduces food allergy – Pro

Debra J. Palmer[1,2,3] & Susan L. Prescott[1,2,3]

[1]School of Paediatrics and Child Health, The University of Western Australia, Perth, WA, Australia; [2]Telethon Kids Institute, The University of Western Australia, Perth, WA, Australia; [3]International Inflammation (in-FLAME) Network, Worldwide Universities Network (WUN), Perth, WA, Australia

Debra J. Palmer

Susan L. Prescott

To cite this article: Palmer DJ, Prescott SL. Early introduction of food reduces food allergy – Pro. *Pediatr Allergy Immunol* 2017: **28**: 214–217.

Keywords
allergy prevention; complementary feeding; egg; food allergy; solids introduction; peanut

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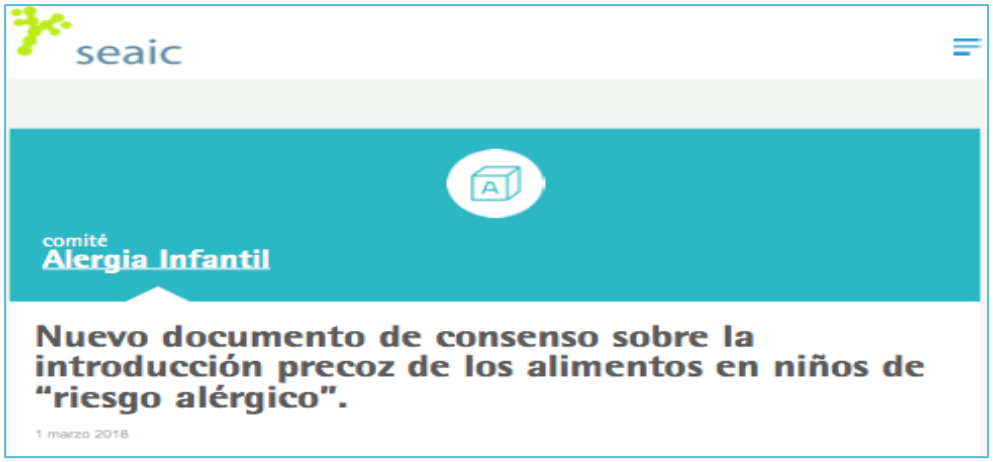
DOI:10.1111/pai.12692

Abstract

Over the past two decades, we have been debating the question of whether the age of commencement of complementary feeding affects the risk of developing food allergy. We ate up the notion that delayed introduction of more allergenic foods in early childhood would help overcome the increasing rates of food allergy, and then, we promptly spat it out again despite limited evidence. Recently, high-quality randomized controlled trial evidence has given us the confidence to swallow the concept that allergenic foods, such as egg and peanut, should be given to infants. We now need to recommend that when an infant is developmentally ready, a variety of nutritious foods should be introduced to ensure high diet diversity, including the 'more allergenic' foods during infancy.



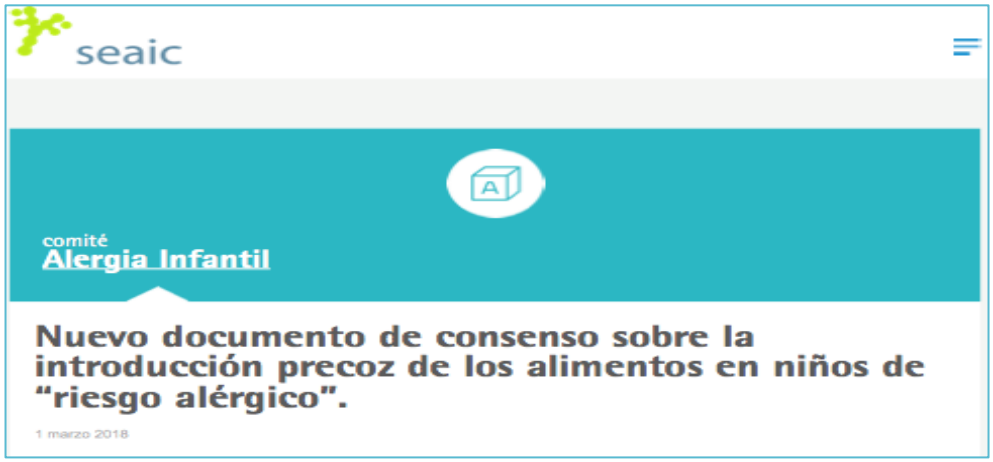
En los últimos años se han publicado algunos estudios que han hecho replantear determinados aspectos la práctica clínica habitual respecto al a alergia a los alimentos que parecían bien establecidos.

Las recomendaciones previas sobre la introducción de los alimentos en pacientes de "riesgo alérgico" eran hasta hace algunos años retrasar la introducción de los alimentos sólidos e incluso en algunas guías restricción materna de alimentos potencialmente alergénicos durante la lactancia. A pesar de estas medidas la prevalencia de alergia a alimentos ha ido en aumento en las últimas décadas.

Los resultados del estudio LEAP (The Learning Early About Peanut Allergy), y otras observaciones previas, han dado lugar a la modificación de las recomendaciones respecto a la introducción del cacahuete en las guías de las sociedades de alergia Americanas (AAAAI y AAP), Europea(EAACI), y Australiana(ASCIA). Recomendándose la introducción de forma precoz del cacahuete, en pacientes de alto riesgo de presentar alergia (pacientes con eccema severo y/o alergia al huevo), en contra de las recomendaciones previamente establecidas.

Destaca un estudio realizado en población asiática publicado en 2017 en el Lancet "Two-step egg introduction for prevention of egg allergy in high-risk infants with eczema (PETIT): a randomised, double-blind, placebo-controlled trial".

A los 12 meses se realiza provocación abierta con dosis equivalentes a 32 gr de huevo cocido presentado resultado positivo el 8% (5/60) de los pacientes en el grupo de intervención frente al 29.4% (23/61) en el grupo placebo. NNT 3.40(2.30-6.52). El estudio concluye que la introducción en dos pasos del huevo combinado con el tratamiento intensivo del eccema reduce la prevalencia de alergia al huevo en los niños de alto riesgo.



En los estudios revisados realizados con leche, trigo, soja, mariscos, cereales y nuez los resultados de los estudios no son consistentes.

El documento de consenso concluye que con la evidencia actual parece que la introducción precoz de cacahuete y huevo en pacientes de alto riesgo disminuye el riesgo de padecer la enfermedad alérgica pero que actualmente no existe evidencia respecto a si la introducción precoz de otros alimentos podría disminuir la frecuencia de alergia a estos.

Por otra parte existe acuerdo con las recomendaciones previas de otras guías sobre la población de bajo riesgo en la que no existe indicación de introducción precoz de los alimentos.

Se considera que un bebé está preparado cuando adquiere las destrezas psicomotoras que permiten manejar y tragar de forma segura los alimentos. Como cualquier otro hito del desarrollo, no todos los niños lo van a adquirir al mismo tiempo, aunque en general estos cambios suelen ocurrir en torno al sexto mes.

Se requiere:

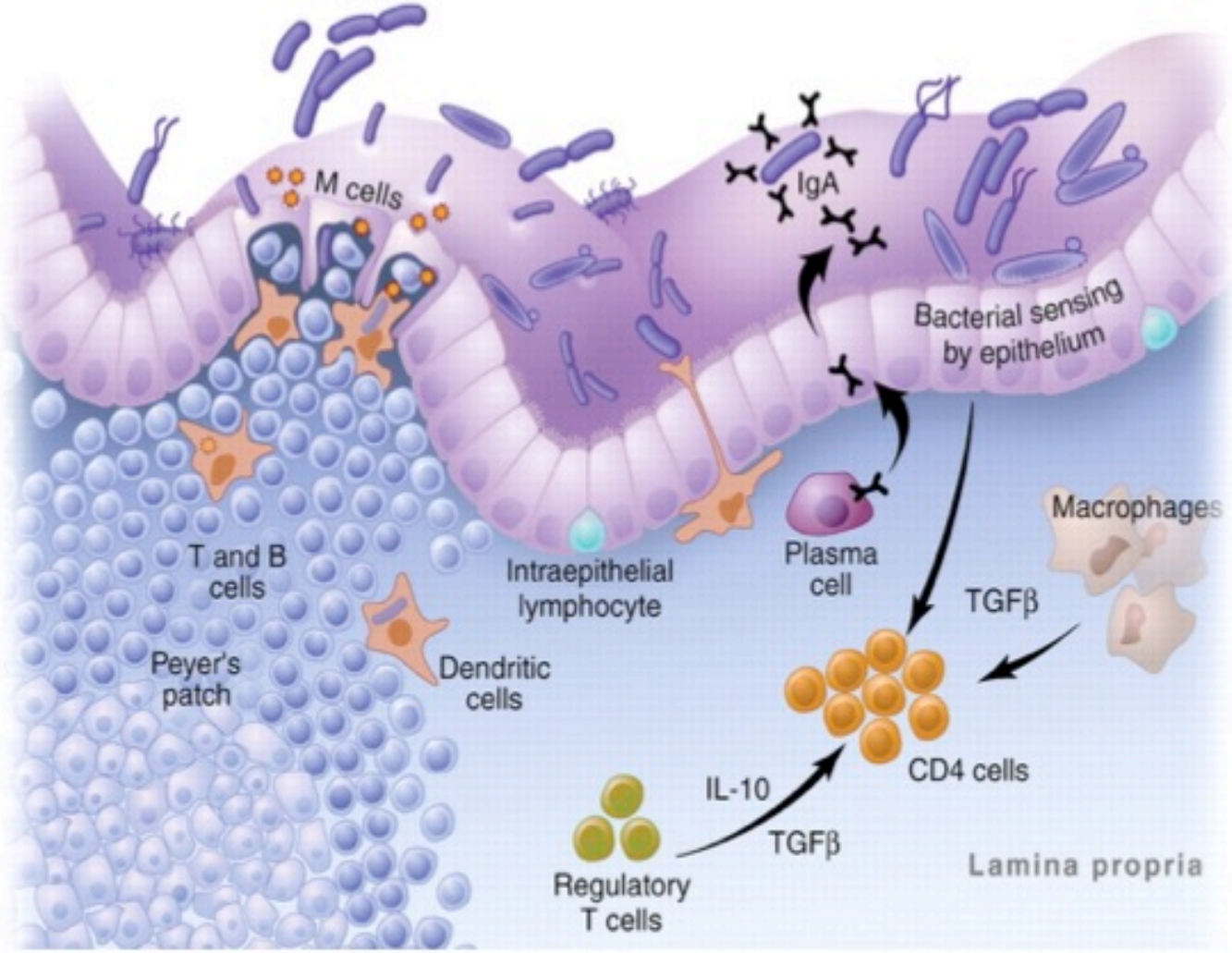
- Presentar un interés activo por la comida.
- La desaparición del reflejo de extrusión (expulsión de alimentos no líquidos con la lengua).
- Ser capaz de coger comida con la mano y llevarla a la boca.
- Mantener la postura de sedestación con apoyo.

¿POR QUÉ?

¿Por qué es importante esperar hasta alrededor de los 6 meses?

Para poder ingerir alimentos diferentes a la leche, es conveniente que el organismo tenga la maduración necesaria a nivel neurológico, renal, gastrointestinal e inmune[7].

Gastrointestinal mucosal tolerance mechanisms



MacDonald TT & Monteleone G, *Science* 2005; **307**: 1920-5

ALLERGY & GUT MICROBIOTA

Candela et al. BMC Microbiology 2012, 12:95
http://www.biomedcentral.com/1471-2180/12/95

BMC Microbiology

RESEARCH ARTICLE Open Access

Unbalance of intestinal microbiota in atopic children

RESEARCH ARTICLE Open Access

Microarray analysis reveals marked intestinal microbiota aberrancy in infants having eczema compared to healthy children in at-risk for atopic disease

Lotta Nylund[1,2*], Reetta Satokari[1,2], Janne Nikkilä[2,3], Mirjana Rajilić-Stojanović[4,5], Marko Kalliomäki[6], Erika Isolauri[6], Seppo Salminen[1] and Willem M de Vos[2,4]

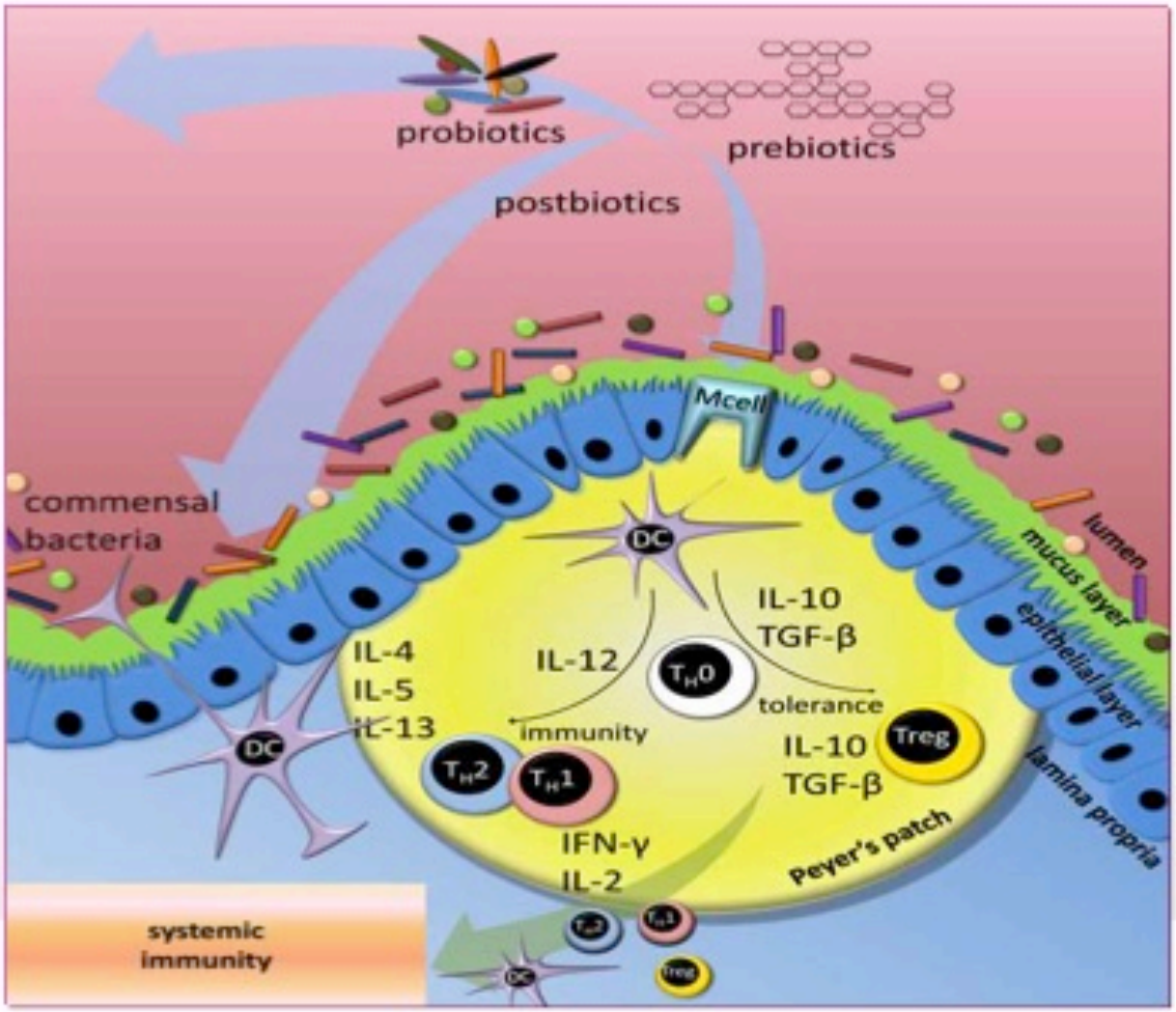
doi: 10.1111/cea.12487
Clinical & Experimental Allergy, 45, 632–643

ORIGINAL ARTICLE Clinical Mechanisms in Allergic Disease

Infant gut microbiota and food sensitization: associations in the first year of life

M. B. Azad[1,2], T. Konya[3], D. S. Guttman[4], C. J. Field[5], M. R. Sears[6], K. T. HayGlass[7], P. J. Mandhane[1], S. E. Turvey[8], P. Subbarao[9], A. B. Becker[2], J. A. Scott[3] and A. L. Kozyrskyj[1,10] and the CHILD Study Investigators*

THE GUT – IMMUNE INTERPLAY



Martin *et al*, 2010

MICROBIOTA: prenatal / perinatal

■ BENCH TO BEDSIDE

The early beginnings

Catherine Hawrylowicz & Kimuli Ryanna

RESEARCH HIGHLIGHTS

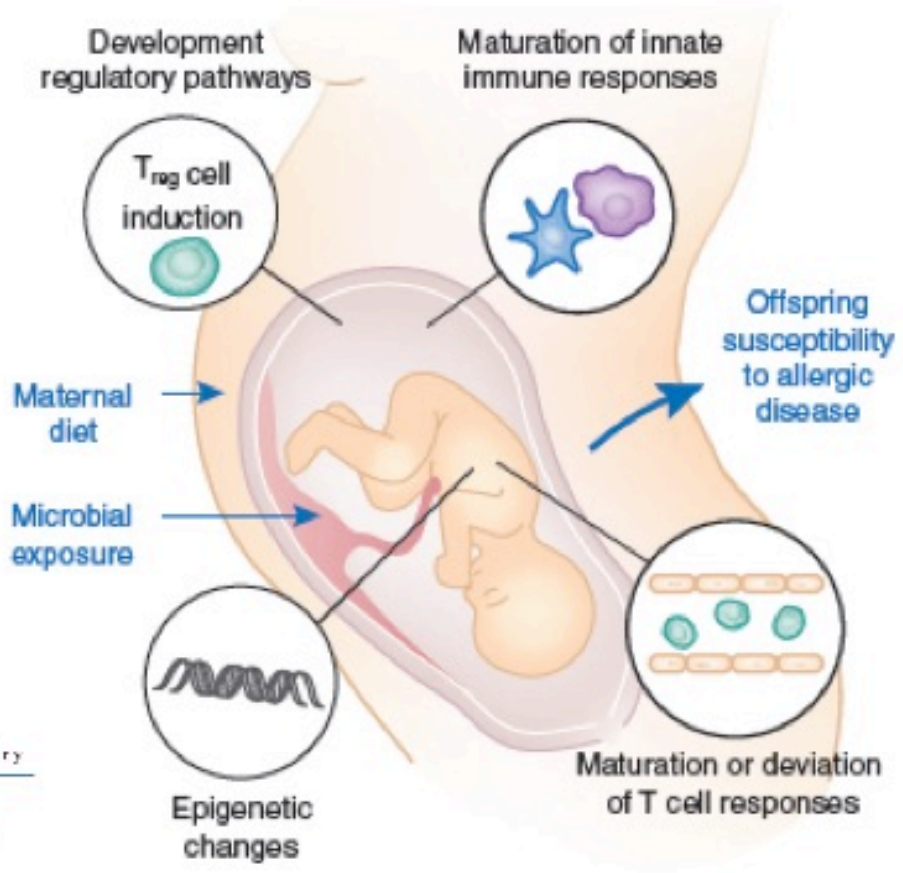
ASTHMA AND ALLERGY

Prenatal protection through TLRs

JEM Commentary

Soothing signals: transplacental transmission of resistance to asthma and allergy

Patrick G. Holt and Deborah H. Strickland



GUT MICROBIOTA: Lactancia

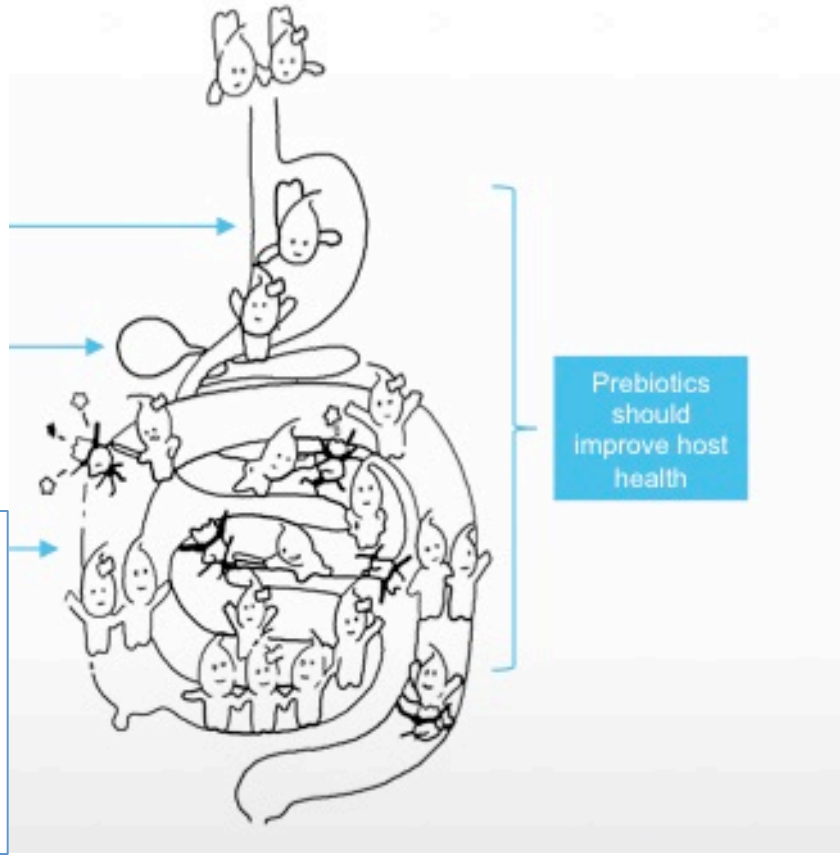
- Transferencia pasiva de Igs
- Riqueza de nutrientes
- Flora materna
- Inmunomodulación: TGF-B, LCPUFA, sIgA, Grow Factors
- Tranferencia materna de Ag alimentarios ???

Prebiotics *are selectively fermented ingredients*

- *that allow specific changes, both in the composition and/or activity in the gastrointestinal microflora;*
- *that confer benefits upon host wellbeing and health.*

Gibson GR *et al., Nutr Res Rev* 2004;**17**:259-75

Probiotics *are live micro-organisms which, when administered in adequate amounts, confer a health benefit to the host.*



Synbiotics =

synergistic effects of

probiotics + prebiotics

PROBIOTICOS & ALERGIA

- Food allergy
- Eczema
- Asthma
- Allergic rhinitis
- Eosinophilic oesophagitis

MICROBIAL RELATED FACTORS INCREASING RISK OF ALLERGY

Aitoro R. Gut Microbiota as a Target for Preventive and Therapeutic Intervention against Food Allergy. Nutrients. 2017 Jul; 9(7): 672.

Single child

Caesarean delivery

Junk foods/baby foods

Diet

Disinfectant and antiseptic agent

Antibiotics and Gastric acidity inhibitors

Pets

Farming lifestyle

Increasing family size and communal childcare

High fiber foods

Diet

Raw milk

Fermented foods

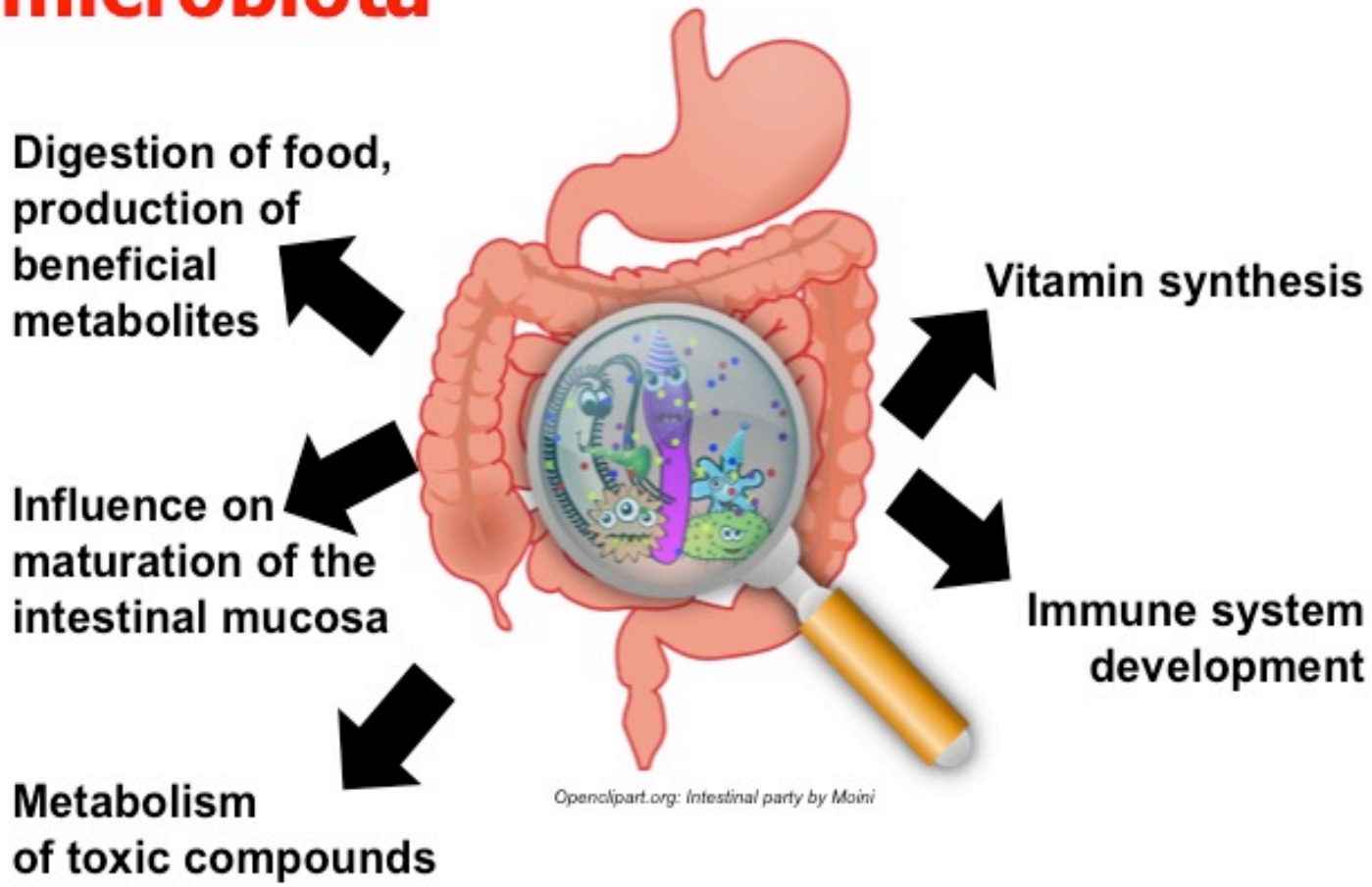
Home made foods

Breast milk

Probiotics and exposure to increased variety and aboundance of microorganisms

MICROBIAL RELATED FACTORS REDUCING RISK OF ALLERGY

Functions of the human gut microbiota



Fouhy F et al. Gut Microbes 2016

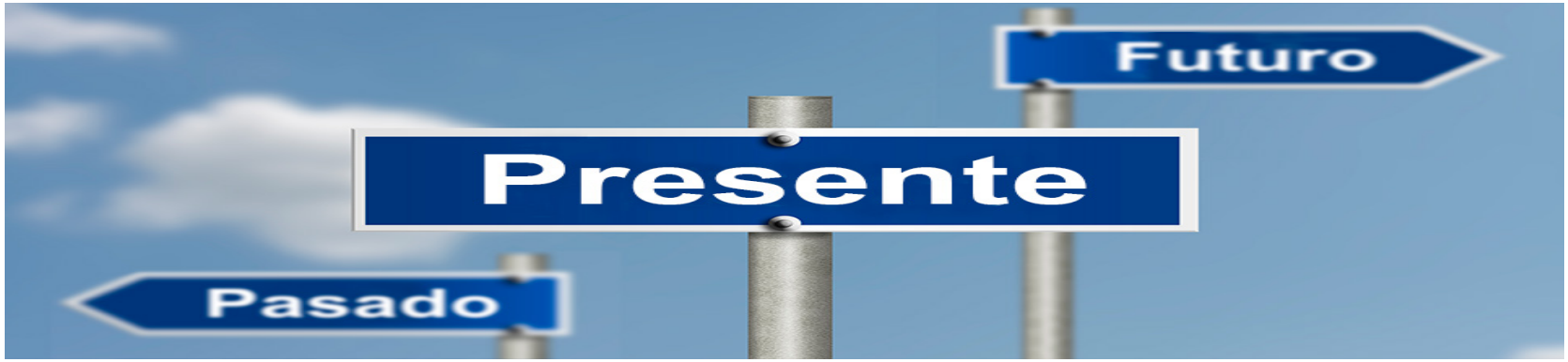
CONCLUSIONES: *To take home !!*

- La prevalencia y severidad están en **aumento**: MAS población alérgica y MAS grave.

- Se precisan estrategias de **Prevención Primaria** que ayuden a controlar esta tendencia exponencial (mundial)
-
- El conocimiento sobre las bases inmunológicas que sustentan la adquisición de **Tolerancia** a los alimentos son la mejor vía para desarrollar estrategias eficaces de Prevención en Alergia Alimentaria

- Las recomendaciones de **Introducción Alimentaria:** Generales y Personalizadas.

- En la actualidad las **líneas de investigación** se centran en :
  - ✓ Microbiota intestinal
  - ✓ Mecanismos de tolerancia inmunológica Digestiva
  - ✓ Factores asociados que modifican la Tolerancia



PREVENCION:

- "Early introduction": 4-6m
- Detección precoz de niños de riesgo atópico
- VIA: Potenciar Tolerancia digestiva /microbiota

DIAGNOSTICO:

- Precoz / Preciso
- Consejo dietético: restrictiva, trazas, "baked", parcial

TRATAMIENTO

- FH + Pre-/Pro- /Simbióticos
- Vacunas vs ITO (+Pre-/Probióticos)

Medicina Personalizada

FORMACION:

Plataforma AULATIC – Consejería de Educación

ALERGIAS ALIMENTARIAS EN EL ÁMBITO EDUCATIVO

Servicio Canario de la Salud

Gobierno de Canarias

Coordinación: Rosa Gloria Suárez López de Vergara

Tutores: Dra Paloma Poza Guedes y Dr Ruperto González Pérez

VII FORO DE ALERGOLOGIA CON ATENCION PRIMARIA

FAAP

17 - 18 MAYO 2019

HOTEL ESCUELA
SANTA CRUZ DE TENERIFE

PROGRAMA

Directores: Dra. Paloma Poza Guedes · Dr. Ruperto González Pérez

- Con el Aval científico de la Sociedad Canaria de Alergia e Inmunología Clínica (SCAIC).
- Concedido el Reconocimiento de Interés Sanitario del Servicio Canario de la Salud, Consejería de Sanidad del Gobierno de Canarias.
- Concedida la Acreditación de la Comisión Canaria de Formación Continuada de las Profesiones Sanitarias, con nº de expediente 05-215-5A.

Sociedad Canaria de Alergia

www.forodealergia.com