



Delayed DTaP-IPV-Hib vaccination and development of atopic dermatitis (AD)

- A register-based cohort study

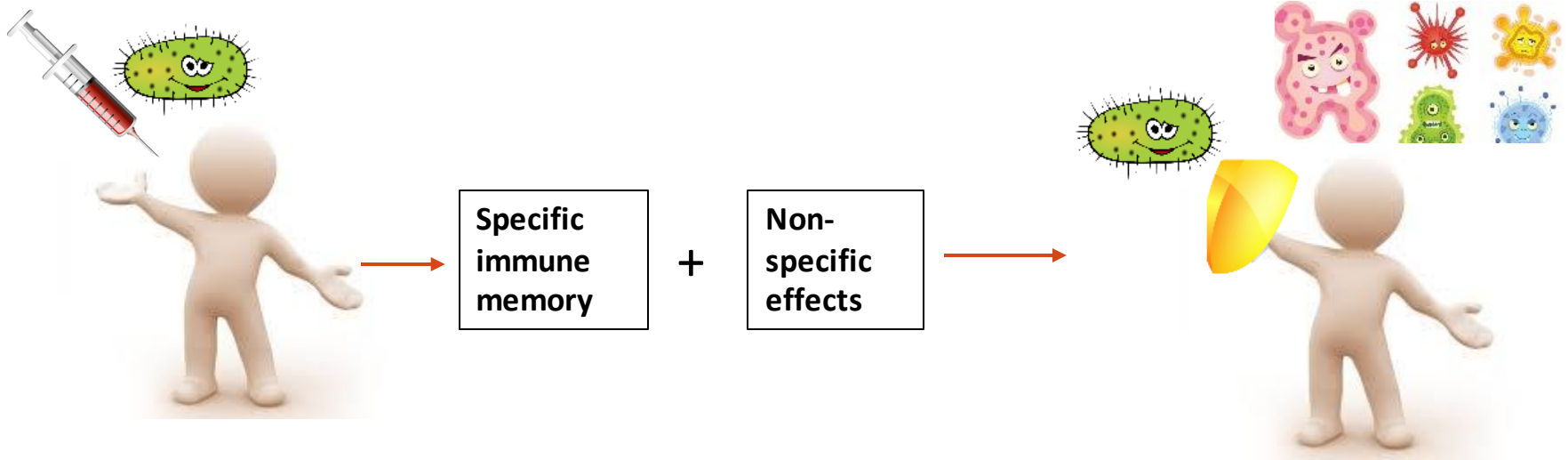
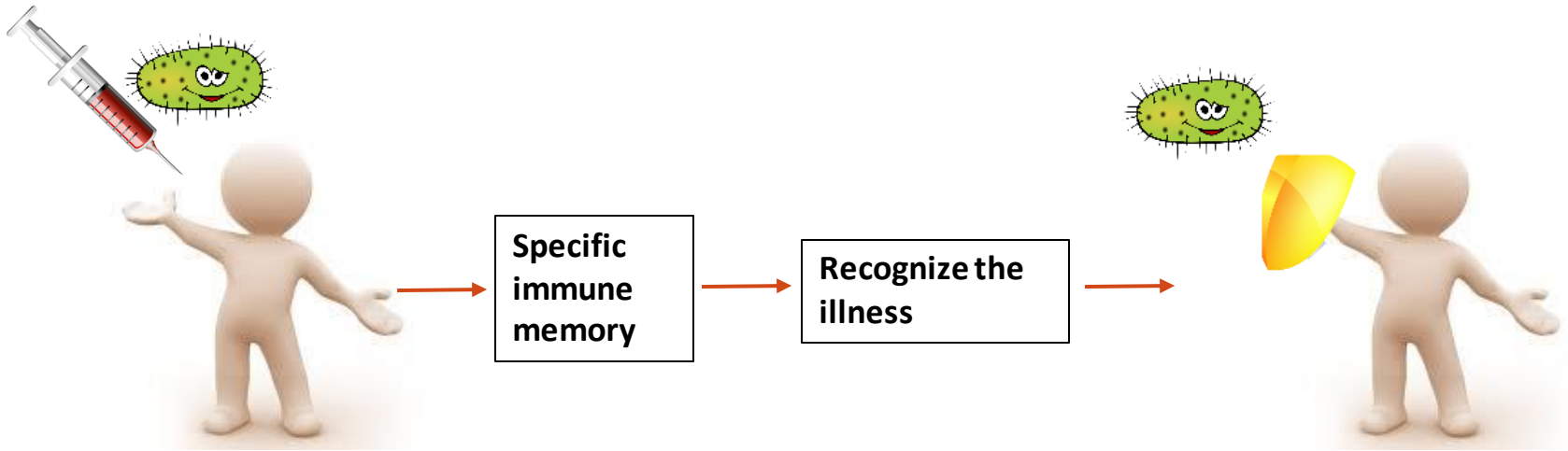
Gehrt, L., Rieckmann, A., Kiraly, N., Jensen, A.G.K., Aaby, P., Benn, C.S., Sørup, S.

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Non-specific effects of vaccines

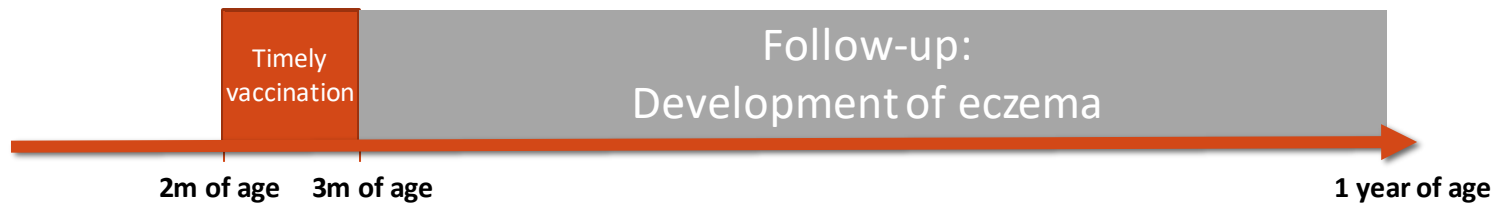


Atopic Dermatitis



- Most common skin disease in high income countries (affecting up to 20%)
- 90% onset within the 1st year of life
- Etiology is largely unknown
 - Skin barrier dysfunction
 - Activation of immune responses
 - Heritable- and environmental factors

Delayed vaccination with DTaP-containing vaccines in Australia



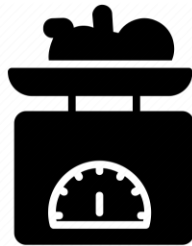
aOR=0.57 (95% CI: 0.34–0.97)

Kiraly, N. et al. *Allergy* (2016)

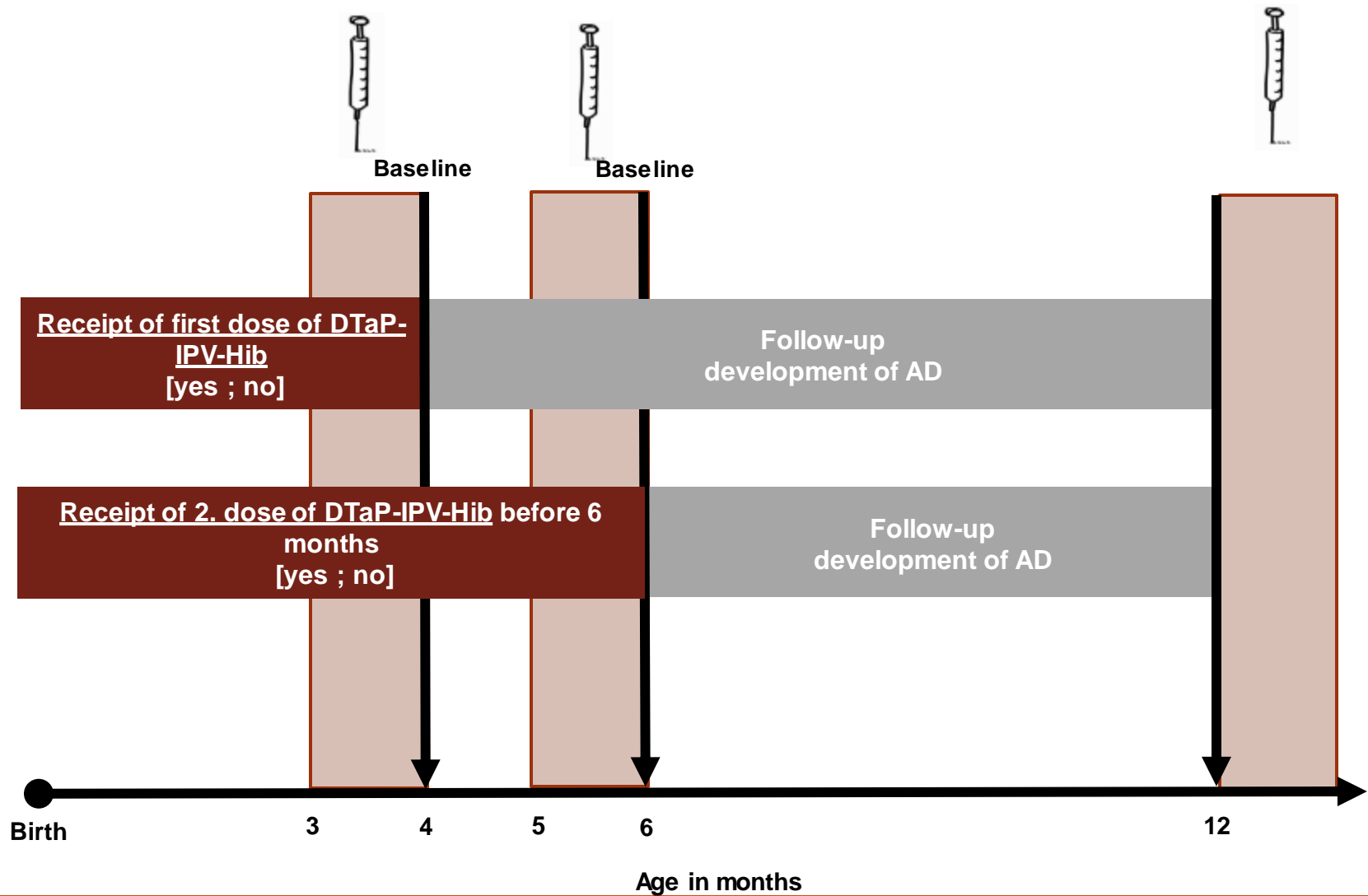
Denmark: register based cohort study from 1997-2012



ID



Study design

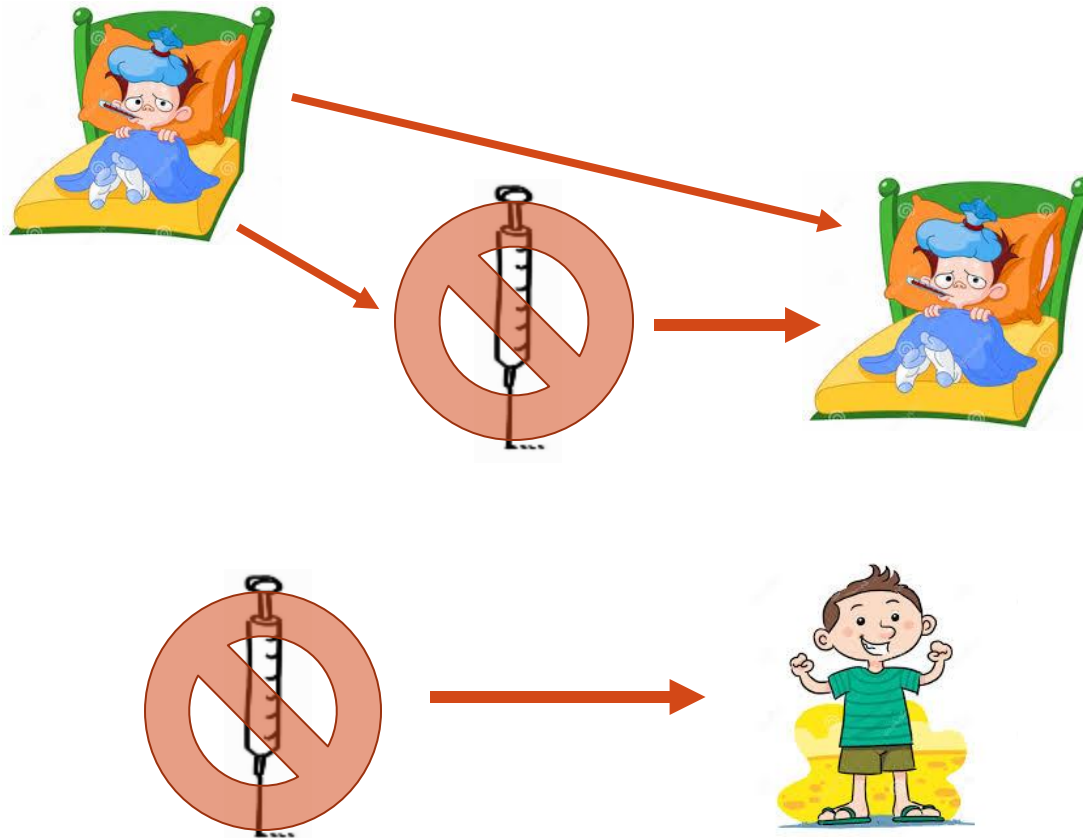


Association between delayed vaccination with the first and/or second dose of DTaP-IPV-Hib and development of AD before 1 year of age

	Cases of AD/N (%)	aRR (95% CI)
Delayed first dose of DTaP-IPV-Hib and development of AD		
Delayed DTaP-IPV-Hib1	4847/143,429 (3.4%)	0.94 (0.91-0.97)
Delayed second dose of DTaP-IPV-Hib and development of AD		
Delayed DTaP-IPV-Hib2	2395/107,361 (2.2 %)	0.93 (0.90-0.98)
Delayed first and/or second of DTaP-IPV-Hib and development of AD		
Delayed DTaP-IPV-Hib1 or DTaP-IPV-Hib2	3334/145,869 (2.3 %)	0.95 (0.92-0.99)
Delayed DTaP-IPV-Hib1 and DTaP-IPV-Hib2	3086/97,184 (2.2 %)	0.91 (0.87-0.95)

Healthy vaccinee bias

- *Confounding by indication: Unhealthy children are less likely to get vaccinated and more likely to be sick after vaccination*



Interacting, Nonspecific, Immunological Effects of Bacille Calmette-Guérin and Tetanus-diphtheria-pertussis Inactivated Polio Vaccinations: An Explorative, Randomized Trial

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Results. Tdap vaccination led to short-term potentiation and long-term repression of monocyte-derived cytokine responses, and short-term as well as long-term repression of T-cell reactivity to unrelated pathogens. BCG led to short-term and long-term potentiation of monocyte-derived cytokine responses. When given together with Tdap or after Tdap, BCG abrogated the immunosuppressive effects of Tdap vaccination.

Conclusions. Tdap induces immunotolerance to unrelated antigens,

The *poetic* conclusion

Based on our results lets remind the doubtful

That even small effects may provide signals that are insightful

If delayed vaccination is an expression of higher risk of disease attraction

Then this an effect in the opposite direction

In conclusion, our results support that DTP is more than it's specific effects

And that vaccines effect our immune system in much broader ways than one expects

Further research is needed to explore vaccines' true potential

But I firmly believe, that if we manage to tailor our vaccination program accordingly –
the health effect will be substantial



THANK YOU