

CDC/NCHS Presentation

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With Stephanie Leonard, MD, FAAAAI and Bruce Lanser, MD, FAAAAI,

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Brief biography

Dr. Julia Upton, B. Sc., MD, MPH, FRCP(C), FAAAAI

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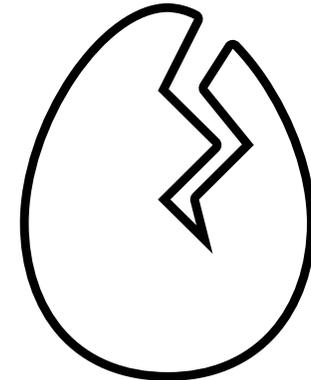
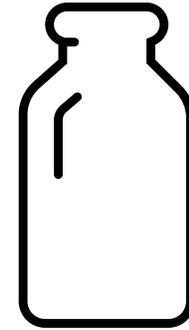
Associate Member (PAC) Institute of Medical Sciences

CSACI: Board of Directors

AAAAI: Co-Chair Baked Milk and Egg Working Group, Adverse Reactions to Foods Committee

Milk and Egg Allergy are common

- Milk allergy affects up to 2% of young children less than 5 years of age
- Egg allergy affects an estimated 0.5% to 2.5% of children younger than 5 years of age



Most milk and egg allergic children tolerate milk and egg in baked forms

A majority, 70-80%, of milk-allergic individuals can tolerate baked milk

A majority, 70-80%, of egg-allergic individuals can tolerate baked egg

Currently we do not distinguish these children from milk and egg allergic children in the diagnostic codes



Cooking changes proteins

For example

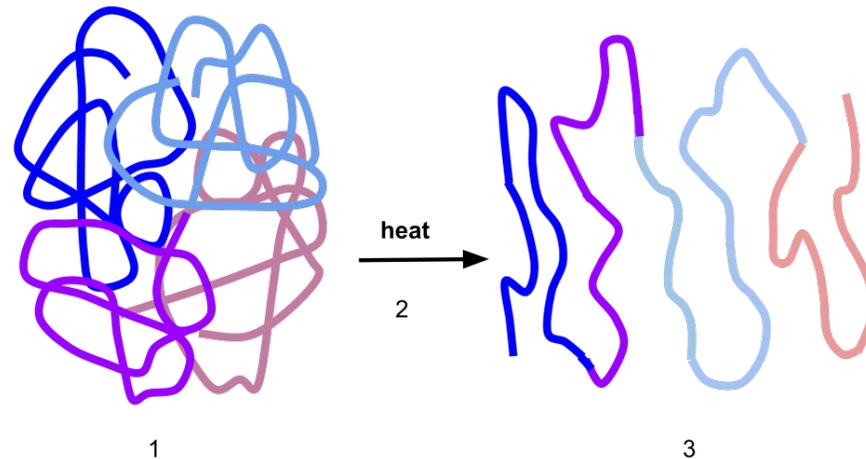
- We can see these eggs look completely different
- We know which is raw and which is cooked
- Our bodies can also “see” this difference
- The egg proteins look even more different when baked into a muffin or waffle



Baking milk and egg (e.g. into a muffin) changes the proteins though HEAT and from the DOUGH/BATTER

Baking modifies egg milk and proteins and makes them less allergenic/ less recognized (less seen) by the immune system

- Destroy 3-dimensional structure of the milk or egg protein
- Block parts of the egg or milk protein through interactions with the food matrix (e.g., wheat flour).



Dietary Restrictions change if no reaction to baked forms

When a milk and/or egg allergic child has been shown to tolerate baked milk or baked egg, can eat **extensively baked products** with cow's milk or egg as an ingredient.

- **Store-bought baked products** with the milk or egg ingredient listed as the third ingredient or further down the list of ingredients
- **Home-baked products** that have no more than 1/6th cup of cow's milk per serving or 2 eggs per serving

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Dietary Restrictions change if no reaction to baked forms (con't)

Incorporating baked milk or baked egg into the diet likely hastens the resolution of allergy

Milk and/or egg allergic children who cannot incorporate baked milk or baked egg are important to identify for consideration of novel/new treatments



Severity of reaction

Milk and egg allergic children **allergic** to the baked forms are likely at higher risk of **severe reaction** when exposed to milk or regular egg (e.g. scrambled or stove top egg):

- Important to identify for education and consideration of intervention with novel/new treatments

Milk and egg allergic children who **tolerate** baked forms typically have **less severe reactions** to milk or regular egg



Prognosis

Milk and/or egg allergic children **allergic** to the baked forms are likely to **remain allergic** versus those who tolerate baked forms:

- Important to identify for education and consideration of intervention with novel/new treatments

Milk and/or egg allergic children who **tolerate** baked forms typically are **outgrowing their allergy**:

- Important to identify these children to plan follow up to show when they are no longer allergic



Summary:

Clinical practice for milk and egg allergy is changed by the knowledge of tolerating baked forms of milk or egg

- Risk of severe reaction: education, treatments
- Advise dietary restriction
- Prognosis: education, follow-up plans, treatments

Thank you