

The Egg Ladder

A Parent's Guide to Introducing Egg Safely

A Safe, Step-by-Step Approach for
Outgrowing Egg Allergy

*Based on BSACI Guidelines, peer-reviewed research,
and international paediatric allergy standards*

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IMPORTANT: This guide is for informational purposes only. Always work with your child's paediatrician or allergist before starting the egg ladder. Children with a history of anaphylaxis or uncontrolled asthma must undergo hospital-supervised food challenges first.

WHAT IS THE EGG LADDER?

The egg ladder is a clinically proven, step-by-step method for introducing egg to children with egg allergies. It starts from the most processed (and least allergenic) forms and gradually works up to raw egg.

Why it works:

Heating egg at high temperatures (150-180 degrees C for 20+ minutes) breaks down the proteins that cause allergic reactions. The egg proteins also bind with wheat and other ingredients during baking, making them even less reactive. This is why most egg-allergic children can safely eat a biscuit but not a fried egg.

WHAT THE RESEARCH SAYS

- 70-80% of egg-allergic children tolerate baked egg, even when they react to cooked or raw egg (BSACI 2021; Tan et al., 2023)
- Children consuming baked egg are 14.6x more likely to develop full egg tolerance than those who avoid egg entirely (Leonard et al., 2012)
- Baked egg consumers develop tolerance 28 months earlier - median 50 months vs 78.7 months with strict avoidance (Leonard et al., 2012)
- More than 85% of children with prior egg anaphylaxis achieved full egg tolerance using a guided egg ladder (Frontiers in Allergy, 2025)
- 50% of children outgrow egg allergy by age 2; 80% by age 4; up to 89% by age 6 (PMC, 2021)

The bottom line: The egg ladder doesn't just manage the allergy - it actively helps your child outgrow it faster.

IS YOUR CHILD READY?

You CAN start at home if ALL of these apply:

- Your child is at least 12 months old, OR it has been at least 6 months since their last allergic reaction (whichever comes first)
- Previous reactions were mild to moderate only (skin rash, localised hives, mild tummy upset)
- Your child does not have uncontrolled asthma
- Your child's allergist or paediatrician has approved home-based introduction
- You have an epinephrine auto-injector (EpiPen) at home and know how to use it
- You have antihistamines (cetirizine or diphenhydramine) on hand

You MUST do a hospital-supervised challenge first if:

- Your child has had anaphylaxis (breathing difficulty, throat swelling, fainting, or shock)
- Your child has moderate-to-severe or uncontrolled asthma
- Your child has multiple food allergies
- Your child's skin prick test wheal is >3mm
- You are unsure about the severity of past reactions

Do not guess. If in doubt, ask your allergist.

A note on age: The 12-month minimum applies to the egg ladder for children with a diagnosed egg allergy. For healthy babies with no allergy history, current guidelines (BSACI, AAP) recommend introducing egg as early as 4-6 months during normal weaning - early exposure helps prevent egg allergy from developing.

THE EGG LADDER

STAGE 1: WELL-COOKED / BAKED EGG

Egg baked at high heat (150 degrees C+) for 20+ minutes, mixed into other ingredients. Start here.

Food	Notes
Store-bought biscuits/cookies*	Egg must be 3rd ingredient or lower
Store-bought sponge cake*	Victoria sponge, fruit cake
Home-baked muffins/cupcakes*	Max 1/3 egg per serving
Home-baked cake*	Must be fully baked - not wet/soggy
Egg in processed meats	Sausages, burgers (check labels)
Commercial marzipan	Contains trace egg white

Rules for baked products:

- * Store-bought: egg must be 3rd ingredient or lower on the label
- * Home-baked: no more than 1/3 of an egg per serving (e.g., 2 eggs in a recipe making 6 servings)
- * Must be baked thoroughly - not underdone, wet, or soggy in the middle

STAGE 2: LIGHTLY COOKED EGG

Only move here after tolerating Stage 1 foods regularly for 1-3 months.

Food	Notes
Dried egg noodles	Common starting point for Stage 2
Dried and fresh egg pasta	
Fresh yellow egg noodles (mee)	
Hard-boiled egg	Start with 1/4 egg
Fried egg (solid yolk)	Fully cooked through
Scrambled egg	Fully set, not runny
Omelette (cooked through)	
Egg fried rice	
Breadcrumb-coated foods	e.g., chicken nuggets
Pancakes / Waffles	
French toast	
Meringue	
Quiche and flans	Sweet and savoury
Home-made custard	
Crepe caramel / crepe brulee	
Egg custard tarts	

Tempura	
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Stage 2 continued - Local favourites (higher egg content):

Food	Notes
Pandan cake**	Higher egg content - Stage 2 only
Sugee cake**	Higher egg content - Stage 2 only
Chiffon sponge**	Higher egg content - Stage 2 only
Kaya spread**	Higher egg content - Stage 2 only
Poached egg	Near the top of Stage 2

** Although these products are baked or cooked, they contain significantly more egg than typical baked goods and are therefore only suitable within Stage 2.

STAGE 3: RAW EGG

Only move here after tolerating Stage 2 foods regularly for 1-3 months.

Food	Notes
Raw egg in cake mix / batter	Licking the bowl
Egg glaze on pastry	Lightly brushed, minimal cooking
Fresh mayonnaise	Not commercial (uses pasteurised egg)
Hollandaise / tartar sauce	Homemade
Royal icing	Raw egg white
Fresh sorbet	May contain raw egg
Fresh ice cream	Custard-based with raw/lightly cooked egg

When your child tolerates Stage 3 foods: Congratulations! They have achieved full egg tolerance.

HOW TO INTRODUCE EACH NEW FOOD

Step 1: Start Small

- First try: A grain- or pea-sized amount (about 1 small bite)
- Wait 15-30 minutes and observe

Step 2: Increase Gradually

If no reaction after the first bite:

- Give a slightly larger portion (1-2 teaspoons)
- Wait another 30 minutes
- If still no reaction, allow a normal age-appropriate portion

Step 3: Observe for 2-3 Hours

- Stay home. Don't go out immediately after a trial.
- Most reactions occur within 30 minutes, but delayed reactions can appear up to 2-3 hours after eating
- Watch for ANY symptoms (see next section)

Step 4: Repeat Before Moving On

- Feed the same food 2-3 times per week for at least 2-4 weeks
- Your child should tolerate a food at least 3 times with no reaction before moving on

Step 5: Move Up the Ladder

- Stay at each stage for 1-3 months of regular consumption before advancing
- The full ladder typically takes 18-24 months to complete
- There is no rush. Slow and steady is safer and more effective.

WHAT TO WATCH FOR

Mild Reaction (Common, Usually Not Dangerous)

- Localised hives or rash (around mouth, face)
- Mild itching in the mouth or throat
- Slight lip or mouth swelling
- Mild stomach cramps
- 1-2 episodes of vomiting
- Runny or stuffy nose

What to do:

Give antihistamine (cetirizine/diphenhydramine). Stop the food. Do NOT advance further. Return to the previous step and wait 3 months before trying again. Inform your allergist.

Severe Reaction / Anaphylaxis (MEDICAL EMERGENCY)

If ANY TWO of these body systems are involved, it is anaphylaxis. Act immediately.

- BREATHING: Wheezing, persistent cough, throat tightness, difficulty swallowing, noisy breathing
- HEART / CIRCULATION: Dizziness, fainting, pale or blue lips/skin, rapid heartbeat
- GUT: Severe abdominal pain, repeated vomiting, severe diarrhoea
- SKIN (widespread): Hives spreading across the body, full-body flushing

Emergency action:

1. Give epinephrine (EpiPen) IMMEDIATELY - do not wait
2. Call emergency services (995 in Singapore / 911 in US / 999 in UK)
3. Lay child flat with legs elevated (if breathing is difficult, sit upright)
4. A second dose can be given after 5-15 minutes if no improvement
5. ALWAYS go to A&E/ER even if symptoms improve - reactions can return

YOUR EGG LADDER TRACKER

Print this page and keep it on your fridge. Tick off each food as your child tolerates it.

Stage 1 - Well-Cooked / Baked Egg

Food	Date Tried	Reaction?	OK x3?	Notes
Store-bought biscuit	__/__/__	Y / N		
Store-bought cake	__/__/__	Y / N		
Home-baked muffin/cake	__/__/__	Y / N		
Sausage/burger (with egg)	__/__/__	Y / N		
Commercial marzipan	__/__/__	Y / N		

Date started Stage 1: __/__/__ Date completed: __/__/__

Stage 2 - Lightly Cooked Egg

Food	Date Tried	Reaction?	OK x3?	Notes
Dried egg noodles/pasta	__/__/__	Y / N		
Hard-boiled egg	__/__/__	Y / N		
Scrambled egg	__/__/__	Y / N		
Fried egg (solid yolk)	__/__/__	Y / N		
Omelette	__/__/__	Y / N		
Pancakes / waffles	__/__/__	Y / N		
Egg fried rice	__/__/__	Y / N		
French toast	__/__/__	Y / N		
Custard / creme caramel	__/__/__	Y / N		
Kaya spread	__/__/__	Y / N		
Pandan / chiffon cake	__/__/__	Y / N		
Poached egg	__/__/__	Y / N		

Date started Stage 2: __/__/__ Date completed: __/__/__

Stage 3 - Raw Egg

Food	Date Tried	Reaction?	OK x3?	Notes
Raw cake batter	__/__/__	Y / N		
Egg glaze on pastry	__/__/__	Y / N		
Fresh mayonnaise	__/__/__	Y / N		
Hollandaise sauce	__/__/__	Y / N		
Royal icing	__/__/__	Y / N		
Fresh ice cream / sorbet	__/__/__	Y / N		

Date started Stage 3: __/__/__ Date completed: __/__/__

COMMON QUESTIONS

Q: How long does the whole process take?

Typically 18-24 months from Stage 1 to full tolerance. Children with prior anaphylaxis may take 21-23 months. There's no shortcut - consistency matters more than speed.

Q: What if my child reacts to a food?

Stop that food. Return to the last food they tolerated. Wait 3 months before trying again. Contact your allergist to reassess.

Q: How often should my child eat egg foods during the ladder?

2-3 times per week minimum, ideally daily. Research shows children consuming more than 5 baked egg servings per month were 3 times more likely to outgrow the allergy.

Q: Can my child outgrow egg allergy without the ladder?

Yes - most children outgrow egg allergy naturally. But the ladder approach helps them outgrow it significantly faster (14.6x more likely with baked egg consumption).

Q: What if my child has been avoiding egg for years?

It's never too late to start. Discuss with your allergist - they may recommend a supervised challenge first, especially if your child hasn't been exposed in a long time.

Q: Is this safe to do at home?

For children with mild-to-moderate past reactions and no asthma - yes, with allergist approval. For children with severe reactions or anaphylaxis history, the first challenge must be done in hospital.

REFERENCES

1. BSACI Guideline for the Management of Egg Allergy (2021) - Clinical & Experimental Allergy
2. Leonard SA et al. "Dietary baked egg accelerates resolution of egg allergy" - J Allergy Clin Immunol (2012)
3. Tan JJ et al. "Tolerance to heated egg in egg-allergic children" - PMC (2023)
4. Frontiers in Allergy. "Efficacy and Safety of 4-Step vs 5-Step Egg Ladder" (2025)
5. PMC. "Guided Gradual Egg-Tolerance Induction - Prospective Randomized Trial" (2022)
6. PMC. "Hen's Egg Ladder: Therapy Option for Gradual Introduction" (2024)
7. KK Women's and Children's Hospital (KKH), Singapore - POET Study

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