

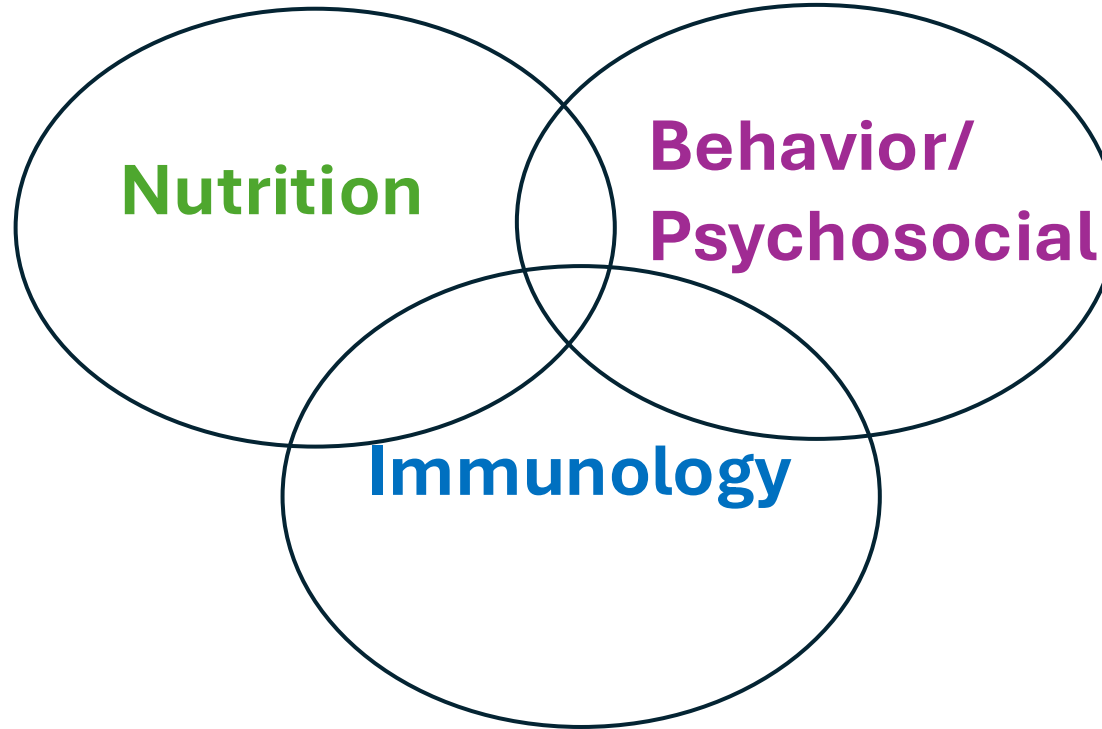
The Trifecta of OIT Success: Integrating Nutrition, Behavior, and Psychosocial Factors in Food Oral Immunotherapy

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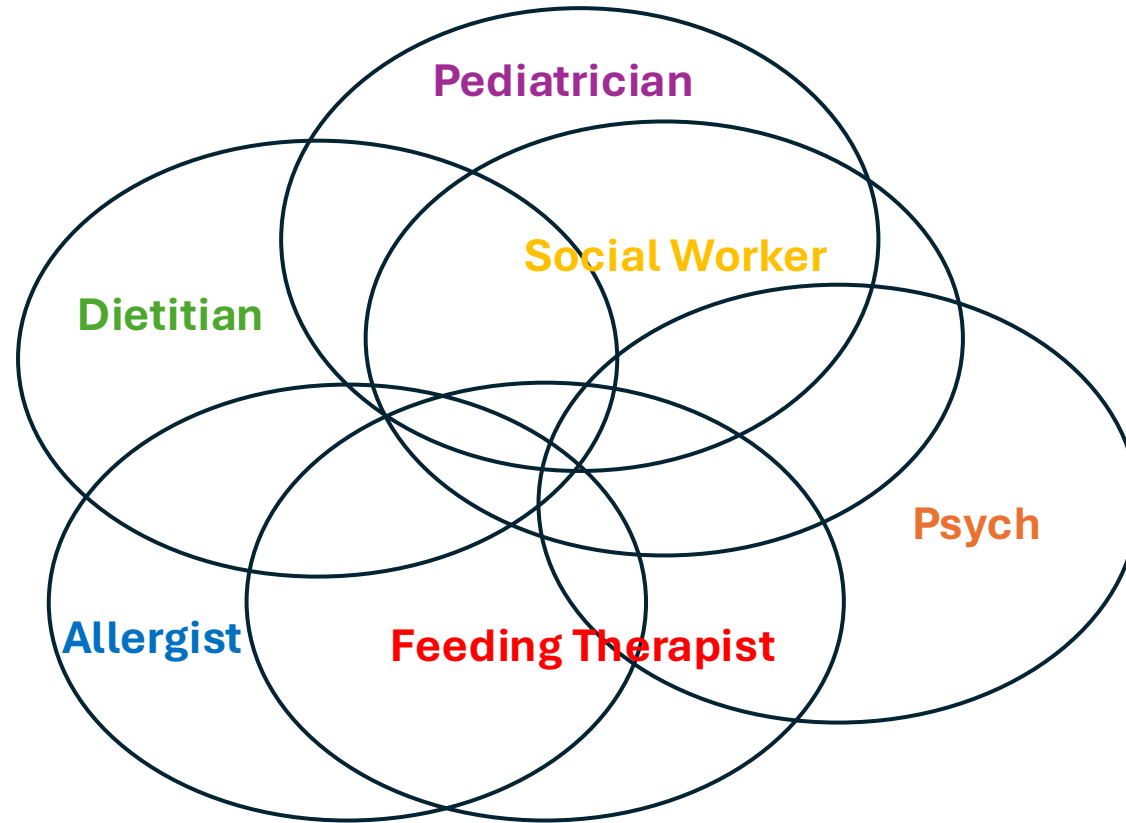
Learning Objectives

- Identify nutritional deficiencies and growth concerns that may affect OIT safety and adherence.
- Recognize feeding difficulties and Pediatric Feeding Disorder (PFD) that interfere with successful dosing.
- Evaluate psychosocial and family factors associated with treatment burnout and nonadherence.
- Implement practical screening strategies and referral pathways to improve OIT outcomes.

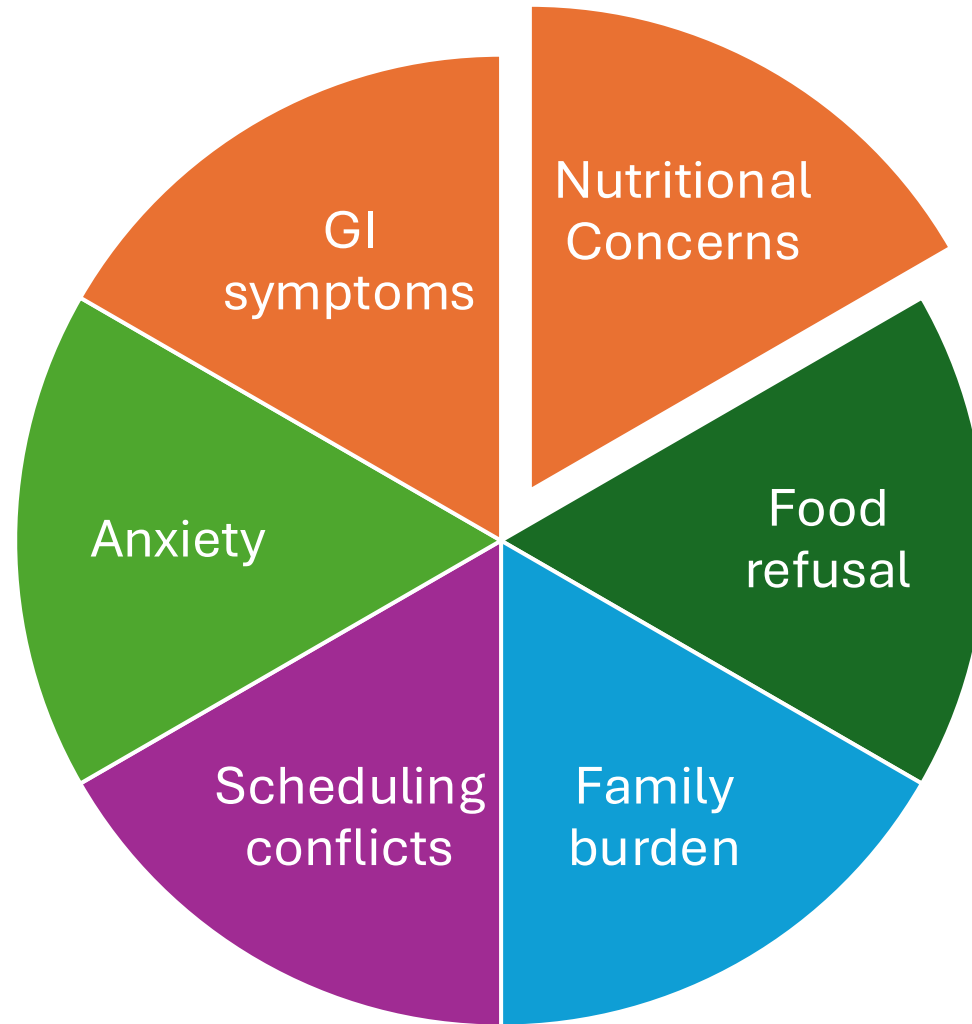
OIT Success: More Than Desensitization



The Interdisciplinary OIT Team



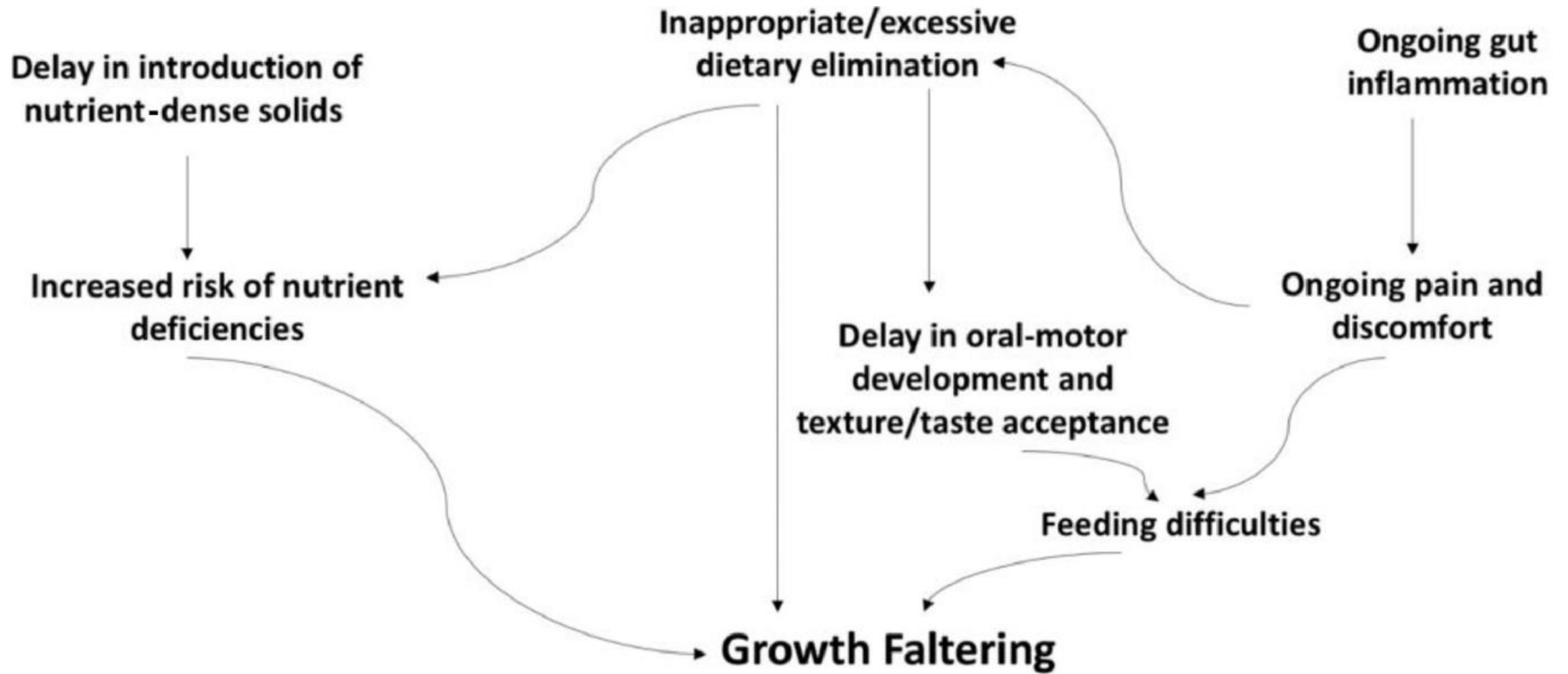
Why Patients Fail Despite Clinical Efficacy



Allergen	Primary nutrients
Cow's milk	Protein, calcium, magnesium, phosphorus, vitamins A, B6, B12, D, riboflavin, pantothenic acid, iodine
Soy	Protein, calcium, phosphorus, magnesium, iron, zinc, thiamin, riboflavin, vitamin B6, folate
Egg	Protein, iron, selenium, biotin, vitamins A, B12, pantothenic acid, folate, riboflavin
Wheat	Carbohydrate, zinc, selenium, thiamin, niacin, riboflavin, folic acid, iron, magnesium, dietary fiber
Nuts	Protein, selenium, zinc, manganese, magnesium, niacin, phosphorus, vitamins E and B6, alpha linolenic acid and linoleic acid
Seafood	Protein iodine, zinc, phosphorus, selenium niacin. Fatty wild fish: vitamins A and D, omega-3 fatty acids
Sesame	Protein, calcium, magnesium, zinc, molybdenum, selenium, copper

Nutrient	Role in Growth
Vitamin D	- Promotes calcium absorption in the gut and maintains adequate serum calcium and phosphate concentrations. - Reduces inflammation - Modulates processes in cell growth, immune and neuromuscular function, glucose metabolism
Calcium	- Blood clotting - Part of nerve signaling function - Support muscle contraction and relaxation - Regulates heart rhythm - Part of hormone release - Creates strength and structure of bones
Zinc	- Supports cell division, hormone regulation and protein (DNA/RNA) - Role in the creation and release of growth hormone, and insulin-like growth factor-1 (bone development and linear growth) - Helps to absorb other nutrients necessary for growth
Iron	- Supports the making of red blood cells and muscle cells – these move and store oxygen. - Involved in protein creation (DNA) - Hormone formation - Conversion of food to energy in a usable form for cells
Iodine	Thyroid Hormone

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Nutritional Impact of Food Allergy



Growth faltering



Restricted dietary
variety



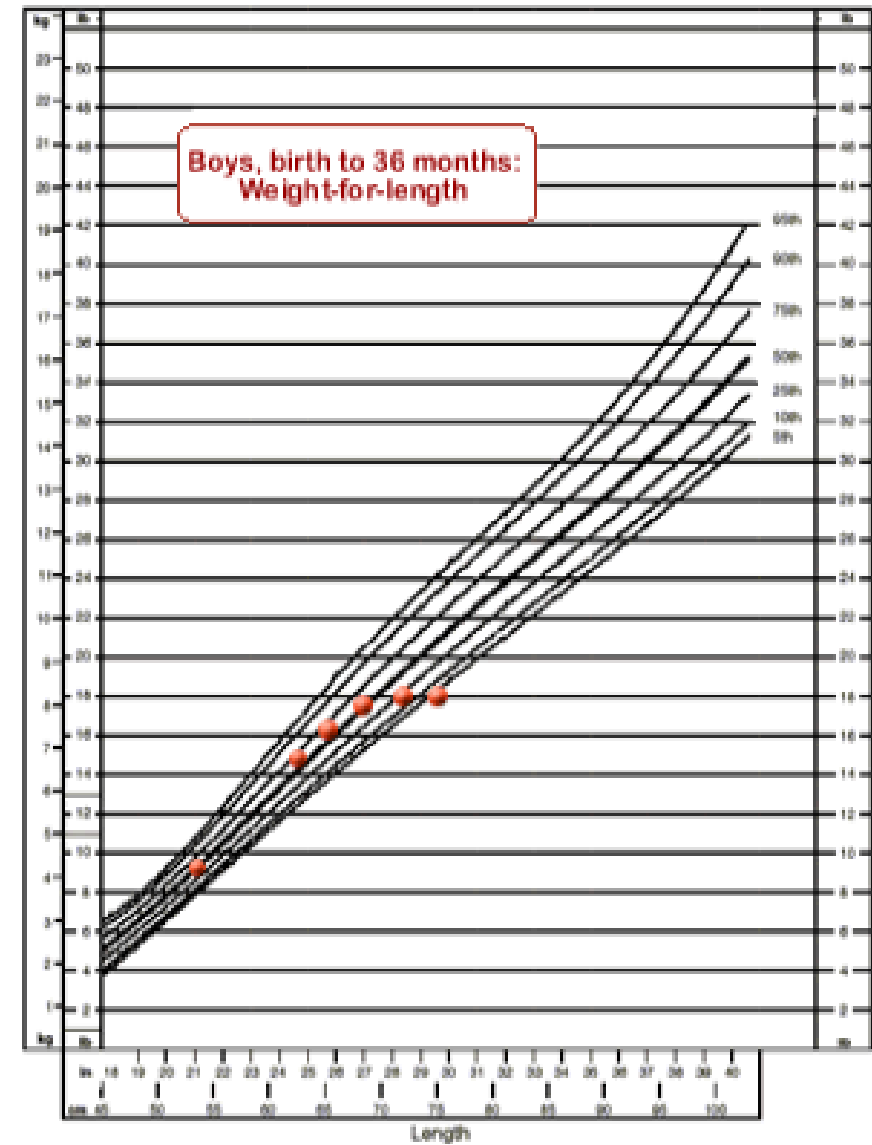
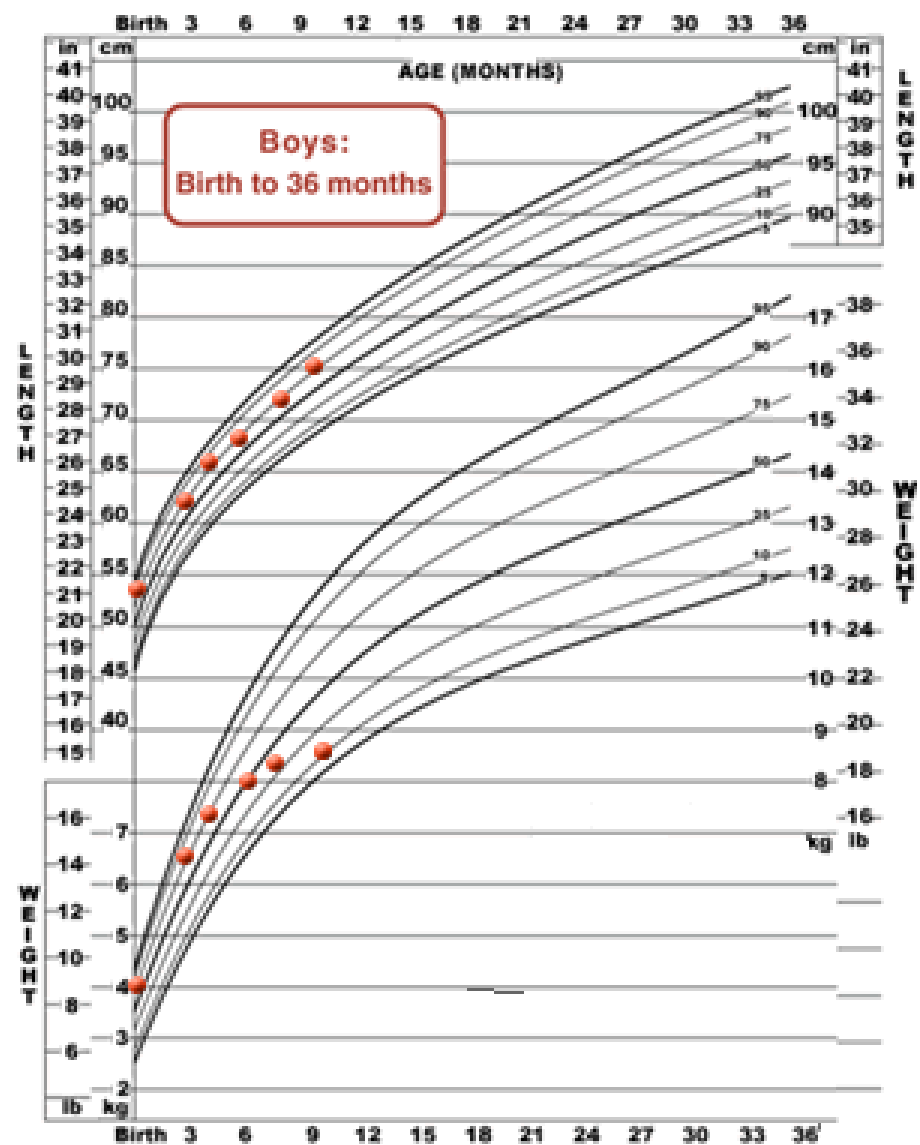
Micronutrient
deficiencies

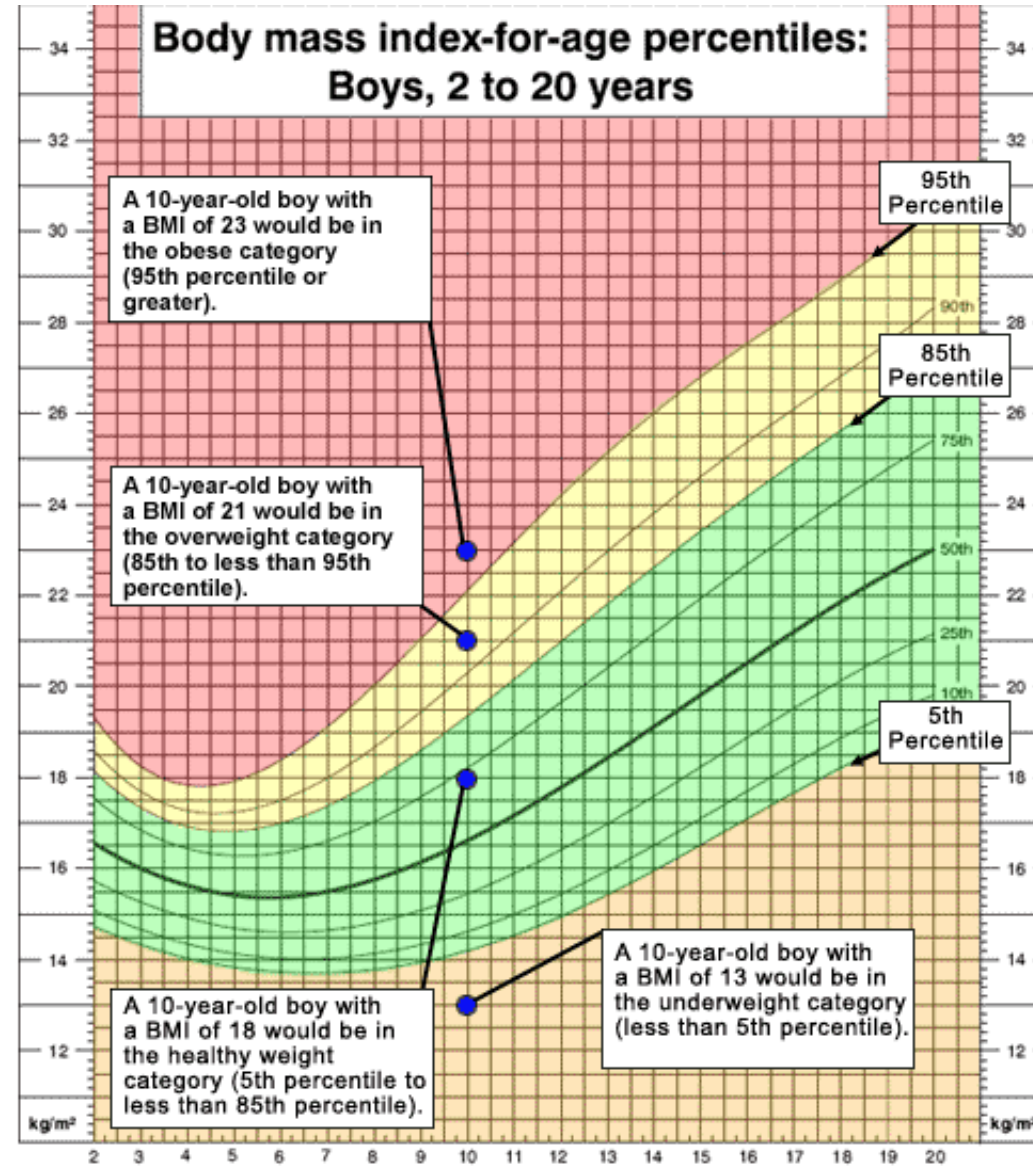


Growth Monitoring During OIT

Recommended assessments:

- Weight
- Height/length
- BMI-for-age
- Growth velocity
- Diet quality





The OIT Calorie Tax

Peanut product	Serving	Calories (%)	Fat g (%)
Cocktail peanuts	9 peanuts	43 (3)	4 (8)
Pb2 powder	2 teaspoons	20 (1)	0.5 (1)
Reese's pb cup	1 pb cup	110 (8)	6 (13)
Bamba	21 pieces	90 (6)	5 (11)
Peanut butter	1.75 teaspoons	60 (4)	5 (11)

The Vehicle Tax

Vehicle	Serving	Calories (%)	Fat g (%)	Added Sugar
Apple sauce	1 pouch	70 (5)	0 (0)	0
Yogurt	2 tablespoons	20 (1)	1.5 (3)	13
Pudding	1 individual container	100 (7)	2.5 (5)	12
Frosting	2 tablespoons	130 (9)	6 (13)	18
Creamy sauce	2 tablespoons	130 (9)	11 (23)	6

Yogurt = Yoplait strawberry

Frosting = Pillsbury

Pudding = Hunt's

Dose Vehicles Matter

- Applesauce – bland in color, taste and temperature
- Yogurt – sour/sweet, cold, creamy, color choices
- Pudding – sweet, hot/cold, color choices, creamy
- Smoothies/puree/sauce– vary texture, color, taste, temperature

**Nutrient
contribution**

Sugar content

**Sensory
acceptance**

Liam

- **Patient:** Liam, 4 years old
- **Allergy Profile:** Severe IgE-mediated peanut allergy (history of hives and wheezing at age 2).
- **Current OIT Stage:** Week 12 of Peanut Oral Immunotherapy (Target maintenance: 300mg peanut protein / ~1-2 peanuts daily).
- **The Presenting Problem:** Liam's parents report severe emotional distress, crying, and somatic complaints (nausea and tummy aches) every afternoon exactly 30 minutes before his scheduled OIT dose. He is refusing his favorite foods if they are served near dosing time, and the family spends up to 40 minutes negotiating, bribing, or forcing him to take the dose

Part 1: Nutritional Matrix & Dose Vehicle Fatigue

Vehicle Fatigue: Avoid relying on a single vehicle; rotate textures, temperatures, and flavors early.

Nutritional Displacement: High-sugar "bribe" foods can inadvertently create poor dietary habits and cause caloric displacement in preschoolers.

Actionable Alternative Vehicles: Hummus, guacamole, dairy-free fruit smoothies, or small spoonfuls of safe sunbutter.

Part 2: Behavioral Mechanics & Conditioned Taste Aversion

Anticipatory Anxiety: Nausea *before* dosing is psychological; nausea *after* dosing requires medical evaluation for gastrointestinal side effects.

The Danger Paradox: Preschoolers struggle to understand why a previously "toxic" substance is now medicine.

The Danger of Coercion: Forcing or pinning a child down to dose increases trauma, guarantees long-term feeding issues, and risks choking.

Part 3: Psychosocial Loop & Parent Hypervigilance

The Parental Mirror: Toddlers and preschoolers mirror parental non-verbal anxiety (e.g., tone of voice, hesitant body language).

The Rest Period Strategy: Reframe the 2-hour rest window as "special low-energy bonding time" (e.g., audiobooks, puzzles, drawing, movie night) rather than a restriction.

Socioeconomic Friction: The daily 2-hour restriction severely alters family routines, sibling attention, and daycare/preschool pickup schedules.

Psychosocial Loop & Parent Hypervigilance

- **Focus on Co-Regulation and Autonomy:**
 - *Instead of:* "If you don't take this right now, no iPad today!" (Threat/Bribe)
- **Use CBT Phrase:** "I know your tummy feels nervous right now because peanut used to be a danger food. But look, my body is calm, and I am safe. Your body is safe too. Let's take three slow breaths together."
 - *Instead of:* "Please, just swallow it for Mommy, it doesn't taste that bad." (Pleading/Invalidating)
- **Use Division of Responsibility Phrase:** "It is my job to have your dose ready. It is your job to decide if you want to swallow it with the blue spoon or the red spoon. You pick."

Part 4: Clinical Guidance & Resolutions



Rule Out True Medical GI Triggers



Shift the Power Dynamic:



De-escalate the Environment



**Desensitize the Mind, Not Just the
Body**

The 15-Year-Old Peanut OIT Patient

- **Patient:** Maya, 15 years old
- **Allergy Profile:** Severe, life-threatening allergy to peanuts and tree nuts since infancy.
- **Current OIT Stage:** Month 18 of Peanut OIT (Maintenance phase: 300mg peanut protein daily).
- **The Presenting Problem:** Maya has been missing 2 to 3 doses per week over the past month. She hides missed doses from her parents. She recently experienced an acute, mild systemic reaction (hives, coughing) at home after taking her dose late at night following an intense soccer practice—violating the safety rules for the post-dose rest period.

Part 1:

Nutritional Matrix & Social Isolation

Social Food Restriction: Teens may choose fasting over navigating allergy disclosure in public social settings.

The Identity Clash: Balancing the nutritional needs of a competitive adolescent athlete with strict OIT dosing windows.

Clinical Strategy: Work with a dietitian to identify portable, discreet, nutrient-dense foods that fit into a teenager's backpack without looking "different."

Part 2: Behavioral Mechanics & Adolescent Risk-Taking

Adherence Drop-Off: The maintenance phase is the highest risk zone for adolescent non-compliance due to therapeutic boredom and perceived safety.

The "Invisible" Threat: Long periods without a reaction breed a false sense of security, leading to dangerous cofactor violations (exercising, hot showers, or drinking alcohol around dosing time).

Clinical Strategy: Shift accountability from the parent to the teen. The physician must contract directly with the adolescent, establishing them as the primary manager of their health.

Part 3: Psychosocial Loop & Family Conflict

Parent-Teen Power Struggles: OIT can easily become a proxy battleground for normal teenage autonomy struggles.

The Danger of Secrecy: Hidden non-compliance is highly dangerous; missing multiple doses lowers the allergen threshold, increasing the risk of anaphylaxis when the dose is finally resumed.

Clinical Strategy: Implement a "No-Fault Disclosure" policy between parents and teens to ensure honesty about missed doses.

Psychosocial Loop & Family Conflict

- **Focus on Autonomy and Risk Mitigation**
 - *Instead of:* "You are being completely irresponsible! You could have ended up in the ER!" (Shaming/Scare Tactics)
- **Use Motivational Interviewing Phrase:** "I know keeping up with this daily routine is exhausting, especially with soccer. It makes sense that you want a break from it. How can we adjust your schedule so you can still hang out with your friends safely?"
 - *Instead of:* "You cannot be trusted, so I am going to watch you take your dose every single day." (Micro-managing)
- **Use a Health Contracting Phrase:** "Missing doses without telling us puts you at a very high risk for a bad reaction. If you miss a dose, you won't be punished. We just need to know the truth so we can adjust the medical plan safely. What system do you want to use to track your doses this week?"

Part 4: Clinical Guidance & Resolutions



Rule Out True Medical GI Triggers



Shift the Power Dynamic:

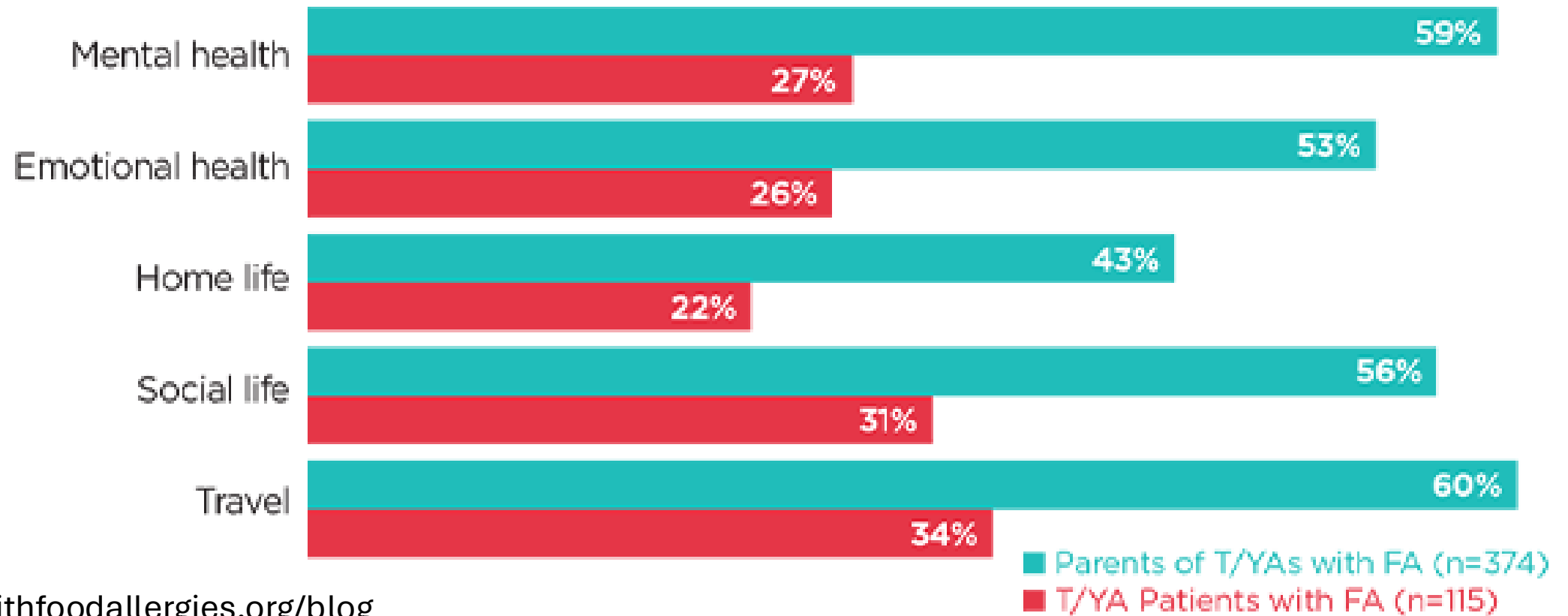


De-escalate the Environment

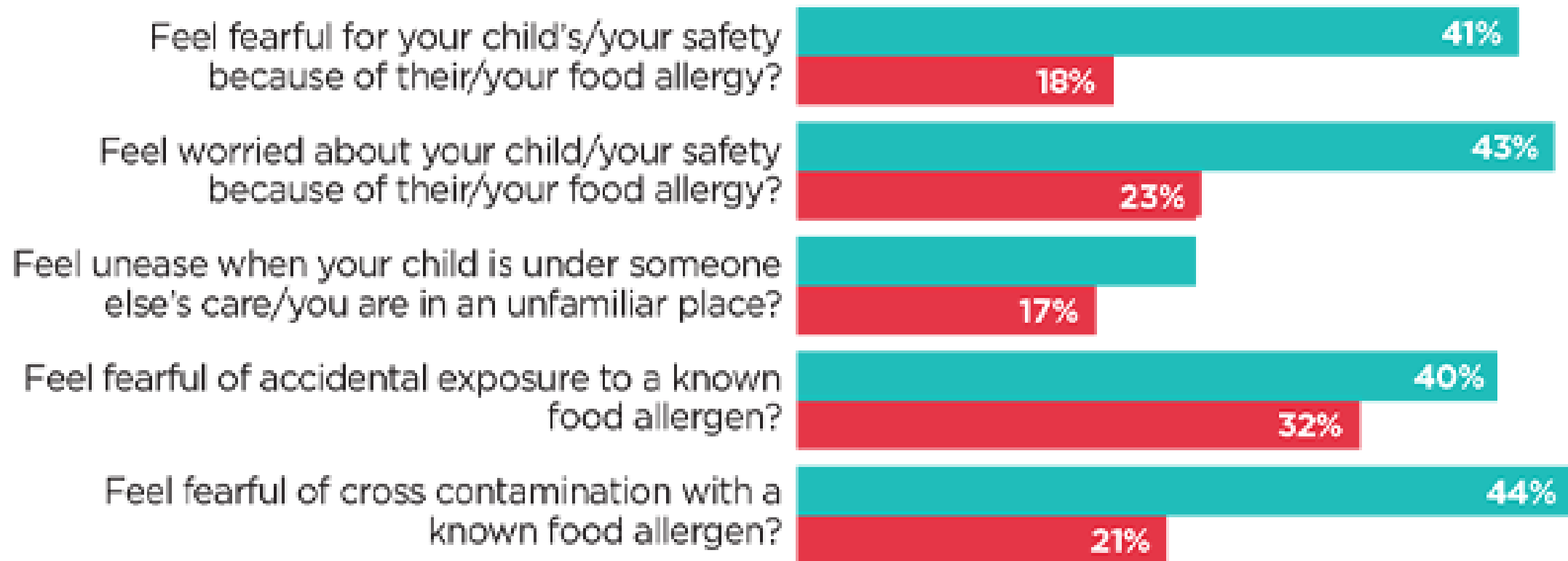


**Desensitize the Mind, Not Just the
Body**

IMPACT OF FOOD ALLERGIES ON VARIOUS ASPECTS OF LIFE (CHOSE "4" OR "5" ON FIVE-POINT SCALE)



FREQUENCY OF FEAR, WORRY AND UNEASE DUE TO FOOD ALLERGIES (RESPONDED "ALWAYS/OFTEN")



Kidswithfoodallergies.org/blog

Accessed 6/3/2026

Diet Expansion After Maintenance

Benefits:

- Improved nutrient adequacy
- Reduced food fear
- Better quality of life

****ADD image from Carina's paper****

Dietary Assessment

Anthropometrics: Current weight and height with historical data growth history plotted on appropriate for age growth chart

Biochemical: Blood analysis for nutrient deficiencies, if assessment demands

Clinical Observations: Physical signs of nutrient deficiencies, overall health status, medical history and functional status.

Diet: Analysis of diet history, including supplements with consideration of feeding skills in infants and children

Environmental and Psychosocial: An assessment of the external factors that impact a person's ability to eat a balanced diet



Pre-OIT Readiness Checklist

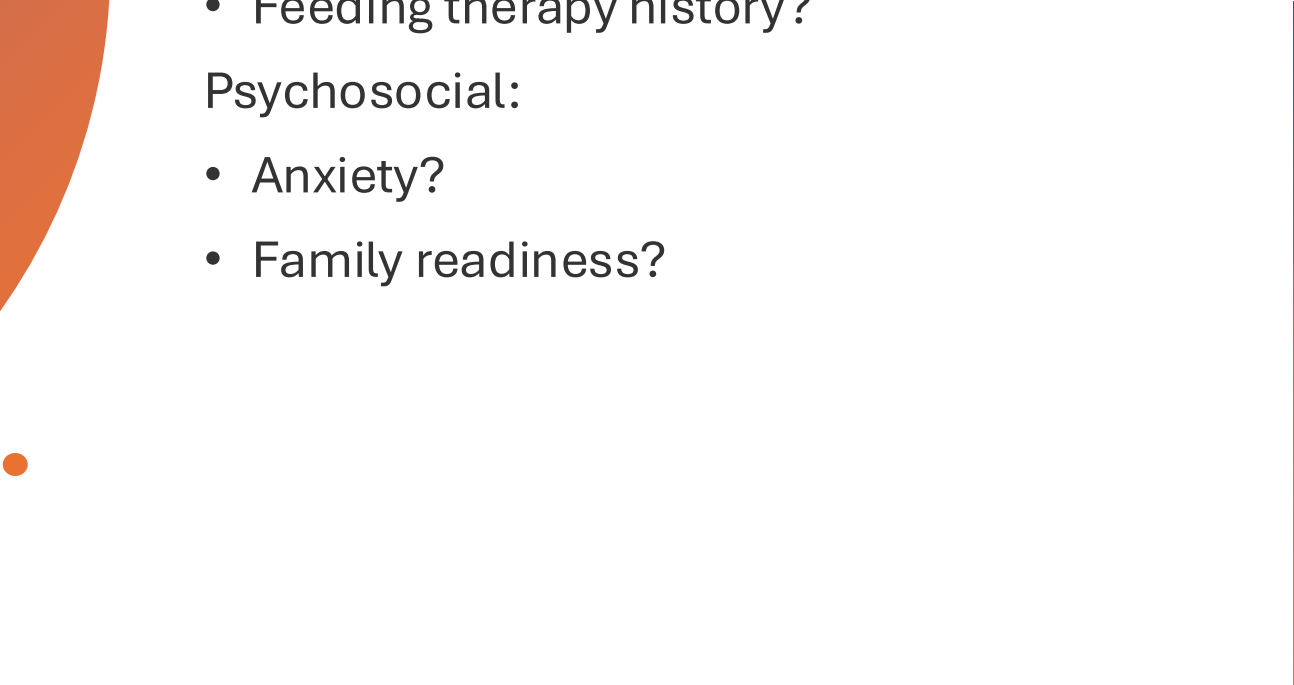
Nutrition:

- Adequate growth?
- Restricted diet?

Feeding:

- Selective eating?
- Feeding therapy history?

Psychosocial:

- Anxiety?
 - Family readiness?
- 

Nutrition influences safety and adherence.

Feeding challenges are common and treatable.

Family psychosocial factors predict success.

Early interdisciplinary referral improves outcomes.



When to Refer

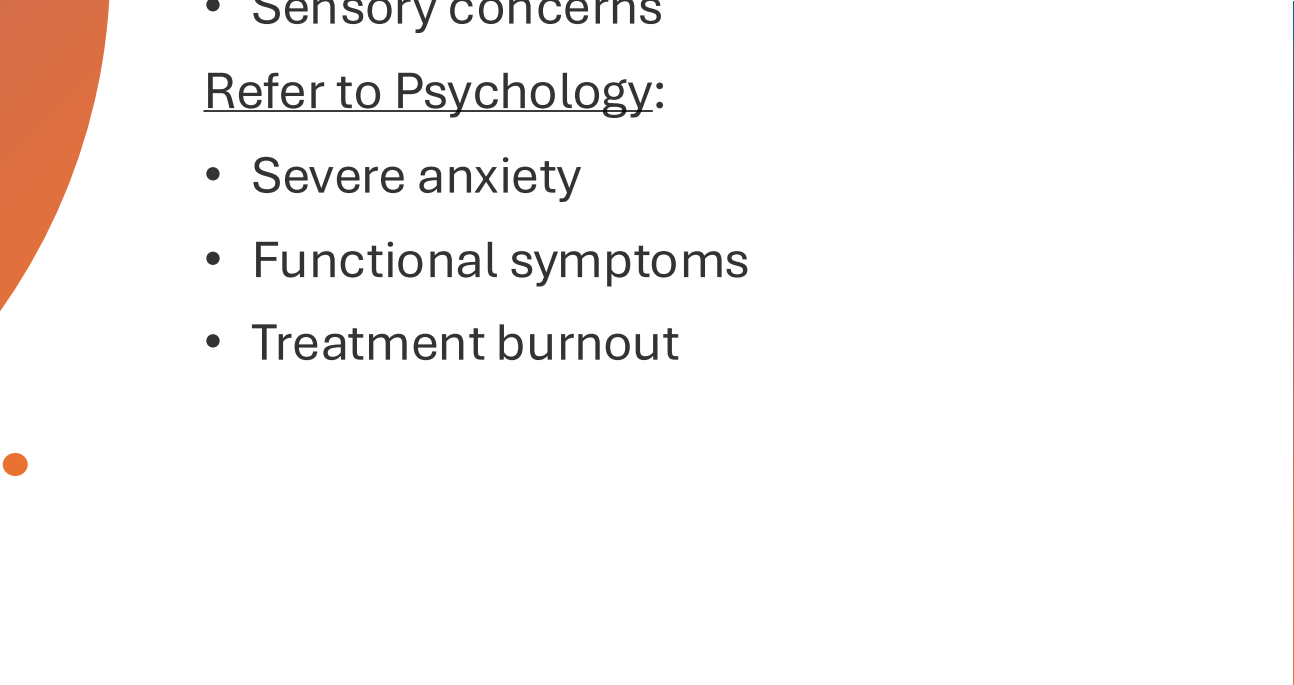
Refer to a Dietitian:

- Poor growth
- Multi-food avoidance
- Nutritional deficiencies

Refer to Feeding Specialist:

- Persistent refusal
- Sensory concerns

Refer to Psychology:

- Severe anxiety
 - Functional symptoms
 - Treatment burnout
- 

The most successful OIT patients are not simply desensitized—they are nourished, supported, and empowered.

Contact information:

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