




Food Allergies: Cutting Through the Clutter




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Module 1

Overview of Diagnosis to Management




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Overview of Food Allergy Training

- Review existing science and recommendations for diagnosis and management of food allergies
- Provide evidence-based recommendations for dietetics practice and nutrition counseling for clients with food allergies
- Equip the registered dietitian to deliver sound nutrition intervention for clients and patients with food allergies

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Learning Objectives

- Summarize the basics of food allergy diagnosis and prevalence and incidence
- Distinguish between food allergies and other adverse food reactions using guidelines developed by the experts
- Describe opportunities for the RD and DTR in the area of food allergy management

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Food Allergies in the Headlines

- The Trials and Triumphs of a Food Allergy Family (*Barista Kids*)
- Law Requires Schools to Carry EpiPens
- Market for food allergy and intolerance set to hit \$26.5bn (*Food Navigator*)
- Consumers often ignore food allergy labels: study (*Chicago Tribune*)
- Food Intolerance Testing False Positives are Leading to Overdiagnosis (*Diets in Review*)

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Why we need to know

- Consumers are very interested
- Rates may be rising
- Abundant misinformation
- Media madness
- We are the nutrition experts!




1/31/2013

Let's Practice: Is it food allergy? 

Scenario:

- CC presents stating he has a food allergy and would like help with his diet
- His history is significant for environmental allergies, limited fruit and vegetable intake
- S/S include:
 - Occasional constipation
 - Itchiness in the mouth after eating raw apples and carrots
 - Thinning hair and dry skin
- He has never seen an allergist


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Prevalence and Incidence 

- Unknown
- Best Estimates Vary




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Difficulty in Determining Numbers 

- Inherent error in phone interviews
- Self-diagnosis
- Self-select
- Potential Overdiagnosis
- Potential Underdiagnoses
- Confusion between true FA and other adverse food reactions


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Self Diagnosis 

- 50-90% are wrong
- Up to 34% of people think they have a food allergy




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Best Estimates 

- American Academy of Allergy, Asthma and Immunology (AAAAI)
 - >3% of adults
 - 6% of children
- National Institute of Allergy and Infectious Disease (NIAID)-Sponsored Panel
 - 4% of teens and adults
 - 5% of children under five years old


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Are food allergies rising? 

- Increased awareness & diagnosis
- Increase in all allergies and autoimmune diseases
- Food allergy increase 18% in children

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Rising Rates



Why the increase?

- Hygiene Hypothesis
- Food System Changes
- Environmental
- Timing of Introduction
- Vitamin D
- We really don't know

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The Big 8

In the US, 90% of allergic reactions to food result from one of these 8 foods:

- Milk
- Egg
- Peanut
- Tree Nut
- Shellfish
- Fish
- Soy
- Wheat

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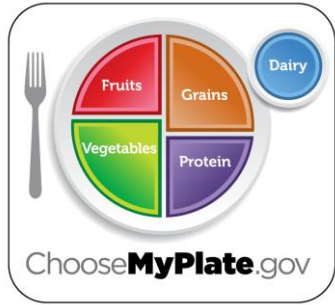
Allergens in Other Geographical Areas

- Celery (Europe)
- Mustard (Europe and Canada)
- Molluscan shellfish (Europe and Canada)
- Lupine (Europe)
- Buckwheat (SE Asia)
- Sesame seed (Europe, Canada, Australia/NZ)



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Where are the Big 8?



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Establishing Guidelines for Practice

- National Institute for Allergy and Infectious Disease (NIAID) Guidelines for Diagnosis and Management of Food Allergy in the US
- Representation from 30 different expert organizations



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Defining Food Allergy...

“A food allergy is defined as an adverse health effect arising from a specific immune response that occurs reproducibly on exposure to a given food.”
NIAID Guidelines

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Sensitization vs. Food Allergy

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- Sensitization:
 - Occurs when the body creates antibodies to a specific substance
 - May occur without oral introduction, possibly via cutaneous exposure
 - Does not necessarily manifest in food allergy
- Food allergy describes the immune response that occurs due to sensitization

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IgE Mediated Food Allergy

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- Acute onset within minutes to up to 2 hours
- Involves the immune system
- Usually involve skin, gastrointestinal tract and respiratory tract
- May involve cardiovascular system



SCIENCEPHOTOLIBRARY

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Signs and Symptoms

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- Skin – hives, swelling, itchiness
- Gastrointestinal – itching, swelling, tingling, vomiting, diarrhea, throat tightness
- Respiratory – coughing, wheezing, sneezing, runny nose
- Cardiovascular – hypotension, cardiac arrest

*Anaphylaxis involves more than one organ system and often refers to a life-threatening reaction.

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Anaphylaxis

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- Those with asthma and multiple food allergies at higher risk
- First line of treatment is epinephrine (ex. Epi-pen)
- Immediate medical attention
 - Biphasic response



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Non-IgE Mediated

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- Protein-induced enterocolitis, proctocolitis, and enteropathy syndromes
- Usually infants and young children
- Typically involves the gastrointestinal tract
- May take hours, days or longer to manifest

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Signs and Symptoms

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- Persistently bloody stools
- Failure to Thrive
- Allergy-like symptoms with negative tests
- Diarrhea
- Vomiting and excessive spitting up


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Mixed IgE and Non-IgE Mediated

- Eosinophilic Esophagitis
- Atopic Dermatitis



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Eosinophilic Esophagitis

- Symptoms include:
 - Food impaction
 - Dysphagia
 - Feeding intolerance or refusal (Children)
 - GERD-like symptoms (Children)
 - Chest pain
 - Abdominal pain
- Consider when GERD and other disorders have been eliminated as possibilities
- Diagnosis: detailed history, endoscopy, biopsy
- Treatment: possible elemental diet

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Eosinophilic Esophagitis



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Atopic Dermatitis (Eczema)

- Chronic dry, scaly, itchy rash on skin
- May – or May NOT – be accompanied by food allergies
- Diagnosis: history, physical examination, rule out other conditions
- Treatment: topical steroids, creams, diet modification, if food allergies confirmed
- Diet modification, as needed

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Atopic Dermatitis



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Oral Allergy Syndrome

- Food allergy-like symptoms
- Related to pollen allergies (ex. Birch)
- Often develop in adulthood
- Does not seem to pose significant or life-threatening risk
- Often can eat fresh fruits and vegetables when cooked

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What is not a food allergy?

- Intolerance
- Sensitivity
- Celiac Disease
- Irritable Bowel Syndrome
- Food Aversions

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Intolerance Statistics

- Like food allergies, true number unknown
- Estimates suggest that rates of intolerance may be much higher than that of true food allergy
 - Lactose intolerance – up to 50 million
 - Gluten intolerance/Celiac Disease
- Testing methods limited

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Gluten Intolerance/Celiac Disease

- Autoimmune disorder
- Specific symptoms
- Distinct etiopathology and diagnosis
- Strict avoidance is also the treatment

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Similarities

- Many of these involve the immune system, but different from food allergy response
- Often affect gastrointestinal system
- All may be difficult to diagnose

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Common Misconceptions


- Everyone has some sort of food allergy
- All food allergies are life-threatening
- Food allergens are in everything
- Cross-contact cannot be prevented

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Determining the Difference

- Use evidence-based guidelines to make recommendations
- Work with allergists and other providers in interdisciplinary teams
- Keep abreast of the emerging research


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Key Takeaways for the Practitioner

- Guiding clients through the process of accurate diagnosis is vital
- Be ready to address food allergy misconceptions
- Understand what indicates a true food allergy and how to tell the difference between it and other conditions


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Issues with Diagnosis

- Lack of board certified allergists
- Historically inconsistent practice and lack of standardized language
- Non-standardized or unproven testing common

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Diagnosis

NIAID Recommends

- Board Certified Allergist
- Detailed History
- Prick/Puncture Skin Test (PST)
- Specific IgE Test
- Oral Food Challenge (Gold Standard)


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Taking an Accurate History

- A key part of diagnosis
- Diet recall or food frequency questionnaire


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Questions to Ask

1. Record foods eaten
2. Symptoms diary
3. List of foods already eliminated
4. Is reaction associated with certain food
5. How much of the food was eaten
6. Did anyone else get sick when they ate this food
7. Did reaction require any medication

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Elimination Diets

- Assistive in diagnosis of few foods
- Particularly helpful in specific disorders
- Need to ID all potential dietary sources

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Skin Prick/Puncture Test

- Tiny needles puncture the skin
- A small amount of the food protein is applied to the site
- Wheals are measured

Limitations of SPT

- High false positive rate
- Not diagnostic alone
- Does not indicate severity of reaction

Specific IgE Test

- Allergen specific blood test
- Must be drawn by or sent to lab for analysis

Limitations of Specific IgE


- High false positive
- Measurements vary by laboratory
- Not diagnostic on their own

Oral Food Challenge

- Gold Standard for diagnosis of food allergy
- Should only be done under medical supervision
- Opportunity for partnership between RD and allergist (MD)
- Single-Blind, Double-Blind, Open

Recommendations for OFC

- Eliminate suspect food for at least 2 weeks
- Careful supervision with emergency medication ready
- Start with a very small dose and gradually move up to a standard amount eaten
- Keep patient in office 2 hours after last dose or longer based on clinical history



Limitations of Oral Food Challenge

- Risk to patient
- Unprepared Clinicians
- Cost
- Time
- Fear


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Not Recommended for Diagnosis

- Basophil histamine release/activation
- Facial thermography
- Gastric juice analysis
- Endoscopic allergen provocation
- Hair analysis
- Applied kinesiology
- Provocation neutralization
- Allergen-specific IgG₄
- Cytotoxicity assays
- Electrodermal test (Vega)
- Mediator release assay (LEAP Diet)

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Keys for the Practitioner in Diagnosis

- Teach clients and patients to recognize the signs and symptoms
- Think interdisciplinary
- Refer to Board Certified allergist for testing


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Can we prevent food allergies?

- We don't know
- What research says about:
 - The impact of breastfeeding is inconclusive
 - Delayed introduction of potential allergens doesn't prevent food allergy


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Current Research

- The LEAP Study – Learning Early About Peanut Allergy
 - Looking at whether and how withholding vs. introduction affects the development of peanut allergy
 - In the last year
- EAT – Enquiring About Tolerance
 - To determine how breastfeeding along with complimentary feeding, starting at 3 months, affects allergy development
 - In recruitment phase


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Risk Factors


- Having a first-degree relative with food allergy may increase risk
- Eczema and atopic diseases (such as food or environmental allergies, atopic dermatitis, allergic rhinitis, asthma)

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Pregnancy 


- Eating potential allergens may increase the risk of sensitization
- Lack of evidence that eating potential allergens increases risk of true food allergies
- Even in high risk women, no recommendation to restrict during pregnancy

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Lactation 


- Research inconclusive on protection against food allergies
- Food proteins can pass through breast milk
- Food restrictions not recommended as a strategy to prevent food allergies

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Guidelines 


- American Academy of Pediatrics
- National Institutes of Allergy and Infectious Diseases

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Infant Feeding 


- Exclusive breastfeeding for 6 months
- Infant formula in the absence of breastfeeding
- Solids at 4-6 months
- Don't delay solid foods past 6 months
- Introduce all foods, one at a time, within the same timeframe – even potential allergens

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American Academy of Pediatrics 

- Changed recommendations in 2008
- "Delay of introduction should not be used as a strategy to reduce food allergies"

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Key Takeaways for the Practitioner 

- Pregnant clients should not restrict, except with diagnosed food allergy
- Breastfeeding has many positive benefits, but may not reduce food allergy
- Introduce solid foods by 6 months of age, including potential allergens, following safe guidelines for their introduction and monitoring for food allergy

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Developing a Plan

Using the Nutrition Care Process in Food Allergy Management

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The Nutrition Care Process

- A useful tool
- Standardized language
- Improves standard of care
- Specifically addresses nutrition intervention
- Full description and resources at www.eatright.org

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Nutrition Care Process

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PES Statement

- **Problem:** Nutrition Diagnosis (ex. Nutritional deficiency)
- **Etiology:** Cause or contributing factors (ex. Extremely restricted diet related to food allergy)
- **Signs and Symptoms:** What proves a problem exists (ex. Low Hgb/Hct; 3-day food history with nutrient analysis shows deficiencies in micronutrients; lack of energy)

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Step 3: Nutrition Intervention

Food allergy nutrition intervention focus:

- Plan and implement appropriate nutrition intervention based on client need (determined from Patient Problems & Nutrition Diagnosis)
- Includes Nutrition Prescription
- Goals may include:
 - Total avoidance of potential allergen
 - Achieve optimal nutrition status
 - Other specifics


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Nutrition Intervention Strategies

Food and/or Nutrient Delivery	Nutrition Education	Nutrition Counseling	Coordination of Nutrition Care
An individualized approach for food/nutrient provision, including meals and snacks, enteral and parenteral feeding, and supplements	A formal process to instruct or train a patient/client in a skill or to impart knowledge to help patients/clients voluntarily manage or modify food choices and eating behavior to maintain or improve health	A supportive process, characterized by a collaborative counselor-patient relationship, to set priorities, establish goals, and create individualized action plans that acknowledge and foster responsibility for self-care to treat an existing condition and promote health	Consultation with, referral to, or coordination of nutrition care with other health care providers, institutions, or agencies that can assist in treating or managing nutrition-related problems


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Food and/or Nutrient Delivery

- Patient specific, based on:
 - Nutrition diagnosis & prescription
 - Preferences
 - Cultural diversity
 - Lifestyle
- Supplemental nutrition
 - Formula for infants
 - Preventing deficiencies
 - Replacement nutrition
- Whole foods


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Nutrition Education

- Based on nutrition diagnosis and prescription
- Educate on purpose of the restriction and information on specific food allergen
 - Common name
 - Hidden sources
 - Nutrients of concern
- Avoiding the allergen (Survival Skills)
 - Cooking
 - Label reading
 - Shopping
 - Eating outside the home


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Nutrition Counseling

- Facilitating behavior changes
 - Theory and approach
 - Specific strategies
- Psychosocial & life skills
- Ongoing learning
- Finding resources
- Adjusting the plan


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Coordination of Nutrition Care

- Interdisciplinary teaming
 - Allergist
 - Pediatrician
 - Nursing
 - Pharmacy
- Coordinating with family


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Key Takeaways for the Practitioner

- The Nutrition Care Process (NCP) provides a framework for designing nutrition intervention for food allergies
- Standardized language used in the NCP ensures that clients and patients receive standardized care

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Let's Practice: Answer

What do you think?

- What's your PES?
 - Problem: Inadequate fiber and micronutrients
 - Etiology: Restricted diet, particularly fruits and vegetables
 - Signs and Symptoms: Occasional constipation, thinning hair and dry, scaly skin

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What's your intervention?

- Educate about benefits of a varied diet including all food groups
- Provide some easy recipes for acceptable fruits and vegetables
- Discuss other ways to incorporate high fiber foods into the diet
- Consider recommending supplemental fiber and multivitamin/mineral
- Provide education about S/S of true food allergy vs. other conditions

Further recommendation

- Environmental allergies plus...
- Itchiness in the mouth with raw apples and carrots suggest possible oral allergy symptom
- Recommend additional testing with a Board Certified allergist

Opportunities for the Practitioner

RDs and DTRs are Key

Clinical Work

- Diagnosis
- Teaching Patients and Families
- Liaison to Community



Spotlight: Lynn Christie

University of Arkansas, Arkansas Children's Hospital
"Dietitians and DTRs are a vital part of the clinical team for managing the nutritional health of individuals with food allergies, participating in research, and measuring outcomes."



Private Practice

- Diagnosis
- Teaching Patients and Families



Spotlight: Marianne Smith-Edge

International Food Information Council

"The public is drowning in nutrition information on the Internet and in the media, yet research shows they're confused. We are vital to help those with real health conditions wade through to find recommendations that make a difference."



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Restaurants

- Developing allergen-safe SOP/HACCP
- Teaching staff and stakeholders
- Marketing and Communications



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Spotlight: Joy Dubost

National Restaurant Association

"We're getting a lot more questions about how to handle food allergies...this is a concern especially for smaller restaurants and chains and definitely presents an opportunity for dietitians."



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Child Nutrition Programs

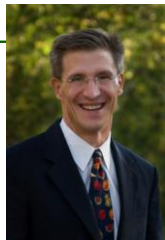
- Developing management programs
- Training staff
- Protecting kids with food allergies



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Doug Wordell

"RDs and DTRs can be instrumental in developing an effective strategy to reduce the risk to students, staff, and the school district."



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Retail & Grocery

- Liaison Between Retail and Consumers
- Product Selection
- Marketing and Communications



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Spotlight: Leah McGrath

Ingles Supermarkets

"Working directly with the public, I get many questions about food allergies. I help our company decide on products to meet consumer needs, as well as write food allergy education and marketing materials. All supermarkets need a dietitian."



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Food Industry

- Research and Development
- Marketing and Communications



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Spotlight: Sherry Coleman Collins

National Peanut Board

"There is a lot of confusion and misinformation within the food industry and among consumers about food allergies. Dietitians can serve as a reputable and trustworthy source of nutrition information to help shape marketing messages and communication strategies."



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Research

- Discovering the Details
- Leading Trials
- Answering Questions



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Spotlight: Jamie Kabourek

University of Nebraska, Food Allergy Research and Resource Program

"We need more RDs and DTRs to help lead and participate in research on food allergies and nutrition to measure outcomes and establish ourselves as nutrition experts. Opportunities are many."



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- Training future RD & DTRs
- Teaching other healthcare pros
- Leading research



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Carol Byrd-Bredbenner

Rutgers University
 "Training future practitioners to deal with this important health issue and leading the charge in researching a cure and effective treatment are both rewarding and highly necessary. RDs and DTRs can play an important part."




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Common Skills Needed

- Clinical Understanding
- Communication
- Critical Thinking
- Marketing


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Clinical Knowledge

- Translating science into sense
- Keeping up with evolving science
- Practicing whenever possible
- Deferring to the experts

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Communication

- Clear – be sure you're easy to understand and invite plenty of questions
- Consistent – regular communication is important no matter the setting
- Convenient – by email, cell, or text, communicate in the way your clients want
- Compelling – make the message stick


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Critical Thinking

- Essential for problem solving
- With the individual for meals, substitutes, navigating life
- For the retailer and foodservice client to manage products, reduce risk and comply with regulations

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Marketing

- Your services
- A healthy lifestyle
- Successful options

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References, Quiz and Module 2
Food Allergies Throughout the Life cycle

Thank You