Mike commonly experiences G.I. symptoms, and his parents don’t know why.

Symptoms and food allergies
Discover the connection

Specific IgE blood testing helps you diagnose allergy, allowing you to prepare a management plan.
Food allergies: A serious health problem

Food allergies are among the most common allergic disorders

- The prevalence of food allergies is estimated to be 3-7%\(^1\)\(^-\)\(^3\)

Food allergies negatively impact quality of life for patients and caregivers

Common food allergy symptoms—different causes

Is it allergy?

- Food allergy is self-reported 6 times more often than its actual prevalence, causing unnecessary worry\(^4\)
- Gastrointestinal (GI) symptoms caused by food intolerance, lactose intolerance, celiac disease, or irritable bowel syndrome (IBS) are often confused with food allergy\(^5\),\(^6\)

Evaluation of food allergies improved patient management and overall well-being\(^1\)

Specific IgE testing helps identify IgE sensitization to food
The higher the sIgE, the more likely it is contributing to symptoms but even very low levels can contribute to symptoms.\textsuperscript{1,9}

Case history alone may not be enough...

Confidence in diagnosis has been shown to increase when specific IgE results are added to clinical history.\textsuperscript{7,8}

Proportion of individuals with symptomatic allergy (probability %)

0.1 0.3 1 3 10 30 100
0 20 40 60 80 100

Symptom relation
Uncommon
Low
Common
High
Very high

sIgE antibody concentration (kU/l)

* Factors to consider for a final diagnosis: age, degree of atopy, allergen load, type of sensitizing allergens, previous symptoms, other triggering factors.

As in all diagnostic testing, any diagnosis or treatment plan must be made by the physician based on test results, individual patient history, the physician's knowledge of the patient, and the physician's clinical judgement.

Specific IgE blood testing results plus case history improves confidence in diagnosis

NIH Guidelines advise that diagnosis should be based on case history in combination with diagnostic testing\textsuperscript{7}

Specific IgE blood testing can easily be performed irrespective of a patient’s age, skin condition, medication, disease activity, and/or pregnancy status.
Discover the most common food allergies

Eight allergens account for 90% of food allergies in children/young people.¹,⁶

Specific IgE blood test provides a simple approach to support a comprehensive allergy diagnosis.

1. Whole Allergens
   - Identifies food sensitization

2. Allergen Components
   - Helps identify the individual proteins causing the symptoms

Allergens:
- WHEAT
- MILK
- FISH
- PEANUTS
- SOY
- TREE NUTS
- SHELLFISH
- EGG
Knowing which protein your patient is sensitized to can help you develop a management plan.

A specific IgE blood test that detects sensitization to cow’s milk is the first step in discovering your patient’s allergy. Milk Allergen Component tests can help you determine the likelihood of reaction to baked goods, such as cookies or cheese pizza, as well as the likelihood of allergy persistence.

Characteristics of individual proteins

<table>
<thead>
<tr>
<th>Cow’s milk</th>
<th>(\alpha)-lactalbumin (\text{Bos d 4 / f 76})</th>
<th>(\beta)-lactoglobulin (\text{Bos d 5 / f 77})</th>
<th>Casein (\text{Bos d 8 / f 78})</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Susceptible to heat denaturation**</td>
<td>*Susceptible to heat denaturation**</td>
<td>*Resistant to heat denaturation**</td>
<td></td>
</tr>
<tr>
<td>*HIGHER RISK of reaction to fresh milk**</td>
<td>*HIGHER RISK of reaction to fresh milk**</td>
<td>*HIGHER RISK of reaction to all forms of milk**</td>
<td></td>
</tr>
<tr>
<td>*LOWER RISK of reaction to baked milk**</td>
<td>*LOWER RISK of reaction to baked milk**</td>
<td>*Patient unlikely to “outgrow” milk allergy**</td>
<td></td>
</tr>
<tr>
<td>*Patient likely to “outgrow” milk allergy**</td>
<td>*Patient likely to “outgrow” milk allergy**</td>
<td>*Patient likely to “outgrow” milk allergy with high levels of specific IgE to casein**</td>
<td></td>
</tr>
</tbody>
</table>

\*In clinical studies, extensively baked muffin, waffle, and cheese pizza were heated to the point of protein denaturation.

75% of children with cow’s milk allergy do not react to baked milk.\*\*

Management Considerations

<table>
<thead>
<tr>
<th>(\alpha)-lactalbumin</th>
<th>(\beta)-lactoglobulin</th>
<th>Casein</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>+/-</td>
<td>+/-</td>
<td>+</td>
</tr>
</tbody>
</table>

\*Avoid all forms of cow’s milk
\*Unlikely to become tolerant of cow’s milk over time
\*Avoid cow’s milk and baked milk products (yogurt, cookies, cakes), as well as products processed with milk (chocolate, sausage, potato chips)

As in all diagnostic testing, any diagnosis or treatment plan must be made by the physician based on test results, individual patient history, the physician’s knowledge of the patient, and the physician’s clinical judgement.

As in all diagnostic testing, any diagnosis or treatment plan must be made by the physician based on test results, individual patient history, the physician’s knowledge of the patient, and the physician’s clinical judgement.
A specific IgE blood test that detects sensitization to egg white is the first step in discovering your patient’s allergy. Egg Allergen Component tests can help you determine the likelihood of reaction to products baked with egg, such as muffins or cookies, as well as the likelihood of allergy persistence.

Characteristics of individual proteins

<table>
<thead>
<tr>
<th>Egg White</th>
<th>Ovalbumin Gal d 2 / f 232</th>
<th>Ovomucoid Gal d 1 / f 233</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High levels of egg white IgE may predict the likelihood of sensitivity, but may not be solely predictive of reactions to baked egg or allergy duration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Susceptible to heat denaturation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• HIGHER RISK of reaction to uncooked egg21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• LOWER RISK of reaction to baked egg20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Patient likely to “outgrow” egg allergy20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Resistant to heat denaturation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• HIGHER RISK of reaction to all forms of egg19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Patient unlikely to “outgrow” egg allergy with high levels of specific IgE to ovomucoid23-26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ovalbumin Gal d 2 / f 232

Ovomucoid Gal d 1 / f 233

• In clinical studies, extensively baked muffin and waffle were heated to the point of protein denaturation.

70% of children with egg allergy do not react to baked egg.27

Knowing which protein your patient is sensitized to can help you develop a management plan.19,20,27,28

<table>
<thead>
<tr>
<th>Ovalbumin Gal d 2 / f 232</th>
<th>Ovomucoid Gal d 1 / f 233</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Considerations</td>
<td></td>
</tr>
<tr>
<td>• Avoid uncooked eggs</td>
<td></td>
</tr>
<tr>
<td>• Likely to tolerate baked egg</td>
<td></td>
</tr>
<tr>
<td>• Baked egg oral food challenge with a specialist may be appropriate</td>
<td></td>
</tr>
<tr>
<td>• Consider repeating IgE component test biennially during childhood to determine potential tolerance</td>
<td></td>
</tr>
<tr>
<td>• May be transferred via breast milk, so mothers of infants with egg allergy should take caution when breast-feeding</td>
<td></td>
</tr>
</tbody>
</table>

As in all diagnostic testing, any diagnosis or treatment plan must be made by the physician based on test results, individual patient history, the physician’s knowledge of the patient, and the physician’s clinical judgement.
A specific IgE blood test that detects sensitization to the whole peanut is the first step in discovering the likelihood of a systemic reaction and the necessary precautions that may be prescribed.

### Characteristics of individual proteins

<table>
<thead>
<tr>
<th>Peanut f 13</th>
<th>Ara h 8 f 352</th>
<th>Ara h 9 f 427</th>
<th>Ara h 1, 2, 3 f 422, f 423, f 424</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High levels of peanut IgE can predict the likelihood of peanut sensitivity, but may not be solely predictive of reactions or allergic response.26</td>
<td>• LOWER RISK of systemic reaction including anaphylaxis.32</td>
<td>• VARIABLE RISK of systemic reaction including anaphylaxis.32</td>
<td>• HIGHER RISK of systemic reaction including anaphylaxis.32,35</td>
</tr>
<tr>
<td>• Risk of mild, localized symptoms, such as itching/tingling of the lips, mouth, and oropharynx.37</td>
<td>• Often accompanied by sensitization to other peanut proteins.38</td>
<td>• Cross-reactive with fruits with pits (e.g., peaches).39</td>
<td>• Sensitization to Ara h 2 is nearly always associated with clinical peanut allergy.32</td>
</tr>
<tr>
<td>• Cross-reactive with pollens (e.g., birch).39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

77.6% of patients sensitized to peanut may not be at risk for a systemic reaction.29

Knowing which protein your patient is sensitized to can help you develop a management plan.29,30,36-38

### Management Considerations

<table>
<thead>
<tr>
<th>Ara h 8 f 352</th>
<th>Ara h 9 f 427</th>
<th>Ara h 1, 2, 3 f 422, f 423, f 424</th>
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<tbody>
<tr>
<td>+</td>
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<tr>
<td>+/-</td>
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<td>-</td>
</tr>
<tr>
<td>+/-</td>
<td>+/-</td>
<td>+</td>
</tr>
</tbody>
</table>

- Oral food challenge (OFC) with a specialist may be recommended. High likelihood that patient may pass OFC. If patient passes an OFC:
  - Foods prepared with or around peanuts may be consumed
  - Patient not restricted to peanut-free zones
- If there is no clinical history of symptoms, please see considerations above
- If there is a clinical history of symptoms, please see considerations below
- Choose peanut-free zones for patient’s safety
- Consider prescribing epinephrine auto-injector
- Family, colleagues, and teachers should be made aware of allergy and have a plan

As in all diagnostic testing, any diagnosis or treatment plan must be made by the physician based on test results, individual patient history, the physician’s knowledge of the patient, and the physician’s clinical judgement.
Alice, 2 years old:

- Alice has suffered from eczema since early infancy
- For the last couple of months, she has been experiencing gastrointestinal distress, and hives
- Doctor suspects food allergy and orders the appropriate specific IgE food profile to help identify possible IgE food sensitivities.

Specific IgE blood test results:

Cow’s milk: 12.3 kUA/l

The test results indicate that Alice is sensitized to milk, but not other food sensitization. To help evaluate if Alice reacts to milk in baked goods, her doctor orders Allergen Component tests for cow’s milk proteins.

Allergen Component results (kUA/l):

<table>
<thead>
<tr>
<th>Allergen Component</th>
<th>α-lactalbumin (Bos d 4)</th>
<th>β-lactoglobulin (Bos d 5)</th>
<th>Casein (Bos d 8)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.2 kUA/l</td>
<td>6.5 kUA/l</td>
<td>&lt;0.1 kUA/l</td>
</tr>
</tbody>
</table>

Doctor’s Interpretation:

- Her test results show IgE sensitization to labile proteins, which indicates that she may be able to tolerate milk in baked foods
- Alice is not sensitized to Casein and is likely to outgrow her milk sensitization

Doctor’s recommendations:

- Her parents are advised not to give Alice fresh cow’s milk
- He also made the recommendation to see the local allergist to consider a baked milk food challenge

Based on her history, Alice’s doctor advised that Alice should avoid fresh milk.
You’ve discovered the connection

Now, make the connection for your patients


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