Identifying & Managing Allergen Risks in the Foodservice Sector

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Overview

- Understanding the hierarchy of risk to the allergic consumer
- The importance of communication and traceability
- Taking risk out of allergen risk assessment
- Controlling risk and increasing profit
- Useful resources
The Issue

- 20 – 30 Deaths in UK each year from anaphylaxis
- Majority occur when eating away from home

Mail Online

Schoolboy, 12, died of severe allergic reaction to curry containing peanuts after takeaway staff assured his family it was nut-free

Connor Donaldson died on October 19 last year after eating a prawn balti
- His mother Sarah received assurances from staff at the Tyldesley Tandoori takeaway in Greater Manchester, that the dish would not contain nuts
- After eating a few mouthfuls Connor started gasping for breath
- He suffered a severe asthma attack, which led to cardiac arrest
- His mother told an inquest: 'He assured me my meal wouldn't contain nuts'
- Investigations found chefs used the same ladles and spoons for all curries
- Tests also confirmed a balti paste used contained traces of nuts
- Coroner Jennifer Leeming recorded a verdict of accidental death
- She warned all people suffering nut allergies to avoid all takeaways
The Regulation (FIR)

• Regulation 1169/2011 comes into force 13th Dec. 2014

• Establishes a legal framework in the European Union with regard to information related to foodstuffs provided to consumers by food business operators at all stages of the food chain
  – Food intended for the final consumer
  – Foods delivered by mass caterers
  – Foods intended for supply to mass caterers
  – Also applies to catering services provided by transport leaving from the EU Member States (airline catering)
  – Distance selling (i.e. internet)

• Applicable to pre-packaged and foods sold loose
The Challenge

Latest News
Survey Reveals 43% Restaurateurs Unaware Of Allergen Law Deadline

With less than six months to go until the introduction of new allergen legislation, research conducted for Unilever Food Solutions has revealed that over 40% of restaurateurs (43%) are unaware of the new law.

Over 45% of respondents were unable to identify the allergens (45.2%), despite over 90% of them saying they were sometimes, or frequently, asked for information by customers.

Nearly 40% (38.6%) of operators have read about the new law in the media and a third have obtained information from the Food Standards Agency.

Just 13% received information from their environmental health officer. Operators are now looking for help to prepare for the legislation change, with 58% of restaurateurs saying they will ask more questions of their suppliers.
Food fraud: the dangerous allergens lurking in the supply chain

Replacing ingredients to cut costs can have deadly results if consumers are exposed to foods that cause an allergic reaction.

Michael Walker and Hazel Gowland
Guardian Professional, Wednesday 16 April 2014 12.36 BST

Allergy sufferers are placed at risk when restaurant ingredients are substituted for alternatives or contaminated by suppliers. Photograph: Ray Tang / Rex Features
Hierarchy of Risks in Foodservice

**Complexity & communication within the business**
- Wrong information given to allergic customer (or between staff)
- Wrong ingredients used in dish
- Substitution of ingredients in dish

**Poor storage and segregation practices**
- Cross-contamination of ingredients
- Poorly cleaned food contact surfaces

**Ineffective cleaning and personal hygiene**
- Utensils, cutlery and crockery
- Poor hand washing and cross contact from PPE
- Allergen containing dishes made in close proximity
- Traffic patterns
Principles Of Risk Analysis (FSA 2006)

- Risk assessment - what's the risk?
- Risk management – can it be controlled?
- Risk communication – how to warn consumers?
- Risk review – has the risk changed?
• **Risk assessment** – the semi-quantitative (or, in exceptional circumstances, quantitative) estimation of whether a hazard is likely to occur in practice; normally expressed as a risk factor or score by multiplying the hazard severity score by a likelihood score (unlikely (score 1), likely (score 2) or very likely (score 3)). All risk scores indicating other than low risk must be investigated and risk control/management procedures followed.

• **Hazard** – a substance etc. which has the potential to be harmful. Hazards are very varied... The severity of the hazard is determined by possible consequences; for risk assessment, the severity of hazards is scored on a simple three point scale: minor injury or effect (score 1), major injury or effect (score 2) or death (score 3).

• **Risk control/risk management** – the means by which moderate or high risks identified through risk assessment are eliminated or reduced to acceptable levels.
Can We Apply To Allergen Risk Assessment?

- Estimation of risk – subjective
- Likelihood score – subjective
- Severity of hazard
  - Depends on the allergenic ingredient
  - Depends on sensitised individual
  - Spectrum of reaction in sensitised population from mild (1) to death (3)
- Risk management
  - Eliminated (?) or reduced to acceptable level (?)
  - Cannot completely eliminate risk
  - What is an acceptable level (no thresholds)
Best Practice – Risk Assessment

- Targeted risk assessments incorporating hazard characterisation
- Evolution of 2006 FSA guidelines
- Three-tier allergen mapping
- Assessment of risks arising from the following factors
  - Processes
  - Production / preparation
  - Environment
  - People
- Rank risk probability against characterised hazard
- Output drives allergen management or labelling
# Ingredient Matrix

<table>
<thead>
<tr>
<th></th>
<th>Milk</th>
<th>Egg</th>
<th>Cereals</th>
<th>Soya</th>
<th>Sesame</th>
<th>Peanut</th>
<th>Tree Nuts</th>
<th>Lupin</th>
<th>Celery</th>
<th>Mustard</th>
<th>Fish</th>
<th>Crustaceans</th>
<th>Molluscs</th>
<th>Sulphites</th>
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## Recipe Matrix

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<th>Milk</th>
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<th>Soya</th>
<th>Sesame</th>
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<th>Lupin</th>
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<th>Fish</th>
<th>Crustaceans</th>
<th>Molluscs</th>
<th>Sulphites</th>
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<tbody>
<tr>
<td><strong>Beef Stroganoff</strong></td>
<td>Yes (cream and butter)</td>
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<td>Yes (Dijon)</td>
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<td><strong>Chicken and Prawn Curry</strong></td>
<td>Yes (noodle)</td>
<td>Yes (Wheat Noodle)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes (anchovy fish sauce)</td>
<td>Yes (prawn)</td>
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<td><strong>Chicken Curry</strong></td>
<td>Yes (cream)</td>
<td>Yes (Wheat Noodle)</td>
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<td></td>
<td></td>
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<td></td>
<td>Yes (anchovy fish sauce)</td>
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<tr>
<td><strong>Paella</strong></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td>Yes (monkfish)</td>
<td>Yes (prawn)</td>
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<td><strong>Singapore Stir Fry</strong></td>
<td>Yes (Egg)</td>
<td>Yes (soya sauce)</td>
<td>Yes (oil)</td>
<td>Yes (cashew)</td>
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Mapping Cross-Contact Points

Chocolate Preparation

Molding & Conditioning

Chocolate Manufacture

Raw materials

Powders: manufacturing and conditioning of cocoa powders; cocoa butter press

Wash station

Rework kitchen:
Processes – labelling
Processes - storage
Processes – decanting
Processes – signposting

- Nando’s Food & Menu Specifications
- Caesar Salad
- POS system display
Production / Preparation
Production / Preparation
Production / Preparation
Production / Preparation
Environment - segregation
Environment – hygiene
Environment – assembly
People - PPE
People - Communication
Probable Versus Remote
Hazard Characterisation (1)
Allergen Biochemistry

• True allergens = always proteins

• Most allergens incredibly stable molecular structures

• Some resistant to processing
  – Heat treatment
  – Mechanical
  – Fermentation
  – Some rendered ‘more’ allergenic

• Biochemistry (and matrix) influence cleaning interventions
Hazard Characterisation

6 Key Considerations

1. Physical nature of contaminant
2. Level of processing undergone
3. Amount of protein (no protein = no problem)
4. Target consumers (vulnerable groups)
5. Established thresholds
6. Type of production environment

Characterise risk, define associated hazard and then validate existing control measures

Cleaning is significant control measure in food service and should be validated
Defining the Allergen Control Plan

• Staff training
• Communication systems
  – allergic customers » front of house » back of house
• Ingredients, reading labels
• Choosing and using ingredients
• Storing ingredients
• Cleaning & Personal hygiene
• Preparation of allergen containing & non allergen containing foods
• Documentation
Financial Considerations

- 1.92 million food allergic consumers in UK
- Figure including food intolerant & coeliac customers much, much higher
- Research shows people with food allergy / coeliac disease don’t eat out as often as they wish
  - When they do, they take 2 – 3 people and spend £10 - £20 per person.
  - While not all of the party will have an allergy or coeliac disease, the person with the condition drives the decision on where to eat.
- If you can effectively manage the risk you’ll gain the business
- Food allergic customers are fiercely loyal & vocal
Learning from the Pre-Packaged Sector

UK Incidents by category, 2006 - 2012

<table>
<thead>
<tr>
<th>Category</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tr>
<td>Allergens</td>
<td>61</td>
<td>86</td>
<td>84</td>
<td>86</td>
<td>79</td>
<td>114</td>
<td>129</td>
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<tr>
<td>Animal feed (on market)</td>
<td>9</td>
<td>10</td>
<td>13</td>
<td>10</td>
<td>8</td>
<td>28</td>
<td>27</td>
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<tr>
<td>Biocides</td>
<td>2</td>
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<td>2</td>
<td>0</td>
<td>3</td>
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<td>Counterfeit product</td>
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<td>3</td>
<td>6</td>
<td>7</td>
<td>11</td>
<td>11</td>
<td>9</td>
</tr>
</tbody>
</table>

- Recalls/withdrawals continued over last 7 years
- Increased use of ‘may-contains’ – devaluation of warning
- Common root cause 2008-2011 – inadequate training, packaging errors and incorrect use of ingredients
Advisory Labelling

All Items May Contain Allergens
Think Allergy

When someone asks you if a food contains a particular ingredient – always check. From 13 December 2014, food businesses will need to provide information about allergenic ingredients in the food they serve.

1. 'Is there any egg in this?'
2. 'I don't know. I'll check.'
3. 'Do you know if this has any egg in it?'
4. 'I'll check.'
5. 'Yes, there is egg in it.'
6. 'Let me help you choose something else.'

For more information and advice about allergy, visit: food.gov.uk/allergy
A booklet Allergen Information for loose foods is also available to download.

http://allergytraining.food.gov.uk/english
Resources

Think Allergy

You can help make sure restaurant staff know about your food allergies when you’re eating out. Just type the food(s) you are allergic to into the space below, print the page, then cut out the cards and carry them with you. The next time you’re eating out, give one of these handy chef cards to the serving staff.

Think Allergy

I have an allergy to:

Please check my meal does not contain this food.

Just a small amount could make me very ill

food.gov.uk/allergy

Think Allergy

I have an allergy to:

Please check my meal does not contain this food.

Just a small amount could make me very ill

food.gov.uk/allergy
Thanks For Your Attention