DIET AND ECZEMA IN CHILDREN

It has been known for many years that what children eat may have an effect on their eczema. There has been an ever-increasing interest in the part that diet plays in the development and cause of atopic eczema. It is, however, only in the last ten to fifteen years that the reason why food may trigger eczema has been better understood. Many parents will look to diet as a potential treatment for their child's eczema as it seems on first thought an easy thing to change and also because it allows the parents to feel that they are actually able to do something for their child. However, diet and eczema is a complicated subject and one that can create as many problems as it attempts to solve. This fact sheet aims to give the facts about diet and eczema by looking at why eczema may be affected by diet, how diet can be used as a treatment for eczema, and also looking at the prevention of eczema by using diet.

Eczema can be triggered or made worse by a great many things in our environment, including the house-dust mite, grasses and pollens, stress and eating certain foods. It is thought that in about 30% of children with eczema, food may be a trigger, but a much smaller group than this (about 10%) will have food as their main or only trigger. This means that only a small number of children with eczema are helped by changes in diet and, even in those who are, they will still need to use a good skin-care routine to protect against other triggers. In other words, it is rarely diet alone that triggers eczema.

How does food trigger eczema?

There are three main ways that food can affect eczema.

Itching, rubbing and scratching

In some children the itching gets worse after eating certain foods. Feeling itchy causes children to rub and scratch the skin which in turn causes skin damage, inflammation, infection and the eczema to worsen and become more itchy. An obvious sign is redness, swelling and irritation around the mouth.

Immediate food hypersensitivity

This is a reaction that can happen very quickly after eating certain food. Skin symptoms include irticaria (nettle rash), swelling and redness. The reaction happens from five minutes to two hours after eating the food. Although skin symptoms often happen, other symptoms such as vomiting, abdominal pain, wheezing, itchy eyes and sneezing may also occur.

The most severe type of this reaction is called *anaphylaxis*. It happens very quickly and can affect breathing and cause loss of consciousness (although this is very rare).

Delayed food hypersensitivity

This is when symptoms happen six to twenty-four hours after eating the food and can last for several hours or longer. Common symptoms are increased itching and eczema and/or abdominal pain and diarrhoea.

Is food a trigger of my child's eczema?

Testing and diagnosis

Sadly there are no tests that are 100% reliable for which foods can be triggers of eczema.
As you have read, food can produce different types of reactions in the skin and no one test can tell clearly the extent to which food is having an effect.

Observation

Watching your child closely and writing down changes in the skin is the first step. Most children with immediate type food reactions do not need a test as it is obvious that food has caused the symptoms - usually within half an hour of eating the food. Seeing a delayed type reaction can be more difficult as a reaction can be caused by a food eaten at a previous meal (or even the previous day). A diary, keeping a record of eczema, scratching, sleep and all food and drink eaten over a period of four to six weeks can sometimes be useful to help find the problem food.

Skin prick test

This is a test that can help to diagnose an immediate type food hypersensitivity reaction. Small drops of food extract are placed onto the skin (usually the forearm) and a small scratch or prick made. If the area comes up red and itchy (a bit like an insect bite) it confirms that the substance which triggers a reaction is present in the skin.

However:

In children under three years old skin prick tests can sometimes give the wrong results and are therefore not often used.

The test is not easily done on skin with severe eczema.

80% of children with eczema will show positive skin prick tests, but only 30% will have any symptoms after eating that food. This shows that there is a high chance of a false positive result.

The test can only help to show an immediate type food hypersensitivity and eczema is more likely to be a symptom of delayed type food hypersensitivity.

Children can outgrow their sensitivity to food in one to three years but skin prick tests can remain positive for another five years or longer.

Blood test (sometimes called IgE antibody test or RAST test)

This measures the amount of antibodies (the substance causing a food reaction) in the blood. If there is a high level it is more likely that food may cause a reaction. If there is a low or negative level it is unlikely that food causes symptoms. Like skin prick tests, the RAST test can often give a wrong result and can only look at a small number of foods.

The above two tests may be carried out in a hospital clinic, but will only give a guide as to which foods may be triggers and should not be used as a definite diagnosis.

Other tests

Other tests claiming to find food allergies and food intolerance are easily found and are often advertised in magazines, health food stores and by complementary practitioners. Examples include vega testing, kinesology or sending blood samples by mail order. These tests are expensive, have no scientific basis and are not recommended by the medical profession. They sometimes recommend diets that do not contain the nutrients growing children need, or offer expensive vitamin/mineral mixtures that are unsafe or in the wrong doses for children.

Exclusion and challenge procedure

This is the only way of finding out whether a food is a trigger of eczema. It involves:

- Removing all sources of the suspected food or foods for two to six weeks to bring about an improvement in the eczema.
- Giving the child the suspected food to bring about a return (or worsening) of the eczema.
- Removing the suspected food trigger again to bring about the improvement in symptoms for a second time.

This procedure must be supervised by a dietician.

Diet as a treatment for atopic eczema

Finding out if food is a trigger of eczema is often difficult due to many other factors affecting the skin. This, along with the fact that only a small number of children with eczema are helped by diet, has resulted in some doctors being unwilling to try diet as a treatment. Getting a child to eat well can be difficult - refusing a child food can be worse and no parent should subject their child to a restricted diet without asking these key questions:

Is the eczema severe enough for diet to be tried?

Diet should only be tried when the eczema is bad enough to be causing distress to the child and significant added stress to the family. Children whose eczema is controlled by emollients and a mild topical steroid cream do not need to alter their diets unless there are other symptoms (such as vomiting or diarrhoea). However, children who are constantly scratching, with moderate to severe eczema that is not getting better with treatment, may be helped by trying a dietary treatment, especially those under three years of age. If diet does not help then the child should always go back to a normal diet and further skin treatment should be tried.

Is help and support available?

Diets in children with eczema should never be tried without proper supervision. Seeing a dietician is very important to make sure that:
the diet is followed properly and parents know how to check labels;
the right diet is tried;
the diet chosen is nutritionally correct, and
recipes and ideas for meals and snacks are available along with help in arranging school meals.
All dieticians working in the NHS are formally qualified. You may find it helpful to see a dietician with experience of children (a paediatric dietician) or one dealing with allergies. Your GP or hospital doctor can refer you.

What are your expectations?

Dietary treatment will not *'cure'* your child's eczema. You will still need to apply emollients and some topical steroid creams every day. However, when eczema is at its worst, diet may make it easier to manage, reduce redness and scratching, and improve sleep. If the diet helps, you will need to cope with cooking different meals for the family. You may also have to deal with your child's behaviour and tantrums over not being allowed favourite foods. How difficult a special diet is to cope with will depend on the number of foods removed and the age of the child.

Which children are most helped by dietary treatment?

There has been some research to show that children with atopic eczema may absorb food differently in their gut. This may be the reason why some children develop food reactions. It is also the reason why early weaning is not recommended. There are three things that seem most likely to increase the chances of food being a trigger of eczema. These are:

Age
Children under three years are more likely to have food allergies. Older children tend to grow out of them.

Presence of other symptoms
Infants with moderate/severe eczema affected by food often have other symptoms such as rashes, diarrhoea, vomiting and a runny nose.

Known food allergy
Children with eczema who are known to have an immediate reaction after eating one or more foods (eg peanut or cow's milk allergy) are more likely to have eczema that is affected by other foods (often delayed reactions).

Which foods are triggers of eczema?

There is no one diet for the treatment of eczema as the type and number of food triggers can differ a lot between children. The most common food triggers are cow's milk and eggs, but many other foods including soya, wheat, fish and nuts are also common. In fact, any food (including fruits, vegetables, preservatives or corn) may trigger a flare-up of eczema and this is why finding the right diet is often hard. The choice of which foods need to be removed will depend upon the history of the eczema, age of the child, how bad the eczema is and sometimes hospital test results.

Cow's milk free diets
Cow's milk is one of the most common food triggers, and a cow's milk free diet is often suggested for infants. However, milk is a very important food in a child's diet and the right milk substitute should be used. In young children always seek dietary advice before removing cow's milk from the diet.

Goat's milk
Goat's milk is not for use in children under one year. Goat's milk must also always be pasteurised. Changing to goat's milk is unlikely to improve eczema, as the protein in it is very similar to that in cow's milk. About 80% of children sensitive to cow's milk will show similar symptoms to goat's milk. It is, therefore, not usually recommended.

Soya milk
Soya milks are a popular choice of milk substitute but many children who react to cow's milk may also react to soya. Soya can be useful in some cases of immediate type cow's milk allergy, but may not be the best choice in the treatment of eczema.

If soya milk is used, infants under one year should always be given a soya infant formula rather than cartoned milk as this contains the full set of nutrients. This should also be used wherever possible in older children up to five years. Cartoned soya milk does not give the full range of nutrients and children using this will need a regular check on their diet. They may also need to take vitamin drops and calcium supplements.

Hydrolysed formula
This is the name given to infant milks that have been specially made for children who cannot take cow's milk and soya. All brands contain the right nutrients and they are often the preferred choice when trying to find out if food is a trigger of eczema. Some children may need to flavour them at first as the taste will not be familiar. Although they can be bought from a chemist, a doctor usually prescribes them.

Diet in the prevention of atopic eczema in high-risk individuals

Who is high-risk?
Most babies who develop atopic eczema have one or both parents with some kind of atopic condition*, although there is a small group in which neither parent has an atopic condition and the child still has atopic eczema. At the moment, basic advice such as the value of breast-feeding and not weaning until at least six months is given for all infants, whereas more strict measures are only suggested to those at very high risk. Even with very strict prevention measures, children can still go on to develop eczema. Measures to prevent the onset of atopic eczema are restricted to high-risk individuals only.

* Atopy = asthma, hayfever, eczema (atopic), food allergy

Low risk	Moderate risk	High risk
A brother or sister with atopy	A parent or a parent and brother or sister with atopy	Both parents with atopy and one or more brothers or sisters with atopy

Diet of mother during pregnancy and breast-feeding

Research has been carried out to see if manipulating the diet of the pregnant or breast-feeding mother can reduce the risk or prevent the onset of atopic eczema in high-risk individuals. The results of this research are conflicting but do suggest there is no benefit to removing certain foods (known allergens) from the mother's diet during pregnancy or while breast-feeding. Indeed, evidence from the research studies shows the removal of foods from the pregnant mother's diet can be harmful to the unborn baby by causing malnutrition.

Prolonged breast-feeding

Breast-feeding is the best choice of feeding for any baby. Babies that are at increased risk of allergies should be breast-fed as, compared with those who are bottle fed, breast-feeding is thought to protect against certain allergies compared with those who are bottle fed. Evidence for prolonged breast-feeding (for at least six months) as a preventative measure for those in a high-risk group is limited and, therefore, such feeding is not necessary until more evidence is available to justify it.

Formulae

In mothers who cannot breast-feed, or choose not to breast feed, it may be of benefit to use a hydrolysed formula as the first choice of milk (for those infants that are *high-risk* only). There is evidence to support the use of extensively hydrolysed cow's milk formulae over regular cow's milk formulae in preventing atopic eczema in high-risk families.

Breast milk supplementation

There is no evidence to support the use of soya milk as opposed to cow's milk supplementation to children as a means of preventing or delaying the onset of atopic eczema.

Dietary concerns for high-risk families

If you are in the high-risk group according to our breakdown of low, moderate and high risk, discuss this with your GP who may refer you to an NHS registered dietician.

Solids and the weaning diet

Ideally, weaning should begin at six months. It is important that atopic infants or those at risk of developing atopy should not be given solids before four months old, even if the baby is hungry and seems ready for solids.

Good early foods include baby rice, pure fruits, vegetables and purée potato. It is recommended that infants with atopic families should not be given cow's milk, egg, wheat or fish in foods until after six months of age.
In *high-risk* infants, or infants with many atopic symptoms, it may be beneficial to avoid egg, fish and cow's milk in their diet for longer but this must be discussed with a dietician. It is important that babies start some solids at six months or they may not gain weight and may not develop the right skills for feeding. Nut products (eg peanut butter) should not be given to children with a family history of allergy for at least the first three years and if possible for longer.

Disclaimer

These details are provided only as a general guide. Individual circumstances differ and the National Eczema Society does not prescribe, give medical advice or endorse products or treatments. We hope you will find the notes useful but they do not replace, and should not replace, the essential guidance, which can be given by doctor or state registered dietician.

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National Eczema Society
Hill House, Highgate Hill
London, N19 5NA
www.eczema.org

Eczema Helpline: 0870 241 3604
Email: helpline@eczema.org

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