

# Allergy and Nutrition\*

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Today you have heard much about Vitamin C and about the nutritional approach to Allergy and you have undoubtedly read a great deal in publications, so one might come to believe that if one had a perfect diet that allergy would disappear. This sounds fine but it has not been my experience and I have been interested in nutrition for a long time.

Nutrition is of extreme importance in the treatment of allergies; there is no question about it. Those with mild allergic manifestations will often improve remarkably and in a year or two may no longer need allergic management as long as they continue with their adequate diets and avoid unnecessary stresses and strains. However there are some individuals whose constitution and biochemical make-up as a result of inheritance and perhaps of poor nutrition as a child is such that no matter how much the diet is improved they will never recover completely and will need continued allergic treatment. So we cannot depend upon diet alone. That is one of the things I want to stress today, as well as to bring to your minds a better knowledge of what allergy is, why it is and how we treat it.

We may consider allergy as altered reactivity of cells. The body cells react in an abnormal manner to ordinarily harmless substances. When I speak of substances which cause allergic reactions, I am thinking particularly of proteins, because all those things which cause allergic reactions are usually proteins, or proteins joined to metals forming a compound of some sort. However, I am suspicious that such things as gases including coal gas, exhaust fumes from automobiles and other such compounds may be true allergens.

As far as definitions of allergy are concerned we can be content with altered reactivity as a definition. We don't know just why it occurs or how it occurs. We do know that the normal body has certain defenses against allergic reactions: in other words, against foreign proteins. It possesses enzymes which destroy foreign proteins so that they do not reach the body cells. They are dissolved on the surface of the mucous membranes and to some extent in the blood stream before they reach the tissues and so we are protected against foreign proteins.

Certain unchanged proteins are absorbed in small amounts in the gastroin-

testinal tract whenever we eat foods. But the body has defense mechanisms which destroy most of those.

In allergic individuals there are times when sensitization is more likely to take place. During diarrheas and gastrointestinal upsets, when the intestines are inflamed and therefore more permeable to foreign protein products, larger amounts of unchanged protein than usual may be absorbed. Thus, one can become sensitized if the defense mechanisms of the body are not working up to par, or if we are exposed to unusually large quantities.

Inasmuch as allergy seems to develop in certain families—in other words, it is an inherited tendency—we assume that something has happened to the parents or the grandparents which makes for the development of an allergic constitution. This may be a nutritional deficiency. We do not know for certain, but it is most likely that and such deficiency probably influences the enzymes systems of the body, rendering them either less active or making it necessary for them to have access to more trace minerals or vitamins than average to enable them to function correctly. Pottenger's cat experiments support this view. How nutritional deficiency works, we don't know, except that deficient cats develop osteomalacia (soft bones), they become more susceptible to infectious diseases and they also show a markedly increased tendency to allergic reactions. The same thing can conceivably happen to humans eating poor diets over several generations. And as Pottenger has shown, it takes several generations for cats to be bred back to the original state where they only have about five per cent of allergic reactions, instead of the eighty or more per cent exhibited in the third generation on a diet of cooked meat and pasteurized milk.

One of the points I want to bring out is that human beings who have been damaged enough by heredity will not completely respond during their lifetime to nutritional therapy. Therefore they must have treatment from the allergic standpoint as well. If one uses only a nutritional program one may find that patients are being harmed by the feeding of foods or vitamins to which they are extremely sensitive. Such allergenic foods should be searched for and avoided.

One way of developing a sensitivity which may be under the surface is to be exposed to large amounts of substances that are allergenic. These allergens are

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substances which produce an allergic reaction when introduced into the body. In other words, emptying a vacuum cleaner may precipitate a dust allergy; jumping in a hay mow may precipitate an attack of hay fever; eating large amounts of chocolate may bring out a latent allergy to this food.



Stress is another important factor in the development of allergic reactions. Many children suffer their first attack of asthma or hay fever following whooping cough, diphtheria, pneumonia or some infectious disease.

Exposure to toxic chemicals is also important. External ones, include tobacco, and drugs of various sorts. Large amounts of alcohol will often increase the tendency to allergic sensitization.

Internally, we have bacterial toxins. Perhaps, as a result of nutritional deficiency and constipation, atrophy and ulceration of the lining of the colon may develop, thus allowing bacterial poisons and other products of food decomposition to be absorbed in large amounts.

Fatigue is another factor. Severe fatigue is a marked strain and stress on the nervous system and on the endocrine glands and may precipitate allergic reactions. Emotional tension comes in this class, and we know that resentment and chronic fear particularly predispose to the development of the allergic state.

Surgery and injuries of course are obvious. And malnutrition is another body stress. One way to produce the alarm reaction of Hans Selye is to go on a fast. It occasionally is very helpful if it's done wisely.

Now we will discuss the mechanisms of allergy. One being endocrine dysfunction with pituitary or adrenal deficiency. What happens first under stress is the alarm reaction. At this time adrenalin is released by the medulla of the adrenal gland. The body is ready to fight or to run and as the muscles get increased blood supply the organs of digestion get less. If one gets mad, the best thing to do is to go out and kick around a tin can, or take a brisk walk if you are not the type that fights, or that blows off steam in some other manner.

I might say something about antigen-antibody concepts. Antigen is the pollen

or the protein fragment in house dust or food which causes sensitivity or the allergic reaction. Antibody is the substance produced by the body cells which neutralizes antigen. Antibody may be found circulating in the blood in certain types of allergy as well as attached to the body cells. On that depends the method of our injection treatment of hay fever and of asthma. These antibodies are extremely specific. For example, the antibody for wheat protein will not unite with a molecule of rye protein or of corn protein. You might liken the antigen and antibody structure to a Chinese puzzle. It's a very complicated thing—all the antibodies and antigens have different prosthetic groups, as we call them, which interlock and one will not unite with another unless there is a perfect fit.

In hay fever, injections of pollen produce what we call blocking antibodies. These blocking antibodies circulate in the blood. They are slightly different from the fixed tissue antibodies but they will unite with the antigen and prevent the pollen from reaching the body cell where the allergic reaction takes place.

The histamine theory postulates that a drug called histamine, which produces a hive when injected into the skin, as a result of the union of antigen and antibody in the body cell. This irritates the body cell and the small blood vessels, causing edema and a hive. Those cells producing mucous or watery secretions are overstimulated and produce more than usual

Antihistaminic drugs theoretically prevent the action of histamine on the body tissue. And these work nicely in some cases of hay fever and a few other allergies. They do not work well in asthma, but are useful for hives. They sometimes produce toxic reactions—very unpleasant ones in many individuals. We have many different drugs of this type. I have seen children go out of their heads and try to climb out of bed and run out of the hospital when they were given just one or two doses of antihistaminics. One may be able to find one that agrees, but I personally don't like to see them given over a long period of time.

Now a word about shock organs. These are the organs so-called where the antigen and antibody union takes place. They are the sensitized group of cells. They are characterized by the presence of smooth muscle. Smooth muscle, particularly of blood vessels, is the tissue that is chiefly affected by the antigen-antibody reaction and the release of histamine. Reactions may take place in the nose, the lungs, skin, intestines and the covering of the brain, the nervous system, the gall bladder; in fact practically anywhere in the body. Interestingly enough, they always

occur on both sides. You don't have allergy in one side of the nose. You don't have asthma in one lung—always in both lungs, which means that we are going back somehow to the nervous system itself—the central nervous system—sympathetic or parasympathetic. And why that is we don't quite know, but we do know that these shock organs in people may vary from time to time.

For instance, one shock organ may be affected by food. Thus, one person may get asthma from food and hay fever from a pollen, just to complicate things a bit.

Now for the types of allergy:

First reaginic, which is rather a big word and simply means that antibodies can be demonstrated in the circulating blood, so that by skin testing we can find out some of the substances to which people are allergic. In this group are asthma and hay fever, eczema and serum sickness. Major symptoms from this type of allergy affect about 10 per cent of the population. This is the best recognized and the most appreciated. There is, however, another type which I wish to mention today. It has not yet been widely recognized by the medical profession. One man in the East, Arthur F. Coca, first started work on it about 15 years ago, which shows how long it takes for some advances to be accepted and used by the medical profession. In some ways this is good, because it means that everything new is subjected to close scrutiny before it is approved.

To my mind there is no question about the usefulness or the importance of this type of allergy. In this disease state there are no positive skin tests. The diagnosis is made by a raise in pulse rate following contact with the substance. We call this nonreaginic because there are no reagins (antibodies) present that we can demonstrate.

The symptoms are frequently different. They include headaches, often of a migraine type, high blood pressure, fatigue, constipation, nervousness, emotional depression, forgetfulness, fears, palpitation of the heart, neuralgias, backaches, asthma, skin troubles, frequent colds, epilepsy (in a few cases) and multiple sclerosis. I think we are going to find many cases of the latter to have a definite allergic component.

This type of allergy curiously enough affects about 90 per cent of the population in a major or minor way. The 10 per cent that does not suffer from pulse allergy is immune to the common cold.

Let me go on to diagnosis. That is made in both types of allergy by means of the history which is the most important and may throw suspicion on some of the of-

fending substances. Then comes the physical examination laboratory investigations and also a dietary study. Most allergy patients, by the way, show clinical evidence of nutritional deficiency, in spite of the fact that this nation is supposed to be well nourished.

Skin tests and elimination diets, as well as pulse studies, are often indicated and very helpful.

There are those who believe that asthma develops primarily on an emotional basis. I have to disagree. I belong to what, I hope, is the middle road. I do know that emotional troubles can, in a few cases, produce allergy by running down the endocrine system. I wonder if they will produce asthma in a person who is adequately nourished. I'm not convinced that they will.

I think in cases where allergic attacks develop from emotional upsets there is an underlying allergic factor present. Treatment from this point of view, plus nutritional support, gives better results than putting a person through the process of uncovering all his subconscious childhood troubles and, in some cases, making him worse temporarily. It's a long process and seldom justified. Discussion of emotional problems, however, is indicated and reduces tension.

I do not like to see too much emphasis placed on hurting the child's psyche. I think the poor little children who are not supposed to be crossed and who are allowed to have their own way are very insecure children. And I think they are being harmed, because when they get out into the world the bigger fellow next door is going to beat them over the head if he doesn't like what they do. They should face life early when they have the guidance of their parents. They should be taught their rights and duties as well as respect for others by sympathetic guidance and judicious chastisement when indicated. This makes for secure, contented children and happy parents. A young child has no business running a household.

Cortisone and ACTH are very valuable methods of treatment and sometimes life-saving in acute conditions. They are proving undesirable and dangerous in some of the chronic ones. As a rule they are not



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the best answer and allergic investigation and treatment is much more satisfactory and safer. For symptomatic treatment we have adrenalin, anti-histaminics, which I have mentioned, ephedrine by mouth, aminophyllin, iodides and so on. In other words, medication which will help the patient to feel more comfortable until a definite diagnosis is made.

Nutritional therapy is routine. We need plenty of raw vegetables and fruits, rare beef, and liver, avoidance of highly processed foods. Unsaturated fats are important. Butter should be used instead of margarine. Certified raw milk is preferable to pasteurized or homogenized. Cod liver oil is excellent. For unsaturated fats and Vitamin D. Wheat germ in moderation is all right. I don't believe in 4 table-spoons a day as some people take. I think that's more than needed. Vitamin C is important. And accessory ascorbic acid often has to be taken, as many people cannot take large amounts of citrus fruits. They

can't oxidize the citric acid. Yeast is an excellent source of B complex vitamins. More concentrated vitamin supplements will often be needed and are best left to the judgment of a physician.

Allergic management consists of avoidance of known allergens when feasible. Injections of house dust, pollen extracts and vaccines are very helpful, particularly for the first year or two. Adequate nutritional therapy may produce an improvement in body chemistry, reducing allergic reactions enough so that specific treatment may be abandoned. This occurs in some, but not in all. Children show a better response from this standpoint. Discovery and treatment of focal infection is very important. Other disease states must be cared for. Extra rest is important.

Best results are obtained when as many factors as possible are considered and treated. A well-rounded program aids the individual in approaching the ideal state of buoyant health.