

# food Insight™

Current Topics in  
Food Safety and Nutrition

## Inside Insight

A Matter of Choice .....	2
NewsBites .....	6
New Science Provides New Insights Into Health of Glutamate .....	7

## FAD DIETS: *Look Before You Leap*

It is estimated that more than 54 million Americans are currently on a diet. Some succeed in taking weight off, but far fewer—maybe just 5 percent—manage to keep the weight off over the long term. With half of the adult population in the United States considered to be overweight, it's little wonder that consumers are constantly searching for the "magic bullet" to help them lose weight quickly and effortlessly. But can diets that promise such easy results be true?

No, says Diane Quagliani, RD, a spokesperson for The American Dietetic Association. "Fad diets are a short-term, quick-fix approach to weight loss that don't work over the long haul. These diets tend to over-promise results but don't deliver. Food choices are often monotonous, and caloric intake may be very restricted, so that once the novelty wears off, so does the motivation to continue."

Even the U.S. Department of Agriculture (USDA) has recognized the huge popularity of fad diets, and in February it sponsored the Great Nutrition Debate, a discussion panel that featured popular diet book authors as well as nutrition and weight loss researchers. While the panelists agreed that Americans are too fat, there was no consensus about the best way to lose weight and keep it

off—although it led to interesting and sometimes heated debate. In the end, USDA indicated that it might be time for government researchers to evaluate the various diets to help sort fact from fiction.

There is a dire lack of scientific research to corroborate the theories expounded in the majority of diet books currently on the market. Most promise weight loss programs that are easy, allow favorite foods or foods traditionally limited in weight loss diets without limitations, and do not require a major shift in exercise habits. Often, adds Sachiko St. Jeor, PhD, RD, Director of the Nutrition Education and Research Program at the University of Nevada School of Medicine, "fad diet book authors



Continued on page 4

# A Matter of Choice

## Exploring the Food and Health Attitudes of Older Americans

The first part of our two-part series on nutrition, food, and older Americans provided a status report on the nutrition needs of seniors. This installment focuses not on needs but on wants. What do older people choose to eat, and how do their life experiences, attitudes, and food preferences influence these choices? Also, what are the implications of this information for people who target this age group for health information and food products?

Food is important to everyone—no matter what age. It is a common need, interest, and source of enjoyment. Therefore, it is no surprise that food plays a major role in the lives of older people. In fact, numerous researchers have found that interest in food as it relates to health increases with age—a finding that may be attributed to a variety of motivations. Whatever the reason, food choices remain important throughout life, perhaps even growing more so as we age.

### Food Attitudes That Shape Food Choices for Older People

In general, we're all guided by a few important factors when determining which foods to purchase and eat. Taste, convenience, price, traditional or cultural beliefs, living environment, and health concerns are a few of these factors. Beyond these, however, are some more subtle food and health attitudes that many times are unique to older consumers.

### “I eat what I know,” or the nostalgia factor.

Familiarity with certain foods makes it much more likely that any consumer will choose these foods again. However, according to researchers at Cornell University who conducted in-depth interviews with older consumers to define exactly what influenced their food choices, nostalgia is among the most important influencing factors. The participants indicated that, throughout their lives, childhood preferences faded in and out of priority owing to changes in roles and environments, but that later in life they tended to go back to their favorite childhood foods. Of course, there are always exceptions: health problems can conflict with desired food choices, and some

adventurous eaters aren't bound by nostalgia but yearn to try new foods.

### “I'll weigh my options,” or the value judgment.

We all make value judgments about things every day—what to wear, what to purchase, what to say, and how to act. The five most common values used by older people to make food choices are:

- Sensory perception: Does it taste, smell, and look good to me?
- Convenience: Is it easy to make? (although speedy preparation may not be a concern at all)
- Social considerations: Does my spouse like it? Can I finish it on my own? (people who live alone don't buy roasts and whole turkeys)
- Physical well-being: Is it good for me? Can I chew it? Does it agree with me?

Food compromises, product substitutions, limitation of certain foods, and food-related routines are common ways that older people are able to “have their cake and eat it, too.” “Prioritizing—learning what can be given up painlessly and what habit changes one is willing to make—becomes very important with this age group,” says Leslie Bonci, MPH, RD, a spokesperson for The American Dietetic Association. For instance, eating a high-fiber breakfast cereal each morning would be a healthful habit that may allow for more latitude in choice of bread and grain selections later in the day.

### “Now *this* is a meal,” or food ideals.

Ideals in the context of food include such beliefs as:

- What constitutes a meal (i.e., meat and potatoes, dessert is always

included, etc.)

- How a meal is served (i.e., everyone eats together family style, food is all homemade, etc.)
- How a meal is received (i.e., everyone eats what they're served without complaining, not wasting food, etc.)

Food ideals such as these take on increased significance when people enter care facilities, where meals are often a highlight of each day. Religious beliefs can also play a part in food ideals, helping to shape one's image of an appropriate meal.

### Health Attitudes Affect Food Choices, Too

In the 1999 Prevention-Food Marketing Institute (FMI) Report *Shopping for Health*, a few major health attitudes of older Americans were noted. Those that affected food choices included the following:

### “I follow my doctor's orders.”

It only stands to reason that health concerns and medical conditions have a greater impact on food choices as one gets older. That's when people generally develop illnesses and chronic conditions. The Prevention-FMI report notes that people age 54 and over are “significantly more likely to be affected by the desire to follow the medical advice of a doctor, lower cholesterol and slow down the aging process.” In fact, 7 in 10 say that their desire to reduce the risk of disease in general influences their purchases.

### “A balanced meal is a healthy meal.”

Most older people consider a balanced meal a healthful meal. Also, for people

who have not kept up with breaking nutrition and health research, it is the only way they judge the healthfulness of their food selections.

## “I am involved in managing my own health.”

Self-care is an increasingly popular approach to health care for U.S. consumers. Taking responsibility for one's own wellness is at the core of the self-care movement. At the same time, consumer interest in related information, such as diet and nutrition information, has also been in demand and shows no signs of slowing yet.

### What Does this Mean for Health Professionals and Communicators?

“Everyone is tuning in to healthy aging,” says Nancy Wellman, director of the National Policy and Resource Center on Nutrition and Aging. “Healthy eating is something we can do for ourselves. The pay off is lengthening the time we are independent and able.” One of our nation's goals in *Healthy People 2010* is not only to increase life expectancy but to also improve the quality of life in later years.

Pinpointing the interests of older people and the types of graphics, materials, and products that are preferred by older people is an area of ongoing research and exploration. Here are some guidelines to keep in mind when trying to capture the attention of America's older set:

## Today's older people aren't necessarily a “rocking chair” group.

Unlike the traditional “Grandma” we tend to think of (an older woman with gray hair in a bun, wearing an apron, knitting quietly in a rocking chair most of the day), today's older people are more active, energetic, and in better health when they reach 70 or 80 than their parents were at those ages. For this

reason they won't appreciate materials that show old-fashioned grannies, and they may not even like the term “seniors.”

### Top health concerns.

Diseases which occur with greater frequency later in life as well as general wellness concerns are likely to be topics of great interest to this age group. The Prevention-FMI report found that mature shoppers are more likely than younger ones to have sought out information about the importance of fiber intake (52 versus 39 percent) and how to distinguish whole-grain products from non-whole-grain products (28 versus 18 percent).



### Give ‘em what they know and like.

Unless the target market is the adventurous eater, older consumers will prefer foods they know and love. New twists on old favorites, such as changes to the nutritional content, are acceptable as long as the product still tastes as expected. Bonci recommends that dietary changes be discussed as a work in progress—not an abrupt change. “Accepting change in manageable ‘bites’ rather than complete elimination or exclusion is frequently more effective,” she explains.

### Rethink the concept of convenience for this group.

For most of us, convenience equals speed. For older people this isn't necessarily so. Convenience to an older person may mean a package that is easy to open and reclose, easy-to-read, large-type instructions, or a small package size that serves one or two people instead of a whole family.

### Focus on interactive communication methods tailored for older people.

Research shows that mature shoppers are unlikely to use a store website or in-store computer; however, they are more likely to look for printed information positioned shelf-side and read supermarket newsletters. “Cooking classes at the senior center or in the senior high-rise are an excellent way to reach the audience,” notes Bonci. “Also, food demonstrations, along with a special ‘seniors-only’ supermarket tour, reinforce important nutrition concepts at many levels.”

### Tailor the format of written materials to the audience.

Although it is always important to tailor written materials to the target audience, for older people there are certain choices of type size and color, graphics and layout that are more easily read and more appealing. Additionally, “It's important to remember that people would rather hear positive messages about the benefits of good nutrition. Those who put a priority on good nutrition stay active and independent longer,” says Wellman. With the growing percentage of the population over age 55, older adults are an increasingly important segment of society. Health care providers, communicators, marketers, and, in fact, all aspects of our service economy need to take into consideration the needs, concerns, and desires of this significant group. It is increasingly evident that the importance of providing helpful, healthful, and relevant food and nutrition information for seniors cannot be underscored.

# FAD DIETS: LOOK BEFORE YOU LEAP

Continued from page 1

take a scientific half-truth that is complex and use that as the basis for their arguments.” Authors may simplify or expand upon biochemistry and physiology in an effort to help support their theories and provide a plethora of scientific jargon that people do not understand but that seems to make sense. And few, if any, offer solid scientific support for their claims in the form of published research studies. Instead, most evidence is based on anecdotal findings, theories, and testimonials of short-term results.

Some of the most popular diets to hit the news wires these days are those that promote low carbohydrate and high protein intakes and promise significant weight loss. These diets are nothing more than low calorie diets in disguise, but with some potentially serious consequences. Following a low-carbohydrate, high-protein diet will encourage the body to burn its own fat. Without carbohydrates, however, fat is not burned completely and substances called ketones are formed and released into the bloodstream. Abnormally high ketone levels in the body, or ketosis, may indeed make dieting easier, since they typically decrease appetite and cause nausea. However, ketosis also increases the levels of uric acid in the blood, which is a risk factor for gout and kidney disease in susceptible people. Additionally, notes Dr. St. Jeor, “following these diets can result in dehydration, diarrhea, weakness, headaches, dizziness, and bad breath, and over the long term, can also increase risk of atherosclerosis and osteoporosis.”

Here’s a rundown on some of the more popular high-protein, low-carbohydrate diets that are making headlines.

## Sugar Busters!

By H. Leighton Steward, Sam S. Andrews, MD, Morrison C. Bethea, MD, and Luis A. Balart, MD

### Premise/Theory:

Sugar and certain carbohydrates (those with high glycemic indices) are toxic to the body causing blood sugar levels to rise and increasing the levels of insulin production, thereby prompting fat storage and weight gain. Supposedly, decreasing sugar intake can help people lose weight and decrease body fat, no matter what other foods are eaten.

### Dietary Recommendations:

- Eliminates refined and processed carbohydrates, especially sugar and white flour and all foods made from these ingredients. Also eliminates foods like potatoes, corn, white rice, beets, carrots, corn syrup, molasses, honey, soft drinks, and beer.
- Encourages consumption of whole grains, low-glycemic-index carbohydrates (high-fiber vegetables and fruits), and lean meats with no restrictions on protein foods.
- Authors claim that washing food down with liquid does not allow for proper chewing. Claims excess fluid with meals also dilutes digestive juices and can result in partially digested food.
- Average intake of calories is 1200 calories/day distributed as 30 percent carbohydrate, 32 percent protein, and 28 percent fat. Recommended calorie intake in this diet is low, accounting for short-term weight loss.

### Concerns:

- There is no scientific basis or published data for the *Sugar Busters!* weight loss theory. The explanation of insulin’s

role in weight gain that is provided is simplistic. The body does produce insulin in response to a rise in blood sugar levels, but it does *not* promote storage of fat unless excess calories are consumed.

- There is no scientific evidence supporting the claim that the consumption of fluids during meals negatively affects digestion.
- Diet is low in some vitamins and minerals, including calcium, vitamin A, and fiber.

## Dr. Atkins’ New Diet Revolution

By Robert Atkins, MD

### Premise/Theory:

Excess carbohydrate intake prevents the body from burning fat efficiently. Eating too many carbohydrates causes production of excessive amounts of insulin, leading to obesity and a variety of other health problems. Drastically decreasing dietary intake of carbohydrates forces the body to burn reserves of stored fat for energy, a condition known as ketosis, which leads to decreased hunger and a metabolic advantage.

### Dietary Recommendations:

- Limits carbohydrates to 20 grams/day for the induction phase of the diet and 0 to 60 grams/day in the ongoing weight loss phase. Carbohydrate intake ranges from 25 to 90 grams/day in the maintenance diet.
- Unlimited quantities of protein foods and fat—steak, bacon, eggs, chicken, fish, butter, and vegetable oil—are allowed. Avoid or limit carbohydrates, specifically breads, pasta, most fruits and vegetables, milk, and yogurt.

### Concerns:

- No published scientific studies support the diet claims.
- Offers extremely limited food choices. Diet is nutritionally unbalanced and



excessively high in protein, fat, saturated fat, and cholesterol.

- Promotes ketosis as a means of weight loss.
- Suggests that a high-saturated-fat, low-carbohydrate diet does not have an effect on lipids.
- Dehydration is possible if large amounts of water are not consumed.
- Diet is low in calcium, magnesium, potassium, vitamin C, and folate (dietary supplements are recommended).

## Enter the Zone

By Barry Sears, PhD

### Premise/Theory:

The “zone” is a metabolic state in which the mind is relaxed and focused and the body is strong and works at peak efficiency. A person in the “zone” will allegedly experience permanent body fat loss, optimal health, greater athletic performance, and improved mental productivity. Insulin is released as a result of eating carbohydrates and leads to weight gain. Because food has a potent, drug-like effect on the hormonal systems that regulate the body’s physiological processes, eating the right combination of foods leads to a metabolic state (lower insulin levels and lower eicosanoid levels) in which the body works at peak performance and which results in decreased hunger, weight loss, and increased energy.

### Dietary Recommendations:

- To get into the “zone,” rigid quantities of food, apportioned in blocks and at prescribed times, are recommended in a distribution of 40 percent carbohydrate, 30 percent protein, and 30 percent fat. Meals should provide no more than 500 calories and snacks less than 100 calories.
- Food should be treated like a medical prescription or drug.
- Menus suggest lots of egg whites, nuts, olives, peanut butter, and monounsaturated fats and large amounts of allow-

able (low-glycemic-index) fruits and vegetables. Alcohol is okay in moderation, but “zone” followers are advised to avoid or limit carbohydrates, especially pasta, bread, high-glycemic-index fruits and vegetables such as carrots and bananas, saturated fat, and arachidonic acid.

- Diet averages 1,300 calories per day, although some menus may run as low as 850 calories.

### Concerns:

- Oversimplifies complicated physiological processes. For example, eicosanoids are one part of a complex system, and no studies suggest that they are dangerous or cause disease.
- The metabolic pathways explained in the book that supposedly connect diet, insulin-glucagon, and eicosanoids are not found in standard nutrition or biochemistry texts. The premise that any type of diet completely controls insulin and glucagon secretion is not supported by current nutrition or biochemistry knowledge, nor is the theory that the insulin-glucagon axis controls production of eicosanoids.
- Relies upon unproven claims based on case histories, testimonials, and uncontrolled studies that are not published in peer-reviewed journals.

Although all of these diets may promote short term weight loss, their long term effectiveness is a different story. The bottom line for lasting and healthful weight loss is a varied diet, reduced caloric intake, and regular physical activity. “The truth is that losing weight permanently takes work. It’s not glamorous—eating habits need to change and activity usually needs to increase,” notes Quagliani. “If a diet sounds too good to be true, it probably is.”

## Glossary

**Arachidonic acid:** fatty acid precursor for eicosanoid production.

**Eicosanoids:** biologically active class of compounds that are involved in a wide range of regulatory processes such as synthesis of certain fatty acids.

**Glycemic index:** a ranking of the effect on blood glucose of the consumption of a single food relative to a reference carbohydrate (e.g., white bread or glucose).

**Glucagon:** has an effect opposite to that of insulin. Insulin’s and glucagon’s opposing effects help maintain carbohydrate metabolism in a steady state.

## Tips on Spotting Fad Diets

- Claims or implies a large or quick weight loss of more than 1 to 2 pounds per week. Slow, gradual weight loss increases the chance of weight loss success and of keeping weight off over the long term.
- Promotes magical or miracle foods. No foods can undo the long-term effects of overeating and not exercising or melt away fat.
- Restricts or eliminates certain foods, recommends certain foods in large quantities, insists on eating specific food combinations, or offers rigid, inflexible menus.
- Implies that weight can be lost and maintained without exercise and other lifestyle changes.
- Relies heavily on undocumented case histories, testimonials, and anecdotes but has no scientific research to back claims.
- Contradicts what most trusted health professional groups say, or makes promises that sound too good to be true.

# NewsBites



## Starting Solids!

The International Food Information Council (IFIC) Foundation, in partnership with the National Association of Pediatric Nurse Associates and Practitioners, is pleased to announce the updated brochure "Starting Solids: A Guide for Parents and Child Care Providers." This brochure not only has an attractive, colorful new look but also has extensive information on transitioning infant feeding from breast milk and formula to solid foods. In addition, the brochure includes information from the American Red Cross on what to do if your child is choking.

**For a free copy of this brochure, send a self-addressed, stamped legal-sized envelope to:**

Starting Solids  
PO Box 65708  
Washington, DC 20035

## Nutrition and You: Trends 2000

Twenty-eight percent of polled Americans report, "I'm already doing it." What they are talking about is making adjustments in their eating habits to achieve a healthy lifestyle. According to The American Dietetic Association's (ADA's) national public opinion survey, *Nutrition and You: Trends 2000*, this number is at an 8-year high.

Of the 792 adults polled, 84 percent state that diet and nutrition are personally important to them; in fact, 59 percent rank diet and nutrition as "very or somewhat" important. Survey findings also reveal that the number of Americans aware of the expertise and work of registered dietitians is rising. However, despite the confusion surrounding media coverage of health and nutrition issues, television, magazines, and radio continue to be the most popular sources of nutrition information. Overall, the survey's findings demonstrate that Americans are becoming more receptive to the idea of a healthy lifestyle, and that is good news for all.

For more information on the survey or ADA, visit ADA's website at <http://www.eatright.org/>.

## More Food Safety Options at a Grocery Near You

Consumers will soon have another choice when purchasing meat and poultry: conventional or irradiated. With final processor guidelines from the U.S. Department of Agriculture for the use of irradiation on red meat now available, food manufacturers and processors will begin offering irradiated meat and poultry to consumers this spring. Irradiation is the process by which food is exposed to specified amounts of radiant energy to reduce or eliminate potentially harmful bacteria such as *Escherichia coli* O157:H7, *Salmonella*, and *Listeria monocytogenes*.

The irradiation process has been around for many years. It is proven safe and effective, and at approved levels it does not change the taste, reduce the nutritional content or affect the color of foods. It is widely used to sterilize many consumer products. National Aeronautics and Space Administration astronauts have been eating irradiated food for years.

According to research conducted by the International Food Information Council (IFIC) Foundation, the levels of consumer acceptance, awareness, and understanding of food irradiation are higher than expected. Consumers are

willing to try irradiated food products and are willing to provide them to their families. All things considered, some consumers would even pay a premium for irradiated products. Identification of irradiated meat and meat products will be easy. Products being "treated with irradiation" or "treated by irradiation" will bear an internationally identifiable "radura" symbol to help consumers make an informed purchase decision for food safety.

Food irradiation does not eliminate the need for safe food processing and preparation techniques. Consumers and food handlers must still practice safe food handling techniques with all food products.

More information about food irradiation, its safety, and its acceptance, as well as safe food handling techniques, can be found on IFIC Foundation On-Line, <http://ificinfo.health.org/qanda/qairradi.htm>, and in a new brochure from the Food and Drug Administration, "Food Irradiation: A Safe Measure" <http://www.fda.gov/opacom/catalog/irradbro.html>



## WHAT'S NEW at <http://ificinfo.health.org/>?

**New Media Research Available!** The Executive Summary of *Food for Thought III*, a quantitative and qualitative analysis of diet, nutrition and food safety reporting, is now available on IFIC Foundation On-Line at <http://ificinfo.health.org/press/fdthggt.htm>

# New Science Provides New Insights Into Health of Glutamate

**P**roviding new information related to glutamate science, the April 2000 supplement to the *Journal of Nutrition* contains a thorough scientific update on glutamate from the Second International Conference on Glutamate, held October 1998 in Bergamo, Italy, focusing on four areas: glutamate's role in taste and flavoring as monosodium glutamate (MSG), glutamate as a neurotransmitter, its role in carbohydrate and amino acid metabolism, and its safety in the food supply.

Although most people are aware of glutamate only as MSG, a common flavor enhancer, glutamate is also produced by the body and is essential for important physiological functions.

"Few biological molecules have the importance to such a wide range of body functions as glutamate," stated John D. Fernstrom, Ph.D., conference co-chair and professor of psychiatry, pharmacology, and neuroscience at the University of Pittsburgh School of Medicine. "When the first international conference was held, we knew quite a lot about glutamate safety as a food component, but little about functions of glutamate in the human body. Today, our knowledge base has expanded substantially with information on benefits to

human health."

The symposium proceedings add to the significant body of scientific evidence that MSG does not cause adverse reactions, food allergy, or asthma, and is safe for the public. Glutamate is a naturally occurring amino acid found in virtually all protein-containing foods. MSG is one of several forms of glutamate. The human body does not distinguish between glutamate in natural foods like tomatoes, mushrooms or Parmesan cheese and glutamate in MSG. The average American consumes about 11 grams of glutamate per day from food and less than 1 gram per day from MSG, an amount similar to 1 to 1.5 ounces of Parmesan cheese.

At the Bergamo conference, evolving research on taste over the past 25 years has fully defined the basic taste of glutamate called "umami"—the fifth taste beyond sweet, sour, salty, and bitter. Recent research has provided the definitive identification of glutamate receptors on the tongue. Umami is what provides the savory or meaty taste in many foods. This fifth taste is important because of the pleasant taste that it provides.

Knowledge about glutamate in the brain has also expanded substantially. Research on glutamate receptors in the

*Continued, next page*

## New IFIC Foundation Publications

Below are the newest releases from the IFIC Foundation. Single copies of most publications are available free-of-charge. For a comprehensive listing of publications or for bulk prices, please request the IFIC Foundation Publications List below.

**Publications List (MI-4010)**

A complete list of publications and *Food Insight* reprints available from the IFIC Foundation.

**It's All About You Nutrition Communicator's Tool Kit (MI-4230)**

A new nutrition communicator's Tool Kit to help consumers achieve healthy, active lifestyles. The Tool Kit illustrates positive, simple, and consistent nutrition and health messages and contains an "Owner's Manual for the Body," Leader's Guide, consumer video, and much more. Please send \_\_\_ copies at \$19.95 each, plus \$2.50 shipping and handling. Enclosed is a check for \$\_\_\_.

**Food for Thought III Research (MI-4230)**

A quantitative and qualitative analysis of food news as reported by 39 media outlets during three months in 1999, with findings compared with data from two earlier studies. Please send \_\_\_ copies of the Full Report at \$20.00 each. Executive Summary: Free.

**Food Biotechnology Resource Kit (MI-4080)**

This updated and redesigned kit is a compilation of backgrounders on food biotechnology topics, including product benefits, consumer attitudes, federal safeguards and labeling, and the environment. The most recent data on consumer attitudes and government regulatory issues are included. The kit also includes positions of other leading health professional organizations, along with an extensive resource list. Please send \_\_\_ copies at \$10.00 each. Enclosed is a check for \$\_\_\_.

**Understanding Food Allergy (EB-2035)**

A patient education brochure that provides general consumers, patients and parents with the basics of food allergy, food intolerance and food idiosyncrasy. Endorsed by the American Academy of Allergy, Asthma and Immunology and The Food Allergy Network.

**Benefits of Balance: Managing Fat in Your Diet (EB-2080)**

A new consumer brochure details how lower-fat foods and foods with fat replacers can be included in the overall diet to balance food choices. It was developed in partnership with the Food and Drug Administration.

**Caffeine and Health: Clarifying the Controversies (IR-3020)**

This updated IFIC Review highlights new research, provides background information on caffeine and seeks to dispel misconceptions that exist about the ingredient.

**Children's Nutrition and Physical Activity Teaching Set (MI-4200)**

A teaching set designed to help kids ages 9-15 understand the importance of combining nutrition and physical activity. The set features a 22"x34" two-sided color poster highlighting the Physical Activity Pyramid alongside the Food Guide Pyramid. Set includes the Ten Tips to Healthy Eating and Physical Activity for You brochure, reproducible slick and poster. Please send \_\_\_ copies at \$3.50 and \$1.50 shipping and handling.

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brain shows that they are different from those found on the tongue. A vast quantity of glutamate is produced in the brain for normal functions, and important transport systems are present to protect the neural cells from harm. "While it was earlier thought that circulating glutamate in the body might enter the brain and cause damage, it is now clearer than ever that circulating glutamate is kept strictly separate from the glutamate inside the brain that is used for normal neural function," added Dr. Fernstrom.

There are also important new findings related to glutamate metabolism in the digestive tract. Research shows that dietary glutamate (from foods or from MSG) serves as a major source of energy for the intestine. "It now appears that most of the glutamate consumed from foods is used in the gut to fuel digestion," remarked Peter J. Reeds, Ph.D., professor of pediatrics, Baylor College of Medicine, and the U.S. Department of Agriculture's Children's Nutrition Research Center, Houston. "Glutamate is vital and beneficial for normal functioning of the digestive tract and digestion."

Between 1993 and the present, many well-controlled studies examined both the general population and individuals who identified themselves as sensitive to MSG. Any reactions to MSG were benign and short-lived. All of these food allergy and asthma studies conclude that any perceived adverse reactions to MSG—including food allergy or asthma—cannot be reproduced in clinically controlled studies.

An often-asked question is whether glutamate or MSG can trigger or exacerbate asthma. Dr. Donald Stevenson of the Division of Allergy, Asthma and Immunology at the Scripps Clinic and Research Foundation, La Jolla, California, summarized current research on glutamate, MSG, and asthma. "We now know from numerous well-designed clinical studies that MSG or glutamate cannot trigger or exacerbate asthma, even among individuals who believe their asthma is caused by MSG."

Results from a multicenter study conducted by Harvard University in Boston; Northwestern University in Chicago; and the University of California in Los Angeles were also presented at the conference. The study included

130 individuals who believed that they were sensitive to MSG and used double-blind, placebo-controlled testing conditions. When challenged, reactions could not be reproduced with either placebo or MSG in the presence of food. Any observed reactions were mild, transient, and not life threatening.

In the United States, the Food and Drug Administration (FDA) categorizes MSG as "generally recognized as safe" or GRAS, along with other food ingredients like baking powder, table salt, and black pepper. In addition, a comprehensive scientific review commissioned by FDA published by the Federation of American Societies for Experimental Biology in 1995 reaffirmed the safety of MSG.

The research presented at the Second International Conference on Glutamate indicates that glutamate is more essential than was previously thought for health and well-being and support for its safety is reinforced.

More information about glutamate and MSG safety, food allergy, and asthma can be found on the IFIC Foundation On-Line at <http://ificinfo.health.org>.

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**Current Topics in Food Safety and Nutrition**



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