

The Gist on GI, Part 2: Is the Glycemic Index a Useful Tool for Choosing a Healthy Diet?

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In Part 1 we explored the concept of the glycemic index (GI). Low-GI diets have been linked to weight loss, and prevention of Type 2 diabetes and heart disease. In Part 2, let's examine the evidence behind the GI as a useful diet tool.

Glycemic index values are not absolute, and can be affected by many variables:

The GI of a food may depend on many factors, including the test protocol, how the food is processed, the degree of cooking, ripeness, or even the particular variety of food. In practice, different people may respond differently to the same food. The GI also may not reflect normal eating patterns for most people, who tend to eat meals made up of several different kinds of foods. To make a complicated situation worse, other factors besides food may

affect blood sugar levels, particularly in people with diabetes.

Glycemic Index has not been proven to be a key factor in the prevention or treatment of diabetes:

Health experts agree that the current epidemic of Type 2 Diabetes is related to changes in people's lifestyles. The end result is eating too many calories and not being active enough. Together these factors have contributed to obesity, an important risk factor for Type 2 Diabetes. Diet certainly plays a role, but other factors (ethnicity, age, body fat distribution, and activity level) also contribute.

The American Diabetes Association (ADA) recently reviewed studies of GI and blood sugar control in people with diabetes. ADA found that low GI diets may result in small improvements in blood sugar control. However, other studies, which focused on traditional diet strategies such as calorie reduction, weight loss, and

carbohydrate counting, showed greater improvements.

According to ADA, monitoring the total amount of carbohydrate at meals remains a key strategy in achieving blood sugar control in diabetes. Use of the GI may provide a "modest" additional benefit.

A Low Glycemic diet has not been proven to be an effective strategy for weight loss:

Fewer studies have examined the relationship between GI and weight loss, and results to date have been inconsistent. The American Dietetic Association recently conducted an extensive "evidence-based" review of these studies and found no significant differences in weight loss between low-GI and high-GI diets.

The "Gist" on GI:

More research is needed on the effectiveness of the Glycemic Index as a diet tool for weight loss and disease prevention. However, the GI may not be a reliable guide for making healthy food choices for other reasons.

"Glycemic response" is only one effect of food in the human body. Many low-GI foods may also be high in calories, total fat, saturated fat, cholesterol, or sodium. Low GI foods may also be low in fiber, vitamins, and minerals. Consumers need

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An 'Energy House'

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How would you like to live in a house where the total utility bills were \$50 per month? Are you thinking this is impossible? Are you thinking of shivering in tiny dark rooms? If this is what you're thinking, you'd be wrong on both counts.

It is possible to build a house that is energy-stingy. Moreover, this can be done without adding extra construction costs and without sacrificing comfort and convenience. Such a house was recently built in Cleveland, OH. What's more, the construction cost for this house (2880 sq. ft., including 1056 sq. ft. partially finished) was just \$50 per

sq. ft., considerably less than the \$100 per sq. ft. (or more) common today.

What's the secret? Simply put, it is applying modern building science methods in an industry that is dominated by traditional ways of doing things.

Here are some examples: Outside walls are built with 2"x6" lumber instead of 2X4's. The wider lumber is spaced further apart, providing the same strength as 2X4's, but needing less labor. The wider walls allow thicker insulation. Insulation panels are added beneath the siding, as well. It is also added in many places where insulation is usually missed. High efficiency heating and cooling equipment is chosen. While it is a bit more costly, extra costs are recovered in about five years.

Can it get any better than this? Yes! Besides all these benefits, the building is a healthy home, too! Research has shown that many common problems in homes can affect occupant health. Moisture leads to mold and dust mite problems. Poor ventilation and releases from many building products, furnishings and household create indoor pollution. The house in Cleveland uses materials and products with reduced emissions. In addition, the house is built tight, minimizing air leakage. Instead of 'accidental ventilation,' however, ducts and fans provide a measured amount of outdoor air. This provides the right amount of ventilation; not too much, not too little. Combined with low-pollution materials throughout the house, the indoor environment is a healthy one.

Why aren't all homes built this way? Good question, without a good answer. The main reason seems to be inertia. Much of the building industry is locked into doing things the way they have always been done. The good news, though, is that things are changing. One agent of change is the Building America program (www.buildingamerica.gov). This program has sponsored research and coordinated information to help building professionals

and consumers learn about best practices for sustainable homes. Over the past ten years, some 20,000 energy efficient homes have been built across the country. If you are interested in such a home, the key would be to find a builder or architect with interest and experience in such construction.

References:

Pettit, B. (2005, June/July). Small house built right. *Fine Homebuilding*, 172, pp.56-61.

National Center for Healthy Homes. *American Housing Survey. A Healthy Homes Perspective*. Available at: www.nchh.org

The GIst on GI

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to consider the overall nutritional value of foods for good health, plus the benefits of increased physical activity.

The 2005 Dietary Guidelines for Americans emphasize a diet rich in whole grains, fruits and vegetables, and low in saturated fat and empty calories. Some Low-GI foods (such as whole grains, legumes, and vegetables) will naturally fit this eating plan. But "glycemic response" is certainly not the only, nor the best reason, to include them in a healthy diet. Visit www.MyPyramid.gov for more information on ways to eat healthier and be more active.

References:

Nutrition Recommendations and Interventions for Diabetes-2006. A position of the American Diabetes Association. *Diabetes Care*, Vol.29 (9), Sept. 2006


Effectiveness of the consumption of low glycemic index foods in weight loss and maintenance. 2006 American Dietetic Association Analysis Library. Retrieved on 9/19/06 from http://www.adaevidencelibrary.com/evidence.cfm?evidence_summary_id=250144

VISIONS

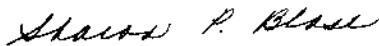
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Is Food Marketing Contributing to the Obesity Epidemic in Children?

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We have the most nutritious, safe, and abundant food supply of any time in history. So, logically speaking, we should be better nourished and healthier than ever before; but we're not. Diet quality has diminished—soft drink consumption is up, snacking is on the rise, portions are super-sized, family meals are just about extinct, and children are getting half their energy intake from added sugar and fat. All these factors and more are playing a role in the escalating obesity epidemic.

Most experts believe that obesigenic or “toxic” environments are at the root of this epidemic. Obesigenic environments promote obesity-favoring behaviors by facilitating sedentary behavior with laborsaving devices and sedentary leisure activities; offering easy access to large quantities of affordable, delicious, high calorie foods; and encouraging (advertising) the consumption of these foods, which results in the displacement of other, lower-calorie but more nutrient-rich foods.

Food advertising has received a great deal of attention lately. This concern is particularly well placed when you consider that children usually cannot tell the difference between advertisements and TV programs until they are age 5 or so. It is only after about age 7 or 8 that children understand that ads aim to persuade them to buy a product, and even then, it takes until about age 11 for them to automatically activate thought



processes that help them question the validity of an advertisement. Plus, some advertising is so disguised (e.g., advertising games) that it is hard for even some adults to resist.

Today, food marketing is all around us. You'll find food ads on T-shirts, toys, shrink-wrapped cars and buses, hot air balloons, basketball backboards, race cars, umbrellas, children's books that teach math using popular candy brands, and more! In schools, food company logos are on book covers and educational posters; branded foods sold in the cafeteria and vending machines or as fund-raisers. Children are rewarded for learning with fast-food meals; rebate program promotions sponsored by food companies which provide schools with equipment or cash in return for product labels.

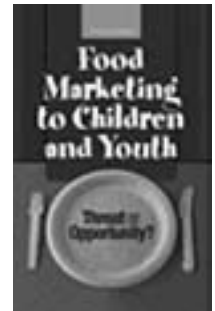
Open a magazine, surf the web, or flip through TV channels and you will find a wide variety of food ads. Television advertising is of special concern because children watch 2 to 3 hours daily and see about 38,000 TV commercials yearly—a quarter of which are for foods or beverages high in sugar or fat. Food marketing on TV is not limited to advertisements; there are product placements, too. Product placement is using a product in the program itself as a prop or part of the storyline. Product placements also can be found in movies and music.

Does Food Advertising Affect Food Choices?

It is clear that food advertising is all around us, but does it affect food choices? Although academic research on the effects of food marketing on children is surprisingly thin and focused mostly on television, we do know this:

Watching TV is associated with increased snacking and poorer quality meals. Families who routinely watch TV during mealtimes eat fewer fruits and vegetables and more

pizzas, snack foods, and soft drinks than those families who separate eating and television-watching activities. In addition, foods are requested by children and purchased by parents in the same frequency that they are advertised during children's TV viewing hours.



Advertising increases the number of food purchase requests children make. For many children, their first purchase request occurs in the grocery store around age 2. The most common requests are for breakfast cereals, snacks, beverages, and toys—parents give in to this pester power more than half the time.

Advertising influences food preferences, choices, and intake. Television ads affect kids' breakfast cereal, snack, and beverage preferences and choices and increase their intake of advertised foods. One fast-food chain reported that offering a popular toy with children's meals doubled sales.

Advertising affects children's knowledge of nutrition and health. Children who frequently viewed TV believed that to maintain good health they should take advertised medicines, drink soft drinks, and eat fast foods.

So Is Food Marketing Contributing to the Obesity Epidemic in Children?

Advertising expenditures and academic research both seem to indicate that advertising does affect food



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What is Campylobacter and how can I keep my infant safe?

*By Silvia Dominguez, M.S. and Donald W. Schaffner, Ph.D
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Most people know about bacteria like Salmonella or E. coli, but many have never heard of Campylobacter although it is one of the most common causes of diarrhea in the United States.

One reason people have never heard of Campylobacter is that it tends to strike single individuals more often than it causes outbreaks like Salmonella (which caused the recent peanut butter outbreak) or E. coli O157:H7 (which caused the outbreak linked to spinach in 2006).

Campylobacter infection in adults is often associated with handling raw poultry, using the same utensils to cut raw chicken and fresh vegetables, or by eating undercooked poultry. Most Campylobacter cases in the US occur in children less than 1 year old, however, and may not be linked to these same risk factors.

A group of scientists' recently studied more than 1000 healthy and sick infants in 8 states. The scientists interviewed the children's parents to learn what factors might have contributed to Campylobacter infection in the sick children. One important discovery was that travel outside the US was an important risk factor for all infants. Another important discovery was that the risk factors were different for infants less than 6 months old versus those that were between 6 months and 1 year old. Finally, the scientists also discovered that infants younger than 6 months that were breast fed had a lower risk of contracting Campylobacter than those that were not breast fed.

One risk factor for the youngest infants (those less than 6 months old) was drinking well water. Sometimes private

wells can become contaminated with dangerous bacteria. This risk may increase in times of flooding or heavy rain. The US Environmental Protection Agency recommends that private wells be tested for bacteria at least once a year, or after floods or heavy rains. Sometimes it may be necessary to boil, filter or chlorinate well water to reduce the risk of bacterial infection.



Another important risk factor for children less than 6 months old was riding in a shopping cart next to raw meat or poultry.

Scientific research has shown that sometimes even the outside of sealed packages of meat and poultry can be contaminated with Campylobacter or other harmful bacteria. It's best to leave your infant at home when shopping for meat and poultry, but this may not always be possible. When shopping for raw meat or poultry with your infant bring some disposable sanitary wipes with you, and wipe down the shopping cart handle when you enter the store. This will reduce the risk if your infant accidentally uses the cart handle for teething. You can also overwrap your packaged meat and poultry purchases with another plastic bag. Some stores offer extra bags in the meat and poultry department for this purpose, but if your store doesn't, just use a bag from the produce department. Finally, after handling the packaged meat or poultry use a squirt of hand sanitizer to help reduce germs on your hands, and avoid spreading them to your infant. Again, some stores provide this, but you can always bring your own too.

Infants that are between 6 months and 1 year old have started eating solid foods and are more mobile. This means that they have different Campylobacter risk factors.

One risk factor for these older infants is eating fruits and vegetables prepared at home. Since fresh fruits and vegetables are part of a healthy diet, parents should learn to prepare these foods safely. Handling fruits and vegetables with unwashed utensils or hands used to handle raw poultry can spread contamination from the raw poultry to fresh fruits and vegetables. Special care should be taken to wash knives, cutting boards, countertops, hands or any other items used to prepare poultry before handling other foods, especially if those foods will be eaten by infants.

Another risk factor for older infants was having a pet in the home with diarrhea. Although not all bacteria cause illness in both animals and humans, Campylobacter is one of those that can. It is not necessary for the infant to contact the diarrhea directly to become ill. The infant may touch the pet, or surfaces the pet has touched, and the bacteria may be transmitted in this way.

A third risk factor for older infants was either visiting or living on a farm. The farm environment may contain Campylobacter due to the presence of infected animals, to contaminated well water or to unpasteurized milk. Since the study did not look for specific farm-related risks, more detailed advice is not possible.

What is the bottom line for concerned parents?

- Mothers should breast feed if possible
- Avoid taking infants outside the US
- If you use well water, have it tested regularly for bacteria
- Practice safe shopping when infants are in the shopping cart
- Learn to safely prepare healthy snacks like fresh fruits and vegetables
- Be especially careful about family pets with diarrhea
- Save those farm visits for children more than 1 year old.

Is Soy Healthy to Consume?

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The risks and benefits of soy on our health have been of interest to scientists in recent years. Research on soy protein and the isoflavones found in soy have not held up well in clinical research trials in the last few years, but there is still a place for soy in our diets. Soy contains high amounts of protein, including all the essential amino acids and is a good source of calcium, iron, zinc, phosphorus, magnesium, B-vitamins, omega 3 fatty acids and fiber. Aside from these nutritional benefits, many researchers thought that soy might have special health benefits because of its two major isoflavones, genistein and daidzein.

The benefits of soy are currently being debated regarding its rich isoflavone content which is similar to estrogen. Claims that soy would protect us from heart disease now show that soy does reduce the “bad” LDL cholesterol to some degree but there is little evidence regarding benefits such as increasing the “good” cholesterol, lowering triglycerides and lowering blood pressure.

Currently, studies show that soy may promote breast cancer. Women who are at risk for breast cancer, should be wary about consuming soy. New research continues to look at genistein, an isoflavone in soy that may promote the growth of estrogen-sensitive, cancerous tumors in

pre-menopausal women. The American Cancer Society now warns breast cancer survivors not to consume concentrated sources of soy powders and isoflavone supplements. Consuming soy to prevent hot flashes as a “natural” alternative to replace estrogen has not seemed to be effective either. Soy is a weak source of estrogen, but an excellent source of protein. In Asian countries, as an example, high soy food intake was compared to low rates of breast cancer. Several studies have come to the conclusion that if soy is protective against breast cancer, it is only in women who ate large amounts of soy as children and continued to do so through adulthood. Changing to a diet rich in soy during the adult years, is probably too late for any beneficial effects to be evident. The research in the last three years does not show the health benefits that many had hoped to see.

Regarding other health issues including bone health, soy has not shown to build up bone as expected. Estrogen tends to build up bone and helps to prevent osteoporosis. There was hope that soy would help maintain strong bones, but the research is still uncertain. The metabolism of soy is complex and not all forms of soy isoflavones are absorbed in the intestine the same way.

Soy is a Good Source of Protein:
Soy is still a good source of protein, vitamins and minerals. Working some of it into your diet may be a way to replace red meat and other animal sources of protein. Using soy-based foods for meats helps to lower saturated fat and cholesterol in exchange for polyunsaturated fat, fiber and some healthful vitamins and minerals.

For more information:

Harvard Health Letter, www.health.harvard.edu, June 2007.

JNCI Journal of the National Cancer Institute 2006 98(18):1275-1284; doi:10.1093/jnci/djj356, accessed on June 12, 2007.

Here are several recipes from Bean Cuisine, Better Nutrition, Active Interest Media, Inc., April 2007.

Bean Tostadas “South of the Border”— Serves 4

1 Tablespoon oil
1 Onion, minced
1- 15 oz can pinto beans, drained and rinsed
1 cup brown rice, cooked (optional)
½ teaspoon adobo seasoning
4 corn tortilla shells heated till crisp or (4 tostado shells)

Method:

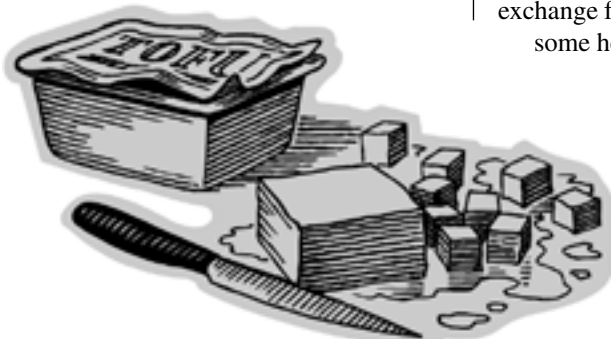
1. Heat oil over medium heat in saucepan. Saute onion for 1 minute, add beans and seasoning.
2. Mash beans and rice with wooden spoon. Add to heated mixture and simmer for 5 minutes.
3. Place tortilla (tostado) shells on plate and top with ½ cup bean mixture and preferred topping such as: shredded lettuce, sour cream, salsa, corn, diced avocado, sprouts, cheese shreds, chopped tomato, green onion or cucumber.

Black Bean Salad — Serves 4-6

1-15 oz. can black beans, drained and rinsed
1 cup cooked green beans
15 cherry tomatoes halves
5 green onions, thinly sliced
1 cucumber, diced
¼ cup Italian salad dressing

Method:

Place all ingredients in bowl and stir gently. Place on plate with bed of lettuce to serve.



Is your infant at risk for Salmonella?

*By Silvia Dominguez, M.S. and
Donald W. Schaffner, Ph.D
Extension Specialist in Food Science*

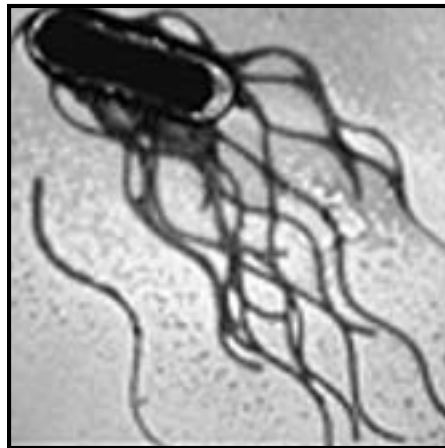
Salmonella bacteria are a common cause of illness in the United States. It is most serious in children that are less than one year old. Salmonella infections in adults are usually caused by eating contaminated food, but the risk factors for infants seem to be different. Infants (children less than one year old) do not usually eat solid foods, and the foods they do eat are generally safe and of a limited variety. Scientists believe that it is environmental risk factors and not foods that cause most Salmonella cases in infants; this has been explained in a recent scientific study by Dr. Timothy Jones and his colleagues in the journal, *Pediatrics*.

These researchers studied the possible sources of Salmonella infections in more than 1,000 infants over two years in eight different states. The infants they studied had typical symptoms of diarrhea and fever, and the researchers matched these infants to healthy infants in the same areas to look for statistical differences in risk. The researchers surveyed the parents or guardians of both healthy and sick infants to learn more about what might have caused the sick infants to become ill.

- The most important risk factor was “exposure to reptiles”. Reptiles are known to carry dangerous bacteria and the Centers for Disease Control and Prevention (CDC) recommends that children less than 5 years old should not have reptiles as pets. Even if an infant does not hold or touch a reptile, the reptiles can contaminate parent’s or sibling’s hands or clothing, or even carpets or furniture in the home.
- The next most important risk factor was consumption of concentrated liquid formula. Since formula is sterile (germ-free) when it comes from the store, the risk may develop from using contaminated water to make the formula or from improper storage of the formula after it is made.

- The third most important risk factor was riding in a shopping cart next to meat and poultry. A previous scientific study in Europe demonstrated that even the outside of packaged meat and poultry can be contaminated with high levels of dangerous bacteria.
- Travel outside the United States or getting sick from another child at daycare centers had a lower risk, while breastfeeding helped to prevent Salmonella infection.

So what is the bottom line for concerned parents? Find another home for your pet reptiles until your kids are older, be sure you use fresh, clean water when making infant formula and store formula safely after use, don’t let infants ride in your shopping cart with raw meat and poultry packages, and breastfeed your infant, if possible.



TIPS ON SHOPPING SAFELY WITH YOUR INFANT: It can be a challenge to shop safely with you infant but here are a few tips that can help: (1) Bring some disposable sanitary wipes with you, and wipe down the shopping cart handle when you enter the store. This will reduce the chance of your infant ingesting germs if they accidentally use the handle for teething. (2) Overwrap your packaged meat and poultry purchases with another plastic bag. Some stores offer extra bags in the meat and poultry department for

this purpose, but if your store doesn’t, just use a bag from the produce department. (3) After handling the packaged meat or poultry, use a squirt of hand sanitizer to help reduce germs on your hands, and avoid spreading them to your infant. Again, some stores provide this, but you can always bring your own too.



Obesity

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choices. But advertisers argue that their goal is to increase demand for one specific brand—not to increase demand for the food in general. That is, if one fast-food chain steals the market share from other brands, its advertisements do not increase intake of competing brands; thus, advertisements do not contribute to obesity. On the other hand, academic research findings indicate that the large expenditures spent on advertising, which promotes primarily high-calorie foods, does affect food choices, creates desire for advertised foods, and promotes preferences for these foods. At this time, researchers cannot flatly state that food advertising causes obesity in children. However, nutrition and health experts from the National Academy of Science’s Institute of Medicine as well as the Food and Agricultural Organization and World Food Organization of the United Nations have concluded that the research evidence is sufficiently strong to state that pervasive marketing of fast foods and other high-calorie foods and beverages are a probable cause of weight gain and obesity in children.

Lead Poisoning Alert

Beware of inexpensive children's jewelry or trinkets made of metal. Many are imported from Asian countries and contain lead.



Lead is harmful to all systems in the body, and is especially dangerous for young children's brain development. In Minnesota, a four year old boy died after eating a small lead trinket found in a home he was visiting. Unfortunately, only a small percentage of such imports are inspected so these products continue to enter the country.

For more information:

Healthy Homes and Lead Hazard Control,

<http://www.hud.gov/offices/lead/>

Lead Poisoning, Medline Plus,

<http://www.nlm.nih.gov/medlineplus/leadpoisoning.html>

National Institute of Environmental Health Sciences, National Institutes of Health (NIH), Department of Health and Human Services (DHHS),

<http://www.niehs.nih.gov/kids/lead.htm>

National Lead Information Center,

<http://www.epa.gov/lead/pubs/nlic.htm>



Kids, Family Visitors and Medicines

A 21/2 year old child in Newark was recently hospitalized with severe breathing difficulties after swallowing a pain medication belonging to his visiting grandfather. The bottle, without a child-resistant cap, had been left on the kitchen table as a reminder to take it before bedtime.

This scenario is a common way in which small children are poisoned. Travelers are reminded of the following precautions: *Store medicines and personal supplies in locked suitcases or containers. Always keep medicines in their original, child resistant containers. Do not refer to medicine as "candy".*

The Poison Control Center Hotline, number, 1-800- 222-1222 can be used for treatment of emergency poisonings as well as for non-emergency questions regarding medications, household products, plants or environmental contaminants. The Hotline is available 24 hours a day, everyday.



Get the Mushroom Facts:

- Buy fresh mushrooms from your local farmstand or supermarket.
- One portabella mushroom has more potassium than a banana. Potassium helps the human body maintain normal heart rhythm, fluid balance, muscle and nerve function.
- Mushrooms contain the mineral selenium, which plays an important role in the functioning of the immune system, thyroid system, and male reproductive system. It assists vitamin E produce antioxidants that help the body fight cell-damaging free radicals.
- Mushrooms are excellent sources of copper, a mineral needed to produce red blood cells.
- Truffles, or subterranean mushrooms, are the world's most expensive vegetable. One variety, Tuber melanosporum, can cost between \$800 and \$1,500 a pound.



Mushroom Warning!

A man was recently poisoned after eating mushrooms that he purchased over the internet. Be sure that you know what you eat! Mushrooms purchased from an unknown or unconventional source can be as dangerous as those picked in the woods!

For poisoning emergencies, call the NJ Poisoning and Education Information System: 1-800-222-1222.

Questions? visit <http://www.njpies.org>

Source: NJPIES.

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