

The Journey

By Kathryn White

On July 21, 2008, Kathryn White received 6,081 IE/kg islet cells and her journey as an islet cell recipient began. Kathy agreed to share her experiences with our readers to help educate the public about this life-changing procedure. Here is Kathy's story as told by her.

In 2000, I read an article about the Edmonton Protocol and was fascinated by the procedure. At the time, my diabetes had become increasingly difficult to control. I have lived with diabetes for 25 years after



Dr. Bernard Hering and Kathryn White

being diagnosed at age 24. I thought the islet cell transplant procedure would be a biological fix, not just a mechanical or chemical fix. I followed whatever articles I could find on the topic, but they were few and far between.

I continued to strive toward good control and started using the insulin pump—adding Symlin to my regimen. I even used a continuous glucose monitor. Even with all of the new treatments I had incorporated into my diabetes care my blood glucose levels continued to fluctuate dramatically—I could jump from 35 to 500. Needless to say these fluctuations wreaked havoc on my life.

One day while on the Spring Point Project website I clicked onto a link to the University of Minnesota Schulze Diabetes Institute. There was a project underway to develop a herd of pigs suitable for harvesting pig islets that could be used for pig islet cell transplantation in humans...

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Fit and Fat

By Walter M. Bortz II, MD

Nearly all of us buy into the simple notion that fat is bad for us; that it not only shortens our life expectancy, but burdens these lessened years with disabilities such as arthritis and diabetes.

But now there is a growing chorus of evidence that it may not be that simple. Rueben Andres, an old friend and senior research scientist at the Baltimore Longitudinal Study of Aging, has long championed the idea that obesity is just not as big a demon as we are popularly led to believe.

His perspective gains much traction when Steve Blair's work is reviewed. Steve, chubby himself but also a fit runner, has popularized the term "fit and fat." Steve's work involves

thousands of subjects of every dimension who were studied largely when he was at the Cooper Aerobics Center in Dallas. These results indicate that it is not the obesity that is the principal threat, but is instead the lack of fitness that usually accompanies being overweight. Published studies, since those historic articles by Jean Mayer—then at Harvard, showed that overweight people move less. Mayer took movies of persons during tennis matches and showed that overweight competitors moved around much less during this activity.

Therefore, overweight people are trapped in a vicious cycle that perpetuates itself: inactivity leads to overweight, which leads to inactivity—around and around.

But Steve Blair teases out those few people who remain physically active despite being overweight. His

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Happy Mother's Day!

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Victoza Approved By FDA – Once-a-day GLP-1 now available

Novo Nordisk has just received approval from the FDA for liraglutide (Victoza). Liraglutide is to be used as an adjunct to diet and exercise in adults with Type 2 diabetes. It is a once-daily human glucagon-like peptide-1 (GLP-1). It is effective in improving blood glucose control and is also associated with weight loss. This medication works by stimulating the insulin cells to work only when blood glucose levels are elevated. It also suppresses glucagon secretion and delays gastric emptying. Liraglutide is administered using a pen injector. Side effects include headache, nausea, diarrhea, and an anti-liraglutide antibody formation. It is not indicated for those individuals taking insulin,



pregnant or nursing mothers or those with a history of pancreatitis.

Coffee, Tea or Diabetes?

The results of eighteen studies on coffee and diabetes have been compiled. Over 450,000 individuals in the US, UK, Japan, Finland, Sweden, the Netherlands and other countries looked at coffee, tea, and decaffeinated coffee to determine the impact on the risk of developing diabetes. Although more scientific studies are needed to evaluate the results, it is interesting to note that people who drank 3-4 cups of coffee a day had about a 25% lower risk of developing diabetes, and those who drank 3-4 cups of decaffeinated coffee daily had a 35% lower risk of developing diabetes. Tea drinkers who drank similar amounts experienced a 20% risk reduction. These results should not be misinterpreted, however, to endorse going to your favorite coffee shop and drinking a 600-calorie specialty coffee drink.

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clear results show that those fit-fat individuals are at substantially lowered risk of trouble than the fat and unfit. In fact, their fitness compensates for their overweight; so that they are at the same risk as lean, unfit people. Such fit-fat persons are not as well off as the fit, lean group, but their activity clearly provides an advantage.



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An article in the February 2010 *Proceedings of the Mayo Clinic* reports observations on 12,417 male veterans. They were grouped by their fitness levels and by their BMI. They all had exercise electrocardiograms performed because of suspected heart disease. In this seven-year observation 2,801 of the veterans died. The least at-risk group was the high fit, normal weight individuals. The underweight, unfit men had mortality rates that were 4.5 times higher. However, the high fit, overweight men had a mortality rate that was only 40 percent of the average. Overweight men who were fit had long longevity. The authors of the report called this “the obesity paradox.” However, the underweight group included those with terminal wasting illnesses such as cancer. Nonetheless, obesity seemed not to increase mortality risk if the individuals retain high fitness.

One possible explanation for such an apparent artifact is that the extra weight that obese persons carry around compensates in

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effect, and represents an enhanced training requirement. Lugging that extra weight around is like a weight-training regimen. It sounds reasonable to me.

For the person with diabetes, the relationship is crucial. It has been known since the work of Randall in the UK that fat by its very presence acts to decrease carbohydrate utilization. It is like a seesaw: more fat, less carbohydrate. This goes by the label of the “Glucose/Fatty Acid Cycle of Randall.” It has obvious evolutionary implications as our ancestors were always looking for a way to protect their precious carbohydrate reserves; doing this by preferentially saving glycogen. So being overweight provokes lowered carbohydrate utilization, thereby raising blood sugar and all that this entails. But as mentioned above, being overweight has a separate—but possibly more important—disadvantage of encouraging physical inactivity. I see very few overweight marathoners.

Obesity certainly provokes accelerated arthritis, particularly of the weight-bearing joints. Arthritis clearly inhibits mobility, so the stage is set for progressive difficulties. This story has much personal interest for me. My mother was always overweight for all of those post-me years. She resisted all efforts by her physician husband and son to address this. Mother lived to 95. No medications, no illnesses, and no doctor bills. But she also was very physically active—walking everywhere and living in a second-floor apartment, carrying her own groceries. So Mother was the prototype of the fit-fat person, which in no way appeared to penalize her. So maybe it is not the obesity per se that is the villain, but the inactivity that it seems to precipitate. The message seems clear: regardless of your waist circumference, be fit. 🍏

BOOK REVIEW

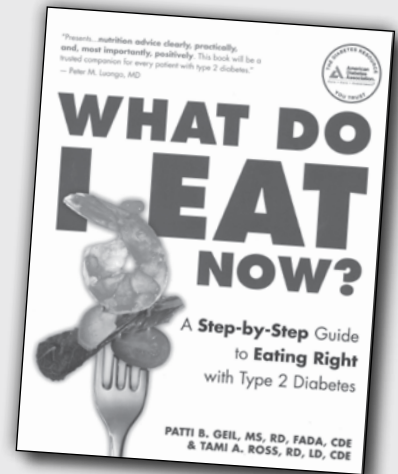
What Do I Eat Now?

A Step-by-Step Guide to Eating Right with Type 2 Diabetes

By Patti B. Geil, MS, RD, FADA, CDE and Tami A. Ross, RD, LD, CDE

Reviewed by Kathy Gold, RN, MSN, CDE

When patients are diagnosed with diabetes the first question they ask their dietitian or diabetes educator is “What can I eat?” If the answer they receive is too complex, they might give up before even trying. But there is no reason to panic. *What Do I Eat Now?* is a very practical book that gives the direction needed to make healthy food choices and shows you how to put what you learn into action every day.



The first section of the book provides a brief overview of diabetes with some very helpful information designed to help you successfully change your behaviors—information about goal setting, the importance of physical activity and basic nutrition information are all included. Once you have an understanding of how foods affect your blood glucose levels you are on the road to healthy eating.

There is a detailed chapter on carbohydrates that provides guidelines for determining the amount of carbohydrates you should eat at every meal. There is also a list of helpful questions to ask your dietitian.

Most of us struggle with portion size regularly. Included in the book are practical suggestions that will help you determine and understand appropriate portion sizes. Reading food labels, snacking, and eating out are all things that a person with diabetes must learn to do. There are chapters that make these tasks easier and that offer helpful tips on how to eat at your favorite restaurant without worry. Each chapter is full of helpful, practical suggestions.

As an added bonus there are healthy menus provided for breakfast, lunch and dinner. The menus offer varying quantities of carbohydrates to demonstrate how you can change a menu to make it fit your own meal plan. Learning all the information necessary for eating healthy is difficult enough—this book helps you apply what you learn to your everyday life.

Do you have a favorite recipe passed down from your grandmother? This book will help you transform that recipe into a healthier version. Suggestions on how to deal with those special occasions or eating healthy when you travel are covered in detail. If you are looking for a practical gift to give your mother for Mother's Day, this is it.

Weight-Loss Programs

As I am sure everyone is aware: one size does not fit all. This is certainly true in terms of weight-loss programs. Reading blogs, attending forums, or just talking to friends... everyone has his or her own opinion as to which weight-loss program is the best or most successful. If these programs are so successful, why then are so many of us so overweight? Weight loss is not easy. It requires a great deal of discipline and commitment. Any program that promises instant weight loss without proper diet or exercise is suspect. So how should one choose a weight-loss program?

It is important to choose a plan that encourages healthy behaviors that you can live with on a daily basis. Remember, weight loss is not a short-term project but rather a change in lifestyle that will continue for the rest of your life. Weight-loss programs should teach you how to eat healthy and provide steps to help you maintain a healthy regimen even after you have reached your weight goal. But healthy eating alone does not guarantee weight loss. It is also necessary to engage in some form of physical activity. It is the merging of healthy eating and physical activity that will provide the most successful results.

A safe and effective weight-loss program should include:

- A healthy eating plan with reduced calories, but one that is not restrictive. There should not be any forbidden foods or food groups.
- A plan for physical activity.
- Suggestions for culturally appropriate health habits—for instance how to create a healthier version of your favorite family recipes.
- Weight loss that occurs slowly and steadily; usually loss of one-half to two pounds a week is recommended. Be aware that weight loss occurs much faster at the beginning of the program.

Caveats to keep in mind:

- Seek medical advice if you are planning on losing weight by following a special formula diet or very low calorie diet. These plans require medical supervision to ensure you are getting the essential nutrients.
- Be sure there is a plan for maintenance. This is where many programs fail, because dieters return to their previous habits and regain their weight.
- Remember, this is a lifelong commitment.

Weight-loss programs can be very expensive, so it is important that you know what you are getting into before starting one.

Ask these questions before joining a program:

- ✓ Does the program offer one-on-one counseling?
- ✓ Are there group classes?
- ✓ Do I have to follow a specific meal plan?
- ✓ Do I have to keep food records?
- ✓ Do I have to purchase special food?
- ✓ Do I have to purchase medications or supplements?
- ✓ Can I make changes in the food choices based on my likes or dislikes?
- ✓ Will this program work with my diabetes regimen?
- ✓ Does this program teach me how to change my behavior and make healthy food choices?
- ✓ Is the program sensitive to my cultural and lifestyle needs?
- ✓ Is there a maintenance program once I have reached my goal weight?
- ✓ Will the program offer suggestions on real-life situations – eating out, holidays, work schedules, lack of motivation, illness, or injury?
- ✓ What are the qualifications of the staff?
- ✓ What type of weight management training, experience, education and certifications do the staff have?
- ✓ What is the total cost? Are there additional required expenses such as special food or supplements?
- ✓ What is the fee for the follow-up program after you have reached your goal weight?

It is important to know if the program has any risks.

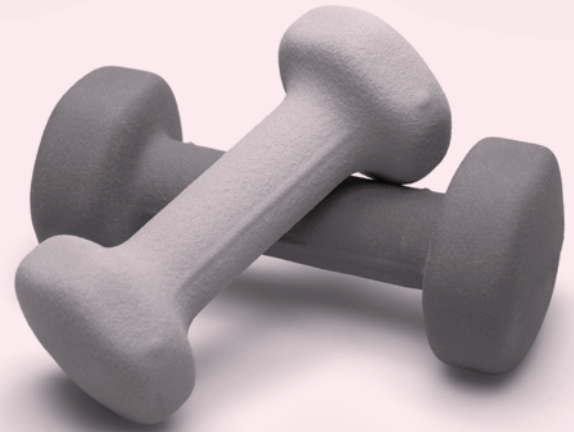
- ✓ Is it an appropriate program for an individual with diabetes?
- ✓ If supplements are required will they affect your blood sugar or interfere with your medications?
- ✓ Does the program include a consultation with a healthcare professional?
- ✓ Is there a knowledgeable person on staff with the program who can consult with your physician if you have any medical conditions?

Are your expectations reasonable? Be sure your goals and the goals of the program are in alignment. Many programs advertise dramatic weight loss, but these may be the exceptions. Determine the average weight loss that a participant should expect. Do participants using this program tend to keep the weight off? Does the program follow its clients long term?

Weight loss is not easy. It is important to investigate any program you are considering participating in to ensure it is right for you. Weight loss involves a time commitment as well as a monetary commitment—which can be expensive. Be sure you are investing your time and money wisely. Your health is always a good investment. 🍏



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Weight Loss Support Groups

Weight Watchers: members pay a weekly fee to attend local meetings or an online support community. They offer two plans: a core plan that offers a list of healthy foods that can be eaten at any time, or the flex-points plan based on calories converted into a number scale. Each point is equivalent to approximately 50 calories. There are weekly weigh-ins to track your progress. This program is very good in teaching portion control. To find a group near you contact them at www.WeightWatchers.com

TOPS – Take Off Pounds

Sensibly: members are offered weekly face-to-face meetings as well as encouraging phone calls, emails and letters. This is a nonprofit foundation and is affordable to everyone. Meetings are \$5 per week with annual dues of \$24. Members learn about portion control, healthy eating and the benefits of exercise. To find a chapter near you visit their website at www.tops.org, write them at 4575 South Fifth Street, PO Box 070360, Milwaukee, WI 53207-0360, or call them at: 414.482.4620.

Spark People: a health and weight loss website that provides online support led by a team of experts. The site features educational materials, message boards, personal spark pages, and a sparks point system. There is no charge and participants track food and physical activity. For more information visit them online at: www.sparkpeople.com

Fruit of the Month!



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This is a new feature that is being offered to provide helpful advice on ways to add more fruits and vegetables to your meals. As we approach “farmer’s market season” this may be an opportunity for you to try something new from the fruit and vegetable families.

Our featured fruit of the month for May is the lime. When choosing limes, select those that are glossy and light to deep green in color. Limes should have a thin, smooth skin and be heavy for their size. Small brown areas on the skin should not affect flavor, but large blemishes or soft spots indicate a damaged lime. Ripe limes are firm, but not hard. Avoid limes that have a yellowish skin or are very small.

Limes may be stored at room temperature or in the refrigerator for up to three weeks. They will last longer and release more juice if stored in a plastic bag in the refrigerator. Do not store in direct sunlight as they will shrivel and discolor.

Limes are usually eaten raw but are frequently used in baked or grilled dishes, as in our featured recipe. Many recipes require the juice of a lime. To juice a lime by hand, roll the lime on a firm surface before squeezing out the juice. Limes are a great substitute for salt. Use a lime as a garnish or to flavor cold water. Pucker up and enjoy! 🍋

Healthy Recipe

Lime Shrimp Kebabs

Makes 2 servings; each serving equals 1 cup of fruit or vegetables

Ingredients:

- 16 large shrimp, uncooked, deveined
- 3 large limes
- 2 cloves garlic, crushed and peeled
- ¼ tsp. black pepper
- 2 tsp. olive oil
- 2 Tbsp. fresh cilantro, cleaned and chopped
- 10 medium cherry tomatoes, rinsed and dried
- 10 small white-button mushrooms, wiped clean and stems removed

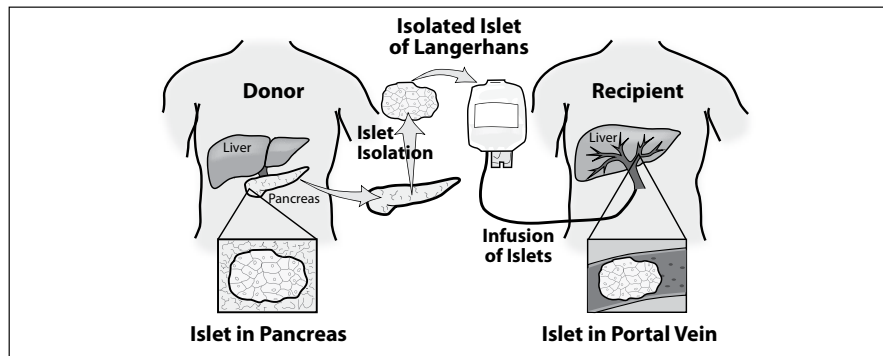
Directions:

In a glass measuring cup, squeeze limes—yielding 1/4 cup of juice. Add the garlic, pepper, olive oil, and cilantro and stir. Place the shrimp in a medium bowl and pour the cilantro-lime marinade over the shrimp. Let the shrimp marinate for 10 to 15 minutes in the refrigerator (do not let them marinate for more than 30 minutes as the acid of the juice will alter the texture of the shrimp). Alternate cherry tomatoes, mushrooms, and shrimp on four skewers.

Grill the skewers over a medium heat for 3 to 4 minutes on each side until the shrimp are just cooked through.

Nutritional facts per serving: Calories 190, Protein 18g, Fat 7g, Calories from Fat 28%, Cholesterol 85mg, Carbohydrates 20g, Fiber 5g, Sodium 116mg.

Information from <http://www.fruitsandveggiesmatter.gov/month/index.html>



eliminating the need for insulin injections—thus curing diabetes.

I personally love pigs—they are a big part of my home decorations (ceramic, not live pigs), and to think that they could play a part in treating my diabetes fascinated me.

I continued my research and found that pig islet transplantation was not yet approved for human trials, but islet cell transplantation from a human cadaver—retrieving islet cells from the pancreas of a cadaver and implanting them into individuals with Type 1 diabetes—was being done.

There was a short online questionnaire that I completed, and sometime thereafter I received a phone call stating that I met the criteria for the program. The study was being offered at several different centers; so to increase my chances I applied to four different centers. I began to research the facilities—their successes and results. Although Dr. Hering at the University of Minnesota was not the closest, it appeared to have the best results and most successes. I submitted an application with them.

I was asked to submit paperwork from each of my doctors to satisfy questions concerning my current health status. I had to be healthy to be eligible for the procedure as well as demonstrate that I had done what was required to try to get my diabetes under control. My

endocrinologist was not in favor of the transplant; he and I had an excellent relationship so this was an uncomfortable situation. But I felt strongly that this was my decision to make and I felt I was making the right decision for me. Interestingly, I now have a new endocrinologist (my old one retired) and he is most excited about my transplant but acknowledges he was glad he did not have to participate in the initial decision to go ahead with the procedure.

While this was a decision only I could make, I had a great deal of support from family and friends—but no one pressured me in either direction. Today when I talk to potential recipients on my blog I am very careful not to tell them they “should” do this. Everyone is different and needs to make his or her own decision.

I was required to make a trip to Minneapolis for extensive testing to be sure my diabetes warranted the risk of the procedure as well as to ensure that I was healthy enough to handle the stress of the transplant and immunosuppressive drugs. Once I passed the battery of tests, I was required to make another trip to Minneapolis to sign the consent forms. It is very important that the risks of the procedure and treatment are understood. From working in the medical field as a medical technologist, the language

used was not foreign to me, but this brought forth the realization of the seriousness of my decision.

In March 2008, I was accepted into the clinical trial and the waiting began. I did what was necessary to prepare myself because when the call came I would have to leave quickly. I discovered that Northwest Airlines would provide a discounted ticket to someone traveling to have a transplant. My preference, however, was to drive the 10 hours if possible. Then the call came; my husband Gary and I began the drive to Minneapolis. Three hours into the trip we received another call... the doctors were not able to retrieve a sufficient number of beta cells from the pancreas to make a viable transplant. Gary and I returned home and began the wait again.

My husband and I were preparing to leave for a family vacation when the second call came. Once again Gary and I hit the road for Minneapolis. This time we took the trip a little slower; if it turned out there was another cancellation we would be able to reroute and join the family vacation.

Upon arriving at the hospital, the process began. Numerous tests were performed to ensure I was still in good health. Immunosuppressant therapy was started before the procedure to reduce the chance of rejection of the implanted islet cells. These medications were administered intravenously and it was necessary for the doctors to insert a pic line (an IV that threaded into my heart) in order to administer the medications. On Monday July 21, I received my 6,081 IE/kg islet cells.

The protocol calls for continuing my insulin to allow the islet cells to settle in before placing strain on them. The intent is to gradually decrease

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the insulin I take. So upon discharge from the hospital I was back on my insulin pump taking 22 units of insulin. Fortunately my husband has a good friend who lives just outside of Minneapolis and we were able to stay there a few days until I could return home to Ohio.

I was required to return to Minneapolis 12 times over the course of the next year. I also had to have blood work done and sent back to the University. At first I was concerned about the frequent visits required back to the hospital, but I ended up looking forward to these trips. Dr. Hering and the staff were wonderful during my visits.

I cannot say that there have not been any complications... I had to change my immunosuppressant medication because the one I was using was removed from the market, and there have been some minor bumps in the road with the new regimen. But I can't say enough about the level of care I received and continue to receive from Dr. Hering and the medical staff. They monitor my health very closely and react to any problems that I might have. I have complete trust and confidence in them all. They really want this to be successful, not just for the sake of the study but for my sake as well. I feel like I am an important part of this project. I also feel that by participating and being a part of this research, I am helping to bring us closer to the cure.

Presently my A1C is 5.4. Since my transplant I have so many freedoms that I didn't have before. I no longer have to worry about unexpected low blood sugars that prevent me from doing what I want, or that interrupt whatever I might be doing. I can get as much exercise as I want and not have to wonder if I might be putting myself in danger. I can go out to

dinner and not become nervous about experiencing a reaction if I am not served in a timely manner. The work that I perform as a medical technologist has to be one hundred percent accurate. Before having the procedure I had to constantly stop what I was doing because my blood

My kidneys, eyes, and other organs are getting a relief from the constant fluctuation of my blood sugar.

sugar was so unpredictable and I couldn't trust myself to report out results if I wasn't feeling adequate. Another big bonus is that now I am a MUCH safer person on the road.

Physically, I am no longer hooked up to a pump or a continuous glucose monitor. They both helped immensely but were labor intensive,

and the monitor was very expensive.

Psychologically, I feel much more hopeful for the future. My kidneys, eyes, and other organs are getting a relief from the constant fluctuation of my blood sugar. Instead of feeling like I am losing my health, I feel like I have made a miraculous escape from a scary place.

I continue to eat a healthy diet and I routinely exercise. I am trying my best to keep my islet cells alive in honor of the young man who donated them. This is certainly a wonderful journey I am on. I am honored and pleased to have been given the opportunity to share my story with you. 🍏

*If you are interested in learning more about Kathy's journey check out her blog at: <http://kathy-mynewislets.blogspot.com>. If you have questions about islet cell transplants call the Diabetes Wellness News Helpline at 800-941-4635 or order our brochure: **Is Islet Cell Transplantation an Option for You?***

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