

A Growing Epidemic: Taking Aim at Managing Blood Sugar with TFHK and Nutrition

by Jan Cole, M.Ed.



"Diabetes, perhaps more than any other chronic disease, must be managed in large part by the patient."

Gretchen Becker,
biologist, medical writer
USA Today April 16, 2002

Our family has a propensity towards diabetes and blood sugar problems, with three of my dad's brothers and his father afflicted with the disease, all treated

conventionally with drugs, some with dietary considerations. My grandfather and one uncle lost their lives to diabetes and its complications. Since heredity can be one of the causes, (there is such a thing as "hypoglycemic families"), and with my own tendencies toward low blood sugar, an interest was generated to research this escalating cultural disease and the management of blood sugar. It's heartening to learn that as with most "hereditary diseases", diabetes and its corollaries, also depend on one's diet and way of life (both nurture and nature) and can be changed.

While visiting my Uncle and Aunt several years ago, I was showing them for the first time some of the techniques we use in Touch for Health, using the various "switches" to weaken and strengthen the latissimus dorsi. My uncle wasn't feeling well from something he'd eaten; he was sure that his blood sugar level would be higher than usual, as it normally was when he didn't feel up to par. To his amazement the reading was lower than it had been for more than a week. Could it have been the neurovasculars, neurolymphatics, the meridian movements that made the difference?

About a year ago, my friend's mother, hadn't seen Anita for several weeks so I offered to drive Mrs. R to Fargo, where Anita was recovering in the Merit Care Medical Center from her second stroke. When her mother and I arrived, a nurse was taking Anita's blood sugar reading. It was a dangerously high 330 level. I asked the nurse if she would be willing to take another reading after I did a bit of Touch for Health intervention with Anita. To our great surprise, my friend's blood sugar **dropped 111 degrees** after 3-5 minutes of intervention!

It led me to question how someone might help themselves with a few simple Touch for Health interventions even though they hadn't taken a TFH course or had access to a TFHK practitioner for full balances. What could a person do beyond the usual plethora of information given regarding diet, nutrition and drugs? In addition to general information, this paper will present nutritional options, as well, as suggestions and insights using our Touch for Health techniques and related goal balancing statements to aim at managing blood sugar and diabetes.

Midst of an Epidemic

According to C. Ronald Kahn, M.D., President, Joslin Diabetes Center, the US and the rest of the world, is in the midst of an epidemic, with more than 18.2 million Americans living with diabetes. 15 million are yet undiagnosed, with an economic cost of \$100 billion plus yearly. Over time complications develop and lead to various diseases, including heart and kidney disease, stroke, blind-

ness and amputation. Diabetes, the third leading cause of death in the US after heart disease and cancer, unfortunately has no cure. However, the right diet, nutritional supplements and other interventions can help support healthy blood sugar levels. Over the past decade, the U.S. Centers for Disease Control and Prevention, reports a 40% increase in diabetes in the United States, with this trend predicted to climb at this astonishing rate unless something is done to change its course. It will be helpful to have background information in addition to what we could do or teach someone to do to help manage their blood sugar levels with Touch for Health.

Definition

Diabetes mellitus is a chronic disease condition in which the pancreas no longer produces enough insulin or when cells stop responding to the insulin that is produced, so that glucose in the blood cannot be absorbed into the cells of the body. The treatment includes changes in diet, oral medications, and in some cases, daily injections of insulin.

The pancreas, a small organ behind the stomach, has two main jobs:

1. **to supply pancreatic digestive enzymes** to break down our food for use. Foods such as pastas, sweets, breads contain carbohydrates that must be **changed into glucose, a simple sugar** which gives the body energy.
2. **to produce pancreatic endocrine hormones** (e.g., insulin, gastrin, somatostatin, and glucagon) which **help regulate metabolism, maintain blood sugar/fluid, /salt balances and move the glucose from the bloodstream to cells** throughout the body. Insulin allows glucose to leave the bloodstream and helps it into the cells. When functioning properly, a person has energy and growth. With no insulin, glucose can't move out of the bloodstream... thus the disease diabetes.

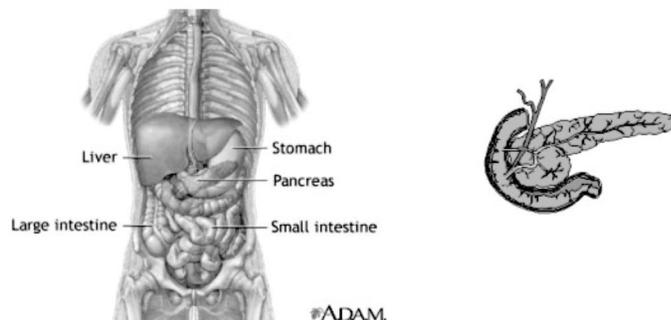


Figure 1. The Pancreas

Approximately 5 liters of blood travels around in our blood vessels and heart at any given moment. In these 5 liters, about one tsp of sugar is all that's needed for all your regular activities.

At Risk

Anyone can get diabetes, but at particularly high risk, especially for Type II, are people who have **close relatives** with diabetes, are **overweight** (over 20% of ideal body weight), the **elderly**, **African Americans**, **Hispanics**, **Native Hawaiians**, **Native Americans** and **Asian Americans**; have **high blood pressure** (140/90 mmHg or above), have a **high density lipoprotein cholesterol level** (< or = to 35 mg/dL) and/or a **triglyceride level greater than or equal to 250 mg/d**. Also at risk: **low-birth-weight babies**, **women who had babies weighing more than 9 lbs.** (4kg) or who were **diagnosed with gestational diabetes** are more likely to develop Type II later in life. Those who have **migrated to Western cultures from East India, Japan and Australian Aboriginal** cultures are more likely to develop Type II diabetes than those remaining in their original countries. Also those who have had **impaired glucose tolerance or impaired fasting glucose**. Several studies, including an 821 Finnish children study, found early introduction of cow's milk formula feeding associated with increased risk of developing Type 1 diabetes.²⁶ *Diabetes Care* 1999;22:1961-5.

Types of Diabetes

- 1. Pre-diabetes** - before developing Type II diabetes, people nearly always have "pre-diabetes" – blood glucose levels higher than normal, but not high enough to be diagnosed as diabetes. At least 20.1 million people in the United States (21.1% of the population), ages 40-74, have pre-diabetes. The good news is recent research shows some long-term damage to the body, especially to the heart /circulatory system, may already be occurring during pre-diabetes. Actions can be taken to control it and delay or prevent Type II from ever developing.
- 2. Type I** - more serious form, occurs when the insulin-producing cells have been destroyed; called insulin-dependent diabetes because of need for daily insulin injections. In Type I diabetes, also called juvenile diabetes, as usually begins in childhood or adolescence, the body produces little or no insulin. Referred to as an auto-immune disease, body mistakenly attacks its own good cells. Characterized by a sudden onset it occurs more frequently in descendants from N. European countries (Finland, Scotland, Scandinavia) than from other countries. In the US, approximately 3 people in 1000 develop it.
- 3. Type II** - pancreas produces some, but not enough insulin or the cells ignore the insulin. Because of slow onset and ability to control with diet, medications and sometimes insulin injections, it is considered a milder form. The most common form, it occurs in approximately 3-5% of Americans under 50 years; increasing to 10-15% over 50. More than 90% of the diabetics in the US are Type II... also known as age-onset or adult-onset diabetes. The consequences of uncontrolled/untreated Type II, however, are as serious as for Type I. Known as noninsulin-dependent diabetes, when glucose builds up in the blood instead of going into cells, it can cause: a.) cells starving for energy and b.) over time, high glucose levels may harm your eyes, kidneys, nerves and/or heart.
- 4. Brittle diabetics** - subgroup of Type I, frequent and rapid swings of blood sugar levels between hyperglycemia (a condition where there is too much glucose or sugar in the blood) and hypoglycemia (a condition where there is abnormally low levels of glucose or sugar in the blood). These patients may require several injections of different types of insulin during the day to keep the blood sugar level within a fairly normal range..
- 5. Gestational diabetes** - can develop during pregnancy and generally resolves after the baby is delivered. Develops during the second or third trimester of pregnancy in approximately 2% of pregnancies. Usually treated by diet, however, insulin injections may be required. Women with diabetes during pregnancy are at higher risk for developing Type II diabetes within 5-10 years.
- 6. Secondary diabetes** – caused by several common medications which can impair the body's use of insulin and glucose absorption. Includes: treatments for high blood pressure (furosemide, clonidine, and thiazide diuretics); drugs with hormonal activity (oral contraceptives, thyroid hormone, progestins, and glucocorticoids); anti-inflammation drug indomethacin; drugs to treat mood disorders (such as anxiety and depression) including haloperidol, lithium carbonate, phenothiazines, tricyclic antidepressants, and adrenergic agonists. Other medications that can cause diabetes symptoms include isoniazid, nicotinic acid, cimetidine, and heparin.

Treatment for diabetes includes insulin shots, medications, wise food choices, exercise, and controlling blood pressure and cholesterol. The most effective strategy against the degenerative effects of high blood sugar is an integrated approach.

Diabetes Management

Aim: keep blood glucose levels as close to normal (nondiabetic) range as safely possible.

Ideally:

- **Before meals** - 80 and 120 mg/dl (Normal 115)
- **After Meals** - less than 160 two hours (Normal less than 140) *with a glycated hemoglobin level less than 7%*
- **Bedtime** - less than 100-140 mg/dl (Normal less than 120)

Balancing insulin injections, healthy eating, regular exercise and constant monitoring of blood glucose levels helps to achieve this. A large number of factors influence blood glucose levels, including stress, food intake, periods of growth, hormonal changes, duration and type of physical activity, alcohol, medications, illness, infection, fatigue and menstruation.

When blood glucose levels swing too far in either direction, two emergency situations can develop: **hypoglycemia** (low blood glucose) or **hyperglycemia** (high blood glucose).

Hypoglycemia

Low blood sugar results when too much insulin is secreted by the pancreas in response to certain foods. Proper diet is essential for the hypoglycemic to maintain blood sugar levels. Frequent, (6 to 8) small wholesome meals throughout the day seem to work best. Frequent starchy snack meals (e.g. sandwiches, cereal, etc.) would only aggravate the problem, since all forms of carbohydrate are absorbed quickly. Slowly absorbing protein and fats, however, don't trigger the sensitive insulin apparatus. Small regular meals of protein or fats serve to stabilize the blood sugar, avoiding sudden rises and falls in the glucose levels.

HYPOGLYCEMIA

- Nervous, shaky
- Dizzy, confused
- Headache
- Hunger
- Cold, clammy skin
- Fast heartbeat
- Irritability

LOW

HYPERGLYCEMIA

- Weak, tired
- Frequent urination
- Increased thirst
- Decreased appetite
- Blurry vision
- Itchy, dry skin
- Breath smells fruity

HIGH

Treat Hypoglycemia

The quickest way to raise your blood glucose and treat hypoglycemia is with some form of sugar, such as 3 glucose tablets, 1/2 cup of fruit juice, or 5-6 pieces of hard candy. After checking your blood glucose and treating your hypoglycemia wait 15-20 minutes and check your blood again. Repeat if glucose is still low and symptoms haven't gone.

Several types of chronic hypoglycemia exist, reactive hypoglycemia and fasting hypoglycemia being the most common. The following synonyms may be used in literature to denote the syndrome: postprandial hypoglycemia, postprandial syndrome, idiopathic reactive hypoglycemia, functional hypoglycemia, spontaneous hypoglycemia.

Hyperglycemia

Another of the serious problems diabetics must deal with occasionally is hyperglycemia. If left untreated, it is a major cause of many complications. Hyperglycemia happens when the body has too little or not enough, insulin, or when the body can't use insulin properly and blood glucose (sugar) is high. The problem could be that you ate more than planned or exercised less than planned. The stress of an illness, such as a cold or flu, could also be the cause. Other stresses, such as family conflicts or school or relationship problems, can also cause hyperglycemia.

Treat Hyperglycemia

At times, you can lower your blood glucose level by exercising. However, if the blood glucose is above 240 mg/dl, check your urine for ketones. If you have ketones, do NOT exercise. Exercising when ketones are present may make your blood glucose level go even higher. Cutting down on the amount of food you eat might also help.

When your body breaks down fats, waste products called ketones are produced. The body can't tolerate large amounts of ketones and will try to get rid of them through the urine.

Unfortunately, it can't release all the ketones and they build up in your blood which can lead to ketoacidosis.

Diabetes Food Pyramid

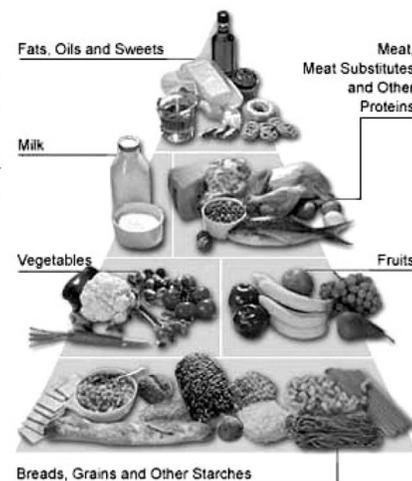
...divides food into six varying sized groups. The largest group - grains, beans and starchy vegetables - is on the bottom, meaning you should eat more servings of grains, beans and starchy vegetables than of any of the other foods. Fats, sweets and alcohol, the smallest group - at the top of the pyramid tells you to eat very few servings.

The Pyramid gives a range of servings. Following the minimum number in each group would equal 1600 calories; eating at the upper end of the range, about 2800 calories. Most women would eat at the lower end and active men in the middle to high end.

The exact number of servings needed depends on "diabetes goals", calorie and nutrition needs, life style and preferred foods. It is suggested to divide the number of servings you should eat among the meals and snacks eaten each day.

The Diabetes Food Pyramid is slightly different than the USDA Food Guide Pyramid because it groups foods based on their carbohydrate and protein content instead of their classification as a food.

To have about the same carbohydrate content in each serving, the portion sizes are a little different, as well. For example: potatoes and other starchy vegetables are in the grains, beans and starchy vegetables group instead of the vegetables group. Cheese is in the meat group instead of the milk group. A serving of pasta or rice is 1/3 cup in the Diabetes Pyramid and 1/2 cup in the USDA Pyramid. Fruit juice is 1/2 cup in the Diabetes Food Pyramid and 3/4 cup in the USDA Pyramid. This difference is to make the carbohydrate about the same in all the servings listed. www.diabetes.org/nutrition-and-recipes/nutrition/foodpyramid.jsp



Diets for Diabetics, Hypoglycemia

For most hypoglycemics, symptoms can be successfully suppressed or controlled by following a diet. Of the many diets proposed, all are blood sugar regulating diets with the following in common:

- frequent small meals/snacks, depending on your needs 1.5 to 2 hours;
- no sugar, honey, or products containing sugar (check food labels);
- no adrenal stimulants as caffeine (found in coffee, coke and diet-coke, black tea), no alcohol, no chocolate (cacao is a stimulant too), no nicotine;
- be careful with fruit juice (no more than 1 glass diluted) and high-sugar fruit as dried fruit, bananas or grapes,
- no other simple carbohydrates, as white bread and white flour.

Causes - Diabetes / Hypoglycemia / Hyperglycemia

The exact causes of hypoglycemia are yet unknown. Several factors are involved in developing the hypoglycemia syndrome. It is clear that extra risk is present in case of:

Diabetes Mellitus	Type I	Hypoglycemia (multicausal)	Treat Hypo	Hyperglycemia
heredity - common genetic markers	unknown cause, certain genes makes person more susceptible	heredity	adapt your way of living to your state of health	if have Type I diabetes, may not have given self enough insulin
environmental	triggered by virus of other micro-organism destroy pancreatic cells	weakened immune system; problems with nutrient absorption and gastro tract	take the nutritional supplements	if Type II, your body may have enough insulin, but not as effective as should be
		tumors		
	complex inter-action between genes + some environment, as having enteroviral infections	wrong eating habits; esp. sugar intake; not eating enough food; skipping or delaying meals	diet that regulates your blood sugar level	stress of illness: such as a cold or flu, could be the cause
	<i>Coxsackie B</i> infections may increase risk of developing disease	prolonged use of refined foods	use several smaller meals, equally spaced over the day	eating wrong things or too much of right things
		prolonged use of drugs like antibiotics; alcohol	avoid drugs that influence the blood sugar level	illness, infection, surgery, heart attack
		hormonal disorder		
		chronic stress, body & mental	avoid excess stress	physical stress
		old infections		pain
		pancreas overload		some medication
		excess physical exercise or doing more physical activity than usual	adequate exercise helps to balance your endocrine system	lack of exercise
		food intolerance, allergies		

- avoid adrenal boosters as coffee, black tea, coke and cacao are well-known too increase blood glucose levels.

To slow absorption and even out blood sugar values even more: use mixed meals, i.e. combine carbohydrates with proteins/fat, e.g. cracker with cheese/peanut butter; use high fiber food (whole grains, vegetables); snack before going to sleep. People who try to control their hypoglycemia symptoms generally are on one of the following diets (in random order):

1. **Diabetes Diet** – fairly high in carbohydrates, 50-60% carbohydrates, no sugar allowed, use complex instead of simple carbohydrates: brown bread/rice, etc. Frequent meals.
2. **Krimmel Diet** – akin to standard diabetes diet, but limits starchy foods as bread, pasta, rice, potatoes and corn; recommends non-starchy foods as carbohydrate source instead. ‘Food ethic’ that is low protein (10-12%), high *complex* carb (50-65%), and low fat. (20-30%) maintained in a structured fashion. *Low Blood Sugar Handbook* and *Low Blood Sugar Cookbook*, by Patricia and Edward Krimmel
3. **HAI Diet** – The Diet of the Hypoglycemia Association, Inc....adequate (fairly high) in protein, limits carbohydrates; slightly more fat. Daily initial phase 100 g of complex carbohydrates + 100 g of protein, Complex carbs from vegetables, nuts/seeds and a limited amount of fruit, not from starchy foods like bread, pasta, rice, etc. After 3-6 months, rice, bread, etc. can be gradually added.
4. **Dr. Atkins Diet** – very low carbohydrate and high fat. Goal: to reach and maintain ketosis, the state of fat burning. Eating less than 30-50 g carbohydrates daily ketons, a side-product of fat burning, instead of glucose, provides body with fuel. Urine test strips can test the level of ketosis.
5. **The Zone Diet** – *The Zone* by Barry Sears, a biomedical researcher. In his book Sears promotes a diet with a 40% carbohydrate, 30% protein and 30% fat ratio.
6. **Fit for Life Diet** – Harvey & Marilyn Diamond, *Fit for Life* authors – support food combinations. A meal should exist of (complex) carbohydrates (lettuce + potatoes **or**

Symptoms: Diabetes / Hypoglycemia / Hyperglycemia / Ketacidosis

Prolonged symptoms weaken the immune system. If defense system is weakened existing symptoms may worsen.

Diabetes	Diabetes Type I	Diabetes Type II	Hypoglycemia (not a disease)	Hyperglycemia	Ketoacidosis (diabetic coma)
pancreas (energy output device) is exhausted	insulin - dependent life-long autoimmune disease	age-onset or adult-onset diabetes, any symptoms of Type I	low blood sugar (glucose) wide variation among individuals; energy banks empty	high blood glucose	common in Type I, serious hospitalization needed
unable to produce insulin		obesity strong risk, 80% are overweight	shakiness, trembling hands, rapid heartbeat	dry itchy skin, skin infections common	not enough insulin
	inherit risk from both parents	inherit predisposition	concentration/attention disorders, memory problems	high sugar levels in the urine	restlessness
frequent urination	frequent urination	frequent urination	dizziness, vertigo	frequent urination	nausea and vomiting
	sugar in urine	urinary tract infection	sudden sweating, pale skin color	deep, rapid breathing	short of breath, rapid breath
excessive thirst	increased thirst	extreme thirst	headache	increased thirst	dehydration
tired & sick	lethargy	tiredness	fatigue, weakness, drowsiness	fatigue	extreme tiredness, drowsiness
unexplained weight loss	sudden weight loss	sudden weight loss	intestinal disorders	weight loss	abdominal pain
	heart attacks/strokes can occur	slow wound healing	sudden mood or behavior changes, anxiety depression crying for no reason	slow wound healing	flushed cheeks, hot, dry skin
gum disease		chronic gum infections	<i>Candida Albicans</i> (yeast infections)	frequent infections	a very dry mouth
blurred vision	blindness	blurred vision	visual disturbances; blurry vision	blurry vision	loss of appetite
excessive hunger	increased appetite		constant feeling of hunger, extreme hunger	extreme hunger	due to starvation
peripheral neuropathy-pains feet & hands, need B vitamins	nerve damage	numbness in the feet and legs	sleep problems, nightmares, feel cold clammy	stomach cramps	or uncontrolled diabetes
			clumsy or jerky movements, seizure		sweet/fruity breath odor
constipation - up to 60% affected		genital itching (women)	menstruation disorders	wounds, sores on legs and feet easily infected	lack of interesting usual activities
	confusion		confusion, irritability, indecisiveness	dizziness	untreated can lead to kidney failure and
	coma		tingling around mouth, nausea, vomiting	nausea, vomiting	coma or death

vegetables + bread), or proteins (bacon + eggs). Only natural sugar in fruit and vegetables are allowed, no added sugars.

7. **Dr. Carlton Frederick's Diet** – Low Carbohydrate Diet, consists of high protein, low carbohydrate, no sugar. .. an early version of the HAI-diet.

8. **Pritikin's Diet** – consists of no fat & only 3 oz (100 g) of protein and primarily carbohydrates, helps hypoglycemia as well.

9. **Protein Power Diet** – by Drs. Michael and Mary Dan Eades ... a protein-rich, moderate-fat, low-carbohydrate diet designed for weight

lose and to bring insulin levels into balance. Diet consists of Intervention Part I: 30 grams of carbohydrate per day and Intervention Part II: 55 grams of carbohydrate per day. Once at desired weight and/or stable insulin levels begin Maintenance, where carbohydrate level is 30% more than protein intake.

10. **Carbohydrate Addict's Diet** – by Heller and Heller, MD^{MS}. This addict is one, who suffers from hyperinsulinism, i.e., body produces too much insulin when consuming carbohydrates regularly. Strong cravings for carbohydrates. One to two meals low carb, with no more than 4 g carb per serving. Second or third meal, (Reward Meal): 1/3 low carb veggies, 1/3 protein and 1/3 carbs (anything liked).

Dietary Guidance

As we age maintaining healthy blood sugar levels is critical to good health. Again, high levels of blood sugar are associated with adverse affects on ones vision, heart/circulation, kidneys and nervous system. Julian Whitaker, M.D. in *Reversing Diabetes*, states:

“Nutritional supplements are a must for anyone with diabetes. Vitamins, minerals, essential fatty acids and herbs are naturally occurring compounds that, if used rationally and in a balanced manner, can have profoundly positive effects on blood glucose levels. They can also offer protection against the debilitating consequences of diabetes, from eye and kidney problems to heart disease and premature death. This isn't conjecture—its fact. The annals of medicine are filled with thousands upon thousands of studies examining these natural agents and their beneficial effects on all manner of health challenges...”

Current medications can have serious side-effects including nausea, diarrhea, skin rash, weight gain, respiratory infections, liver damage, and headaches. There are possible alternatives with vitamins/minerals and herbal products.

Vitamins / Minerals

The loss of insulin sensitivity can be decreased with the right nutrients. Numerous vitamins, minerals, herbs and antioxidants have been studied for their efficacy at promoting healthy blood sugar and protecting cells from the damage of elevated blood sugars with favorable results. These include:

Anthocyanic acid- also called blueberry extract, lowers blood sugar (blueberries)

B-Complex (B1, B3 and B6 at 10 - 100 mg daily plus B12 at 100 - 2,000 mcg daily - methylcobalamin is a far superior form;) B's influence healthy nerve/heart function. A lack of vitamin B-6, which helps you absorb other B's, may cause carpal tunnel syndrome, painful neuropathy in your hands. B-12 helps nerves function and avoid damage. Lack of both B-12 and folic acid can cause leg and foot pain. Other B's:

Inositol - found in lecithin; is helps protect the nerves from damage by high sugar levels,

Niacin - important to help potentiate the effects of chromium. Take it in the middle of meals; high levels of niacin can be harmful, especially to people with diabetes. (**B vits.-whole grains, legumes, beans, raw nuts, seeds, mushrooms, deep sea fish, eggs, dark green vegetables, bee pollen, organ and lean meats, nutritional yeast, fruits, for B12- soy, seaweed, algae and kelp.**)

Chromium GTF (glucose tolerance factor) (200 - 1,000 mcg per day – ChromeMate Picolinate forms are superior) Rare mineral plays a major role in enhancing sensitivity of cells to insulin. Levels in tissues decrease as we age. Over 20 clinical studies show chromium: • Improves glucose tolerance and can restore it to normal • Enhances insulin secretion, lowers insulin levels • Decrease fasting glucose and insulin levels in gestational diabetes • Promote healthy HDL cholesterol and triglyceride levels • Encourages the loss of body fat and promotes muscular gains. An estimated 90% of Americans have a serious Chromium shortage. (Reversing Diabetes); (The Pill Guide Book to Natural Medicines). (**Brewer's yeast, beef, liver, whole wheat, rye, chilies, potatoes w/skin, eggs**)

Flavonoids (100 - 500 mg per day - Quercetin is the most powerful at preventing sorbitol damage to cells) (**fruits and vegetables**)

Lutein - antioxidant found in many plants; beneficial for promoting healthy blood sugar levels. Doctors have reported excellent results using 6-20 mg per day of Lutein to promote healthy vision. Recent studies also indicate Lutein may promote a healthy cardiovascular system. (**Dark green leafy vegetables, fruit, corn, egg yolks and marigold petals**)

Magnesium (300 - 500 mg daily - chelated forms such as taurate and citrate are best), influence healthy nerve/heart function. Major studies suggest those with highest levels have lowest risk for developing diabetes. (**wheat bran/germ, almonds, cashews, pecans, walnuts, soy flour, millet, brown rice, chocolate, dark green leafy vegetables, avocados, dried apricots, legumes**)

Vanadyl sulfate – (10-2000mcg per day) - the active form of vanadium, a trace mineral that mimics the action of the hormone insulin. Studies report it's effectiveness in normalizing blood sugar levels and controlling insulin resistance; showing benefits for both Type I and II. Results of one study: Type II, noted an average 20% reduction in fasting blood sugar; Type I required less insulin.

Vitamin E (400 - 1,200 IU per day - a natural blend is up to 3 times more powerful) (**wheat germ oil, almonds, sunflower seeds and oil, hazelnuts, peanut butter, peanuts, spinach, broccoli, soybean, corn, safflower oils, kiwi, mango**)

Vitamin C (500mg - 2,000 mg per day - Ester-C is a superior form) (**peppers, kale, parsley, collard, broccoli, broccoli, brussel sprouts,**

tomatoes, bee pollen, citrus fruits, kiwi, cabbage, cauliflower, berries, papayas, spinach)

Zinc - multiple roles, needed to help the pancreas produce insulin, to work more effectively and to protect insulin receptor cells. If levels are low: 1.) pancreas may not secrete adequate amounts of insulin, so glucose levels remain high. 2.) insulin released may be ineffective, then glucose can't enter cells and remains elevated in the blood. It's helpful for immunity and tissue repair. Pico-linate or gluconate form is best. (**calf liver, lamb, dark green vegetables, squash, yogurt, pumpkin seeds**)

Herbs

Bilberry extract - widely used as a preventive treatment for complications of diabetes and blood sugar imbalances. It improves night vision, strengthens capillaries, reduces blood clotting and has antioxidant action. Research, primarily from Italy, has uncovered its potential for treating retinal problems from poor blood circulation, diabetes-caused glaucoma, and day blindness. (*Journal of Longevity* - Volume 5/No. 8) (*New Encyclopedia Vitamins, Minerals, Supplements, & Herbs*)

Bitter Melon / Karela / Bitter Gourd (Mormordica Charantia Extract) – tropical fruit from Asia and SA. contains polypeptide p or p-insulin (p- for plant). The blood-sugar-lowering action of the fresh fruit or extract of the unripe fruit, is clearly established in human clinical trials and in experimental models. One study: glucose tolerance increased in 73% of Type II diabetics. In another, the extract produced a 17% reduction in glycosylated hemoglobin A1c after 7 weeks of use. (*The Pill Book Guide to Natural Medicines* pgs 547 & 548); (*The Healing Power of Herbs* pgs - 357 & 358)

Cinnamon - the spice, (not the flavoring), ground bark of an Asian tree - researchers Beltsville (Maryland) Human Nutrition Research Center discovered cinnamon-made fat cells more responsive to insulin helping to control blood sugar levels. It's most active compound-methylhydroxy chalcone polymer (MHCP)– was isolated showing increase in the conversion of glucose to energy by 20 times and blocked the formation of dangerous free radical activity, thereby reducing or slowing the progression of diabetic complications. (*Diabetes Care*, Dec 2003). Significant reductions in blood sugar, ranging from 18 to 29% were reported in a similar study. (*Men's Health Magazine* December 2000 - pg 40); (*Natural Treatments for Diabetes*-pg 19)

Don Graves, Santa Barbara UC molecular biologist, and colleagues report that cinnamon's a potential treatment for diabetes because of its molecular similarity to insulin. Taken regularly with water, it behaves remarkably like insulin; a natural version far cheaper than primarily, synthesized insulin. It's

a promising alternative to insulin shots for Type II / "adult onset" diabetes who require injections, but can't afford them.

Fenugreek extract - significant anti-diabetic effects demonstrated in experimental and clinical studies in the *European Journal of Clinical Nutrition* reports improves glucose tolerance in both Type I and II diabetes. Pancreatic function is stimulated with consistent intake of the herb; significantly reducing both fasting and post meal glucose levels with relatively mild diabetics. Healthy subjects experienced no change in glucose levels. (*Natural Treatments for Diabetes* pg 19); (*Clinical Applications of Herbal Medicine* - pg 19); (*Syndrome X* - pg 223)

Gulvel - also known as *Tinospora Cordifolia*, a multi-faceted plant, widely believed not only to help restore vital energy body, but also to help revive the pancreas. Indeed, it has been found to help balance levels of both blood fats and blood sugar. (*Journal of Longevity*-Vol. 7/No. 12 – pg 41)

Gymnema sylvestre - one of most powerful herbal agents for blood sugar control, has therapeutic value for both Type I and II diabetics. Recent U.S. clinical study showed that the extract reduced the average fasting glucose by 11%, post-meal glucose by 13% and A1c by 6.8%. Another study reported Type I diabetics, average insulin requirements dropped by almost 30%. In another study Type II diabetics, A1c levels were reduced from 12 – 8.5%. (A1c test is an indicator of the average blood sugar control over the last 2-3 months). There is evidence that *Gymnema* extracts may possibly regenerate or revitalize the pancreas' insulin-producing beta cells.

Jambolan - a species of cloves used in Ayurvedic medicine, used to treat diabetes because it quickly reduces blood sugar without side effects. It may also decrease the risk of a diabetic developing atherosclerosis, since it contains oleanolic acid, which short-circuits the chemical reactions that make toxic free radicals. (*Natural Treatments for Diabetes* - pg 21); (*Prescription for Herbal Healing*- pgs 84-85)

Pterocarpus marsupium - has a long history in India as a treatment for diabetes. A potent flavonoid in this tree has been shown to help regenerate beta cells in the pancreas. Researchers in India studied the effects of this herb and were amazed to find it helped control blood sugar levels in 69% of individuals with blood sugar problems. (*Natural Treatments for Diabetes* - pg 43); (*Journal of Longevity*-Volume 7/No. 12 - pg 41)

Vasant Ksumakar Ros - extremely useful for diabetics. It overcomes debility and weakness faster and ensures prompt improvement in blood sugar levels.

Glycemic Index

The **Glycemic index**, a ranking of carbohydrates, is **the measure** of a food or beverage’s ability to raise your body’s blood glucose (blood sugar) level. GI refers to the **relative amount** the blood sugar is raised, **compared** to a standard (100 grams of sugar). For example, if a particular food raises blood sugar only half the amount of pure glucose, that food is given a glycemic index of 50. Carbohydrates that breakdown quickly during digestion have the highest glycemic indexes; blood glucose response is fast and high. Carbohydrates that break down slowly, releasing glucose gradually into the blood stream, have low glycemic indexes. The index of a food is governed by several factors, such as the form of carbohydrate, the amount and form of fiber it contains, how much processing and cooking it’s been subjected to and the presence of other substances such as fat and protein.

European researchers first brought attention to the effects of various foods on blood sugar levels in the early ‘70’s. The glycemic index was conceived in the early ‘80’s by Dr. David Jenkins, University of Toronto nutrition professor, establishing the best type of foods for people suffering from diabetes. He found that foods such as potatoes — traditionally defined as a complex carbohydrate — actually led to a rapid rise in blood sugar.

Glycemic load refers to the amount that a typical serving of food will raise your blood glucose. It compares carbohydrates gram for gram.

High glycemic levels

- Obesity
- Diabetes, Type II
- Heart Disease
- Some Cancers
- Increases levels of LDL
- Lowers levels of HDL
- Insulin resistance syndrome
- Hypoglycemia

Low glycemic levels

- Reduces insulin resistance
- Helps control appetite
- Improve weight loss
- Enhance blood sugar control
- Lowers levels of total LDL
- Raises blood levels of HDL
- Decreases oxidative stress
- Blood pressure, systolic & diastolic improve, serum triglycerides improve, C-reactive proteins improve

To test the food “index”, 50 grams of carbohydrate of the food portion is used. The difference between glycemic index and glycemic load: a food may have a relatively high glycemic index, but an average serving size might only have a slight impact on blood sugar.

Glycemic load is calculated by multiplying the glycemic index of a food by the amount of carbohydrate contained in a typical serving of the food. It may be more reliable than glycemic index as a predictor of how a food will affect the blood sugar level because some foods with a high glycemic index (such as *carrots*) contain such a small amount of carbohydrate in a normal serving that they wouldn’t raise the blood sugar level very much. However, carrot juice, which contains a relatively large amount of carbohydrate, would produce a substantial increase in the blood sugar level.

Ex. **Carrots** - fair amount of carbohydrate; glycemic index of some carrots approaches 60 (less than 55 is considered good), but the glycemic load is only 1 to 3 (less than 10 is good). Ex. **Grapefruit** - the juice has a much higher glycemic index and load than the whole fruit.

It isn’t necessary to completely avoid high-glycemic-index foods since when these foods are combined in a meal with low-glycemic-index foods, proteins or fat, the overall glycemic effect is reduced. The basic rules: a.) reduce intake of concentrated sugars and most potatoes, b.) increase consumption of legumes and most vegetables and fruits and c.) choose grain products made by traditional methods (pasta, stone-ground flour products, old-fashioned oatmeal) rather than those produced with modern technology (highly refined flour products, low-fiber flaked breakfast cereals, quick-cooking starches, etc.).

A recent study in *Diabetes Medicine* indicated that people with the best glycemic control had the lowest level of oxidative stress. Important to note because many chronic diseases are a result of oxidative stress; an excess of free radicals can lead to the development of them and also contribute to the aging process.

Glycemic Index Range			Glycemic Load Range			Glycemic Load Daily	
LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH	LOW	HIGH
55 or less	56-69	70 or more	10 or less	11-19	20 or more	< 80	> 120

Ups and Downs of Blood Sugar Levels

The rate at which food sugars enter the blood should be a consideration when eating— especially for people with diabetes or hypoglycemia. High glycemic index foods demand a rapid secretion of insulin to balance the consequential rapid rise in blood sugar levels.

HIGH GLYCEMIC FOODS (avoid) (70 or more)	MODERATE GLYCEMIC FOOD (56 – 69)	LOW GLYCEMIC FOODS (55 or less)
puffed rice	brown & basmati rice	Soybeans
corn flakes, cheerios	whole grain breads, etc.	Cherries
white flour	whole grain pasta	Pears
white rice	Pineapple	grapes
Rice, rice cakes	apple juice	Apples
over ripe bananas	Bananas	Peaches
millet	orange juice	oranges, limes
raisins	muesli, grape nuts	grapefruit, lemons
most breads, snacks, cakes, pies, candy and desserts of refined flour	shredded wheat	oat bran, All-bran
parsnips	ice cream	Yogurt
carrots	Oatmeal	Carob
potatoes (except new potatoes, sweet potatoes, yams)	pinto beans	lima beans, kidney beans
honey	Beetroot	sea vegetables
glucose, white sugar	sweet potatoes, yams	green beans
watermelon	Spinach	Lentils
graham crackers	popcorn	nuts/seeds
Soft and sports drinks	pita bread, rye, oatbread	fructose, lactose
sweetened fruit drinks	tropical fruits, mango, guavas,	whole wheat
	Kavli crispbread	multigrain crackers
	bran muffins, biscuits	sugar free sweets, jams
	Ceres juices-mango, peach, etc.	milk, water, tea

Glucose and the Immune System

“It is important to note here that even moderately elevated blood glucose can lower your resistance to infection over time, since it impairs the functioning of the white blood cells. As a result, certain types of bacteria and fungi that rarely cause serious infections in other people may plague you if your blood sugar is poorly controlled.”¹

- Milton Hammerly, M.D., *The New Integrative Approach to Diabetes*

One of the diabetic complications, seldom mentioned, is its detrimental effect on the immune system, often having begun before the detection of diabetes. Immune problems are worsened by poor blood sugar control, putting the diabetic at risk for serious infections or complications of simple infections. Eating sugar (sucrose) reduces the body’s ability to fight infections.

In 1908, researchers noted that **diabetics were more susceptible than non-diabetics to infections**. It took until 1942 to discover that the bacteria-engulfing white blood cells of diabetics were essentially sleeping on the job. High concentrations of glucose reduces the activity of white blood cells as much as 50%, with an effect lasting for five hours, and decreases the production of protective antibodies adding to poor infection resistance from bacteria and viruses. Subsequent studies also confirm that high glucose concentrations reduced the ability of white blood cells to capture bacteria.

At Loma Linda University, CA, researchers found that **white blood cells** from people who ate the equivalent of a candy bar and a soft drink could capture only one tenth of the bacteria, compared with people who ate only half of the candy bar. The reduced immune responsiveness occurred within only 45 minutes, meaning that sugar greatly reduces a person’s ability to fight infections. An example of impaired immune function: diabetics are far more likely to develop secondary pneumonia when recovering from the flu.

In similar experiments, researchers at Utah State University, tested the effect of different diets on **antibody production** in laboratory rats. Antibodies are very complex immune compounds designed to combat specific bacteria and viruses. They found that as little as a 10% decrease in the nutritional quality of the diet (e.g., 10% more sugar and 10% less protein, vitamins and minerals) decreased antibody production by an incredible 50%. When the amount of sugar in the diet was increased to 75% and other nutrients decreased to 25%, antibody production dropped by 90%. Such changes, in people, would greatly increase susceptibility to infection. Several large studies have confirmed that many Americans who are 55 and over have compromised immune systems due to a deficiency of one or more key nutrients in the diet.

Eating carbohydrate-containing foods, including some fruits, temporarily raises blood sugar and insulin levels. On the other hand, a diet rich in the **soluble fiber** found in fruit may lower the risk of Type II diabetes, despite the high carbohydrate content of most

fruit. High-fiber supplements, such as pectin from fruit, have improved glucose tolerance in some studies. A review of the research revealed that the extent to which moderate amounts of fiber help people with diabetes in the long term is still unknown. The lack of many long-term studies has led some researchers to question the importance of fiber in improving diabetes. Still most doctors advise people with diabetes to eat a diet high in fiber.

“Diabetics tend to develop **yeast infections more** because yeast thrives in a high-sugar environment,” says Ronald Hoffman, MD. “**Garlic** suppresses yeast. Also **Acidophilus** helps keep the intestinal flora away from flavoring yeast multiplication.”

Brushing and flossing are crucial. “A diabetic has to maintain an absolutely immaculate mouth,” says Roger P. Levin, DDS. “Because diabetics are much more susceptible to infection, they are also more susceptible to gum disease which is a bacterial infection.”

High Cholesterol, High Triglycerides and Diabetes

Those who have diabetes are two to four times more likely to have a stroke or die of heart disease than non-diabetics. High blood sugar damages the blood vessels and affects triglyceride and cholesterol levels. High triglyceride levels, as well as, low levels of protective HDL cholesterol are common in diabetics.

A diet abundant in **fish, borage and flax seed oils** is associated with lower rates of diabetes, heart disease, high blood pressure, rheumatoid arthritis and other inflammatory conditions. Such a diet reduces insulin resistance, lowers the risk of Type II diabetes and protects against diabetic neuropathy. Fish oil is rich in Omega 3 fatty acids called EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid). DHA nurtures the brain and has been shown to improve memory and brain function. Flax seed oil is a plentiful source of an essential fatty acid called alpha linolenic acid (ALA).

Most of the research on EPA has involved its effects on the prevention of heart disease; this is important, as the risk of this disease dramatically increases for diabetics. EPA works to enhance cardiovascular health by first, promoting the burning of fats in the liver, thereby lowering cholesterol and triglycerides. Significant for diabetics, because excess fats in the bloodstream interfere with insulin sensitivity. When triglycerides are elevated, blood sugar levels often go up as well. It's a priority for any diabetic with elevated cholesterol and triglycerides to get them into normal range. Second, EPA reduces dangerous blood clots that may lead to heart attack or stroke.

The most important of the Omega 6 fatty acids for the diabetic is gamma linolenic acid (GLA) from borage oil. They are frequently deficient in GLA, since they often have problems converting dietary fats into GLA. It can also be an effective therapy for diabetic peripheral/ neuropathy, caused by an inflammation and deterioration of the peripheral nerves, usually in the legs and feet. Characterized by numbness, tingling and sometimes severe pain, the disease gradually destroys the nerves and the legs become more susceptible to ulcerative sores and infection. Nerve damage can impair digestion and sexual function, as well as, cause weakened muscles and loss of muscle tissue.

Peripheral Neuropathy

About 15 million Americans suffer from this nerve problem that can damage the nervous system and cause unrelenting aches and pains. In particular, 60 to 70% of diabetics, 60 to 70%, may suffer peripheral neuropathy when the sugar in their blood reaches and remains at dangerous levels. One theory: sugar leads to chem-

ical reactions around nerves that cause swelling and pinching. If not relieved, nerve death can result. Because nerves send impulses throughout the body, this condition can leave a host of discomforts: pain in your face, hands and feet; digestive troubles and incontinence. Taking extra nutrients may help soothe nerves and relieve pain by repairing and rebuilding the protective structures that protect nerves. (Source: *Energy Times Magazine*, Feb 2001)

PN is prevalent among diabetics who not only have difficulty controlling glucose levels, but also is a problem for those with high lipid levels (cholesterol and triglycerides), those over 40 and among smokers. Various toxins and metallic poisons (such as arsenic, lead and mercury), certain chemicals (especially solvents and some insecticides), excessive alcohol intake, vitamin deficiencies (particularly B12) or vitamin excesses (B6), nutritional imbalances, and a number of drugs can cause peripheral neuropathy, as well. (*Numb Toes and Aching Soles: Coping with Peripheral Neuropathy*) by John A. Senneff

All members of the B vitamin family play crucial roles in promoting and insuring nerve health: **Thiamine (B-1)** and **biotin (B-7)** promote healthy nerves. **Riboflavin (B-2)** aids in nerve insulation. **Niacin (B-3)** assists nervous system function, **pyridoxine (B-6)** helps absorption and use of niacin while **Cyanocobalamin (B-12)** helps nerves function and avoid damage. A lack of B-6 may cause carpal tunnel syndrome, painful neuropathy in your hands that may make it impossible to type or grip heavy object. Both B-12 and **folic acid (B-9)** deficiency can create neuropathic leg and foot pain.

Japanese researchers found that B vitamin supplements helped nerves repair themselves and transmit their vital information (*Gen Pharmacol* 1996;27(6):995-1000). A German study found similar benefits (*Ex Clin Endocrinol Diabetes* 1996;104(4):311-6). Another study discovered that taking B-6 can relieve nerve pain (*Adv Perit Dial* 2000; 16:308-12). French scientists administer high doses of biotin to folks suffering from severe peripheral neuropathy noting marked pain relief within a couple of months. Concluding that biotin is crucial for proper nerves function, they suggest that biotin be used routinely for prevention and management. (*Biomed Pharmacother* 1990; 44(10):511-4). Further proof of B vitamin help for nerves: in the 1990s Cubans suffered an epidemic of nerve pain. When medical experts gave them riboflavin and antioxidant nutrients, their problems decreased (*Am J Clin Nutr* 2000; 71:1676-81S).

Skin

The body's largest organ is also its most vulnerable one; skin can fall victim to threats from both outside (sun, dry air, sharp objects) and inside (high glucose levels, dehydration). Having healthy skin requires caring for its environment both inside and out. Diabetes can add to skin problems. High glucose levels are one reason; many bacteria thrive on sugar, making infections easier to get and harder to cure. Diabetic nerve disease and blood vessel disease are

two other reasons; both can interfere with blood flow to the skin. In addition, nerve damage may dampen your ability to sense irritations and wounds, making it easier to injure yourself and not even notice.

Eye Problems

Diabetic retinopathy, glaucoma and macular degeneration are the leading causes of irreversible blindness according to a recent article in the *FDA Consumer*. Diabetic retinopathy, blood vessel damage in the retina, is the leading cause of new cases of blindness ages 20 to 74. It will occur in 90% of people with Type I diabetes and 65% with Type II diabetes approximately 10 years af-

ter the onset of the disease. These eye problems can progress initially without symptoms before the damage becomes apparent.

Two-three million Americans, age 40 and over, have glaucoma, including half of those who are unaware they have the disease. A common problem for diabetics, they are nearly twice as likely to get glaucoma as other adults. Because of the potential complications, those with diabetes are 25 times more likely to become blind than those without the disease.

The brain and visual system while accounting for only 2% of your body's weight use up to 25% of our nutritional intake. Because the eyes are so metabolically active, blurred vision may be one of the first symptoms of diabetes in an undiagnosed person. Studies show that diabetics not only develop cataracts at an earlier age, but they are twice as likely to develop cataracts as a person without the disease

As visually driven creatures, 80% of what we learn comes in through our eyes. Since there is no known treatment for many causes of blindness, prevention is crucial to ensure a protective supply of antioxidants, phytonutrients, bioflavonoids and targeted herbs for eye health. Good blood sugar control is important, as well as, a diet rich in antioxidants, including **lutein, bioflavonoids, quercetin and rutin, alpha-lipoic acid** and the herbs **bilberry and eyebright**.

In a clinical trial study sponsored by the National Eye Institute (*Archives of Ophthalmology*, Oct. 2001), 3,640 people at high risk of developing Age-related Macular Degeneration (AMD) lowered their risk by 25% when given antioxidants.

Exercise

People with blood sugar problems need to play close attention during strenuous activity. A lot of exercise, too much insulin or not enough food can make blood sugar levels drop too low. The need for sugar may be immediate or if too low, they may experience insulin shock, may pass out. Physical or mental exercise without proper food compensation can become a hypo situation. Generally, eat 30 to 60 minutes before exercise.

In many ways exercise is as or more important than proper food. Exercise tones up muscles, improves digestion and circulation; well-toned muscles and a decrease in body fat will help decrease the symptoms of hypoglycemia. The higher the level of oxygen your body receives, the better you feel and function, since oxygen intake increases when exercising. Both aerobic and anaerobic exercise help muscles metabolize sugar more effectively, resulting in a long-term improvement. Walking is best for diabetics, as it's by far the safest and least stressful.

Additional Studies

Decrease Your Sleep and Increase Your Risk for Diabetes

Sleep loss, just as poor diet, sedentary lifestyle, chronic stress and aging, is a risk factor for Type II diabetes. Research shows that a lack of sleep causes a "sleep debt" increasing insulin resistance and causing the release of more stress hormones. The result: higher blood sugar levels which can raise the risk of obesity, high blood pressure and diabetes.

According to a University of Chicago study, Dr. Eve Van Cauter, found that chronic sleep deprivation (6.5 hours or less of sleep a night) had the same effect on insulin resistance as aging. Healthy adults who averaged 316 minutes of sleep a night (about 5.2 hours) over 8 consecutive nights secreted 50% more insulin than their more rested counterparts who averaged 477 min-

utes of sleep or about 8 hours. As a result, "short sleepers" were 40% less sensitive to insulin. Sleep deprivation, which is becoming commonplace in industrialized countries, may play a role in the current epidemic of Type II diabetes. *American Diabetes Association's Annual Meeting* June 25, 2001 Philadelphia

Daily Soft Drinks Double Diabetes Risk

Did you know...drinking just one sugar-sweetened soft drink a day will double your chances of contracting diabetes, according to a Harvard study published in *The Journal of the American Medical Association (JAMA)*. Conversely, drinking a soft drink only once a month reduces the risk to half that of the daily drinkers. The study followed the habits of 91,000 nurses as a part of a much larger study at Harvard University on diet, health and disease.

Recent Developments

Islet transplantation / Stem cell research

Because stem cells are primordial all-purpose cells from which all tissues of the body develop scientists and entrepreneurs working with them have high hopes of generating insulin-producing cells for diabetics. The islet regeneration program at the Strelitz Diabetes Institutes in Norfolk, VA, conducted by research director Aaron I. Vinik, MD and his team discovered a protein called islet neogenesis-associated peptide (INGAP) that stimulates stem cells to grow and transform into cells that can make insulin. Surprisingly, INGAP, appears to target very specifically the pancreas cells in regenerating pancreases and no other

"Our laboratory is using human fetal pancreatic cells in efforts to develop a cell line which is glucose-responsive," says Director Alberto Hayek, M.D., Whittier Institute for Diabetes in La Jolla, CA. "We have found that cells from human fetal pancreatic tissue, when transplanted into diabetic mice...give rise to insulin-producing cells, which reverse the diabetic state."

CytoTherapeutics Inc. of Lincoln, RI, has an exclusive license to allow it to patent stem cells to treat diabetes. Its key technology is based on islet progenitor stem cells (IPSC), a technology that allows the growth of substantial numbers of islets from stem cells derived from adult donors and can lead to a supply of islets for transplantation therapy, novel growth factors, or both, to treat diabetes.

Touch for Health and Other Interventions

What did we do in those very few moments with Anita in the hospital bed?

We: 1.) corrected switching with K27's only 2.) held NV (Neurovascular) for spleen/pancreas above the ears for a few minutes 3.) massaged front NL (Neurolymphatics) for the latissimus dorsi 4.) held ESR for a two or three minutes while visualizing healing colors. The nurse immediately retook the blood sugar reading. **It had dropped 111 points!**

In the interest of research, several diabetic friends were willing to "prick their fingers before and after" using the Latissimus Dorsi NL's, NV's, K27's, spleen meridian and/or ESR points. Some are also trying different nutritional diets, supplements and herbs. Results we've determined so far:

- a. Massage the K27's and correcting for switching is important as some of the readings would increase if only the NL's or NV's were used.

- b. Stimulating the NL only, raised the blood sugar reading slightly for one person each time, so he was encouraged to correct for switching and to test whether to use the NL, NV, ESR, the meridian and/ or repattern a declaration statement.
- c. For one friend, the reading was 164 the day we began – with demonstrating muscle checking and the different options for “corrections.” The next morning it was 129 ... an unusually low, but good morning reading for her. For this same person, stimulating the **K27’s only** would drop the before/after reading 5 – 9 points...without taking the usual medication, the numbers were all in an acceptable range except one which was slightly high and was lowered by 5 points after massaging the K27’s.

There is definitely a need for more research in using selected simple TFHK techniques. Of course, it would be best to have a complete balance which would include testing the alarm points for “over energy”. It may be that a hypoglycemic state is over energy, that hyper-glycemia may be “under energy” or vice versa; that Type I and II may also test differently, as to whether over energized or under energized thus determining which correction to use. The main point in the research, was to show how using a “medical monitoring device” can measure a before and after result using our Touch for Health techniques with or without declarations and to find simple non-invasive ways for a diabetic or person with other blood sugar problems to help themselves naturally.

Possible Declarations (Goal) Statements

The following are some of the “tools” we use with TFHK balances or repatterning work. Possible declaration (goal) statements after each book or chart information related to blood sugar problems will follow the descriptions. After many years of using declarations with students, clients, we feel it is important to use all of person’s given names in creating a present tense, 1st person, **declaration**, declaring what you’d like to be **positively** true, contradicting “the way it is” currently...in other words “the way you’d like it to be.”

EX. ‘I, Tweety, Tweet, Twee Bird, feel calm comfortable and secure around Sylvester Cat.” (all names positive way you’d like it to be contradicts current time)

(from *PKP Energy Wheel Emotions Chart* by the Dewes, Bruce and Joan) Spleen: Empathy, Rejected, (Dis)approved, Faith in the future

(list from **Feelings Buried Alive**, Karole Truman, ’91)

Diabetes: Judging self or others severely, Disappointed in life, Ongoing feeling of sorrow, Emotional shock, Joy of life is gone, Obsessed with wanting to control, Feeling it should have been different.

Blood disorders: Feeling powerless in some area of life, Feelings of deep anger, Feelings of longstanding ill well, Intense depression

Blood Problems: Not feeling joy in life, Stagnant thinking, Unable to flow with life, Feelings of fear

Hypoglycemia: Feelings of overwhelmed burdens, Feelings of lack of joy in life

Pancreas: Feelings of judgment, Incorrect use of ego, Feelings of guilt, Not allowing joy, Low self-esteem, Suppressing laughter

****Possible declarations** (goal) statements related statements you might use in your balances, or repatterning, or

I, _____, believe in myself, have self-confidence, high self-esteem, a positive self-image and value, accept, honor, respect and trust myself.

I, _____, feel and embrace joy in my life, and no longer feel ongoing sorrow and disappoint with life.

I, _____, accept and appreciate myself and others, and no longer severely judge myself and others.

I, _____, flow with life and no longer am obsessed with control or wanting to control.

(from the *Behavioural Barometer* by 3 in 1 concepts)

Other words on the chart certainly may apply; I found the predominant one for diabetes and blood sugar problems:

Conscious Resentment/Interest
Hurt/ Fascinated and Embarrassed/Tuned-in

(from *Chakra Awareness Guide* by AMI)

Solar Plexus: pancreas, adrenals, stomach, liver, gallbladder, nervous system, muscles

Qualities/lessons: will, personal power, authority, energy, self control, radiance, warmth, awakening, humor, laughter, transformation

Negative quality: taking in more than one can assimilate and utilize; too much emphasis on power and recognition. Anger, fear, hate; Digestive problems

(from *Charter Life Statement* list by Malcom and Sue Chaffer of Sydney; Carol Albee of US)

Predominant statement found for diabetics/ blood sugar problems from the Charter list of 194:#117 “I can be appreciated.”

I, _____, can, am and feel appreciated.

(from *Core Belief* list)

Pancreas/Blood Sugar/Diabetes: Love and approval (I must have the love and approval from all the people I find significant in order to be worthwhile.)

I, _____, know, feel and am a worthwhile person and no longer must have the approval from significant people in my life in order to be worthwhile.

(from *Attitudinal Awareness Chart*)

Pancreas - the capacity to take in, assimilate and balance the sweetness of life. The balance of giving and receiving love. uncertainty, worry, mental confusion, anger, hostility, bitterness, and/or resentment can take the “sweetness” out of one’s life

and blood; resulting in imbalances. Problems in this area may indicate issues of rejection and abandonment, feeling unaccepted, self-pity and/or sorrow, feeling deprived of the “sweet” things in life; inability to handle/assimilate the sweetness/beauty of the life; loneliness, holding onto life too tightly.

www.flourishwellness.com

<http://huizen.dds.nl/~hypo/faq>, Hypoglycemia Homepage Holland, Copyright (C) 1996, 1997, 1998 by Lars Idema, The Netherlands

www.LibraryforDiabetes.com

www.msnbc.com Newsweek Health Center

Possible declarations:

I, _____, am clear, certain and safe, knowing all is well and that everything is working out for my highest good.

I, _____, am and feel accepted.

Other related areas to you might want to create declarations for would be: Exercise issues, Weight issues, Sleep issues, Immune system issues, Dieting and eating pattern issues. I encourage you to share any results you might discover if you balance anyone to help manage their blood sugar problems.

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Notes: