

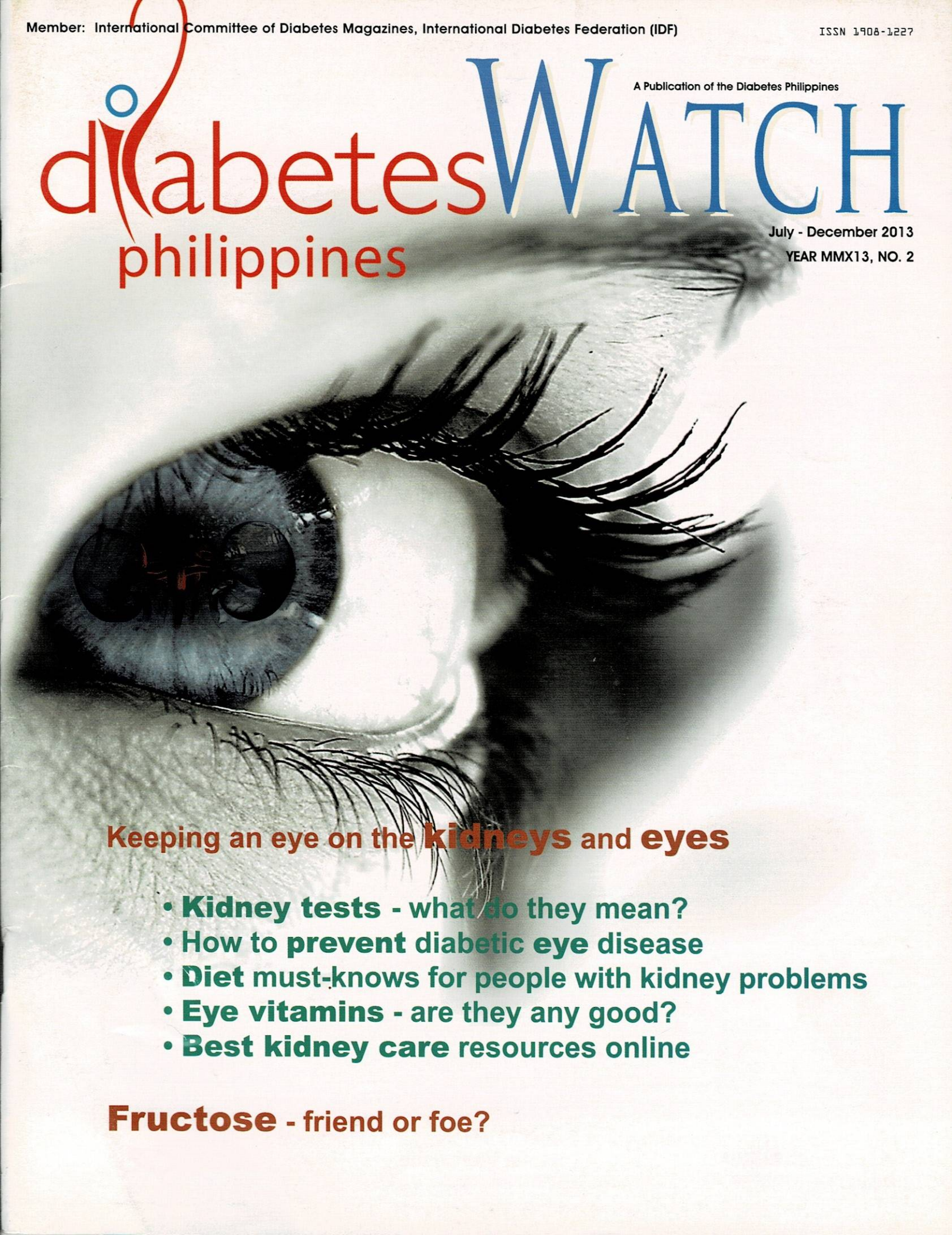
diabetesWATCH

A Publication of the Diabetes Philippines

philippines

July - December 2013

YEAR MMX13, NO. 2



Keeping an eye on the **kidneys** and **eyes**

- **Kidney tests** - what do they mean?
- How to **prevent** diabetic eye disease
- **Diet** must-knows for people with kidney problems
- **Eye vitamins** - are they any good?
- **Best kidney care** resources online

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From the EDITOR'S DESK



Shared Window

*Friends are like windows
through which you see out
into the world
and back into yourself...
If you don't have friends
you see much less
than you otherwise might.
~Merle Shain*

The eyes are windows to the kidneys and vice versa.

Emerging data show that eye and kidney diseases may be inextricably linked. The eye and kidney bear striking similarities in structure, development, physiology and pathology.

Ocular manifestations such as retinal blood vessel abnormalities (or diabetic retinopathy) predict development of chronic kidney disease (CKD). In turn, CKD patients are at higher risk for eye diseases such as diabetic retinopathy, cataract and glaucoma. Eye and kidney diseases also share risk factors besides diabetes such as smoking, hypertension and high cholesterol levels.

Diabetic retinopathy is the leading cause of blindness worldwide among working-aged adults, affecting about 93 million people, while diabetic kidney disease affects about a third of people with diabetes and is the leading cause of chronic kidney disease in many countries.

Both eye and kidney disease exact tremendous cost to health, wealth and quality of life. To help stop both disorders, we've highlighted ways to detect and deal with them in the pages that follow.

Peek through the window of one organ and you just may discover clues to ailments in the other.

Joy
Joy Arabelle C. Fontanilla, MD
Editor-in-Chief



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The prime mover of effective prevention and excellent diabetes care in the Philippines

OUR VISION

By 2020, we envision:

1. Fewer Filipinos with diabetes
2. Improved quality of life for Filipinos with diabetes

OUR VALUES

INTEGRITY Above all, the nobility of our purpose.

We serve patients, pursue education and conduct research with zeal and without regard for personal gain. Honesty and transparency rule our behavior in relating with fellow members, partners, supporters and other stakeholders of our organization.

EXCELLENCE Passionate workers, we expect from ourselves only the best effort.

We continuously upgrade our knowledge and skills, adopt ever-improving technologies, and expand the reach of our services to attain our vision. Our mentors, generous with their knowledge and time, model excellent leadership.

COOPERATION We work as one for the common good, enjoying the camaraderie, observing respect and maintaining loyalty even in dissent. We partner with institutions and other specialties that aim for the same goal. Caring for everyone's well being, we make work pleasant for members and staff.

COMMITMENT Persistent in our search for solutions to diabetes. We have selflessly devoted five decades to the improvement of diabetes care, education and research to prevent the onset of the disease in high risk individuals and the complications in those already afflicted by it. We take on responsibilities with diligence until their successful conclusion.

Your PRESIDENT SPEAKS



Diabetes Philippines, serving Filipinos with diabetes and their relatives, continuously works to update physicians, allied health care providers and the general public in the field of diabetes. We dream of a future with fewer Filipinos with diabetes. Lives should not be shortened nor their quality be diminished because of diabetes.

The escalating prevalence of diabetes and its complications can only be arrested when all work hand-in-hand for the prevention and early treatment of this disease. Diabetes Philippines works in alliance with other health care practitioners, societies and associations, lay and professional groups to curb this modern day malady. Integrity, excellence and commitment to our noble responsibility are values handed down to us by our elders. These drive us to reach our goals through cooperation and good will, caring for everyone's well-being.

"Forging an alliance to stop diabetes" was our theme during the 2013 Diabetes Philippine Annual Convention. In this alliance we reach out to all and fight diabetes - sa isip, sa salita at sa gawa.

Richard Elwyn V. Fernando, MD
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diabetes philippines

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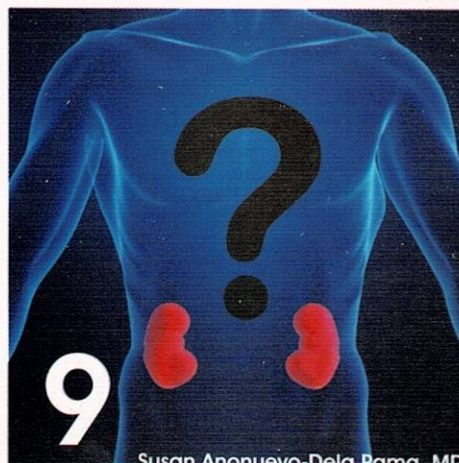
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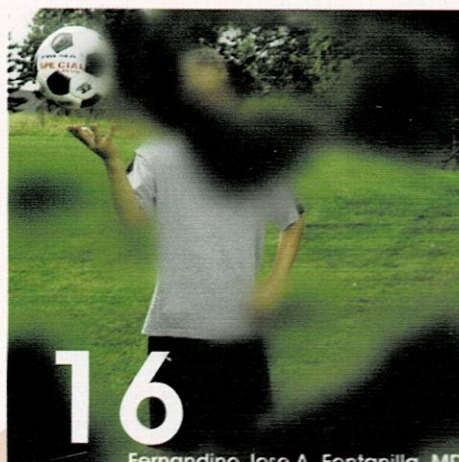


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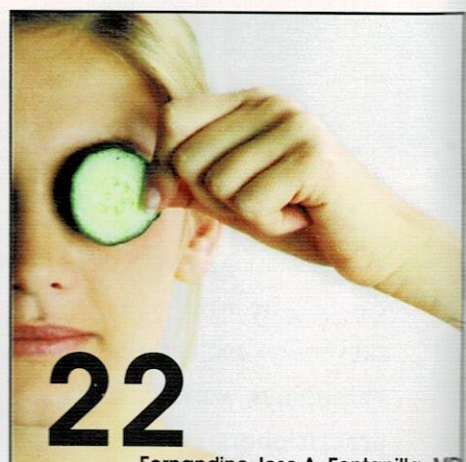
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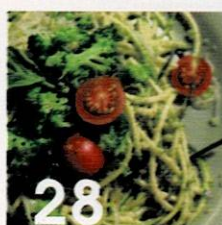
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DIABETES QUERIES

Florence Amorado-Santos, MD
Mary Mediatrix Medical Center



Diabetic nephropathy or kidney disease brought by diabetes is the most dreaded complication by many patients. The thought of undergoing dialysis seems unimaginable and many would rather succumb to accepting it as a "no-win" situation after all. Just like any other organ which can be affected by diabetes, the kidneys can also benefit through constant monitoring and awareness of how the interplay of blood sugar, blood pressure, blood fats and infection can all provide insult. Everything still boils down to PREVENTION.

I am a newly diagnosed diabetic and I read in a lifestyle magazine that there are early warning signs of

kidney damage in a patient with diabetes. What are the signs to watch out for and what tests should I undergo?

There are several ways of determining if the function of your kidneys has waned. A simple urinalysis can reveal much information such as presence of infection which sometimes recurs in diabetic patients with poorly controlled blood sugar. The presence of protein (at times manifested as "bubbly urine") is also an important finding which gives an idea if the kidney's ability to conserve protein is intact. This can be further confirmed either with a random urine protein determination or a 24-hour urine collection (you can ask your doctor how these tests are done). Other tests are serum creatinine (through blood test) and ultrasound of the kidneys and bladder.

My dad was started on insulin by his endocrinologist because of his poorly controlled blood sugar and increasing creatinine (which they say reflects the function of his kidneys). He is very apprehensive and has mild depression thinking that he is getting worse and might go into dialysis. Is this a worrying situation?

Shifting diabetes management to insulin had been equated to a worsening condition but this is not always the case. Your dad was shifted to insulin regimen to further protect and somewhat "rest" the kidneys from oral-agent overload. An increasing creatinine may indicate some damage to the kidneys and needs further workup to determine the etiology (diabetes is not the only cause of kidney disease) and the extent of the impairment. This is where monitoring will be very important. Tell your dad not to think of dialysis yet! He will benefit from the insulin therapy by having good glucose control and less tablets to go through his kidneys.

My 65-year-old mother had been undergoing hemodialysis for 2 years now. We noticed lately that she had been having hypoglycemic attacks during her sessions. There was an instance when the nurses needed to stop her dialysis because she suddenly lost consciousness. What can we do to prevent these low sugar attacks?

Yes, this happens in patients on hemodialysis. Some centers may allow patients to eat during hemodialysis, but some do not. Make sure that the interval of her meal and her dialysis schedule will be a short one, if not, make sure she takes even a small snack prior. If she is on insulin injections, maybe you can postpone her shot before she goes to dialysis and plan on giving the insulin after. If she is on oral hypoglycemic tablets, you can also adjust the time of her intake. Generally, she might need tailored doses of medications during her dialysis. You may opt to monitor her blood sugar every hour during dialysis to prevent overt hypoglycemia, sort of an anticipatory measure.

When my diabetic husband was discharged from the hospital, we were prescribed "diabetic/renal diet". As I read the brochure given to us by the dietitian, it's as if he can't eat anything at all anymore due to a lot of restrictions. How can I make his diet simpler?

His caloric requirement is based on his height, weight, activity and most importantly in his case, his kidney function.

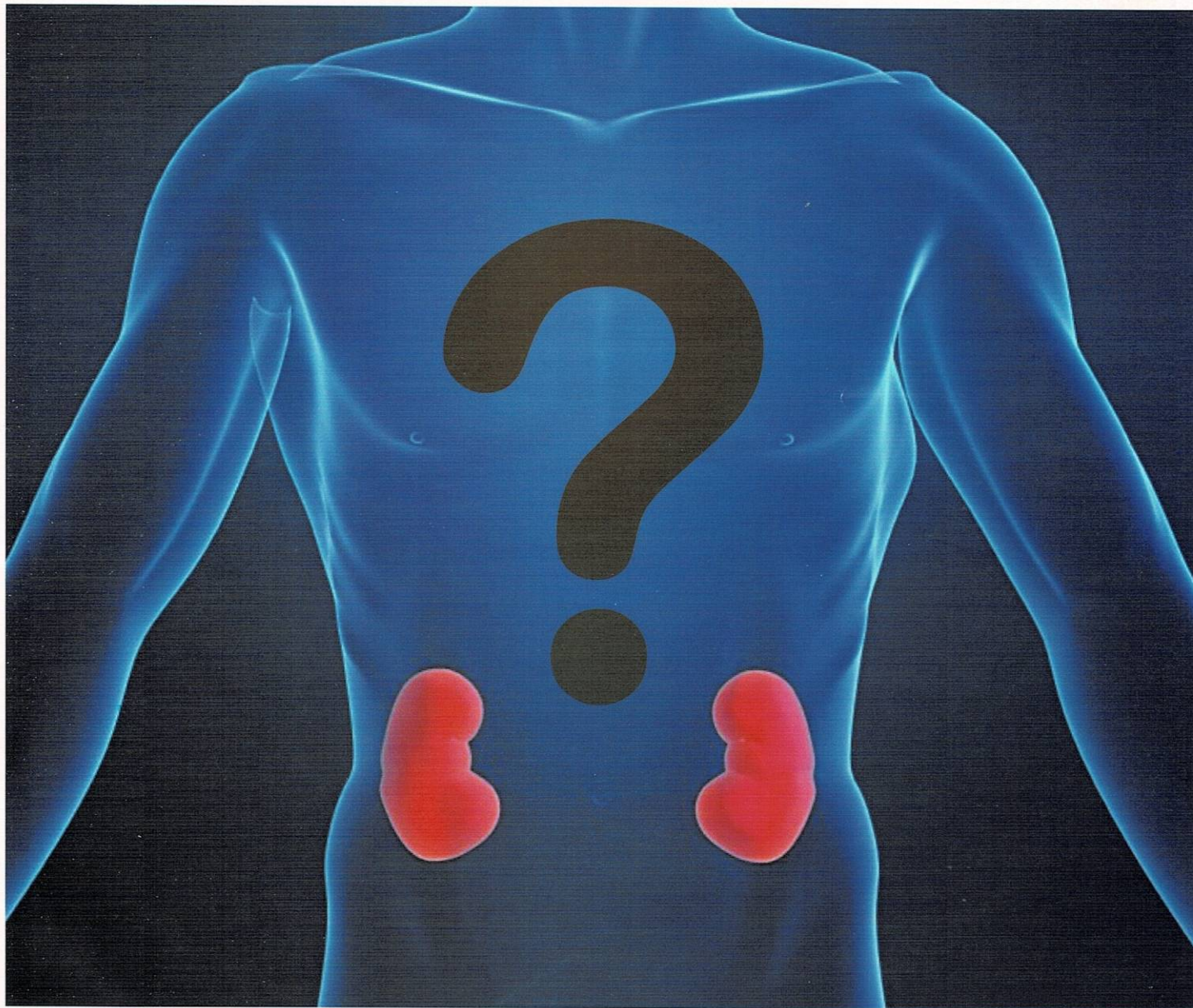
There are additional restrictions basically with his salt intake and the amount of protein that he can consume. These are important details so his kidney won't be compromised further. Consult a certified dietitian who can give you a meal plan based on his computed prescription.

Dietary department usually has simple guides for you to follow at home so you can prepare his balanced meals. ○

For more queries and suggestions, feel free to email the writer at xygrence@yahoo.com

Kidney Tests - What Do They Mean?

Susan Anonuevo-Dela Rama, MD
Cardinal Santos Medical Center



It makes me wonder how fearless some people are about diabetes. Never mind that it is among the top on the list of killer diseases in the whole wide world. I am not quite sure whether those who are responsible for educating the public have not done enough, or people are simply unmindful of what misfortune awaits them if they have it and don't take care of their health. Ignoring the warnings can lead

one to the road to perdition, meaning, morbid complications or even death.

Few decades back, the number one cause of kidney failure in the Philippines was glomerulonephritis. At the turn of the century, diabetes has taken over the top spot. It simply means that diabetes is a disease that is relentlessly rising. Needless to say, the complications it brings are, in parallel,

exponentially on the rise. Cardiovascular diseases, nephropathy, retinopathy, diabetic gangrene of the limbs and other complications are seen causing tremendous socioeconomic impact in individuals, families and the community in general.

What could be done? If there's a point where the morbid complications can be avoided, or at least mitigated, the

intervention must be done very early on. Over and over again, prevention has been emphasized and if only this is taken seriously, many complications could be avoided, and many lives could be saved.

What the tests are

Patients with family history of diabetes must be on the lookout, as the looming possibility of having the same problem must not be ignored. More importantly, for those who have been diagnosed to be diabetic, monitoring for the complications cannot be overemphasized. What are these tests and when should these be done.

URINALYSIS. The single most important screening test for kidney disease is urinalysis. It is the window to the urinary tract. Urinalysis alone is an inexpensive test that could sometimes reveal some conditions even in many asymptomatic patients. For diabetics, a urinalysis which will show albuminuria or proteinuria in the absence of urinary tract infection (pyuria), is suggestive of renal complication (nephropathy). The presence of such finding is an indication to evaluate the patient further for baseline data which will serve as reference for further monitoring of the patient. The severity of the albuminuria usually increases with the progression of the nephropathy. While a urinalysis that shows albuminuria is highly suggestive of nephropathy, a trace or negative protein could possibly miss a beginning nephropathy.

MICROALBUMINURIA TEST. A yearly microalbuminuria test is recommended to identify patients with diabetic kidney disease (DKD). This is done to distinguish DKD patients from diabetic patients with chronic kidney disease (CKD) from other causes. The latter require further investigation and possibly different clinical management.

It is best that the renal effect is discovered in the earliest stage, to be able to institute measures to prevent the progression into dismal

morbid complications.

For Type 1 diabetes, screening is started 5 years after diagnosis and for Type 2 diabetes at diagnosis and then annually thereafter.

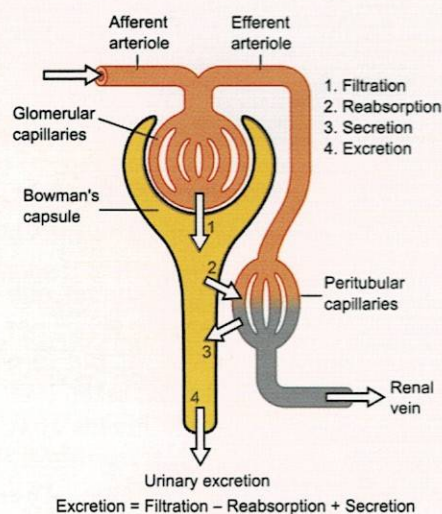
Category	Spot (mg/g creatinine)
Normoalbuminuria	<30
Microalbuminuria	30-300
Macroalbuminuria	>300

Taken from KDOQI Guidelines for Screening for Microalbuminuria in Patients with Diabetes

Is it microalbuminuria? Measure urinary albumin creatinine ratio (ACR) in a spot urine sample.

GLOMERULAR FILTRATION RATE (GFR).

GFR is a measure of the renal function and an important tool in the monitoring of the status of the kidney during the course of kidney disease. It is calculated on the basis of factors such as age, gender, race and blood creatinine. Normal values are between 90-120ml/min and a GFR value below 60ml/min could mean that some kidney damage has occurred. Early in the course of diabetic nephropathy patients, the GFR values may be elevated because of hyperfiltration. While the values may seem favorable, the implication is not as it is a risk factor for the development of progressive diabetic nephropathy. In the more advanced stages of diabetic nephropathy, the GFR ultimately leads into a more rapid decline.



http://en.wikipedia.org/wiki/Renal_function

CREATININE. It is one of the most common tests done among renal patients. It reflects the efficacy of the kidneys in the excretion of metabolic wastes in the body. High creatinine reflects impaired excretory function of the kidneys. While it is an important test, a normal creatinine level in a diabetic patient with hyperfiltration, should be monitored closely as the latter is a significant indication of the progression of renal disease. As the disease worsens, the creatinine is expected to progressively increase.

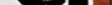
The three tests earlier mentioned constitute the monitoring tools in status of kidney disease. Other tests are utilized appropriately depending on the stage of the renal illness.

ULTRASOUND OF THE KIDNEYS. An ultrasound is normally requested in patients suspected to have renal disease including patients with diabetes. In the early stages, the ultrasound of the kidneys is commonly normal, and therefore not a reliable diagnostic tool for diabetic nephropathy. While it could be a good test for other conditions like stones or tumors, and the size and the corticomedullary features may be used to interpret the chronicity of the renal disease in glomerulonephritides, ultrasound findings in diabetic nephropathy is not diagnostic. The renal sizes commonly remain within normal limits, and sometimes even mildly enlarged.

The appropriate tests must be done early if the renal complications from diabetes are to be avoided. The serious complications of this illness remain largely unsolved because of the passive and uncaring attitude of the patients. It is therefore incumbent upon the physician to be conscientious in detection of early signs of diabetic renal disease and to be aggressive in resetting the mindset of diabetic patients towards prevention, rather than treating the late and worse renal complications. ○



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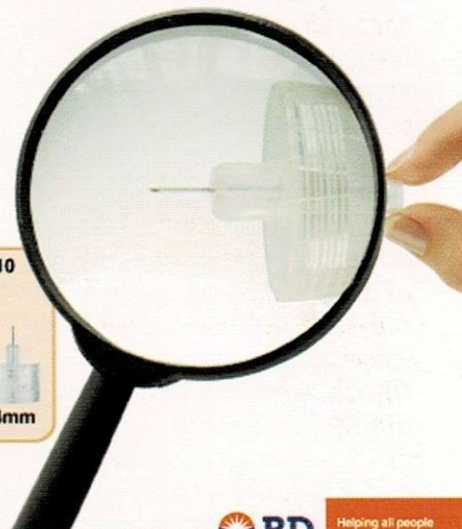
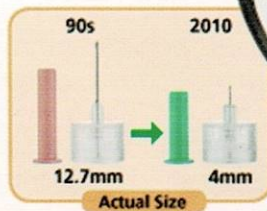
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Fructose: Friend or Foe

Sanirose S. Orbeta, FADA
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Fructose is a simple sugar that occurs naturally in fruits, some vegetables, honey and table sugar. Fructose also makes up about half of the sugars in both table sugar and high-fructose corn syrup (HFCS). Fructose may also be added to certain foods as either crystalline fructose or liquid fructose. Like other sugars, crystalline and liquid fructose supply about 4 calories per gram. Crystalline fructose is made from

cornstarch. It looks and tastes much like table sugar and may be used in baked goods, frozen foods, beverages and tabletop sweeteners.

The intake of dietary fructose has increased significantly over the last three decades. There has been a 25% increase in available "added sugars" during this period. The Continuing Survey of Food Intake by Individuals over the last decades showed that the



average person had a daily added sugar intake of 79 g (equivalent to 316 kcal/d or 15% of energy intake), approximately half of which was fructose. More important, persons who are ranked in the top one-third of fructose consumers ingest 137g added sugars/d or 28 tsp, and those in the top 10% consume 38 tsp, with half of that amount being fructose. If there are health concerns with fructose, then this increased intake could aggravate those problems.

Before the European encounter with the New World 500 y ago and the development of the worldwide sugar industry, fructose in the human diet was limited to a few items. For example, honey, dates, raisins, molasses and figs have a content of > 10 % of this sugar, whereas a fructose content of 5-10% by weight is found in grapes, raw apples, apple juice,

persimmons, and blueberries. Milk, the main nourishment for infants, has essentially no fructose, and neither do most vegetables and meats, which indicate that human beings had little dietary exposure to fructose before the mass production of sugar.

Most fructose in the diet comes not from fresh fruit, but from HFCS or sucrose (sugar) that is found in soft drinks and sweets, which typically have few other nutrients. Soft drink consumption, which provides most of this fructose, has increased dramatically in the past 6 decades, rising from a per-person consumption of 90 servings/y (~2 servings/wk) in 1942 to that of 600 servings/y (~2 servings/d) in 2000. More than 50% of preschool children consume some calorie-sweetened beverages. Children of this age would not normally be

exposed to fructose, let alone in these high amounts. Because both HFCS and sucrose are "delivery vehicles for fructose", the load of fructose has increased in parallel with the use of sugar.

Fructose Metabolism

Fructose is an intermediary in the metabolism of glucose, but there is no biological need for dietary fructose. When ingested by itself, fructose is poorly absorbed from the gastrointestinal tract, and it is almost entirely cleared by the liver - the circulating concentration is ~0.01 mmol/L in peripheral blood, compared with 5.5 mmol/L for glucose.

Fructose differs in several ways from glucose, the other half of the sucrose (sugar) molecule. Fructose is absorbed from the gastrointestinal tract by a





different mechanism than that for glucose. Glucose stimulates insulin release from the isolated pancreas, but fructose does not. Most cells have only low amounts of the glut-5 transporter, which transports fructose into cells. Fructose cannot enter most cells, because they lack glut-5, whereas glucose is transported into cells by glut-4, an insulin dependent transport system. Finally, once inside the liver cell, fructose can enter the pathways that provide glycerol, the backbone for triacylglycerol. The growing dietary amount of fructose that is derived from sucrose or HFCS has raised questions about how children and adults respond to fructose alone or when it is accompanied by glucose. In one study, the consumption of high-fructose meals reduced 24-h plasma insulin and leptin concentrations and increased postprandial fasting triacylglycerols in women, but it did not suppress circulating ghrelin, a major appetite-stimulating hormone.

Fructose is metabolized, primarily in the liver, by phosphorylation on the 1-position, a process that bypasses the rate-limiting phosphofructokinase step. Hepatic metabolism of fructose thus favors lipogenesis, and it is not surprising that several studies have found changes in circulating lipids when subjects eat high-fructose diets.

In the study conducted by Aeberli, et al, dietary factors, especially fructose, were examined in relation to body mass index, waist-to-hip ratio, plasma lipid profile, and LDL particle size in 74 Swiss schoolchildren who were 6-14 y old. In that study, plasma triacylglycerols were higher, HDL-cholesterol concentrations were lower, and lipoprotein (LDL) particle size was smaller in the overweight children than in normal-weight children. Fatter children had smaller LDL particle size, and, even after control for adiposity, dietary fructose intake was the only dietary factor related to LDL particle size. In this study, it was the free

fructose, and not sucrose, that was related to the effect of LDL particle size.

Studies in rodents, dogs, and nonhuman primates eating diets high in fructose or sucrose consistently show hyperlipidemia. The current report by Aeberli, et al suggests that the higher intake of fructose by school-age children may have detrimental effects on their future risk of cardiovascular disease reducing LDL particle size. It is interesting that this study did not find a relation of dietary fructose with triacylglycerols but did find a relation with the more concerning lipid particle, LDL cholesterol. Another recent report has proposed a hypothesis formed from ATP after phosphorylation of fructose in the liver drives the production of uric acid, which utilizes nitric oxide, a key modulator of vascular function. The studies by Aeberli, et al and Nakagawa, et al suggest that the relation of fructose to health needs re-evaluation.

Some Sweet Indulgence

First, it is sweeter than either glucose or sucrose. In fruit, it serves as a marker for foods that are nutritionally rich. However, in soft drinks and other "sweets", fructose serves to reward

sweet taste that provides "calories", often without much else in the way of nutrition. Second, the intake of soft drinks containing high-fructose corn syrup or sucrose has risen in parallel with the epidemic of obesity, which

suggests a relation. Third, the article in this issue of the journal and another article published elsewhere last year implicate dietary fructose as a potential risk factor for cardiovascular disease.

1 Teaspoon	Provides the following number of calories:
Brown sugar (packed)	17
Confectioner's sugar	10
Corn Syrup	19
Crystalline Fructose	15
High-fructose corn syrup	18
Honey	21
Maple sugar	11
Molasses	19
Table sugar	16

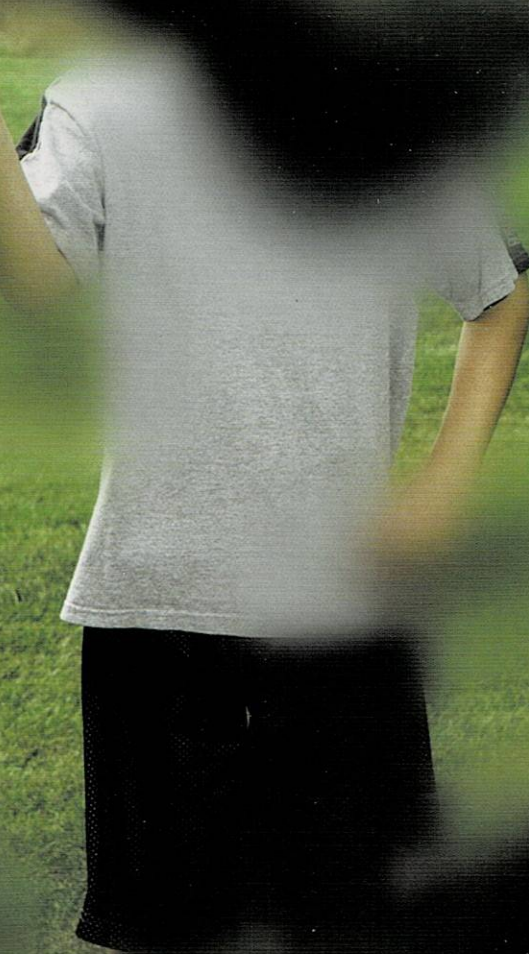
Amounts of Various Sugars in Everyday Foods

Description	Grams (rounded)
Apple, medium	14
Bread, whole grain, 1 slice	2
Carbonated beverages, cola-type, 12 fl oz can	33
Carrots, 1 cup cooked	5
Catsup, 1 tbsp	3
Chocolate candy bar, 1.55 oz	25
Grapes, 1 cup	25
Milk, 1%, 1 cup	13
Oatmeal cookie, 1	6
Orange juice, fresh, 1 cup	21
Sweet corn, 1 cup cooked	5

Source: USDA National Nutrient Database for Standard Reference, Release 18, 2005

The Bottom Line:

Consumers, especially people with diabetes, must adopt a balanced approach in choosing carbohydrate-rich foods (such as rice, breads, potatoes, noodles and pasta) and sugars. All foods are safe when taken in moderation and variety, so plan your meals according to your medical condition. If not, it could be a source of friendly joy or a dreaded foe. 



Diabetic Eye Disease - *How to Prevent and Treat*

Fernandino Jose A. Fontanilla, MD
Asian Hospital and Medical Center

Diabetes is a disease that can affect various organs in the body, including the eye. People with diabetes are at an increased risk of developing eye problems. In the United States, diabetes is the leading cause of blindness in adults age 20-74, according

to the American Diabetes Association.

What are the complications of diabetes in the eyes?

Diabetic eye disease refers to a group of eye problems that may afflict people with diabetes. This can include any of the following diseases:

- Diabetic retinopathy -Diabetes can cause damage to the blood vessels in the retina, resulting in vision problems. The retina is the light-sensitive tissue that lines the inside of the eye.
- Cataract - Cataracts occur when the human lens inside our eyes lose their transparency, leading to a decrease in

vision. Cataracts are commonly seen in older people but they can develop at an earlier age in people with diabetes.

- **Glaucoma** - Glaucoma is a condition wherein there is damage to the optic nerve of the eye, resulting in loss of peripheral vision. In severe glaucoma cases, even central vision can be lost. There are many causes of glaucoma, one of which is diabetes.

Diabetic Retinopathy

Diabetic retinopathy (DR) is the most common diabetic eye disease. Worldwide, It accounts for 2% of all legally blind patients and 10% of those with severe visual handicap, according to the World Health Organization. In the United States, it affects about 50% of people with diabetes mellitus. Worldwide, the prevalence rates ranges from 9% to 71%, and these rates are expected to increase further over the next 20 years.

In patients with diabetic retinopathy, blood vessels develop abnormalities resulting in leakage of fluid. This leakage can lead to macular edema (swelling of the macula), causing decreased vision. In severe cases, there is poor oxygenation of the retina and abnormal blood vessels can grow on the surface of the retina causing further damage.

In early stages of diabetic retinopathy, a patient with diabetes may not notice any change in vision. But over time, diabetic retinopathy can get worse and cause deterioration of vision. Diabetic retinopathy usually affects both eyes.

Cataracts

Clouding or fogging of the normally clear lens of the eye results in what is called a cataract. The lens of the eye is similar to the lens of a camera, which allows for focusing of an image. A cloudy lens will result in inability to focus clearly. Cataracts may progress more rapidly in diabetic patients than

in people without diabetes.

Glaucoma

Diabetes is often associated with a rare type of glaucoma called Neovascular Glaucoma. In diabetes, abnormal blood vessels can grow on the iris (the colored part of the eye), hampering the flow of fluid inside the eye, resulting in increased eye pressure. Persistent elevated eye pressures can eventually lead to decreased vision and blindness, if not treated.

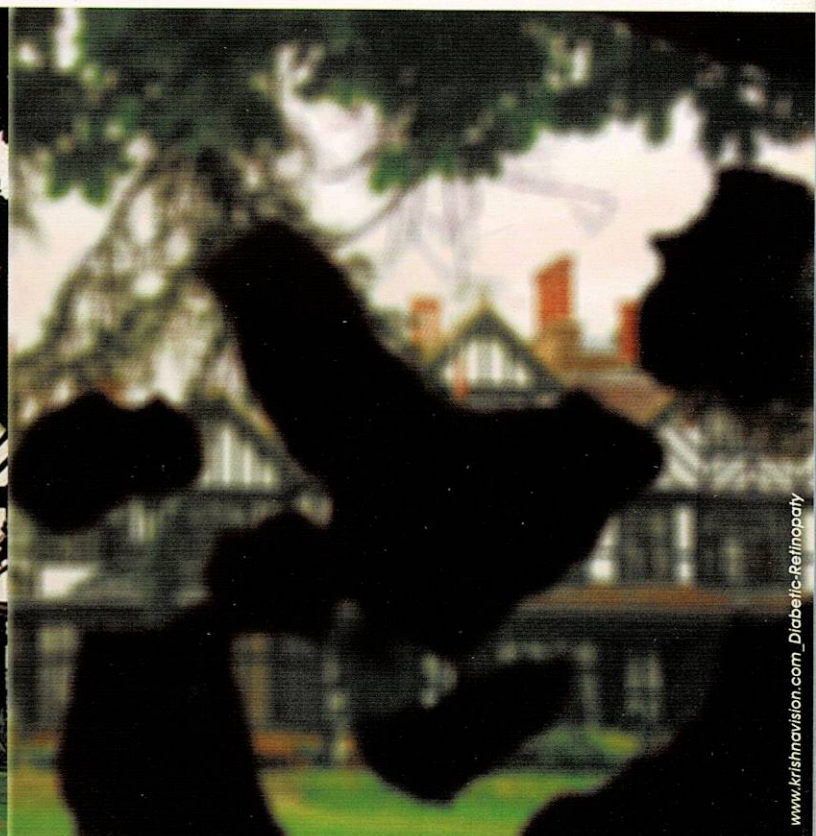
Who are at risk for diabetic eye disease?

Everyone with diabetes--whether type 1 or type 2 -- are at risk of developing diabetic eye disease. The longer a person has diabetes, the more likely he or she will develop eye problems. In the United States, between 40 to 45 percent of Americans diagnosed with diabetes have some stage of diabetic retinopathy. During pregnancy, diabetic women may also develop

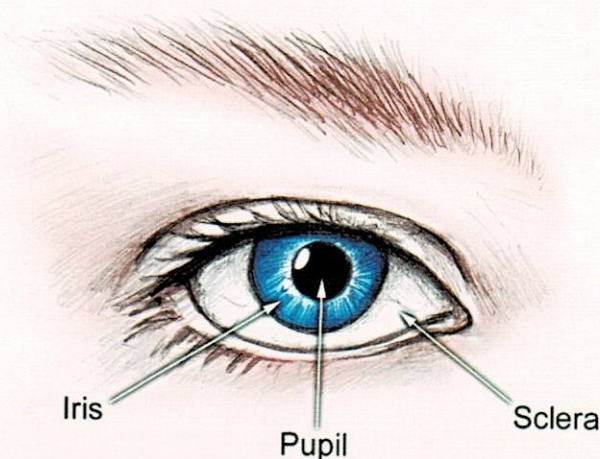
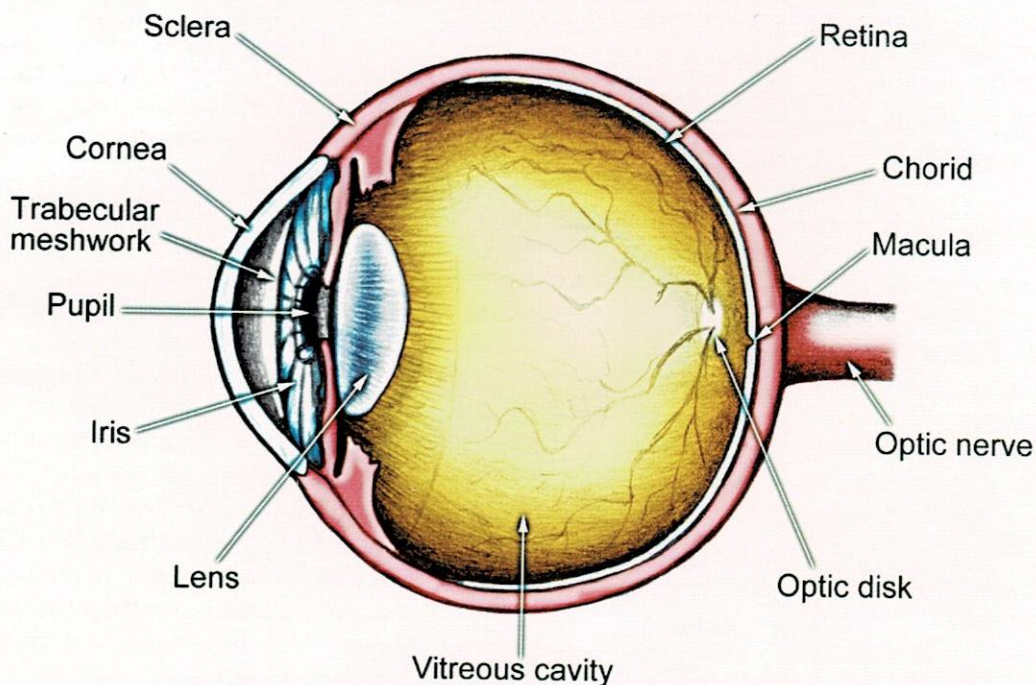
Same scene viewed by a person with



Normal Vision



Diabetic Retinopathy



diabetic retinopathy so it is important for these women to have their eyes checked when they are pregnant. Diabetics have a 60% higher chance of developing cataracts than non-diabetic persons, and they tend to get cataracts at an earlier age than most. A person with diabetes is twice as likely to develop glaucoma than persons without diabetes.

What are the symptoms of diabetic eye disease?

Oftentimes, patients with diabetic eye disease may not notice any eye problems. A diabetic patient can still see well despite the presence of retinopathy or macular edema. Usually, by the time symptoms are experienced by these patients, the diabetic eye

disease is already at an advanced stage, making it more difficult to restore their vision to what it was before. Blurred vision is a common complaint in patients with diabetic eye disease. Blurring may occur due to any of the following:

- Macular edema - Edema or swelling of the retina is commonly seen in patients with diabetic retinopathy.
- Cataracts - Patients with cataracts complain of cloudy vision, glare and difficulty of driving at night.
- Vitreous hemorrhage - Vision is blocked or obscured by blood inside the eye that leaked from abnormal blood vessels.

Other symptoms can be the presence of spots, specks or "floaters" in one's vision, due to traces of blood. If spots occur, see an Ophthalmologist as soon as possible before more serious bleeding occurs.

Rarely, patients may complain of eye pain. This may be due to elevated eye pressures caused by glaucoma. If left untreated, diabetic eye disease can cause severe vision loss and even blindness. The earlier a patient with diabetes receives treatment, the more likely that treatment will be effective.

How can diabetic eye disease be detected?

The presence of diabetic eye disease

can be detected during a comprehensive eye exam conducted by an Ophthalmologist. This eye exam includes the following tests:

Visual acuity testing. A visual acuity test is a routine part of an eye exam and is something most patients are familiar with. This test determines the smallest letters a person can read on a standardized vision chart that is usually placed 6 meters or 20 feet in front of that person. In short, this visual acuity test measures how well a person sees distant objects.

Dilated eye exam. This exam allows the eye doctor to see the inside of the eyes and check for signs of diabetic eye disease. Drops are placed on the patient's eyes to widen, or dilate, the pupils. With the use of a special magnifying lens, the eye doctor can examine the optic nerve and retina and look for signs of damage, such as a large optic nerve cup (usually seen in glaucoma), leaking blood vessels (seen in diabetic retinopathy) and retinal swelling (macular edema).

Tonometry. Tonometry is a test to measure the pressure inside the eye.

A high pressure inside the eye may indicate the presence of glaucoma.

Fluorescein Angiogram. Depending on the findings of the eye doctor during the dilated eye exam, he or she may suggest a fluorescein angiogram. In this test, a special fluorescein dye is injected into the arm of the patient and photographs of the retina are taken as the dye passes through the retinal blood vessels. The test allows visualization of the integrity of retinal blood circulation and detection of any leaking blood vessels that may need treatment.

How is diabetic eye disease treated?

Diabetic retinopathy - During the first three stages of diabetic retinopathy, no treatment is necessary unless a patient has macular edema. More advanced stages of diabetic retinopathy may need to be treated with lasers. Laser treatment is a relatively painless procedure that is done in an outpatient clinic setting. Two or three consecutive sessions may be necessary to complete the treatment, each session lasting about an hour.

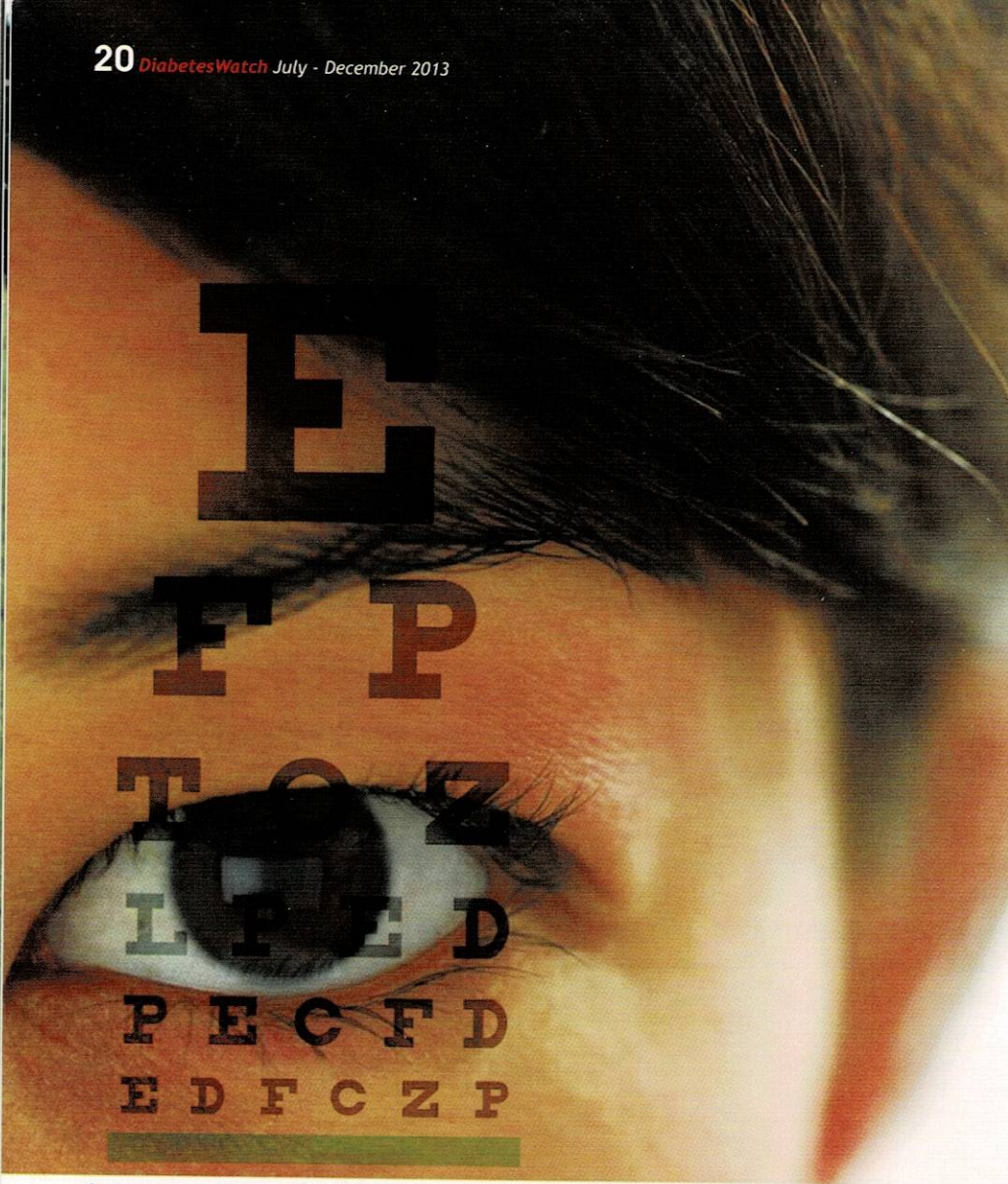
Laser treatment can reduce the risk of blindness by up to 90 percent. However, laser surgery often cannot restore vision that has already been lost. That is why finding diabetic retinopathy early is the best way to prevent vision loss.

Various studies have shown that prompt treatment of macular edema with drugs that inhibit a protein called Vascular Endothelial Growth Factor (VEGF) have resulted in better vision. These drugs, when injected into the eye, may reduce fluid leakage and can interfere with the growth of abnormal blood vessels in the retina. This procedure is normally done in an operating room but the patient is able to go home immediately after the intraocular injection.

If there is severe bleeding inside the eye, or if the retina is detached, laser treatment or anti-VEGF injections may not be effective. A surgical procedure called vitrectomy may be necessary. Vitrectomy is usually done in the operating room under general anesthesia and may take a few hours to perform.



photo taken from www.hollows.org.nz



Cataracts - If a patient has cataracts, they have to be removed surgically in order to restore vision. The surgery, called phacoemulsification, usually takes less than 30 minutes. Part of the surgery includes the placement of an artificial lens (intraocular lens implant) inside the eye immediately after the cataract is removed. Cataract surgery is performed in an operating room and is frequently done on an outpatient basis. The patient is usually able to see well a few hours after the procedure.

Glaucoma - Neovascular glaucoma is very difficult to treat. Treatment requires lowering the eye's pressure through the use of eyedrops and/or oral medications. Laser treatment may be done to shrink the abnormal blood vessels on the iris and on the retinal surface. Glaucoma surgery using drainage implants have also shown some success.

What can diabetic patients do to protect their eyes?

Everyone with diabetes can take precautions to help reduce their risk of developing these serious eye problems. Here are some important pointers for diabetic patients:

1. Schedule regular appointments with an Ophthalmologist so that any eye problem can be detected early and treated immediately, if needed. Whether or not a patient has symptoms, early detection and intervention is the best way to prevent vision loss. People with proliferative diabetic retinopathy can reduce their risk of blindness by up to 95 percent with timely treatment and regular follow-up care.
2. Maintain good blood sugar levels. Studies have shown that good blood sugar control slows the onset and

progression of diabetic eye disease. Diabetic patients who kept their blood sugar levels as close to normal as possible also had less kidney and nerve disease. Better blood sugar control also reduces the need for laser treatment and/or surgery.

3. Keep the blood pressure and cholesterol levels under control. High blood pressure (hypertension) by itself can lead to eye disease. Patients with both diabetes and hypertension are at an even higher risk of vision loss. Some studies have also shown that controlling the blood pressure and cholesterol can reduce the overall risk of vision loss.

4. Eat a healthy diet. To help protect their eyes from eye diseases, they can choose foods that have vitamin A and carotenoids like lutein and beta-carotene. Beta-carotene is converted to vitamin A in the body. Sources of Vitamin A or beta carotene include sweet potato, squash, carrots, fish and eggs. Lutein can be found in green leafy vegetables.

5. Exercise regularly. This can lead to better blood sugar control, lower blood pressures and cholesterol.

6. Consult an Ophthalmologist as soon as one experiences a change in vision. If a diabetic person experiences any of the following visual problems, they should see their eye doctor immediately:

- A sudden change in their vision
- Black spots
- Flashes of light
- Partial or complete loss of vision in one or both eyes

Remember, vision may only be affected in the more advanced stages of diabetic eye disease. By the time the patient experiences vision problems, the eye disease may be so advanced that restoration of normal vision may no longer be possible. It is thus important for patients with diabetes to understand that they must not wait for symptoms to occur before consulting an eye doctor. ○



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#When used as part of a diabetes management plan including diet and exercise

2.) Tatti P, et al. *Mediterr J Nutr Metab.* 2010;3:133-136

1.) (Adjusted peak glucose 66% lower for Glucerna SR compared with commercial Ensure) J.A. Williams, J. Garcia Almeida, M. Matia Martin et al. (Abstract).

3.) Study BJ19. Abbott Nutrition, Abbott Laboratories, January 2006. Escalante-Pulido M. *Diabetic Medicine.* 2006;23:37.

ASC REF: A003PII0812G



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A close-up photograph of a woman's face. She is holding two thin, round slices of cucumber over her eyes, as if using them as eye masks. Her hands are visible, with her fingers holding the cucumber slices in place. She has a neutral expression. The background is a plain, light color.

Eye Vitamins and Supplements - What's the Evidence?

Fernandino Jose A. Fontanilla, MD
Asian Hospital and Medical Center

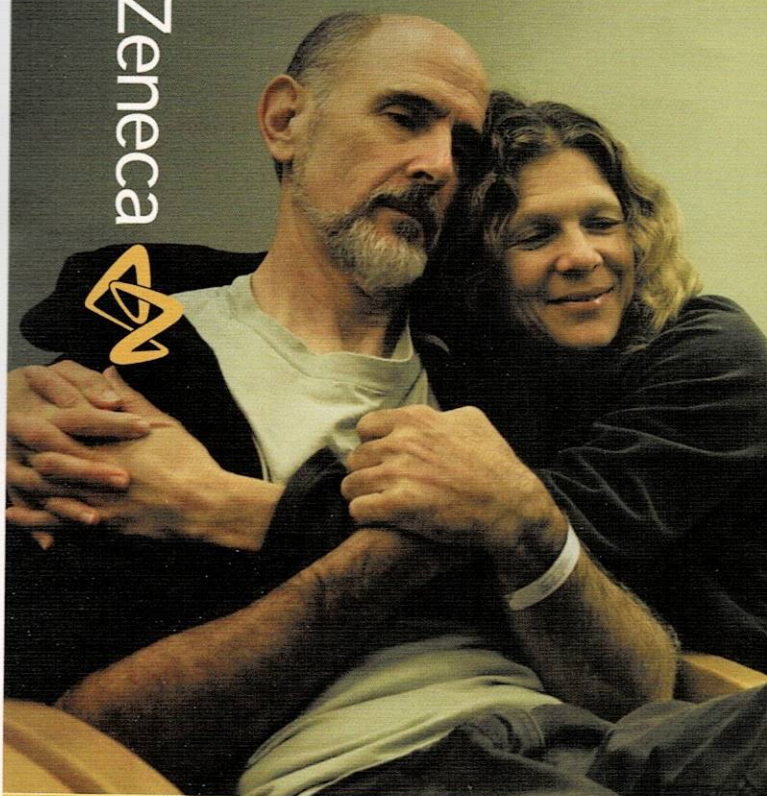
Several eye diseases have been associated with increasing age. The top causes for blindness worldwide in the older age group include cataracts, age-related macular degeneration (AMD) and diabetic eye

disease. Age-related cataract is responsible for 48% of world blindness, which represents about 18 million people, according to the World Health Organization (WHO). AMD, on the other hand, is the leading cause of blindness

in people over age 55 in the Western world and the incidence is expected to triple by 2025.

According to the Center for Disease Control and Prevention, diabetes is the

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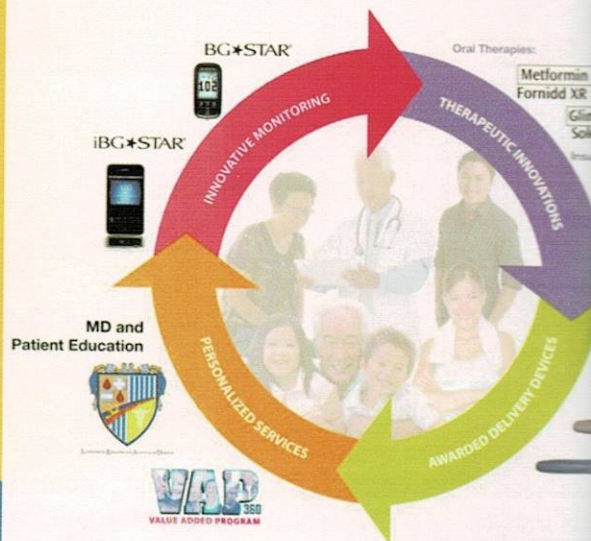
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leading cause of new cases of blindness among U.S. adults aged 20-74 years. In a survey conducted from 2005-2008, about 4.2 million diabetic patients in the U.S. who are aged 40 years or older had diabetic retinopathy. Of these, 655,000 (4.4% of those with diabetes) had advanced diabetic retinopathy that could lead to severe vision loss.

There has been some interest in the role of nutrition and nutritional supplements, such as antioxidant vitamins like Vitamins A, C and E, and how they can protect our vision. Two antioxidants, Lutein and Zeaxanthin, may also help with maintaining eye

health. Is there evidence to support these claims?

Beta-carotene (Provitamin A)

Vitamin A is another fat-soluble vitamin that is important for good vision, the immune system, and reproduction. There are two different types of vitamin A - preformed vitamin A (found in meat, poultry, fish, and dairy products) and provitamin A (mostly found in fruits, vegetables, and plant-based products). The most common type of provitamin A found in foods and dietary supplements is beta-

carotene.

Beta-carotene, together with other antioxidants, is believed to help delay the progression of age-related macular degeneration (AMD). Based on the 2001 Age-Related Eye Disease Study (AREDS), dietary supplementation with antioxidants (including beta-carotene) plus zinc is recommended for all patients at high risk of developing advanced stages of AMD, provided that there are no contraindications. Antioxidants plus zinc lowered the risk of progression of AMD by about 25% over a 6-year period.

In pooled analyses of various trials, there was no evidence that beta-carotene supplementation had an effect in reducing the risk of cataract or cataract extraction. However, among current smokers, beta-carotene appeared to decrease their risk of cataract by about one-fourth.

In a study on diabetic patients, beta-carotene did not have a protective effect on the progression of diabetic retinopathy. In that same study, an increased intake of beta-carotene was associated with an increased risk for severity of diabetic retinopathy among those patients taking insulin.

Vitamin C

Vitamin C (also known as ascorbic acid) is an antioxidant found in citrus fruits

and vegetables such as green peppers, cabbage, spinach and broccoli.

There is some scientific evidence suggesting that the intake of vitamin C lowers the risk of developing cataracts, and, when taken in combination with other essential nutrients, can slow the progression of age-related macular degeneration (AMD) and visual acuity loss.

One such study done in the United States showed that serum ascorbic acid level was inversely associated with the prevalence of cataract. Each 1 mg/dL increase in serum ascorbic acid level was independently associated with a 26% decrease in risk of cataract formation. Another study done in India showed an inverse relationship between blood levels of Vitamin C and cataracts. Another study demonstrated that

Vitamin C taken for 10 years or more resulted in a 64% reduction in the risk of developing nuclear cataracts.

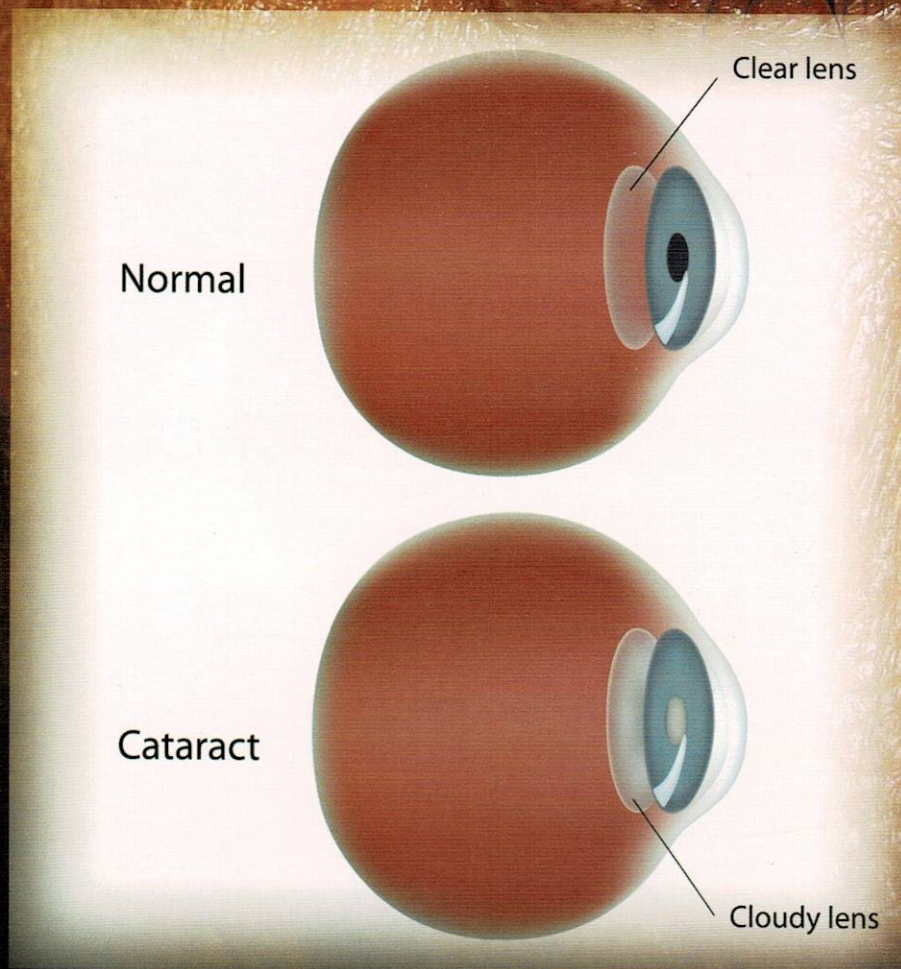
Currently, no research has adequately examined the role of Vitamin C in diabetic retinopathy in such a way as to indicate whether this form of intervention has a significant impact on the progress of the retinopathy.

Vitamin E

Vitamin E is a fat-soluble vitamin found in many food items including vegetable oils, cereals, meat, poultry, eggs, fruits and vegetables. It is a potent antioxidant that exists in different forms.

Researchers believe Vitamin E plays a role in protecting certain parts of the





eye, such as the lens, from oxidative damage by the UV rays in sunlight, thereby preventing cataract formation. A randomized controlled trial done in 2004 looked at the effects of Vitamin E given for 4 years at a dose of 500 IU daily and its effect on cataract progression. The study showed that Vitamin E did not reduce the incidence or progression of age-related cataracts.

In another randomized, double-masked, placebo-controlled trial done

on apparently healthy US males 50 years or older, the long-term use of vitamin E and C supplements had no appreciable beneficial or harmful effect on the risk of cataract.

The Age-Related Eye Disease Study (AREDS), sponsored by the National Eye Institute of the United States, was a landmark study that highlighted the role of the AREDS formulation in helping AMD patients maintain their vision. The study showed that the AREDS

formulation (vitamin C, beta-carotene, vitamin E and zinc) slows the progression of age-related macular degeneration by approximately 25 percent and vision loss by 19 percent.

In an 8-month randomized double-masked placebo-controlled crossover trial, vitamin E treatment appears to be effective in normalizing retinal blood flow in type 1 diabetic patients of short disease duration. This suggests that vitamin E supplementation may

help in reducing the risks for developing diabetic retinopathy. However, another study showed opposite results - increased intake of vitamin E was associated with increased severity of diabetic retinopathy among those not taking insulin.

Lutein and Zeaxanthin

Lutein and zeaxanthin are part of the xanthophyll family of carotenoids. They are the two major components of pigment of the macula, the area of the retina responsible for central vision. Lutein and zeaxanthin are the only carotenoids found in both the macula and lens of the human eye. They function as powerful antioxidants and help to filter high-energy blue light. Lutein is found in dark green, leafy vegetables, corn, and egg yolks. Zeaxanthin is found in corn, orange peppers and oranges.

In a prospective observational study of a large cohort of female health

professionals, higher dietary intakes of lutein/zeaxanthin (together with vitamin E) were associated with significantly decreased risks of cataract formation.

In 2006, the Food and Drug Administration of the United States reviewed interventional and observational studies that evaluated the role of lutein and zeaxanthin in reducing the risk of age-related macular degeneration and cataracts. Based on the existing evidence reviewed, the FDA concluded that there is no basis for the claim that intake of lutein or zeaxanthin (or both) reduced the risk of age-related macular degeneration or cataracts.

The AREDS research group began a second clinical trial in 2006 called AREDS 2 to determine if the addition of lutein, zeaxanthin and omega-3 fatty acids could improve on the original AREDS formulation. Beta-carotene, a component of the AREDS formulation, is not recommended in patients who

smoke because it is associated with a higher incidence of lung cancer. While the AREDS 2 study found that omega-3 fatty acids had no additional effect, lutein and zeaxanthin appeared to be an effective alternative to beta-carotene. The AREDS 2 formulation did not reduce the risk of cataract progression.

Which Eye Vitamins and Supplements?

There is strong evidence to support the use of vitamins and supplements in macular degeneration. In particular, the AREDS formulation (Vitamin C, Vitamin E, beta-carotene, zinc) and the AREDS formulation (Vitamin C, E, lutein, zeaxanthin) resulted in a 25% decrease in AMD progression. There is some evidence that indicates that vitamins (in particular, anti-oxidants) and carotenoids (lutein and zeaxanthin) may reduce the risk and/or progression of cataracts and diabetic retinopathy but the evidence is weak. ○



KITCHEN CORNER

CHRONIC KIDNEY DISEASE and DIALYSIS DIETS

Ma. Imelda Q. Cardino, MSFN
Diabetes Philippines

Medical Nutrition Therapy (MNT) for patients with diabetes and renal disease is one of the most complicated therapeutic diets. Hence, individualization of the diet is foremost and necessary. The discussion here aims to give a general ideal of the features of the diet for renal diseases but it is in no way intended to replace an individualized dietary pattern.

As in all types of "normal" and therapeutic diets, the important thing is the provision of adequate energy (calories). Note that calorie calculation for patients on peritoneal dialysis (PD) may be a little less because of dextrose in the dialysate (on the average of about 500 calories per day). The ratio of carbohydrate (CHO), protein (CHON), and fat may be adjusted to address the specific medical needs of the individual but the total energy requirement must not be compromised. Among the factors that affect calorie needs are: physical activity, age, current body weight, pregnancy/lactation, presence of catabolic conditions such as fever/burns (degree and surface area affected), etc.

For simplicity, general or "common" features of diets for various kidney diseases shall be discussed rather than the specific diet for each kind of kidney disease. As mentioned earlier, this is because a "custom-made" diet for the individual must be provided by a registered nutritionist-dietitian

The content of the diet for a patient with diabetes and renal disease will be modified as to:

➔ Protein --- the distribution of

the non-protein calories (NPC) contributed by carbohydrates and fats are variable (50% carbohydrate and 50% fat calories; 60% carbohydrate and 40% fat calories; 55% carbohydrate and 45% fat calories).

- ➔ Sodium
- ➔ Potassium
- ➔ Phosphorus and Calcium
- ➔ Fluid.

RECOMMENDATIONS:

➔ PROTEIN

Kidneys of patients with chronic renal failure cannot filter efficiently the

urine nitrogen, the end product of protein metabolism. Hence the amount of protein must be maintained at a level sufficient to provide the individual's requirement for optimum health but not increase burden on the kidneys.

Protein allowance is usually calculated as 0.8 gm per kilogram body weight. Pre-dialysis protein (and usually fluid allowance as well) is usually liberalized as prescribed by the attending physician. About 75% of the total protein in the diet must be contributed by higher biological value sources for



better efficiency.

The remaining calories will be divided between carbohydrates and fats in percentages previously mentioned earlier. Complex carbohydrates are the major source whereas fat sources are mainly contributed by mono- or polyunsaturated sources. Cholesterol and saturated fat are minimal. Trans fat is avoided.

→ SODIUM

A high sodium intake increases risk for high blood pressure and edema. Therefore the total sodium content of the diet is usually maintained at about 2,000 mgs daily. Natural foods also contain what is called "bound" or "inherent" sodium. The bound sodium of the diet must be calculated in order to determine how much table salt or its equivalent may be used to make meals palatable. Since different foods contain varying levels of inherent sodium, the services of a registered-dietitian may be sought for guidance in order that the amount of added sodium sources may be calculated.

Generally, processed foods such as bread and bakery products contain significant amounts of sodium. Even low sodium crackers contribute to the total sodium intake. Condiments such as soy sauce and fish sauce have variable sodium content, depending on brand/manufacturer. Even natural foods have varying levels of sodium. For example:

- Sayote, bunga; togue; upo; patola;

sinkamas; kamatis - 2 mg per ½ cup
• Labanos; cauliflower - 8 mg per ½ cup

- Carrot - 35 mg per ½ cup

• Lakatan; santol; apple, green - 9 mg average per small piece

• Pan de sal; pan Americano - 230 mg average per 2 small pieces

• Pan de limon - 256 mg per piece

• Egg, chicken - 110 mg per piece

→ POTASSIUM

High potassium levels increase risk of heart and muscle problems. If the individual has to maintain a lower potassium intake, then generally green and leafy vegetables as well as the more succulent fruits are to be avoided. Potassium content of natural foods vary. For example:

Sayote, bunga; togue; upo; patola; sinkamas - 60 mg per ½ cup

Kamatis; labanos; cauliflower; carrot - 111 mg average per ½ cup

• Lakatan; santol; apple, green - 146 mg average per small piece

• Pan de sal; pan Americano; pan de limon - 60 mg average per 2 small pieces

• Egg, chicken - 95 mg per piece

→ PHOSPHORUS AND CALCIUM

Patients with renal failure often have high levels of phosphorus in the blood. High phosphorus levels lower the amount of calcium in bones. Therefore it may be necessary to limit the phosphorus in the diet but not calcium. However, foods with significant phosphorus content are also usually good sources of calcium. This is the

reason why some patients prescribed a low phosphorus diet need calcium supplementation. Any form of milk and dairy products, egg, and most seafoods and nuts are good sources of both calcium and phosphorus.

→ FLUIDS

The kidneys are responsible for maintaining the fluid balance of the body. Therefore if the kidneys cannot function normally, it may be necessary to modify the fluid intake since the kidneys may not be able to remove the excess fluids. The attending physician prescribes the total daily fluid allowance. A general daily fluid estimation is urine output the previous day plus 500-700 ml of water. Remember that in the estimation of fluid intake will include soup, beverages, fruits and vegetables especially the succulent kinds, etc.

→ OTHER FOODS

Chocolate, whether white or dark, has significant phosphorus content. Cheese is a nutritious food but is high in nutrients the patient with kidney disease has to be conscious of: protein, sodium, potassium, phosphorus, and calcium.

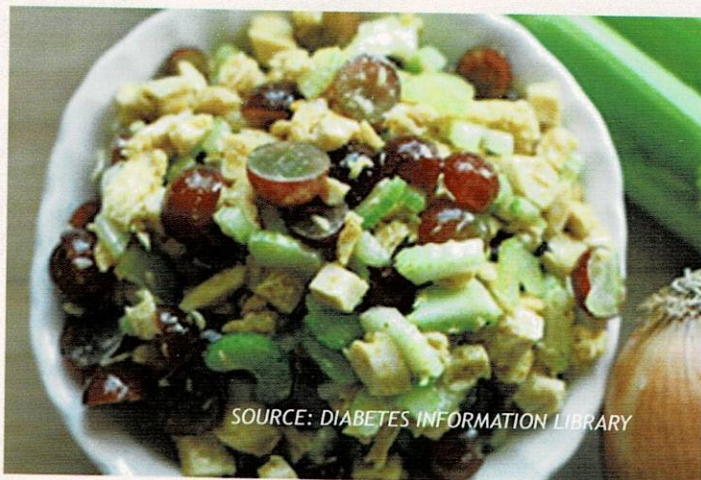
Legumes, lentils, and nuts are good choices of protein source. However, they are also rich in potassium, phosphorus, and calcium.

Common beverages such as tea and coffee contribute to potassium as well as fluid intake. Cola drinks (even diet or light) contain phosphoric acid and the potassium/sodium contents are not usually indicated on containers.

Prevention of kidney complications among persons with diabetes cannot be overemphasized. Not only are kidney complications among the most expensive but also more depressing because of the numerous restrictions. Meals tend to be boring and monotonous. However, with careful planning it is still possible to have a delicious and appetizing meal. Some recipes are shared below. ○



LEMON CURRY CHICKEN SALAD



SOURCE: DIABETES INFORMATION LIBRARY

SOURCE: US NATIONAL KIDNEY FOUNDATION

Ingredients:

- ¼ cup oil
- 4 tablespoons lemonade
- ¼ teaspoon ground ginger
- ¼ teaspoon curry powder
- 1/8 teaspoon garlic powder
- 1 ½ cups boiled, diced lean chicken
- 1 ½ cups grapes, halved (remove seeds)
- ½ cup sliced celery
- Sucralose or aspartame - OPTIONAL

This recipe was taken from Living Well on Dialysis: A Cookbook for Patients and Their Families.

SERVES 4 - each serving is 1 cup

Directions:

In a large bowl, combine oil, lemonade, and spices. Add remaining ingredients and toss lightly. Chill.

Nutrients Per Serving:

- CALORIES - 307
- CARBOHYDRATE - 15 grams
- PROTEIN - 17 grams
- FAT - 20 grams
- Sodium - 57 mgs
- Potassium - 235 mgs
- Phosphorus - 119 mgs

EASY CROCK POT PULLED PORK



SOURCE: US NATIONAL KIDNEY FOUNDATION

DRY RUB:

- 1 tsp. onion powder
- 1 Tbsp. olive or canola oil
- 1 tsp. garlic powder
- 1 tsp. brown sugar
- 1 Tbsp dry mustard
- 1 tsp. paprika

This recipe was submitted by Gayle Booth, RD.

Ingredients:

- 1 tsp. onion powder
- 1 Tbsp. olive or canola oil
- 1 tsp. garlic powder
- 1 tsp. brown sugar
- 1 Tbsp dry mustard
- 1 tsp. paprika
- 1 medium onion, minced
- 3 garlic cloves, minced
- 2 Tbsp. tomato paste
- 2 Tbsp. prepared brown mustard
- 1 tsp. Worcestershire sauce
- 1 Tbsp. brown sugar or molasses
- ½ tsp. black pepper
- ¼ cup cider vinegar
- 2 pounds pork roast TRIMMED OF FAT
- RECIPE BBQ SAUCE
- 8 HAMBURGER BUNS

SERVES 8 - ¼ cup BBQ pork on each bun

Directions:

Measure all dry ingredients in a small bowl and mix well. Coat the roast with oil. Then rub dry mixture to the roast. Place roast into slow cooker and set for 8-10 hours. Using two forks pull the pork into small sections. Add BBQ Sauce (recipe below).

BBQ Sauce (May be made ahead and refrigerated):

1 medium onion, minced
3 garlic cloves, minced
2 Tbsp. tomato paste
2 Tbsp. prepared brown mustard
1 tsp. Worcestershire sauce
1 Tbsp. brown sugar or molasses
½ tsp. black pepper
¼ cup cider vinegar

NUTRITION PER SERVING:**1 SERVING OF BBQ PORK WITH 1 HAMBURGER**

CALORIES - 370
CARBOHYDRATE - 30g
PROTEIN - 27g
FAT - 17g
Sodium - 275 mg
Potassium - 390 mg
Phosphorus - 230 mg
Calcium - 85 mg

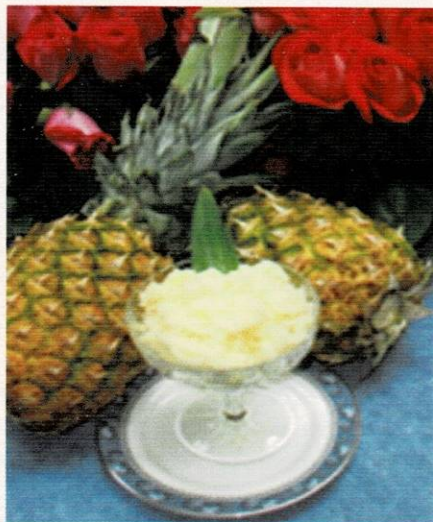
Directions:

Mix all ingredients together in sauce pan. Simmer 3-5 minutes. Add to slow cooker after pulling pork at completion of cooking time.

Left over can be packed in small portions into zip lock bags for easy use later. Serve it on a bun for an easy meal.

PINEAPPLE FRANGELICO SORBET

This recipe was submitted by CKD patient Chef Duane Sunwold.



SOURCE: US NATIONAL KIDNEY FOUNDATION

Ingredients:

2 cups fresh pineapple
½ cup pineapple juice,
unsweetened
1 tablespoon plus 2 teaspoons
Frangelico
2 teaspoons Stevia

Directions:

In a food processor, blend everything together, until smooth. Place in an ice-cube tray and freeze. When frozen, blend in a food processor one more time, making the sorbet fluffy. Re-freeze before serving.

NUTRITION PER SERVING:

CALORIES - 81
TOTAL CARBOHYDRATES - 19 g
Sugar - 12.7 g
Dietary Fiber - 1.2 g
PROTEIN - 0.9 g
TOTAL FAT - 0.1 g
Saturated Fat - 0.0 g
Monounsaturated Fat - 0.0 g
Polyunsaturated Fat - 0.0 g
Cholesterol - 0.0 mg
Sodium - 3.6 mg
Potassium - 140 mg
Phosphorus - 10.4 mg
Calcium - 15.4 mg

DO TRY AND SAVOR THESE RECIPES!

Navigating the Net: Online Resources for Kidney Complications in Diabetes

Cecille R. dela Paz, MD
East Avenue Medical Center



Whenver I encounter a patient of mine with diabetes, the first question they would ask me after we have discussed their blood sugars is, "Doc, how are my kidneys?" A lot of diabetic patients are afraid of the kidney complications of diabetes, and rightly so. Diabetic nephropathy is a leading cause of chronic disease worldwide which may lead to dialysis and kidney transplantation. Any diabetic patient must educate himself not only about diabetes itself but also its complications. You can access the following websites to find out more.

The American Diabetes Association (ADA) Website: www.diabetes.org
Click on the heading "Living with Diabetes", scroll down the choices and go to "Complications". A list of the different diabetes complications will appear and then choose "Kidney Disease

(Nephropathy)". Another topic, related to nephropathy that you can also access is that of "Kidney Replacement Therapy", which discusses dialysis and kidney transplant. A very useful feature of the website is the ReadSpeaker that lets you listen to the topics read out loud. Just click on the speaker icon at the top of the page.

The WebMD Website:
www.webmd.com

The WebMD website is also a valuable resource for health information, especially for diabetes. Type "diabetic nephropathy" in the search window and then click on Diabetic nephropathy - Topic Overview. As you go through the article, everything you need to know about the issue will be discussed, including risk factors, signs and symptoms, tests needed for diagnosis, and treatment.

The Joslin Diabetes Center Website:
www.joslin.org

The Joslin Diabetes Center is an affiliate organization of the Harvard School of Medicine and is in the forefront of diabetes research and education. Click on the "Diabetes Information" and choose "Managing Diabetes". A long list of different topics will appear, including those on diabetic kidney disease. Aside from articles, videos are also available to facilitate learning.

The internet, through these websites, can provide adequate information about diabetes and diabetes complications. However, the information that we get through these resources are not intended as a substitute for physician advice. Always discuss what you've read with your doctor. ○

diabetes *ON THE MOVE* philippines

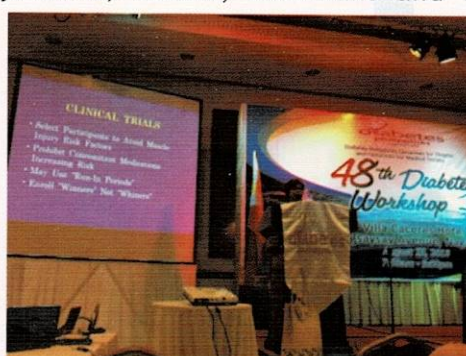
Joy C. Fontanilla, MD
Asian Hospital & Medical Center

July - December 2013 HIGHLIGHTS

48th DiabetesWorkshop and 13th Diabetes Forum

Villa Caceres Hotel, Naga City
August 23, 2013

Diabetes Philippines reaches out to different communities around the nation by holding lay fora, as well as lectures and workshops for physicians, nurses, dietitians and other allied health personnel.



49th DiabetesWorkshop and 14th Diabetes Forum

Hotel Roma, Tuguegarao City
September 13, 2013

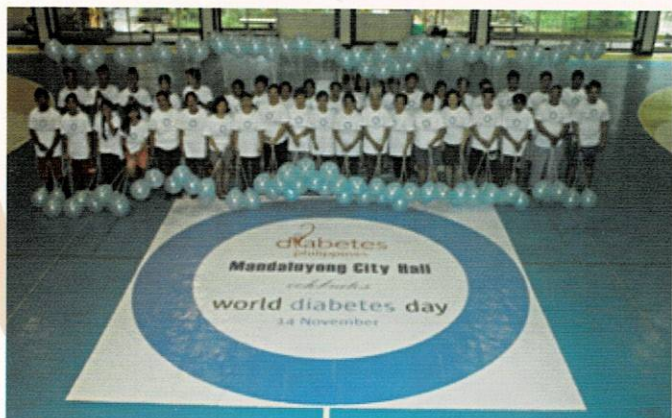


WDD Celebration

November 11 - 14, 2013

Various Diabetes Philippines chapters and other organizations all over the country celebrated World Diabetes Day, highlighting the blue circle (the international symbol for diabetes) in different ways.

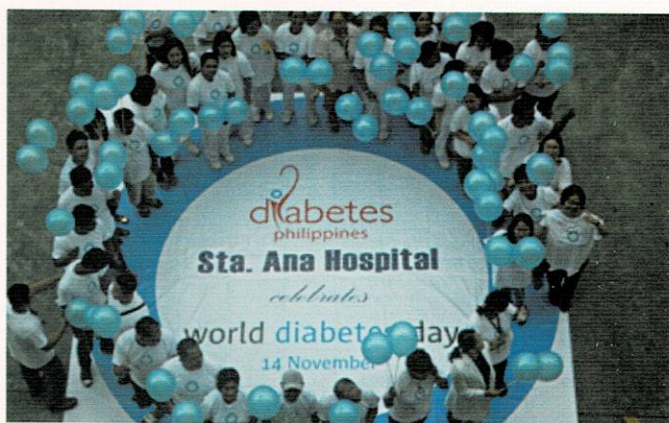
Mandaluyong City Hall



Barangay Namayan Mandaluyong City



Sta. Ana Hospital



Manila City Hall



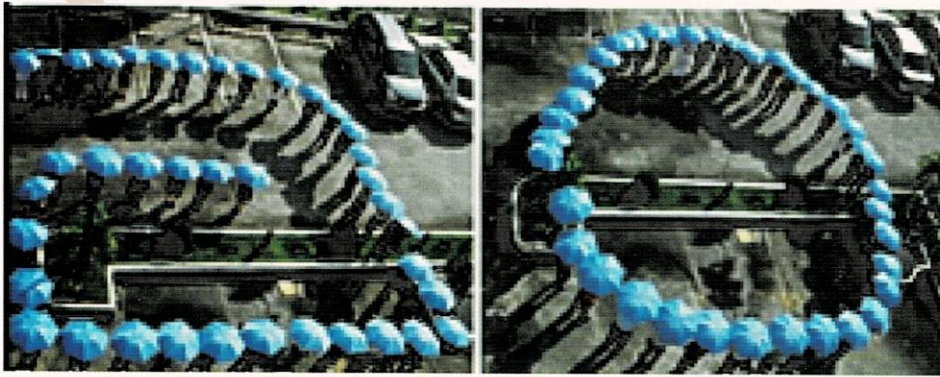
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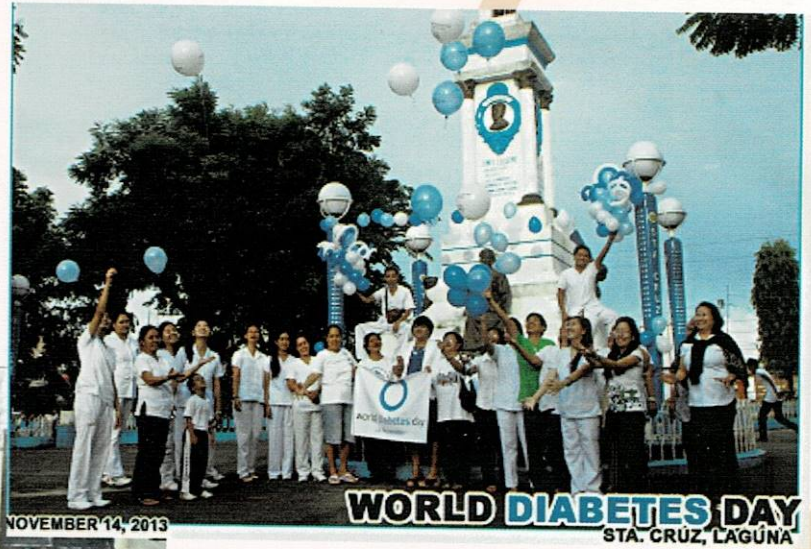
FBS/RBS before our usual Monday morning program started



Lucena Chapter



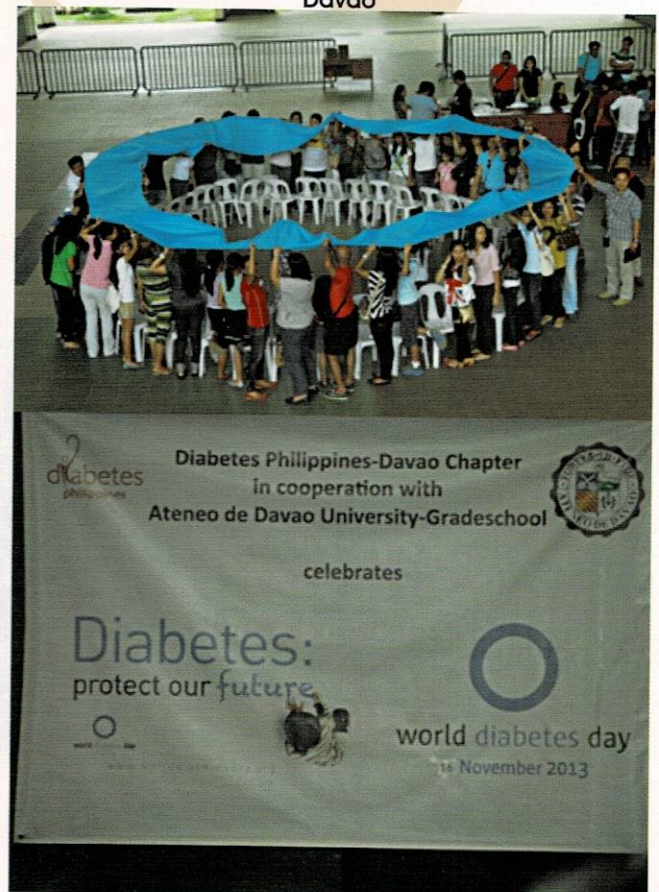
Laguna Chapter



Tuguegarao Chapter



Davao



New Bilibid Prison



-Blue lights, balloon release and formation of blue circle

GIMIK DIABETES YEAR 7 / LAY ANNUAL CONVENTION

Starmall, Mandaluyong City

November 16, 2013



The annual diabetes convention for laypersons featured discussions of interesting topics such as stem cell therapy, foot care, meal planning for people with kidney disease, vitamin and antioxidant supplements as well as free blood glucose checks for the participants.

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- Lipanthyl[®] is the only lipid modifying agent to prevent amputations.^{3,4}
- Lipanthyl[®] significantly reduced the progression of albuminuria.⁵

References: 1. FIELD Study Investigators. Effects of fenofibrate treatment on cardiovascular disease risk in 9,795 individuals with type 2 diabetes and various components of the metabolic syndrome. *Diabetes Care* 32:493-498. 2. FIELD Study Investigators. Effects of fenofibrate on the need for laser treatment for diabetic retinopathy (FIELD Study): a randomised controlled trial. *Lancet* 2007;370:1687-97, published online November 6th, 2007. 3. FIELD Study Investigators. Effects of fenofibrate on amputation events in people with type 2 diabetes mellitus (FIELD STUDY): a prespecified analysis of a randomised controlled trial. *Lancet* 2009;373:1780-88. 4. Sergio Fazio, MacRae F. Linton. Fenofibrate and risk of minor amputation in diabetes. *Lancet* 2009;1740-41. 5. FIELD Study Investigators. Effects of long-term fenofibrate therapy on cardiovascular events in 9,795 people with type 2 diabetes mellitus (the FIELD Study): randomised controlled trial. *Lancet* 2005;366:1849-61.

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Forging an Alliance to **STOP DIABETES**

Grand Ballroom, EDSA Shangri-La Hotel
Mandaluyong City
Nov 21 - 22, 2013 8:00 am to 5:00 pm

REGISTRATION FEES:

CATEGORY		Registration on or before Oct. 14, 2013	From October 15, 2013 or On-site Registration
PHYSICIANS	Member	Php 2,000.00	Php 3,000.00
	Non-Member	Php 2,500.00	Php 3,500.00
PARAMEDICAL	Member	Php 1,500.00	Php 3,000.00
	Non-Member	Php 2,000.00	Php 3,500.00

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For further information, see full prescribing information.

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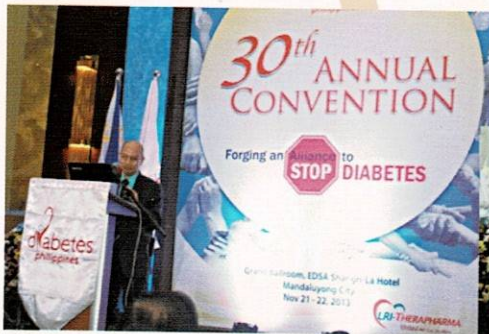
- Lincoff AM, et al. *JAMA* 2007;298:1180-1188
- Erdmann E, et al. *J Am Coll Cardiol* 2007;49(17):1772-1780
- Hanfefeld M, et al. *Curr Med Res Opin* 2006;22:1211-1215
- Karamanos B, et al. *Curr Med Res Opin* 2011;27:303-313

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PHIDOW/DIAB/06/02/2014

30th Diabetes Philippines Annual Convention "Forging an Alliance to Stop Diabetes"

Edsa Shangri-La, Mandaluyong
November 21 - 22, 2013



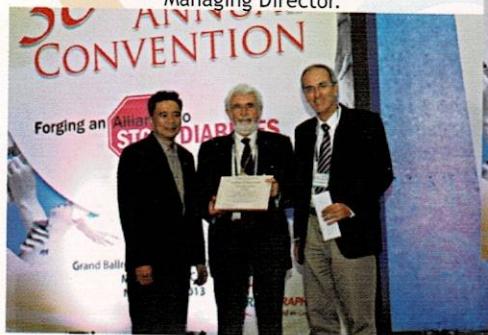
DP President Dr. Richard Elwyn Fernando delivering his welcome remarks.

Drs. Elwyn Fernando and Dante Morales cutting the ceremonial ribbon with the DP Board and DP Chapter presidents.



The jam-packed plenary session

Prof. Pavel Hamet (center) receiving the Dr. Augusto D. Litonjua Endowed Lectureship award after his lecture on "Fighting Renal Impairment in Diabetes: Tools for Today and Tomorrow" from Past DP President Dr. Tommy Ty Willing (L) and Mr. Patrick Tête (R), Servier Philippines Managing Director.



From L to R: Dr. Tommy Ty Willing, Prof. Pavel Hamet and Dr. Augusto D. Litonjua

From L to R: Dr. Agnes Cruz, Dr. Elwyn Fernando, Ms. Marian Andaluz regulatory affairs and corporate relations manager of Servier Philippines and Dr. Agnes Mejia, recipient of the Dr. Ricardo E. Fernando Endowed Lectureship award after her talk on "CVD-CKD: Stop the Vicious Cycle".



From L to R: Drs. Joy Fontanilla, Ruby Ty Willing, Agnes Cruz, Edith Dalisay, Elwyn Fernando, Tommy Ty Willing, Agnes Mejia, Ms. Marian Andaluz, Drs. Rima Tan and Francis Pasaporte posing in front of the Alliance to Stop Diabetes Wall.

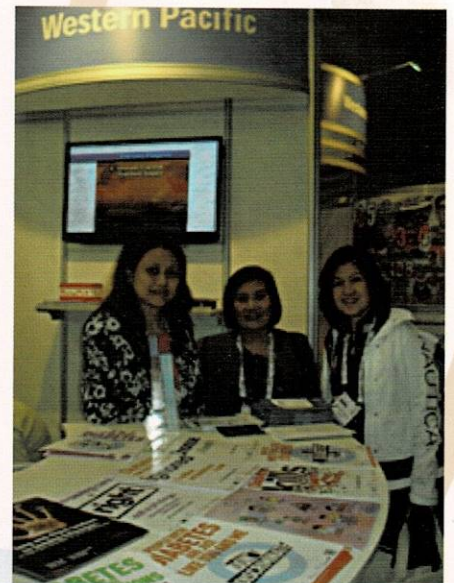
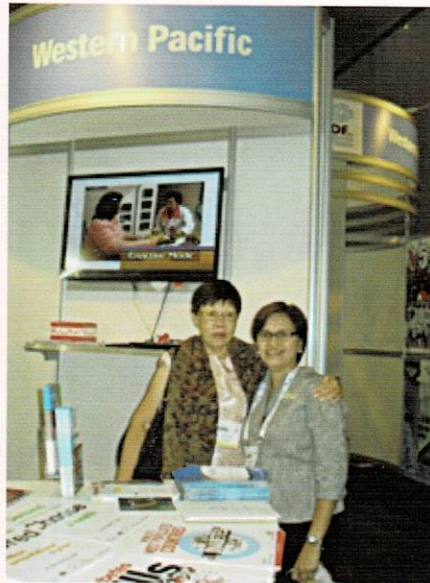


All thumbs up to "Forging an Alliance to Stop Diabetes"



The DP Chapter presidents parade before the congregation

2013 World Diabetes Congress - Global Village
Melbourne Convention and Exhibition Centre
 December 3 - 6, 2013



Diabetes Philippines put its numerous diabetes advocacy materials on display at the IDF World Diabetes Congress Global Village.

Diabetes Awareness Week 2013
Theme: "Sugar Mo I-Exercise Mo, Diabetes Mo I-Zumba Mo"

June 30: Parkmall, Mandaue City, Cebu



July 6: Main Atrium, NE Pacific Mall, Cabanatuan City



July 7: Municipality Hall of La Union



July 21: Robinson's, Tanauan City, Batangas





The annual diabetes awareness campaign spearheaded by the Philippine Center for Diabetes Education Foundation in partnership with the Diabetes Philippines, American Association of Clinical Endocrinologists Philippine Chapter, and the Philippine Society of Endocrinology and Metabolism was held in various cities across the country.



The Lighter Side of Diabetes by Dr. Allan Hernandez



PCP FORUM

Annabel's Restaurant, Tomas Morato Q.C.

July 23, 2013 - Diabetes Prevention

November 12, 2013 - Diabetes: The Power to Control and Stop the Disease



Press conferences were held to raise awareness about diabetes, its complications and the many efforts to help stem the tide of this epidemic.

Induction of Diabetes Philippines Camarines Sur Chapter

Villa Caceres Hotel, Camarines Sur
August 23, 2013

Induction of Diabetes Philippines Cebu Chapter

Marriott Hotel, Cebu City
August 28, 2013



Left to right: Drs. Joseph Bongon, Duncan Delima, Marie Elgar, Francia Balatan, Reynaldo Caresosa

Standing from L-R: Dr. Richard Elwyn V. Fernando, President, Diabetes Philippines and Cebu chapter officers Drs. Gorgonia Panilagao, Ceryl Cindy Tan, Consolacion Cutillar, Imelda Bilocura, Renan Dungog, Jesusa Santos, Marissa Garcia, Athena Mejia and Deanna Del-Mar.



2013 SCHEDULE OF ACTIVITIES

47th DiabetesWorkshop and 12th Diabetes Forum

Garden Orchid Hotel, Zamboanga City

May 24, 2013 (Friday)

Scientific Chairperson: Dr. Richard Elwyn V. Fernando

Coordinator: Dr. Fatma Ibba-Tiu

48th DiabetesWorkshop and 13th Diabetes Forum

Villa Caceres Hotel, Camarines Sur

August 23, 2013 (Friday)

Scientific Chairperson: Dr. Richard Elwyn V. Fernando

Coordinator: Dr. Joseph Bongon

49th DiabetesWorkshop and 14th Diabetes Forum

Hotel Roma, Tuguegarao City

September 13, 2013 (Friday)

Scientific Chairperson: Dr. Richard Elwyn V. Fernando

Coordinator: Dr. Magnolia B. Reyes

30th Annual Convention of Diabetes Philippines

THEME: "FORGING AN ALLIANCE TO STOP DIABETES"

EDSA Shangri-La Hotel, Mandaluyong City

November 21 - 22, 2013 (Thursday-Friday)

Scientific Chairperson: Dr. Richard Elwyn V. Fernando

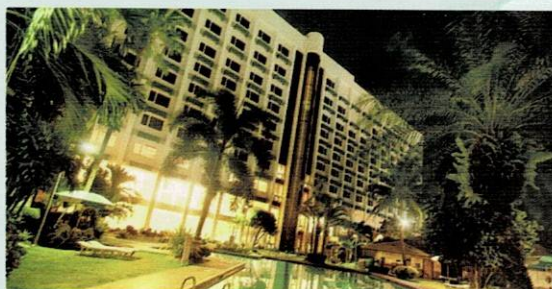
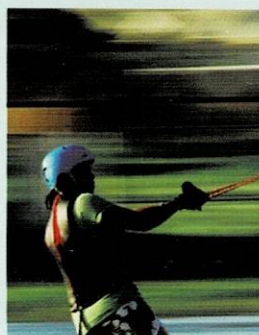
Gimik Diabetes Year 7

THEME: ("ISULONG: KONTROL NG DIABETES")

World Diabetes Day Celebration/Lay Annual Convention

Venue: Star Mall, Mandaluyong

November 16, 2013 (Saturday)



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References: ¹Zoungas S, Chalmers J, Kengne AP, Zoungas S et al. Diabetes Res Clin Pract. 2010;89(2):126-133. ²Perkovic V et al. Kidney Int. 2013;83(3):517-523. ³CONTROL Group. Turnbull FM, Abraira C, Anderson RJ, et al. Diabetologia. 2009; 52: 2288-2298. ⁴Al Sifri S et al. Int J Clin Pract. 2011;65(11):1132-1140.

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