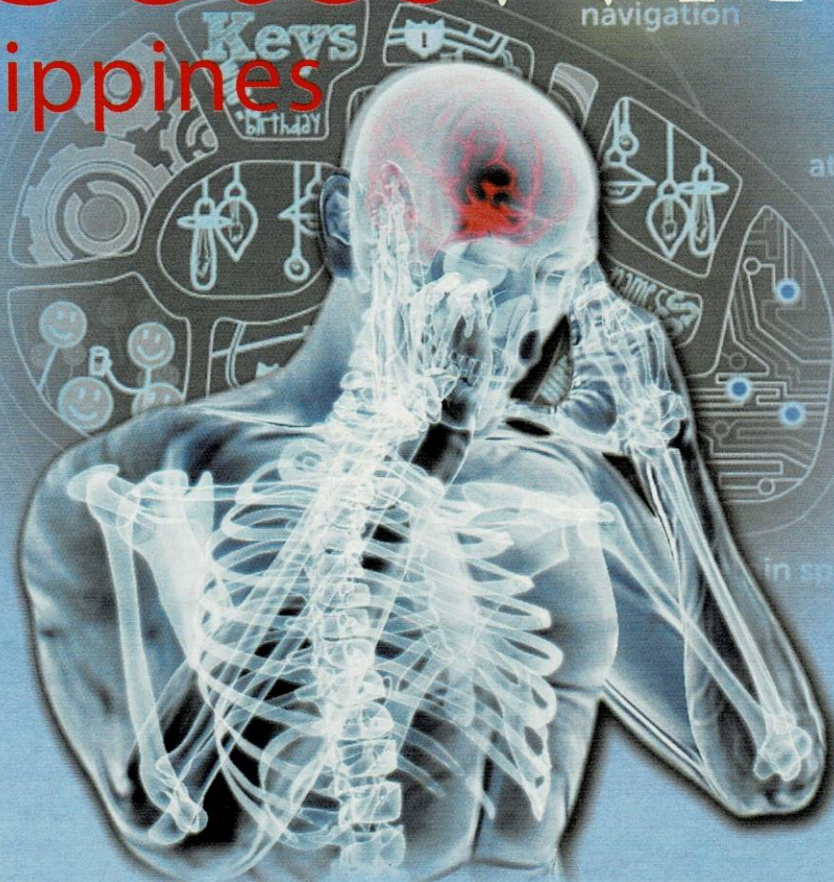


diabetes philippines WATCH

A Publication of the Diabetes Philippines

January - April 2014
Year MMX14, NO.1



Brain and Foot Health

- Prevention and Management of **STROKE**
- **Dementia** and diabetes: Is there a link?
- **Superfoods** for the brain
- Puzzles, Games and Apps for Brain Health
- Orthotics and choosing the **Right Footwear**
- New **Wound Care** Techniques
- **P.A.D.** screening and management

The Mediterranean Diet

Lessons from Tacloban

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REFERENCES: 1. Haak T, Meinicke T, Jones R, et al. Initial combination of linagliptin and metformin improves glycaemic control in type 2 diabetes: a randomized, double-blind, placebo-controlled study. *Diab Obes Met.* 2012; 14: 565-574. 2. Price computed based on Trajenta and Trajenta Duo treatment cost per day (using list price for both brands)

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From the EDITOR'S DESK



Of Heads and Toes

"You have brains in your head. You have feet in your shoes.

You can steer yourself any direction you choose.

You're on your own. And you know what you know.

And YOU are the one who'll decide where to go..."

~Dr. Seuss, Oh, The Places You'll Go!

Diabetes does affect people from head to toe.

It's no secret that uncontrolled diabetes can damage various parts of the body. In this issue, we have chosen to highlight how diabetes can wreak havoc on our top and lowermost body parts - the brain and feet.

Various types of dementia, including Alzheimer's are more common in people with diabetes. Changes in brain structure and function over time have also been seen in those with persistently high blood sugar, longer diabetes duration and recurrent hypoglycemia. Diabetes is also among the top 3 risk factors for stroke.

And though one could live without them, who would want to live without one's feet? Diabetes can injure the nerves and blood vessels of the legs and feet leading to poor wound healing, infection, ulcers and amputation. Thus, every 20 seconds, a lower limb is lost due to diabetes.

The dregs of death and disability from this disease are devastating. And fortunately, we can take steps to keep our heads and toes healthy. Managing blood sugar, blood pressure, and cholesterol with proper diet, physical activity, lifestyle and medication can go a long way in avoiding these awful complications.

So if you take very good care
Of your head and your toes,
Then diabetes will spare
You from any more woes.

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



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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
President

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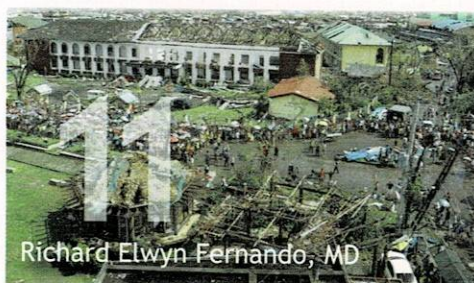
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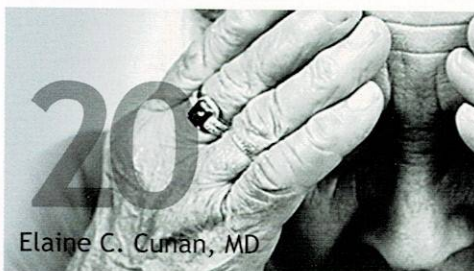
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Richard Elwyn Fernando, MD



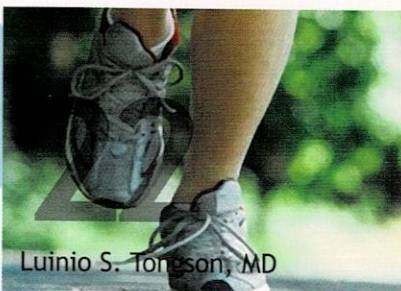
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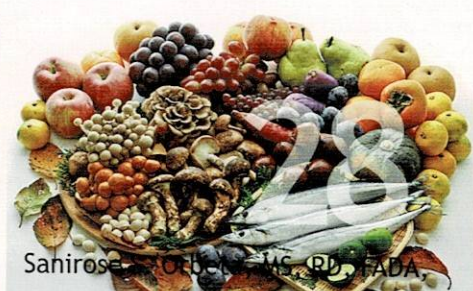
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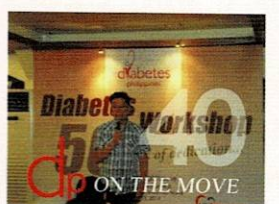
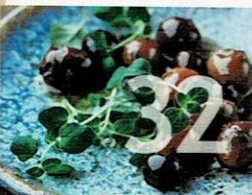
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MEANDERINGS

Men We Should Remember and Thank For.....

For they discovered what we know of diabetes today

Augusto D. Litonjua, MD
Emeritus Editor

Part 1

How long has diabetes mellitus afflicted mankind?

The ancient Egyptians recorded their history on papyrus. In one of them, Prof. Ebers discovered a page which described a person suffering from inanition, excessive thirst, frequent urination and eventual painful death - so much like what a patient with untreated type 1 diabetes mellitus experiences.

Despite the fact that this record dates back to 1500 B.C., diabetes is still with us and affecting the world exponentially. Small pox has been eradicated - diabetes remains incurable.

In 138 to 80 B.C., the Greek physician, Aretaeus, coined the term, diabetes mellitus, from the fact that the urine of those affected with the disease had a sweet taste. In 1776, Dobson found the concentration of the sugar, glucose, in the urine elevated, thus imparting the sweetness of the urine.

Many scientists have contributed to our knowledge of the various aspects of diabetes mellitus. Universal recognition of their contributions came from their being Nobel Laureates. Here are some of them.

1923: F. G. Banting and J. J. R. Macleod - DISCOVERY OF INSULIN

Prior to the discovery of insulin, there was no effective therapy for diabetes. Young people who had insulin deficiency faced certain painful death. When insulin became available, these patients were able to survive for prolonged periods of time.

Scientists at the Department of Physiology of the University of Toronto, Canada, and in particular, Drs. Banting and Macleod, were awarded the Nobel Prize for discovering the hormone, insulin, which comes from certain cells (beta cells) of the pancreas. The award was not without its controversy at the time, but history continues to honor these men, together with their co-workers, Charles Best and

James Collip, as the discoverers of insulin. Others at the time, would have attributed this monumental discovery to the Romanian scientist, Paulescu, or to the Austrian surgeons, von Mering and Minkowski.



acids - the structure of insulin being discovered by F. Sanger. He was given the Nobel prize for Chemistry in 1958. From this, insulin was cloned, giving rise to a sufficient supply of the hormone through "recombinant DNA technology"; No longer were the millions of people with diabetes mellitus dependent on a dwindling supply of animal pancreases from which the hormone was extracted before. So, today, we have an unlimited supply of various types of insulin - suited to the varying needs of different patients.

1997: R. Yalow - DEVELOPMENT OF RADIOIMMUNOASSAY FOR INSULIN

Actually, two scientists should have been awarded the Nobel Prize for this discovery - Solomon Berson and Rosalind Yalow. They were long time collaborators in studies leading to the technique called 'radioimmunoassay' which enabled the measurement of small amounts of protein hormones in the blood. Unfortunately, only living persons are awarded the Prize, and Dr. Berson passed away before the Nobel Prize was awarded for their studies.

This discovery became a powerful tool for measuring proteins, metabolites and other chemicals in the blood present in low quantities. Much of our present knowledge of diabetes came about from the ability to measure serum insulin levels.

On a personal note, both Drs. Berson and Yalow are known to some of us, for they came to give lectures and imparted knowledge to our laboratory technicians in the UP-PGH Section of Endocrinology.

We salute these men and women, to whom many with diabetes mellitus should owe their better survival because of their discoveries.

Part 2
1958: F. Sanger - STRUCTURE OF INSULIN
Insulin is a protein hormone. As such, it is made up of many amino acids - the structure of insulin being discovered by F. Sanger. He was given the Nobel prize for Chemistry in 1958. From this, insulin was cloned, giving rise to a sufficient supply of the hormone through "recombinant DNA technology"; No longer were the millions of people with diabetes mellitus dependent on a dwindling supply of animal pancreases from which the hormone was extracted before. So, today, we have an unlimited supply of various types of insulin - suited to the varying needs of different patients.

Of the 11 young patients who received the first Toronto insulin, the longest surviving of them was Theodore Ryder who lived to the age of 85 years in New Hampshire, U.S.A.



DIABETES QUERIES

Florence Amorado-Santos, MD
Mary Mediatrix Medical Center



Diabetes care usually entails a “head-to-toe” approach. The brain is an important organ which can be overwhelmingly affected by diabetes which predisposes an individual to debilitating conditions. Likewise, the foot which is often a clear target in people with diabetes also warrants vigilant protection and care. The brain and foot, two extreme parts of the body, can both be involved in diabetes complications.

I am a retired teacher and was diagnosed to have diabetes 3 years ago. I am now 57 years old but I can't believe that I have been so forgetful lately.

I used to have good memory when I was still teaching, but now, it's really frustrating that I tend to forget a lot of things. Is this because of my diabetes or just part of my aging process?

Having diabetes and memory loss somehow has a connection. The metabolism of the brain depends so much on glucose (blood sugar). A person with too much or too low glucose can both experience memory loss or confusion. The fluctuations in your blood sugar can lead to brain malfunction in general and can be manifested by memory problems. So, keeping a stable level of blood sugar can help prevent early memory loss.

My husband who has diabetes experiences spinning sensations especially during changes in position. His endocrinologist told him it's “positional vertigo”. There are times that he is scared to get up from bed because he feels he would just drop on the floor. He is taking some anti-dizziness pills but they don't seem to be working at all.

Yes, it can be positional vertigo and can be related to his diabetes. But, if his medications are not effective, it would be appropriate to have him worked up for other causes of his dizziness. This can be caused by other conditions such as heart problems, ear or eye problems which should also be checked. Have his blood fats (cholesterol and triglycerides) tested. Regular monitoring of his blood sugar is also important since both high or low blood sugar can cause dizziness. Various workups such as carotid duplex scan, head CT scan, head CT angiography can also give information with regards to the condition of his brain and if there are any clogged blood vessels. Ultimately, if all his work up turns out negative (no significant problems), physical therapy would also be of help. Maneuvers to

prevent dizziness during changes in position can be taught by a therapist.

I work as a salesman and walk long distances everyday. I have been diagnosed with diabetes for 5 years and my biggest fear is leg amputation as one of the complications of diabetes. How can I take care of my feet?

Those feet need utmost care! Having diabetes would necessitate you not only to take care of your feet physically but all the other possible causes of diabetic foot complications. Make sure that you always wear well-fitted shoes, avoid torn socks, maintain well-cut nails, observe for any callus formation. Inform your physician if you experience any claudication (pain in your legs during walking) or numbness. There is no better way to take care of your feet but to inspect them day in and day out. Note for any sign of early injuries or abnormalities and seek consult at once. Remember, the best way to prevent diabetic foot complications is still good glucose control but early recognition of foot abnormality could be second best.

My father had diabetes for 10 years and unfortunately developed a non-healing wound on his right foot. We have been consulting an orthopedic surgeon who has been cleaning and checking his wound regularly. My dad is so apprehensive that he will eventually lose his leg. Is there a way to prevent amputation in his condition?

It is important that you have a good physician regularly checking his wound. This will be of great help since close monitoring of the wound is a big factor. Doing a duplex scan of his legs will determine if he has good blood flow which will somehow help in healing his wound. There are also medications which can help improve blood circulation and prevent blood clots in the legs. Don't forget his blood sugar, too. It is still where everything is coming from. Maintain good levels of his blood sugar and follow foot care tips so as to prevent the same thing from happening to his other leg. ○

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



Lessons From Tacloban

Richard Elwyn Fernando, MD
St. Luke's Medical Center

Worst hit by typhoon Yolanda last November was Tacloban. A visit to the city last January showed the gravity of devastation, both to lives and property. No amount of preparation could protect against such a super storm.

What happened to the people with diabetes in the affected areas? Type 2 diabetic patients may survive weeks even without medication. Type 1 or insulin-dependent patients may survive the calamity but not a few days without insulin. Local diabetologists report that they received thousands of insulin vials within a week after the tragedy. Most surviving type 2 patients did not report to their doctors until after several weeks as they prioritized their homes and belongings. Most surviving type 1 diabetic persons managed to fly to Manila (using the C130 planes of the armed forces) and were treated at the Villamor Air Base in temporary relocation sites.

Most of the medical aid was in Tacloban city, sometimes hundreds of kilometres away from the patients in need. And it took weeks to finally clear important access roads.

Two important lessons may have surfaced. Firstly, we do not have a crisis management plan for patients with type

1 diabetes. While insulin and syringes can be easily sent to the city, there must be plans on how to effectively distribute them to faraway affected areas. These plans should cover the possibilities of barangays being completely wiped out.

And secondly, we do not have a comprehensive registry of people with type 1 diabetes. There are only a few of them in each city. In the event of massive calamities, with the registry rescuers would know who would need insulin most and where to find them. It would even be better if they could be registered and located by GPS (telecommunications technology).

And thirdly, we learned how much people care. Help keeps on pouring in from both local and international sources. Individuals and organizations from around the world can be seen helping Tacloban recover from this sad period of her history. ○

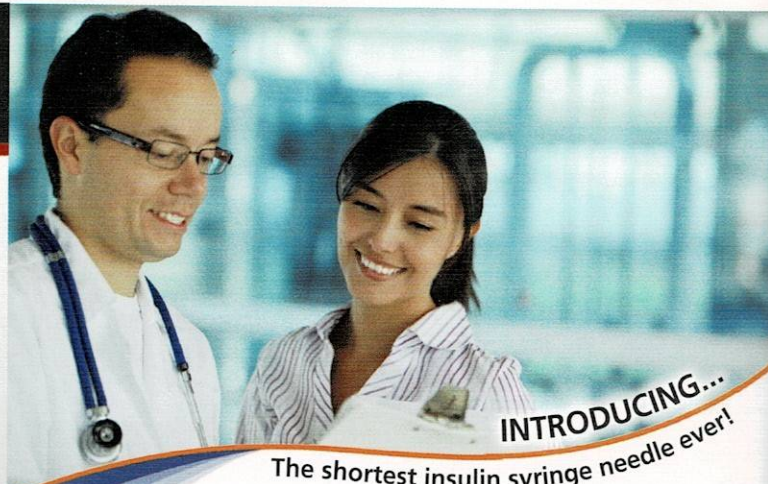


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A close-up photograph of a hand making a peace sign (V-shape) with the index and middle fingers. A single drop of red liquid, resembling blood, is visible on the tip of the index finger. The background is a plain, light-colored surface.

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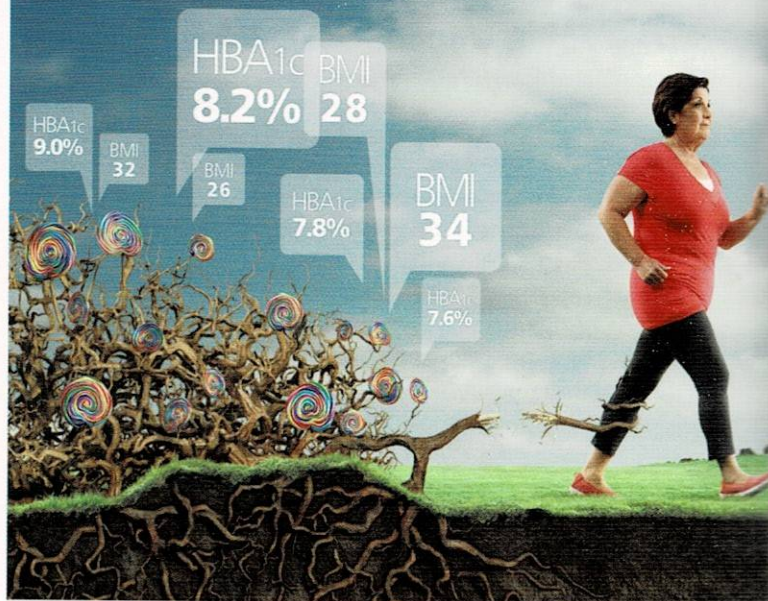
*In Pediatric and Adult patients (including obese patients)

^yCurrent needle sizes: 12.7mm and 8mm.
IM=intramuscular.



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PREVENTION and MANAGEMENT of ISCHEMIC STROKE

Herminigildo Gan, MD
Metropolitan Hospital and Medical Center

Cerebrovascular disease (CVD), CVA, STROKE, “Brain Attack”. . . are terms used to pertain to a neurologic disorder that involves the blood vessels in the brain.

During the World Stroke Day Proclamation in Cape Town in 2006, they announced that worldwide, STROKE is the leading cause of physical disability and ranks second to ischemic heart disease as a cause of death.

Stroke is a heterogenous disease which means that it consists of several distinct subtypes, each having their own causes. According to a population-based study by Dr. Dawn Kleindorfer and her group, ischemic stroke is the most common subtype accounting for 87% and shares many risk factors with cardiovascular disease due to a common etiologic factor, **atherosclerosis**.

It is called *thrombotic infarct* when a blood clot, or *thrombus*, forms and **ABRUPTLY** blocks the blood flow to a part of the brain. An *embolic infarct* occurs when blood clot develops somewhere else in the body and breaks off to become free-floating and is carried through the bloodstream to the brain and **ABRUPTLY** obstructs a blood vessel.

Stroke may also occur when a defective artery in the brain **SUDDENLY** bursts and fills the surrounding tissue with blood (*cerebral hemorrhage*) or when a blood vessel on the brain's surface ruptures and fills the space

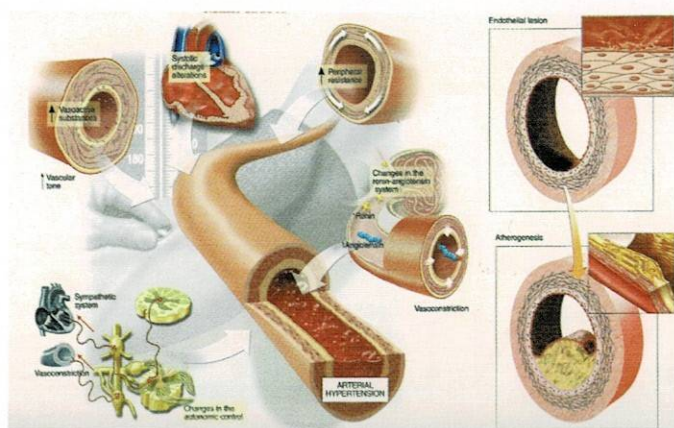
between the brain and skull with blood (*subarachnoid hemorrhage*).

The significant neurologic manifestations after a stroke depends on where the stroke occurs and how much of the brain is affected.

About 80% of strokes can be prevented by reducing the risk factors. The non-modifiable risk factors include: older age, male sex, ethnicity/race (non-white) and positive family history for stroke. However, modifiable risk factors include: hypertension, diabetes, hyperlipidemia, atrial fibrillation, smoking, obesity, carotid artery disease.

Newer risk factors are still being discovered and these include hyperhomocysteinemia, hypercoagulable states and select biomarkers.

Locally, in a study done by Dr. Artemio Roxas, Jr. and his group in collaboration with the Department of Health (PNA-DOH RIFASAF study), the following risk factors were seen among Filipinos: hypertension, heart attack (Myocardial Infarction), rheumatic heart disease, snoring, atrial fibrillation, frequent alcohol intake, stress, diabetes, smoking.



A. Hypertension

One study shows that if the BP is reduced by about 10 to 12 mm Hg systolic and 5 to 6 mm Hg diastolic, this will provide a 38% to 40% reduction in the risk of stroke.

Patients with hypertension should therefore RELIGIOUSLY take their anti-hypertensive medicines and regularly consult their physician. Aside from regular intake of medicines, DIET MODIFICATION is a must and should include low salt, high potassium diet. Regular moderate intensity aerobic exercise or walking for 30 minutes daily and keeping the body weight in the ideal range also helps lower the BP.



B. Diabetes mellitus

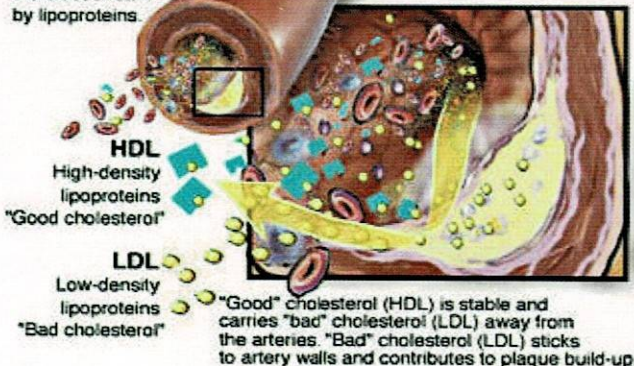
Diabetes mellitus has both macrovascular and microvascular complications. The local study by the group of Dr. A. Roxas showed a 1.6 times higher risk for stroke among those with diabetes mellitus. Studies among stroke patients have confirmed an independent effect of diabetes mellitus on ischemic stroke, increasing the risk by 2 to nearly 6 times. Diabetes not only significantly increases the risk of stroke but is also a predictor of reduced survival following stroke. This means that diabetic patients have a worse outcome, with a 2-times likelihood of subsequent strokes. Functional disability is worse if a diabetic patient develops a stroke and the hospital stay becomes longer.

Therefore, here are some recommendations to follow to lower the risk of stroke in diabetic patients:

1. Keep the blood glucose (blood sugar) in long-term, intensive control.
2. Keep the blood pressure and cholesterol on target with healthy eating (diet), physical activity, lifestyle change like quitting smoking, and, if needed, medicine.
3. Regular visit to your physician and regular monitoring of blood sugar and serum total cholesterol levels.

Cholesterol

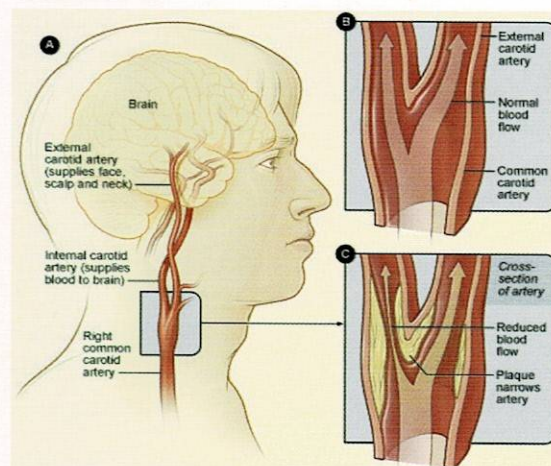
Cholesterol is a waxy fat carried through the bloodstream by lipoproteins.



C. Cholesterol

Recommendations to prevent stroke in persons with high bad cholesterol levels:

1. Lifestyle changes which include quitting the bad habit of smoking, keeping the ideal body weight, regular physical activity like walking for 30 minutes without stopping and performing this 5 to 6 times a week.
2. Maintain a low-fat cholesterol diet.
3. Consult your physician for your ideal target goal for blood cholesterol.
4. Maintain your cholesterol-lowering drug unless your physician asks you to discontinue it.
5. Weight management: OBESITY is defined by a body mass index (BMI) greater than 30 kg/m² or waist-hip ratio greater than 1 for men and 0.85 for women. Overweight has a cut-off BMI of 25 kg/m².



D. Carotid stenosis

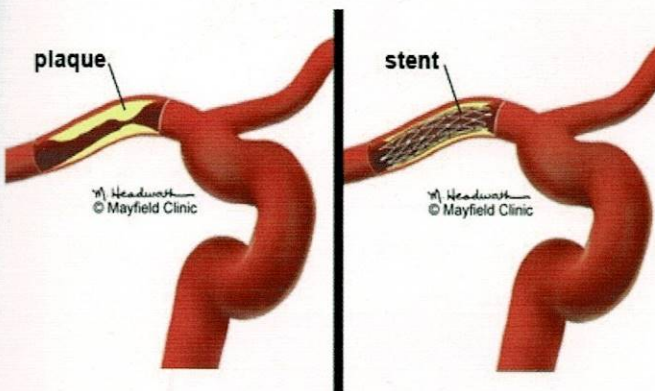
The carotid arteries are the large arteries whose pulse can be felt on both sides of the neck under the jaw. These are the major arteries that significantly supply blood to the brain.

Narrowing of the inner surface of the carotid artery, usually caused by atherosclerosis, is called "Carotid Stenosis". This narrowing is usually caused by the buildup of fatty substances and cholesterol deposits, called plaque. Foreign studies show that carotid artery disease accounts for 15% to 20% of all ischemic strokes. Persons with carotid stenosis often have more widespread atherosclerotic disease with a high prevalence of heart disease.

Who are at risk of developing carotid stenosis? The risk factors for carotid artery disease are similar to those for other types of heart disease, like old age, smoking, hypertension, abnormally high cholesterol, diabetes, obesity, sedentary lifestyle and family history of atherosclerosis, either coronary artery disease or carotid artery disease.

So, if one is at risk of having carotid stenosis, it is best to control the risk factors stated above. It is also reasonable to do screening using readily available, non-invasive tests like carotid duplex scan. If the duplex scan shows carotid stenosis, further tests should be done. Cerebral angiography (carotid angiogram) is considered the gold standard for imaging the carotid arteries. It is an invasive procedure that lets the doctor see the blood flow through the carotid arteries in real time. This procedure provides the best information.

It is reasonable to consider surgery - carotid endarterectomy (CEA) - for patients with asymptomatic carotid stenosis of more than 60%. CEA combined with the best medical management is recommended for patients with recent Transient Ischemic Attack (TIA) or stroke and severe carotid artery stenosis of 70% to 99%.

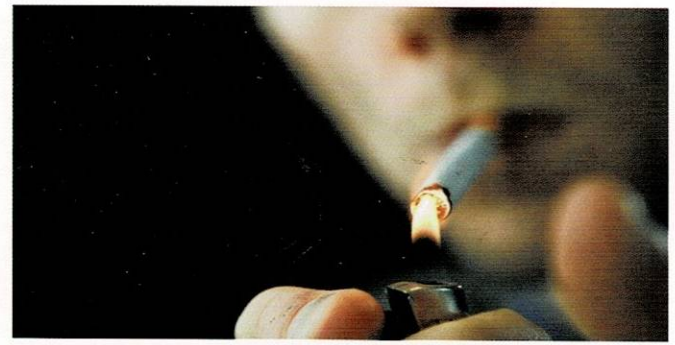


E. Intracranial stenosis

Intracranial stenosis is a narrowing of the arteries inside the brain. Similar to carotid stenosis in the neck, it is caused by buildup of plaque in the inner wall of the blood vessels. This narrowing of the blood vessels causes decreased blood flow to the area of the brain that the affected vessels supply.

Intracranial stenosis is responsible for ischemic stroke in 5% to 10% of Caucasian patients. Strokes related to intracranial stenosis are more common among Chinese and Asian population, comprising 33% to 37% of ischemic strokes. Again, the risk factors are similar to those for atherosclerosis of the heart.

In patients with ischemic strokes or TIA, screening for intracranial arterial stenosis is recommended. These tests include Transcranial Doppler (TCD), CT Angiogram (CTA) and Magnetic Resonance Angiography (MRA). The more invasive one includes Digital Subtraction Angiography. If these tests show presence of significant intracranial arterial stenosis, medical management should be combined with risk factor modification.

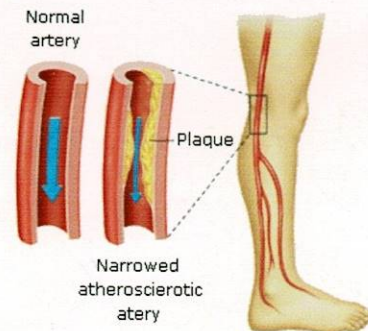


G. Smoking

Smokers are 3 times more likely to have a stroke than non-smokers. The more you smoke, the more this risk increases. If you smoke 20 cigarettes a day, you are 6 times more likely to have a stroke compared to a non-smoker.

Breathing other people's cigarette smoke is known as passive, involuntary or secondhand smoking (SHS). It can also be called 'environmental tobacco smoke'. Individuals who are exposed to SHS has a significantly higher risk of coronary heart disease and ischemic stroke than those who are never exposed to SHS.

Peripheral Artery Disease



F. Peripheral Arterial Disease (PAD)

PAD is characterized by arterial stenosis and occlusion of the peripheral arterial bed. The main risk factor for PAD is smoking. Other risk factors include older age and diseases like diabetes, high blood cholesterol, high blood pressure, heart disease, and stroke.

Many people who have PAD don't have any symptoms. If one has symptoms, these may include:

- Pain, numbness, achiness, or heaviness in the leg muscles, usually when walking or climbing stairs
- Weak or absent pulses in the legs or feet
- Sores or wounds on the toes, feet, or legs that heal slowly, poorly, or not at all
- Pale or bluish discoloration of the skin
- Lower temperature in one leg than the other leg
- Poor nail growth on the toes and decreased hair growth on the legs
- Erectile dysfunction, especially among men with diabetes may also be one of the manifestations

The risk of stroke in patients with PAD is increased by approximately 40%. In one study, men with PAD were found to be 4 to 5 times more at risk of stroke and TIA than those without PAD. Patients with symptoms suggestive of PAD or those with risks for having PAD should undergo Ankle-Brachial Index (ABI) test.



H. Excessive alcohol

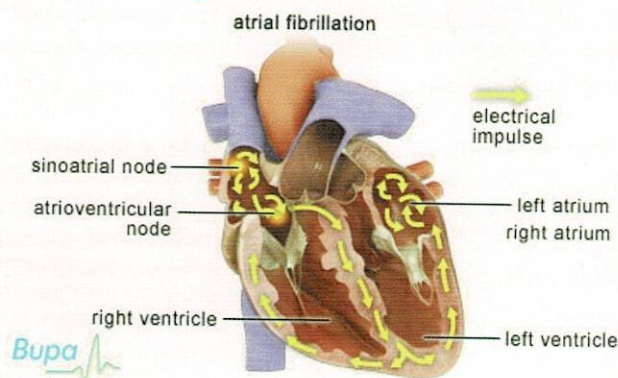
Consumption of up to 5 drinks per day increases the risk of ischemic stroke. Therefore, **FOR THOSE WHO DRINK ALCOHOL AND HAVE NO HEALTH CONTRAINDICATIONS**, only moderate intake of alcohol is recommended. This means consumption of alcohol, up to 30 cc (28 grams) of ethanol per day, equivalent to 60 cc or 2 jiggers of 100 proof whisky, one glass of wine (240 cc) or two bottles of beer (720 cc) or two drinks per day for men and one drink per day for non-pregnant women are allowed.

Acknowledgement:

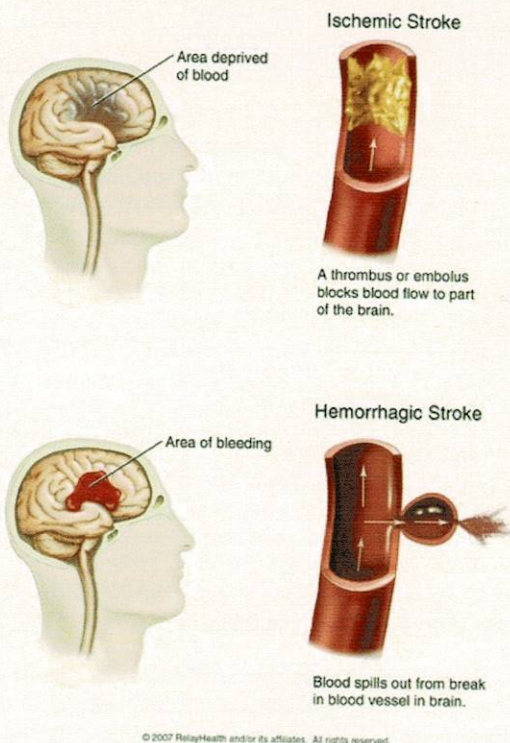
Stroke Society of the Philippines for its Handbook on *"Guidelines for the Prevention, Treatment and Rehabilitation of Stroke"*, 5th edition

I. Atrial Fibrillation (AF)

Atrial fibrillation is a type of irregular heartbeat. It means that your heart may not be pumping as well as it should. As a result, blood clots are more likely to form in your heart, increasing risk of having a stroke. Without preventive treatment, about 1 in 20 patients with AF will have a stroke each year. Non-valvular AF alone is associated with a 3- to 4-fold increase in risk of stroke. AF in those with valvular heart disease is also associated with increased risk of embolic ischemic stroke. AF stroke is usually more severe than stroke due to other causes. Individuals with irregular heartbeats and palpitations should consult their physicians and cardiologists for work up and treatment so that stroke may be prevented. ○

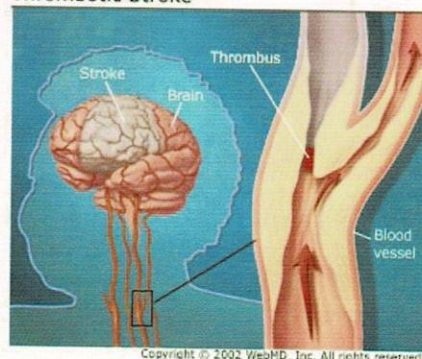


Types of Stroke

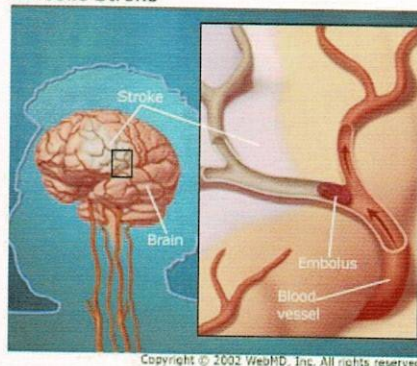


Types of ISCHEMIC STROKES (Thrombotic and Embolic)

Thrombotic Stroke



Embolic Stroke





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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.

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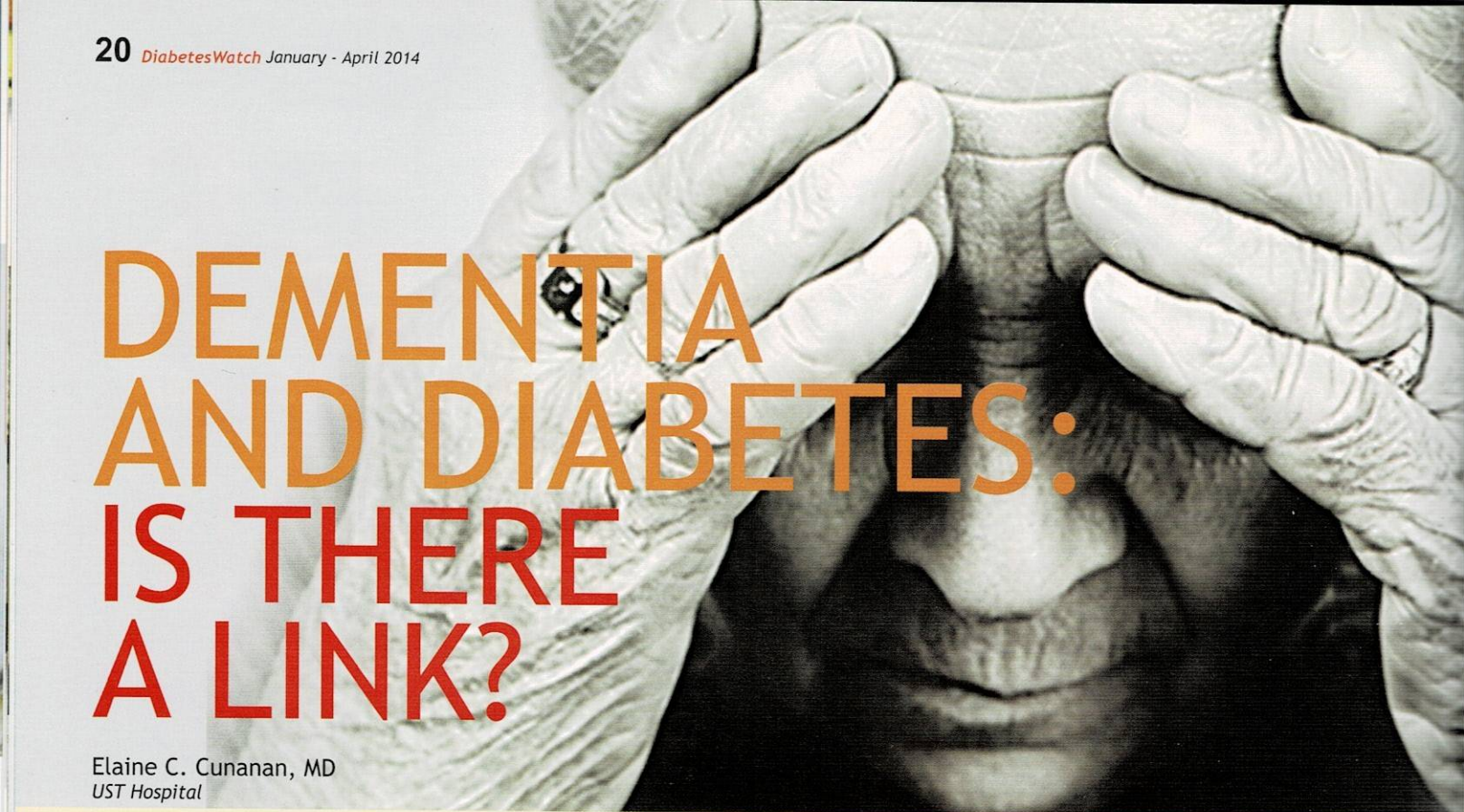
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DEMENTIA AND DIABETES: IS THERE A LINK?

Elaine C. Cunanan, MD
UST Hospital

What is Dementia?

Dementia is a term for a condition wherein a person develops significant impairment in his intellectual capacity eventually leading to difficulty in performing even simple activities of daily living, such as getting dressed or eating. Behavioral changes, such as agitation and hallucinations may also occur. While memory loss is a common symptom of dementia, memory loss by itself does not mean that a person has dementia.

Doctors diagnose dementia if two or more brain functions - such as memory and language skills -- are significantly impaired. There is no accompanying loss of consciousness.

Although dementia tends to occur in elderly people, it is not part of normal aging. More common causes of dementia include Alzheimer's disease and previous strokes termed vascular dementia. Other conditions that may also cause dementia or dementia-like symptoms include medications, nutritional

deficiencies, severe infections, poisoning, and brain tumors.

Are people with diabetes prone to dementia?

Elderly patients with type 2 diabetes may develop cognitive deficits earlier than non-diabetic elderly. A more likely explanation of this accelerated cognitive decline is the higher prevalence of atherosclerotic vascular disease caused by high blood glucose levels, hypertension or dyslipidemia.

Patients with high blood sugar levels tend to manifest cognitive deficits which may be reversible with improvement in glycemic control.

How do we treat dementia?

Drugs to specifically treat Alzheimer's disease and some other dementias are now available. While these drugs cannot cure dementia or repair brain damage, they may improve symptoms or slow down the disease, thereby, improving the

individual's quality of life or ease the burden on caregivers. Practicing tasks designed to improve performance in specific aspects of cognitive functioning, e.g. use memory aids or note taking may also be of benefit particularly in the early stages.

How can a person with diabetes reduce his risk of developing dementia?

Exercise, weight control, and good glycemic control can afford protection against cognitive deficits as they do against other diabetic complications. Living a healthy lifestyle that promotes cardiovascular health and staying socially active will also benefit brain health. ○

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- <http://www.nlm.nih.gov/medlineplus/> accessed Dec 29, 2013
- National Institute of Neurological Disorders and Stroke NINDS Dementia Information Page. <http://www.ninds.nih.gov/> accessed Dec 29, 2013

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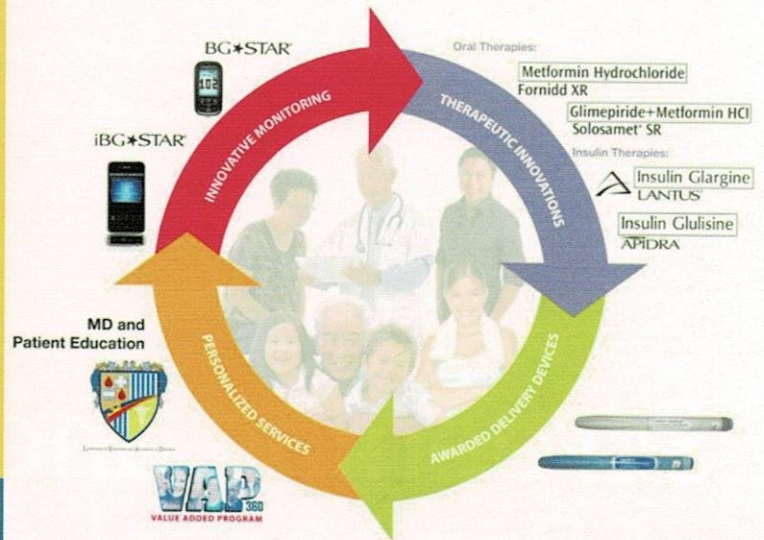
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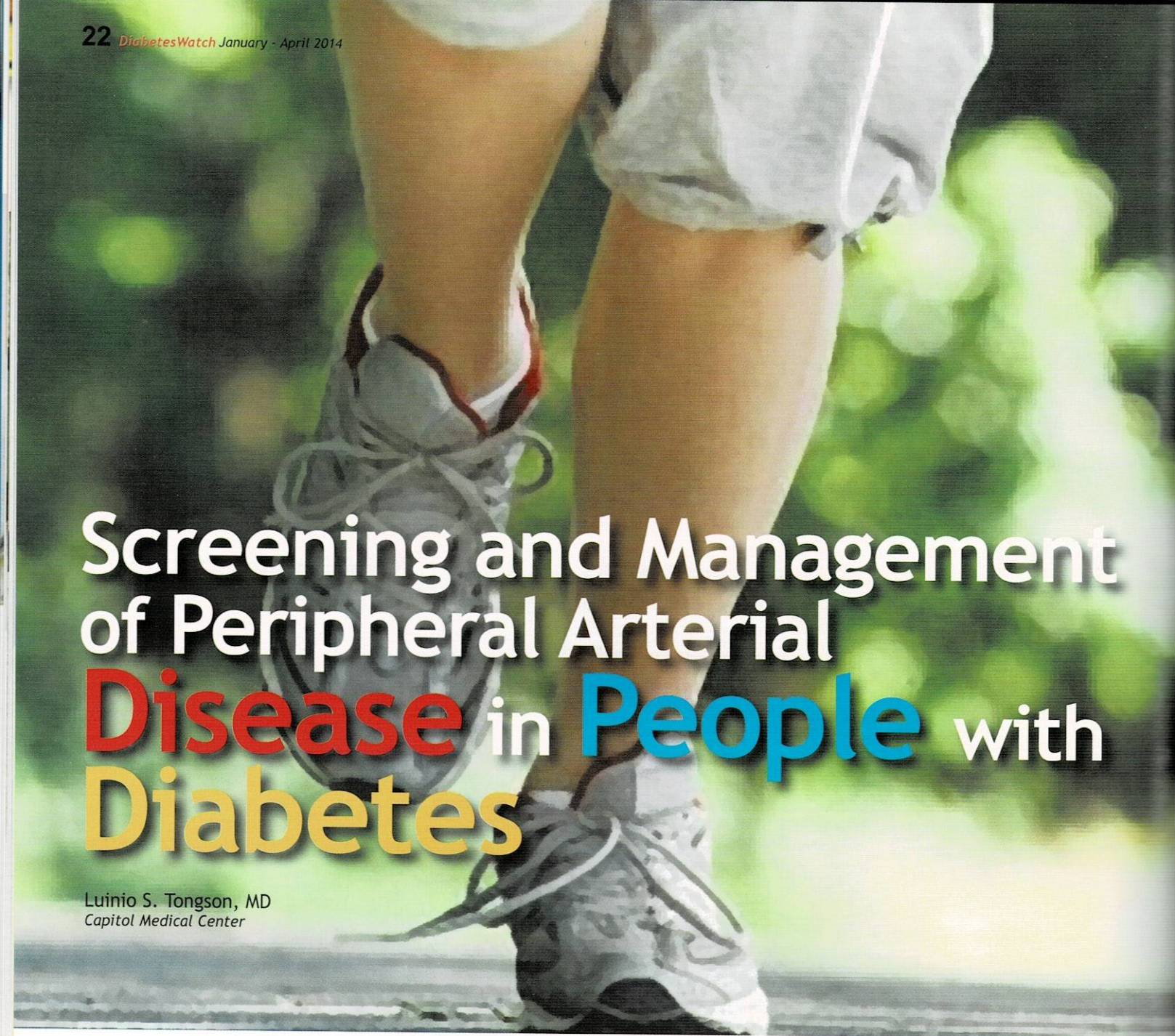
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SANOFI DIABETES 360° 



The Lighter Side of Diabetes By: Dr. Allan S. Hernandez





Screening and Management of Peripheral Arterial Disease in People with Diabetes

Luinio S. Tongson, MD
Capitol Medical Center

Peripheral arterial disease (PAD) is a condition characterized by atherosclerotic occlusive disease of the lower extremities. PAD of the lower extremities is a common cause of impaired ambulation and is a leading cause of lower extremity wounds and amputations.

While PAD is a major risk factor for lower-extremity amputation, it is also accompanied by a high likelihood for atherosclerosis elsewhere in the body. Thus, individuals with PAD are at significantly increased risk of cardiovascular (CV) and cerebrovascular events and mortality.

Prevalence of PAD

Approximately 20% of adults older than 55 years have PAD, although estimates of the prevalence of PAD vary widely. Figures from the Framingham Heart Study revealed that 20% of symptomatic patients

with PAD had diabetes although the true prevalence of PAD in people with diabetes has been difficult to determine. It is reported that of those with PAD, over one-half are asymptomatic or have atypical symptoms, about one-third have claudication, and the remainder

have more severe forms of the disease.

Risk factors for PAD

In the Guidelines from the Trans-Atlantic Inter-Society Consensus (TASC), increased risk for PAD is defined as the presence of one of the following:

- Age <50 years with diabetes and one additional risk factor (smoking, dyslipidemia, hypertension, or homocysteinemia)
- Age 50 to 69 years with history of smoking or diabetes
- Age ≥70 years
- Abnormal lower extremity pulses
- Leg symptoms with exertion or ischemic rest pain
- Known coronary, carotid, or renal atherosclerosis

In 2011, an update of their 2005 guideline, the American College of Cardiology/American Heart Association in collaboration with other participants of the TASC consortium recategorized risk as age ≥65 years.

Clinical Presentation

Patients with PAD often have no complaints. PAD can also present with pain of one or more lower extremity muscle groups, intermittent claudi-

cation, atypical pain, pain at rest, or with nonhealing wounds, ulceration, or gangrene.

The 2005 American College of Cardiology/American Heart Association (ACC/AHA) guidelines on PAD suggested the following distribution of clinical presentation of PAD in patients ≥50 years of age:

- Asymptomatic - 20 to 50%
- Atypical leg pain - 40 to 50%
- Classic claudication - 10 to 35%
- Threatened limb - 1 to 2%

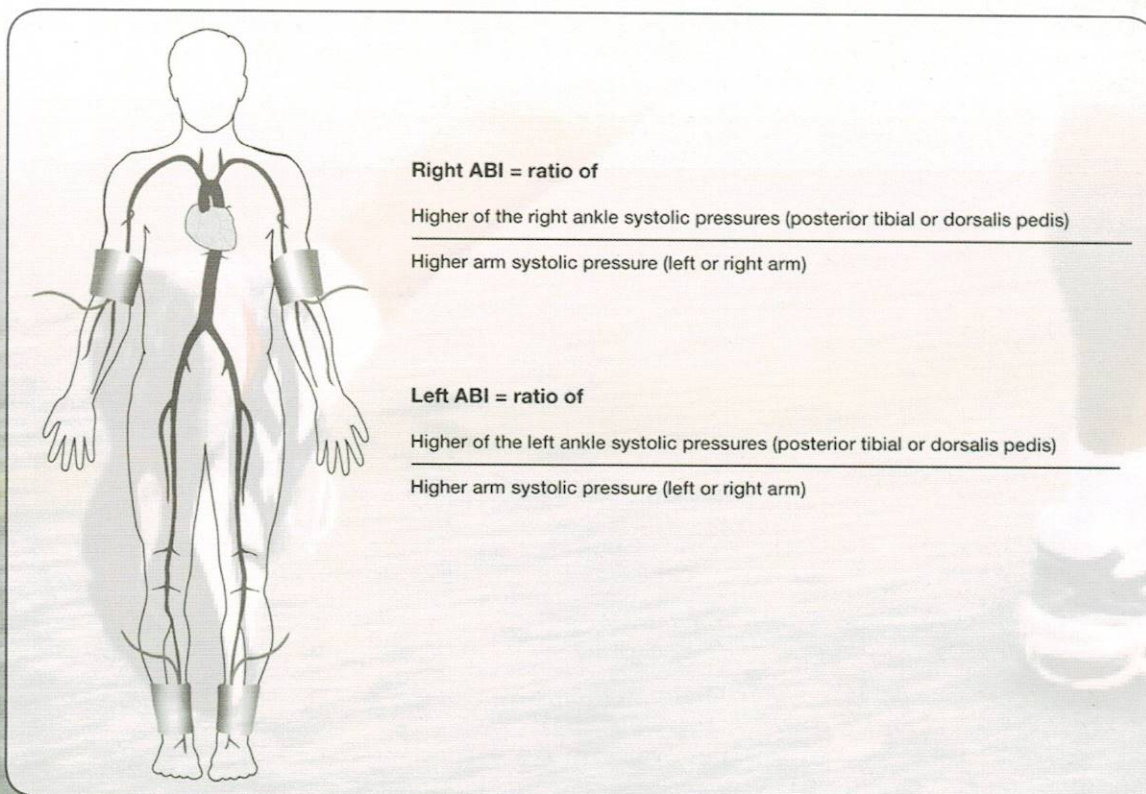
Evaluation of PAD in Diabetes

The initial assessment of PAD in diabetes patients should begin with a thorough medical history and physical examination to help identify those with PAD risk factors, symptoms of claudication, rest pain, and/or functional impairment.

Dependent rubor (redness), pallor on elevation, absence of hair growth, dystrophic toe-nails, and cool, dry, fissured skin are signs of vascular insufficiency and should be noted. Palpation of peripheral pulses should be a routine component of the physical exam and should include assessment of the femoral, popliteal, and pedal vessels.

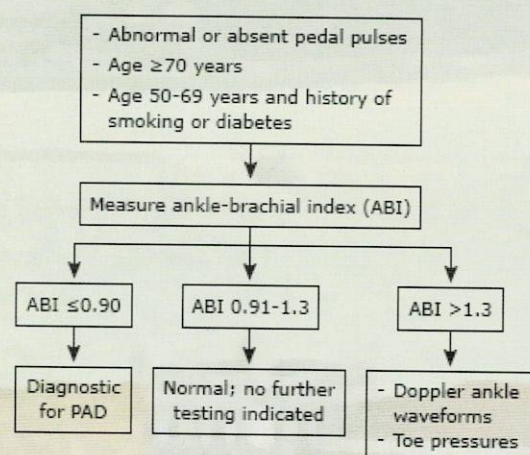
It should be noted that the dorsalis pedis pulse is reported to be absent in 8.1% of healthy individuals, and the posterior tibial pulse is absent in 2.0%. The American Diabetes Association consensus recommends screening for PAD in anyone with diabetes over 50 years of age. Those with other risk factors like smoking, advanced age, hypertension, and hyperlipidemia or duration of diabetes > 10 years should also be screened.

Measurement of the Ankle Brachial Index (ABI) is a screening procedure for PAD. The ABI is a simple, accurate, and relatively inexpensive test that assesses the ratio of systolic pressures in the lower versus upper extremities using doppler ultrasound. ABI predicts angiography results more accurately than using history and physical examination alone. In patients undergoing diagnostic testing, ABI has excellent overall accuracy compared to angiography in detecting significant PAD (stenoses ≥50 percent). For patients in whom there is clinical suspicion of PAD, an ABI cutoff of <0.9 has been reported to have a sensitivity ranging from 79 to 95 percent with specificity consistently >95 percent.



Normal ABI results are 0.91-1.30. The severity of ABI reduction roughly correlates with severity of disease, with mild disease being 0.71 to 0.9, moderate disease at 0.5 to 0.7, severe disease at less than 0.5. Critical disease is present if symptoms progress where pain occurs at rest and/or if a foot ulcer develops as a result of extremely poor circulation. Medial arterial calcification can make arteries at the ankle poorly compressible, giving a false elevation of the ABI, typically > 1.3 . If one suspects non-compressible vessels, then more detailed evaluation with toe pressure or pulse volume recordings would be indicated.

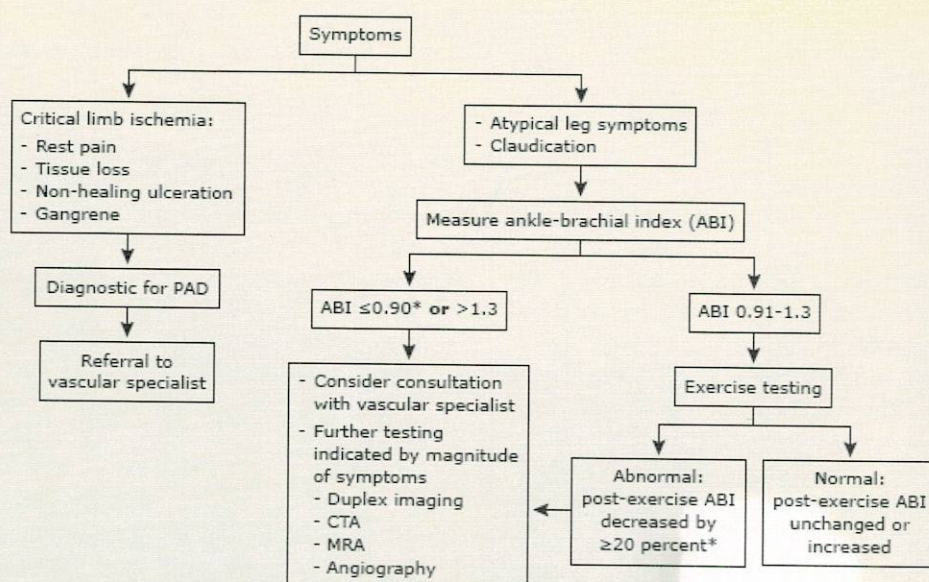
Figure 1. Algorithm for vascular testing in asymptomatic patients



- Patients with diabetes or end-stage renal disease may have falsely elevated ABIs as a result of arterial calcification.
- The toe-brachial index may be more accurate.

Figure 2. Algorithm for vascular testing in symptomatic patients

- Patients with diabetes or end-stage renal disease may have falsely elevated ABIs as a result



of arterial calcification. The toe-brachial index may be more accurate.

- MRA: magnetic resonance angiography; CTA: computed tomographic angiography.
* Diagnostic for PAD.

Management

In managing PAD, it is critically important to deal with the high risk of developing severe and often fatal CV complications. The first priority is to aggressively modify risk factors that enhance the progression of atherosclerosis and atherosclerotic complications. It is also important, however, to relieve the symptoms of intermittent claudication. Unlike risk reduction, symptomatic improvement is apparent to the patient, often within a matter of weeks or a few months, and can enhance a patient's quality of life considerably.

Any lifestyle change that reduces PAD risk factors is beneficial. Intervention programs include cessation of or decrease in smoking, dietary modifications for weight loss and lipid lowering, plus a combination of supervised and unsupervised exercise.

The following are recommendations by the Inter-Society Consensus for the Management of PAD (TASC II):

Recommendation 1. Smoking cessation in PAD

- All patients who smoke should be strongly and repeatedly advised to stop smoking.
- All patients who smoke should receive a program of physician advice, group counseling sessions, and nicotine replacement.
- Cessation rates can be enhanced by addition of antidepressant drug therapy (bupropion) and nicotine replacement.

Recommendation 2. Lipid control in patients with PAD

- All symptomatic PAD patients should have their low-density lipoprotein cholesterol (LDL-C) lowered to < 2.59 mmol/L (< 100 mg/dL).
- In patients with PAD and a history of vascular disease in other beds (e.g. coronary artery disease) it is reasonable to lower LDL-C levels to < 1.81 mmol/L (< 70 mg/dL).
- All asymptomatic patients with PAD and no other clinical evidence of CV disease should

also have their LDL-C level lowered to <2.59 mmol/L (<100 mg/dL).

- In patients with elevated triglycerides where LDL cannot be accurately calculated, the LDL level should be directly measured or the non-HDL (high-density lipoprotein) cholesterol level should be <3.36 mmol/L (<130 mg/dL) and in high-risk patients the level should be <2.59 mmol/L (<100 mg/dL).
- Dietary modification should be the initial intervention to control abnormal lipid levels.
- In symptomatic PAD patients, statins should be the primary agents to lower LDL-C levels to reduce the risk of CV events.
- Fibrates and/or niacin to raise HDL-C and lower triglyceride levels should be considered in PAD patients who have abnormalities of those lipid fractions.

Recommendation 3. Control of hypertension in PAD patients

- All patients with hypertension should have blood pressure controlled to $<140/90$ mmHg or $<130/80$ mmHg if they also have diabetes or renal insufficiency.
- JNC VII and European guidelines for the management of hypertension in PAD should be followed.
- Thiazides and ACE inhibitors should be considered as initial blood pressure-lowering drugs in PAD to reduce the risk of CV events.
- Beta-adrenergic-blocking drugs are not contraindicated in PAD.

Recommendation 4. Control of diabetes in PAD

- Patients with diabetes and PAD should have aggressive control

of blood glucose levels with a hemoglobin A1c goal of $<7.0\%$ or as close to 6% as possible.

Recommendation 6. Antiplatelet therapy in PAD

- All symptomatic patients with or without a history of other CV disease should be prescribed an antiplatelet drug long term to reduce the risk of CV morbidity and mortality.
- Aspirin/ASA is effective in patients with PAD who also have clinical evidence of other forms of CV disease (coronary or carotid).
- The use of aspirin/ASA in patients with PAD who do not have clinical evidence of other forms of CV disease can be considered.
- Clopidogrel is effective in reducing CV events in a subgroup of patients with symptomatic PAD, with or without other clinical evidence of CV disease.

Recommendation 14. Exercise therapy in intermittent claudication

- Supervised exercise should be made available as part of the initial treatment for all patients with PAD.
- The most effective programs employ treadmill or track walking that is of sufficient intensity to bring on claudication, followed by rest, over the course of a 30-60 minute session. Exercise sessions are typically conducted 3 times a week for 3 months.

Recommendation 15. Pharmacotherapy for symptoms of intermittent claudication

- A 3- to 6-month course to determine efficacy of cilostazol should be first-line pharmacotherapy for the relief

of claudication symptoms, as evidence shows both an improvement in treadmill exercise performance and quality of life.

- Naftidrofuryl can also be considered for treatment of claudication symptoms.

Critical limb ischemia (CLI) is a manifestation of PAD that describes patients with typical chronic ischemic rest pain or patients with ischemic skin lesions, either ulcers or gangrene. The diagnosis of CLI should be confirmed by the ABI, toe systolic pressure or transcutaneous oxygen tension.

Recommendation 21. Importance of early identification of PAD

- Early identification of patients with PAD at risk of developing foot problems is essential for limb preservation. This can be achieved by daily visual examination by the patient or their family and, at every visit, referral to the foot specialist.

Recommendation 22. Early referral in CLI

- Patients with CLI should be referred to a vascular specialist early in the course of their disease to plan for revascularization options.

Recommendation 24. Optimal treatment for patients with CLI

- Revascularization is the optimal treatment for patients with CLI.

Recommendation 25. Treatment for infections in CLI

- Systemic antibiotic therapy is required in CLI patients who develop cellulitis or spreading infection.

Recommendation 27. Amputation decisions in CLI

- The decision to amputate and the choice of the level should take into consideration the potential for healing, rehabilitation and return of quality of life.

Recommendation 28. Use of prostanoids in CLI

- Previous studies with prostanoids in CLI suggested improved healing of ischemic ulcers and reduction in amputations.
- However, recent trials do not support the benefit of prostanoids in promoting amputation-free survival.
- There are no other pharmacotherapies that can be recommended for the treatment of CLI.

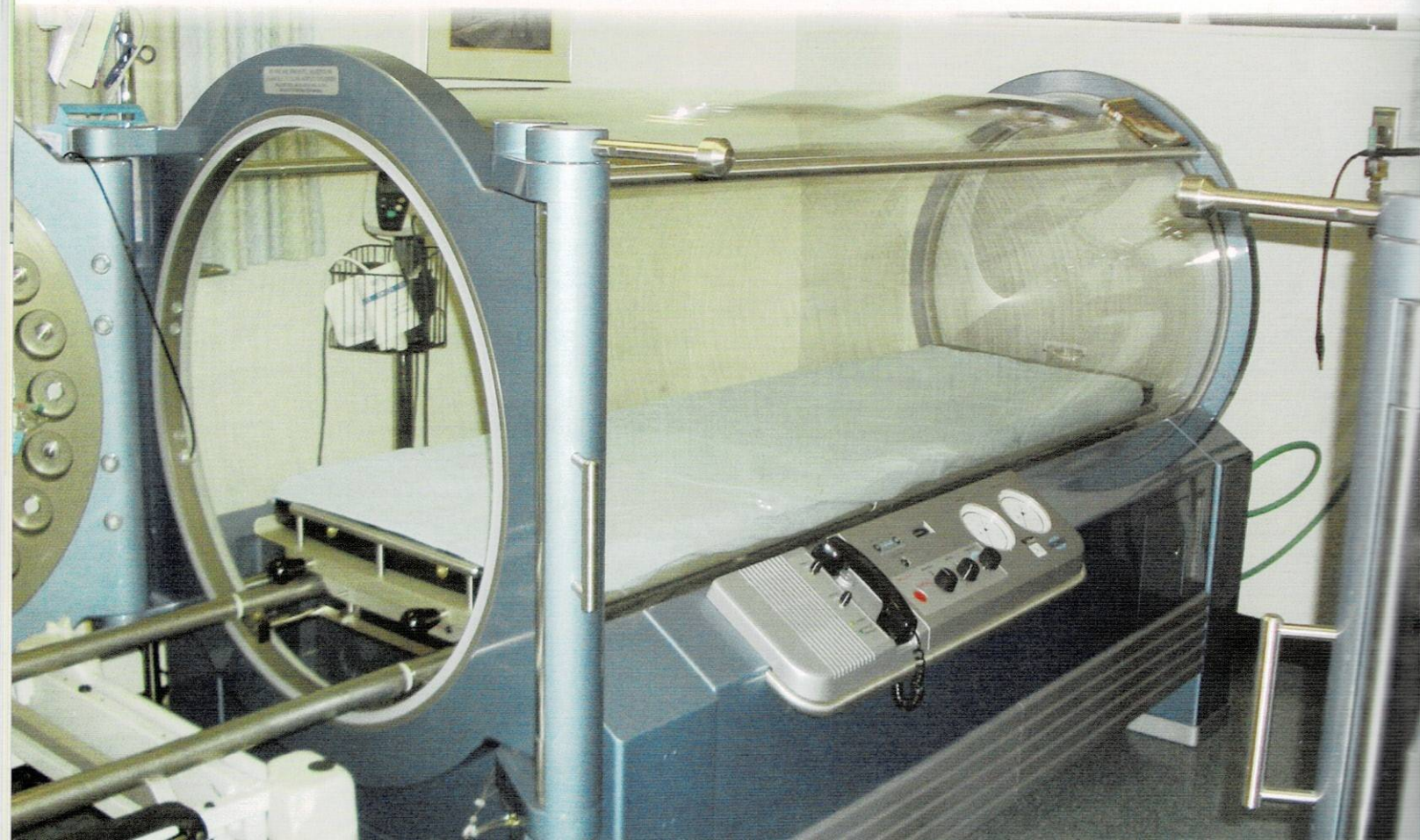
Other treatments

- Hyperbaric oxygen

- A Cochrane review concluded that hyperbaric therapy significantly reduced the risk of major amputation in patients with diabetic ulcers. However, the results should be interpreted with caution because of methodological shortcomings. This therapy is not generally recommended. Nonetheless, hyperbaric oxygen may be considered in selected patients with ischemic ulcers who have not responded to, or are not candidates for, revascularization.

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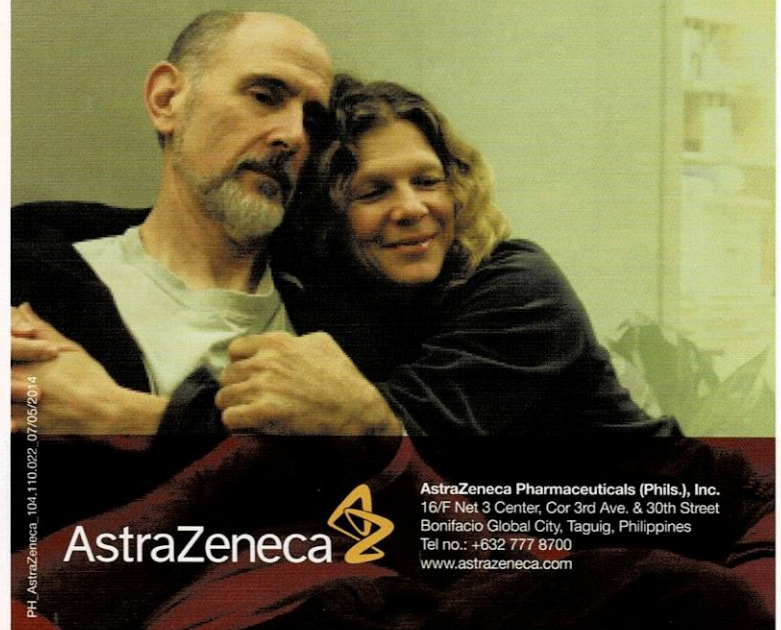
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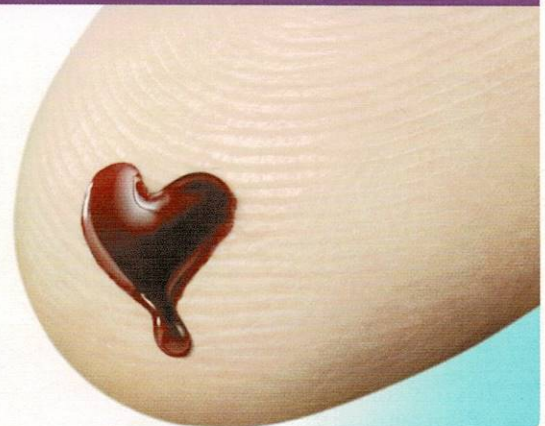
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PH/DGWDIAB/06/02 2014



The Mediterranean Diet

Researched and Localized by:

Sanirose S. Orbeta, MS, RD, FADA,

One of the leading causes of deaths in the Philippines is heart and vascular disease. According to President Dr. Dante Morales of the Philippine Society of Hypertension, about 30% of all deaths are caused by cardiovascular diseases (CVD). Based from the National Nutrition and Health Survey (NNHeS II) conducted in 2008, one in every four Filipino adults has hypertension which increases the risk of stroke, heart failure and renal failures. Arising from these health problems are different diets to prevent major chronic diseases. One of these diets is called - "The Mediterranean Diet".

Mediterranean diet reflects a way of eating that is traditional in the countries that surrounds the Mediterranean Sea. It is not a "diet" as in "go on a diet", rather, it is a lifestyle including foods, activities, meals with friends and family and wine in moderation with meals. It incorporates the basic healthy diets such as fruits, vegetables, fish and whole grains and limit unhealthy fats. Mediterranean diet emphasizes physical activity and consuming primarily plant-based foods, such as fruits and vegetables, whole grains like rice and corn, legumes like mungo beans and nuts.

The Mediterranean diet has the following dietary recommendations: (Using local counterparts)

- **Vegetables, fruits and whole grains.** Majority of the meals is made up of a variety of plant-based foods such as root crops (i.e. potato and camote) and green leafy vegetables (i.e. kangkong, pechay, malunggay). Whole-grains like rice, corn, whole-wheat bread, muesli cereals, wheat pasta and noodle products (i.e. spaghetti, mami, sotanghon, and bihon) are also included in this group. These foods should be minimally

processed. Seven to 10 servings of fruits, vegetables and whole grains are allotted per day which is double the recommendations of most food guides.

- **Nuts.** Peanuts, almonds, cashews, and pili nuts are consumed as snack in this type of diet. Natural peanut butter or avocado dips that has lesser amount of saturated fats is preferred rather than the kind with hydrogenated fat or trans-fat added like mayonnaise, margarine and butter.

- **Olive oil or canola oil.** It is a healthy replacement for butter or

margarine because it is made up of monounsaturated fats like safflower and sunflower oil. It can be used in cooking or as a spread on whole-grain bread for a tasty alternative to butter.

- **Herbs and spices.** Season the meals with herbs and spices rather than salt. Use instead onions, garlic, ginger, parsley, celery, red and green pepper, laurel leaves and oregano.

- **Fish and other seafoods.** Fish and seafoods are more often consumed in moderate amounts. Fresh or water-packed tuna, salmon, trout, mackerel and herring or any fish like tilapia, bangus, tanig and tambakol are preferred.

Minimize red meat. Red meats are consumed in lesser amount. Fish and poultry were substituted for red meat. Lean meats and small portions (about the size of a deck of cards or inner palm size) of meat are preferred.

- **Low-fat dairy.** Limit higher fat dairy products such as whole milk, high fat cheeses and ice cream. Skim milk, fat-free yogurt, sherbet and low-fat cheese are preferred.

- **Wine.** A glass of wine at dinner is also allowed in this diet specially if it's ok with your physician. If you don't drink alcohol, you don't need to start. Drinking purple grape juice may be an alternative to wine unless you have diabetes.

Some Related Literature regarding Mediterranean Diet

Some studies have shown that the Mediterranean diet reduces the risk of heart disease. Furthermore, recent analysis of more than 1.5 million healthy adults demonstrated that following Mediterranean style-diet was associated with a

reduced risk of overall and cardiovascular mortality, a reduced incidence of cancer and cancer mortality and a reduced incidence of Parkinson's and Alzheimer's diseases. A study was conducted in 2012 by Marie-Noëhl Vercambre and colleagues about the association between Mediterranean diet in cognitive decline in women with prevalent vascular disease. The result shows that consuming a Mediterranean diet was not related to cognitive decline across 5 years of follow-up and no effect of modification was detected by age, education, depression, cardiovascular disease severity. Another study was conducted in 2013 by Xingwang Ye and colleagues to examine associations between diet quality, as assessed by the Mediterranean Diet and Health Eating Index (HEI) 2005, and cognitive performance in a sample of 1,269 Puerto Rican adults aged 45-75 years and living in the Greater Boston area of Massachusetts. Researchers found out that diets with higher quality, measured either by the Mediterranean diet score or HEI 2005 score, were associated with greater cognitive function and lower likelihood of cognitive impairment in middle-aged and older Puerto Rican adults.

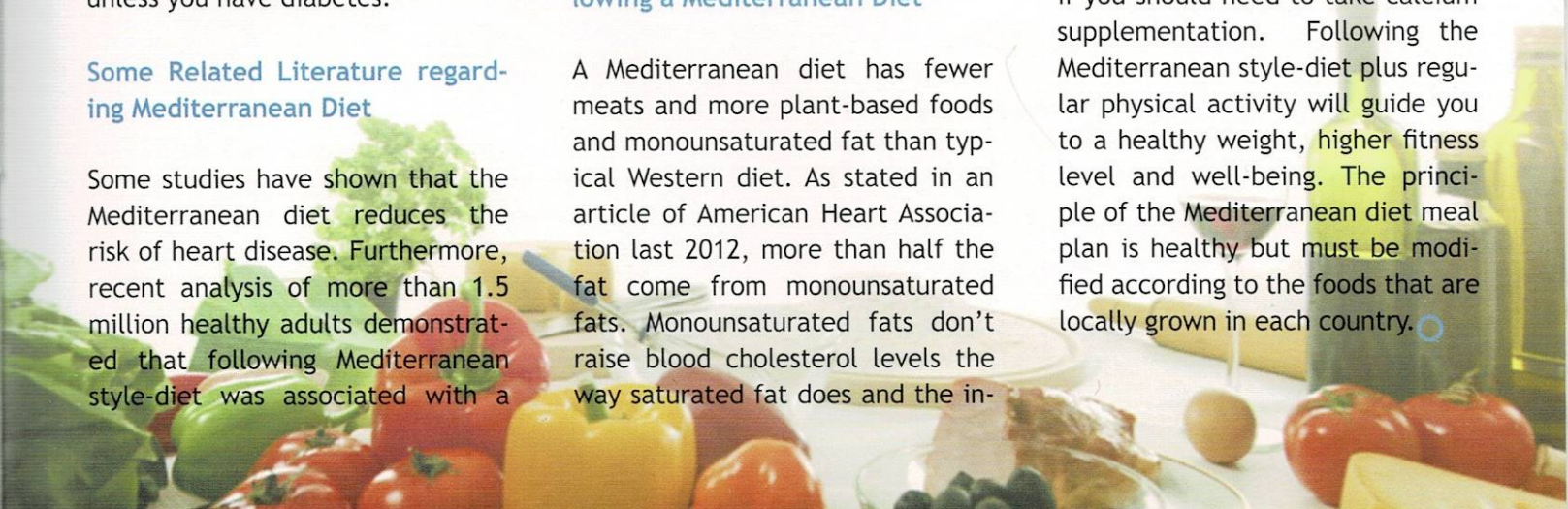
Possible Health Concerns in Following a Mediterranean Diet

A Mediterranean diet has fewer meats and more plant-based foods and monounsaturated fat than typical Western diet. As stated in an article of American Heart Association last 2012, more than half the fat come from monounsaturated fats. Monounsaturated fats don't raise blood cholesterol levels the way saturated fat does and the in-

cidence of heart disease and death rates in Mediterranean countries is lower than in United States. However, the diet in Mediterranean countries contain a relatively high percentage of calories from olive oil and canola oil resulting in increasing overweight and obesity in these countries. Monitoring of iron and calcium levels is needed. A decrease in iron and calcium levels in the body would be possible due to lesser consumption of meats and dairy products.

Conclusion:

Eating the Mediterranean style-diet is medically acceptable. It is one of the healthiest and easiest eating lifestyle today. It would decrease the levels of bad cholesterol and triglycerides in the blood and lower the risk of heart disease and other health problems. We need to remember that ENERGY INTAKE SHOULD BE EQUAL TO ENERGY OUTPUT. Even though the fats consumed were more of monounsaturated fats, those fats can be deposited in our body which leads to overweight or obesity if it is not used or burned. To inhibit lowering of iron and calcium levels in the body, eat foods rich in iron (i.e. soybean, mongo, saluyot and alugbati) and in vitamin C (i.e. guava, orange, mango, papaya, and broccoli) which helps in iron absorption. Ask your physician if you should need to take calcium supplementation. Following the Mediterranean style-diet plus regular physical activity will guide you to a healthy weight, higher fitness level and well-being. The principle of the Mediterranean diet meal plan is healthy but must be modified according to the foods that are locally grown in each country.



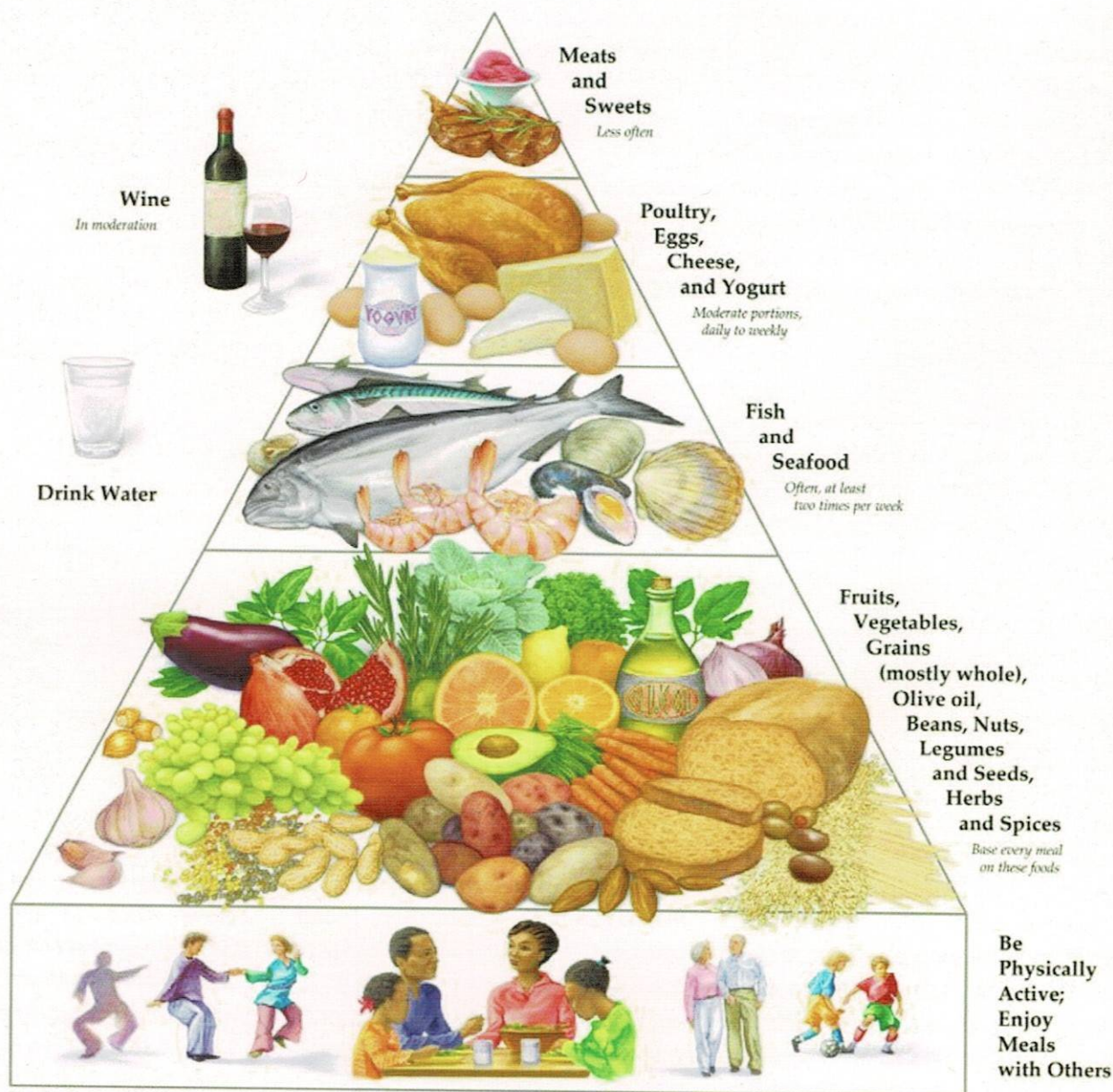


Illustration by George Middleton

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www.oldwayspt.org

A reprint of the Mediterranean Pyramid Food Guide is included here.

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Navigating the Net: **Puzzles, Games and Apps** for Brain Health

Cecille R. dela Paz, MD, FPCP, FPSEM
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New year, new beginnings.

Most of us start the New Year with resolutions. We want to eat more healthy, start an exercise program, lose weight, and handle stress better. As we try to improve our bodies, we should not forget our minds too. When we grow older, we experience age-related cognitive decline, memory problems, and we lose the ability to concentrate. If we want a stronger brain, we have to give it a work-out too.

A recent study, called the Advanced Cognitive Training for Independent and Vital Elderly study, or ACTIVE, looked at how three brain training programs - focusing on processing speed, memory and reasoning ability - affected cognitively normal adults as they aged. The results of this research, the largest study ever done on cognitive training, showed that a brief course of brain exercises helped older adults hold on to improvements in reasoning skills and processing speed for 10 years after the course ended. The findings, published in the Journal

of the American Geriatrics Society, are welcome news for our patients experiencing "senior moments". Although we do not have access to the specific training programs in study, there are still ways for us to improve our brain function.

We can develop our brain fitness through formal education and by lifelong learning. In order to keep our minds sharp, we should stay mentally engaged all throughout life. We can do this by doing exercises that challenge cognitive skills. Some examples include crossword or jigsaw puzzles, Sudoku, board games such as chess or scrabble, and even watching programs that expose you to new ideas or test your knowledge like Jeopardy. Even physical activities, like sports, dancing, yoga or tai chi can engage the mind as well as our bodies. You may even want to learn how to play a musical instrument, or speak a foreign language. If you have a lot of time on your hands, you may even want to enrol in online courses.

The internet is a wonderful resource for all these activities. Type in

the key phrases in any search engine (like Google) and you will be directed to sites that give out free puzzles. If you have a tablet or a smart phone, the App store and Google play also have free and paid apps for educational games. Free online brain games are also available on the aarp.org website. You can sign up for free online courses on a host of topics from the world's top colleges and universities at openculture.com and coursera.org. Free language courses are available at busuu.com, babble.com, duolingo.com, and openculture.com.

Set aside 15 to 20 minutes a day to complete a puzzle or other brain games and see if it helps you with memory and concentration. Whatever activity you choose, make sure that it is interesting and enjoyable to you so you are more likely to engage in it consistently and in the long term. A healthy brain is a product of a healthy lifestyle and should include good nutrition, physical activity, mental stimulation and adequate sleep. 

KITCHEN CORNER

BRAIN SUPERFOODS

Ma. Imelda Q. Cardino, MSFN
Diabetes Philippines

Sensory and brain mechanisms for hearing are developed at 30 weeks of gestational age. Christine Moon, lead author and a professor of psychology at Pacific Lutheran University in Tacoma, Patricia Kuhl, co-author and co-director of the Institute for Learning & Brain Sciences at the University of Washington, and Hugo Lagercrantz, co-author and professor at the Karolinska Institute in Sweden, did a recent research that showed that unborn babies listen to their mothers talk during the last 10 weeks of pregnancy and at birth can demonstrate what they've heard. Hence, it's a "no-brainer" to provide adequate nutrition to the fetus during gestation for normal brain development. What about after giving birth?

Different authors gave similar lists of what they consider "brain superfoods", give or take an item or two. The foods considered to boost brain power are:

AVOCADO AND OLIVE OIL

Avocado and olive oil are rich sources of monounsaturated fat, which improves blood flow throughout the body, and thus decreasing the risk of stroke. Monounsaturated fat also favors lower blood pressure. Hypertension appears to be a risk factor for the decline in cognitive abilities and therefore a lower blood pressure promotes brain health.

BERRIES

Various kinds of berries are rich sources of antioxidants such as flavonoids. Experts believe that inflammation and stress contribute to brain impairment. Flavonoids, which are rich in berries, may help delay cognitive decline in older adults by as much as 2 ½ years if at least two servings a week (one serving is one cup) is consumed.

BRASSICA FAMILY (CRUCIFEROUS VEGETABLES)

The brassicas, in addition to being loaded with vitamins and minerals, contain high levels of phytochemicals such as sulforaphane. Sulforaphane has been found to protect the brain by strengthening the blood-brain barrier that allows some of the body's materials to cross into the brain. Among the brassicas, broccoli, brussels sprouts, cabbage, collard greens, kale, and arugula appear to be the more commonly mentioned as sources of sulforaphane.

This phytochemical also appears to reduce the amount of oxidative stress or cell destruction caused by free radicals.

List of Brassicas:

- Broccoli, Chinese know as Kai-lan (Brassica Rapa, Alboglabra group)
- Broccoli or Calabrese (Brassica oleracea, Italica group)
- Broccoli raab (Brassica rapa, Rapa group)
- Broccoli, sprouting (Brassica oler-

acea, Cymosa group)

- Brussels sprouts (Brassica oleracea Gemmifera group)
- Cabbages (Brassica oleracea, Capitata group)
- Calabrese (Brassica oleracea, Italica group)
- Cauliflower (Brassica oleracea, Botrytis group)
- Chinese cabbage (Brassica Rapa, Pekinensis and Chinensis group)
- Collard greens (Brassica oleracea, Acephala group)
- Kale (Brassica oleracea, Acephala Group)
- Kohl rabi (Brassica oleracea, Gongylodes group)
- Komatsuna (Brassica rapa Pervidis or Komatsuna group)
- Mibuna greens (Brassica rapa Nipposinica or Japonica group)
- Mizuna greens (Brassica rapa Nipposinica or Japonica group)
- Mooli/Daikon (Raphanussativus Longipinnatus group)
- Swede (Brassica napus)
- Tatsoi (Brassica rapa Rosularis group)
- Texsel greens (Brassica carinata)
- Turnip (Brassica napa, Rapifera group) 

COFFEE

In 2012, researchers from the University of South Florida and the University of Miami tested the blood levels of caffeine in older adults with mild cognitive impairment, or the first glimmer of serious forgetfulness, a common precursor of Alzheimer's disease, and then re-evaluated them two to four years later. Participants with little or no caffeine circulating in their bloodstreams were far more likely to have progressed to full-blown Alzheimer's than those whose blood indicated they'd had about three cups' worth of caffeine. But, hey, wait! Before guzzling down liters of coffee, the benefit appears to be associated with MODERATE COFFEE DRINKING, meaning around three or four 5-ounce cups of coffee a day. Remember that excessive caffeine (more than 500 mgs daily) may cause, among others, ---

- Nervousness
- Restlessness
- Irritability
- Stomach upset
- Fast heartbeat
- Muscle tremors
- Exhaustion
- Fatigue.

DARK CHOCOLATE

Dark chocolate is rich in plant flavonols, compounds that boost blood flow to the brain two or three hours after they are consumed. Researchers say that the flavonols in cocoa (used to make the chocolate) might be useful in enhancing brain function in people fighting fatigue and sleep deprivation. For those watching their weight and blood sugar, take note of the calorie, sugar, and fat content though.

FATTY FISH

At the brain's nerve endings, a specific type of omega-3 fatty acid called docohexaenoic acid (DHA) may be found. These compounds keep cells healthy and allow messages to travel efficiently. A study published in *ALZHEIMER'S AND DEMENTIA* reported that people who supplement their diets with DHA had improved learning and memory skills. People in their 70's who regularly ate fatty fish like salmon, trout, and mackerel also scored higher on cognitive tests as reported in the *JOURNAL OF NUTRITION HEALTH AND AGING*. Intake of omega-3 also appears to reduce the risk of depression.

Hence, aim for about two servings of fatty fish weekly such as tilapia, bangus, mackerel, salmon, etc.

FOLIC-ACID RICH FOODS

The role of folic acid in brain development during gestation is well-known. In the elderly, folic acid supplementation improves memory. At any age, folic acid improves the speed at which the brain processes information. Examples of foods rich in folic acid are: liver (considered the best source) legumes, lentils, and nuts potato and sweet potato vitamin-enriched pasta and whole wheat asparagus, lettuce, acorn squash, broccoli, spinach mango, orange, cantaloupe avocado eggs

GREEN TEA

"As some research has revealed the potential benefit of selected vitamins and fatty acids in promoting cognitive function," says Jeffrey B. Blumberg, PhD, director of Tufts' HNRC Antioxidants Research Laboratory, "recent studies on flavonoids, phytochemicals especially rich in plant foods like berries and tea, show they too may act to promote brain performance and/or reduce the risk for neurodegenerative conditions."

In one new study, published in the *European Journal of Clinical Nutrition*, Swiss researchers used functional magnetic resonance imaging (fMRI) to watch the brains of 12 healthy volunteers as they performed tasks testing "working memory." Compared to the placebo, the green-tea beverage drinkers' brains showed increased activity in the dorsolateral prefrontal cortex of the brain. That's a key area for working-memory processing. It appears that the activity is dose-dependent.

Chinese researchers, publishing their findings in *Molecular Nutrition & Food Research*. When mice were injected with EGCG (epigallocatechin-3-gallate), their performance in navigating a maze markedly improved—a sign of increased spatial cognition. EGCG compounds are extracts of green tea. Experts say that taking extracts are not necessary since similar benefits could be gained simply by sipping green tea.

LENTILS AND LEGUMES, NUTS AND SEEDS

Lentils and legumes, nuts and seeds are good sources of vitamins, minerals, proteins, and fiber. Minerals like magnesium, potassium are important to maintain normal body processes. Potassium promotes efficient cognitive

functioning by helping to deliver oxygen to the brain. Magnesium promotes proper electrical and neurotransmitter function in the brain; helps prevent cognitive decline and improves brain plasticity to better deal with stress and anxiety; and improves memory formation and aids in normal thought processing.

SPINACH

Tufts University researchers think that lutein, an antioxidant, helps protect against cognitive decline. A longitudinal study at Harvard Medical School on women reported that the group who ate more leafy green and cruciferous vegetables had a markedly lower rate of cognitive decline versus those who ate less.

Spinach is a rich source of lutein.

TURMERIC

Turmeric is a spice used in all sorts of Indian recipes, especially curry dishes. Researchers from Duke University suggest that eating curry once or twice a week can lower dementia risk by 50%. Turmeric contains curcumin, a yellow pigment. A study in Michigan State University found that curcumin helps prevent the formation of destructive proteins that were found in brains of people with neurodegenerative diseases.

The spice turmeric may easily be incorporated in recipes: whisk in sauces or dips, add to main courses, mix in salads, blend in scrambled eggs.

WATER

Remember that 85% of the brain's weight is water. Hence, make sure that the brain is always hydrated. Researchers discovered that not taking fluids for 16 hours resulted in a 0.55% decrease in brain volume. However, after hydrating, total brain volume increased by 0.72%. Therefore, keep yourself hydrated!

After sharing such a long list with you, it appears that to have a SUPER BRAIN, there is no SPECIAL FOOD to be eaten. Simply eat a meal composed of a variety of foods, choosing carefully those which are packed with vitamins and minerals, taking care that the amount is adequate so that your nutrition will support your brain's needs. Try these recipes to keep your brain in a happy disposition and your mental health is A-OK! 



CALIFORNIA AVOCADO TZATZIKI

YIELD: 8 SERVINGS

INGREDIENTS

- 1-1/2 cups plain yogurt
- 1/2 English cucumber, seeded and diced
- 2 Tbsp. finely chopped fresh dill
- 1 ripe Fresh California Avocado, halved, seeded and cut into 1/4-inch cubes
- 1 tsp. finely chopped garlic
- Salt, to taste

DIRECTIONS

- In a small bowl, combine all ingredients. Refrigerate to allow flavors to blend.
- Garnish with avocado and dill, if desired.
- Serve with vegetable dippers or toasted pita bread triangles. When served with bread or crackers, this may be eaten as a snack but add calories and carbohydrate, etc. from the bread or crackers.

NUTRITION FACTS PER SERVING:

Calories - 65
 CARBOHYDRATE - 6 g
 Dietary Fiber - 0.8 g
 Protein - 3.25 g
 FAT - 3.4 g
 Saturated Fat - 0.7g
 Cholesterol - 3 mg
 Sodium - 100 mg

Source: <http://www.californiaavocado.com/recipes/>
 (by California Avocado Commission)



BROILED TILAPIA PARMESAN

NUTRITION FACTS PER SERVING ---

CALORIES - 224
 CARBOHYDRATES - 0.8 G
 FIBER - 0.1 G
 PROTEIN - 25.4 G
 FAT - 12.8 G
 CHOLESTEROL- 63 MG
 SODIUM- 220 MG

MAKES 8 SERVINGS

PREP TIME 5 MINS
 COOK TIME 10 MINS
 READY IN 15MINS

SOURCE:

<http://allrecipes.com/cook/1216563/profile.aspx>
 (by Phoebe)

INGREDIENTS

- ½ cup Parmesan cheese
- ¼ cup butter, softened
- 3 tablespoons mayonnaise
- 2 tablespoons fresh lemon or kalamansi juice
- ¼ teaspoon dried basil
- ¼ teaspoon ground black pepper
- 1/8 teaspoon onion powder 1/8 teaspoon celery salt
- 1 kilo tilapia fillet

DIRECTIONS

1. Preheat your oven's broiler. Grease a broiling pan or line pan with aluminum foil.
2. In a small bowl, mix together the Parmesan cheese, butter, mayonnaise and lemon juice. Season with dried basil, pepper, onion powder and celery salt. Mix well and set aside.
3. Arrange fillets in a single layer on the prepared pan. Broil a few inches from the heat for 2 to 3 minutes. Flip the fillets over and broil for a couple more minutes. Remove the fillets from the oven and cover them with the Parmesan cheese mixture on the top side. Broil for 2 more minutes or until the topping is browned and fish flakes easily with a fork. Be careful not to overcook the fish.

MAKES 6 SERVINGS

<http://caloriecount.about.com/profile/jmaz711>
 blend in mixer - drink cold

Recipe Ingredients for Turmeric drink

- | | | |
|-----|---------|--------------------|
| 44 | oz | Pure Coconut Water |
| 1 | tbsp | Turmeric, Ground |
| 1 | tbsp | Ginger, Ground |
| 2 | tbsp | Spearmint, Fresh |
| 2 | tbsp | Raw Honey |
| 4 | tsp | Juice |
| 1/4 | tsp | Cayenne |
| 1 | tbsp | Vanilla Extract |
| 1 | tbsp | Cinnamon, ground |
| 1 | serving | Agave Nectar |
| 1/4 | tsp | Sea Salt |

Amount Per Serving

Calories - 90
 Calories from Fat - 2

Total Fat 0.2g0%
 Saturated Fat 0.1g0%
 Trans Fat 0.0g
 Sodium 107mg
 Total Carbohydrates 21.1g
 Dietary Fiber 1.2g
 Sugars 17.9g
 Protein 0.9g



TURMERIC DRINK RECIPE



Orthotics And Choosing The Right Footwear

Pete de la Peña, MD
National Kidney and Transplant Institute (NKT)

Preventive foot care is very important for all patients with diabetes. This should be taught to any patient at risk for the development of ulceration.

Diabetic patients have a lifetime risk of a foot ulcer. This may go as high as 25 % risk for foot ulceration. Several risk factors are predictive of ulcers and amputation. Patients with neuropathy and peripheral vascular disease are at risk.

When we say foot ulcers - we usually categorize them to acute ulcers secondary to dermal abrasion from poorly fitting shoes, and chronic plantar ulcer occurring over weight-bearing areas. Thus, choosing

the right footwear and use of orthotics will help minimize the risk for foot ulceration.

Here are simple tips to prevent foot ulcers:

1. Examine your feet for blisters, cuts, color changes, swelling and open sores. (Use a mirror to see the soles of your feet.)
2. Always protect your feet. Wear suitable footwear inside and outside your home to avoid injuring your feet.

3. Check inside your shoes for stones, sharp objects and rough places before putting your shoes on.
4. Buy new shoes late in the day. This is because feet become more swollen towards the end of the day and you can be sure that your shoes are not too tight and fit well.
5. Wearing padded socks can help prevent injury. Make sure they are neither too tight nor loose. Make sure they have no holes.
6. Always wash your feet with soap and water. Take care to wash between your toes. Dry your feet carefully, especially between the toes. Use oil or lotion to keep your skin soft.
7. Cut toe nails straight across and file any sharp edges.
8. Have your feet checked periodically by a healthcare professional.
9. Keep any wounds covered with clean dressings.

Wearing the right type of shoe is important. Do not wear shoes because it is fashionable, wear shoes because they fit you and you are comfortable! Athletic shoes/ walking shoes are good examples of good shoes.

Here are some pointers for a good shoe:

Diabetic shoes for women and men should be deeper and wider than regular shoes (one size larger). This is ideal because you have room for padded socks or insoles. The shoe should also be lightweight and seamless to prevent repetitive stress that may contribute to calluses, blister and infection.

Make sure they feel good and have enough room for your toes. Do not wear shoes with high heels and are pointed, they exert much pressure on your feet leading to ulceration.

We recommend shoes that are designed for patients with diabetes. The shoe should have proper ventilation. This allows the feet to "breathe". This allows the feet to reduce dampness and heat. Sweat on your feet is an ideal environment for bacteria/ fungi to grow. Knowing these characteristics will ensure your feet safe for any risk factor that might aggravate foot ulceration.

But how about feet that are biomechanically challenged? Those are feet that are at high risk for ulceration due to neuropathy and peripheral vascular disease. In this special circumstance, we employ the use of orthosis.

Orthotics by definition is a science that deals with orthoses for external control, correction and support. Orthosis is an appliance used to support part of the body or perform a function. On the other hand a splint is also an appliance used to support or immobilize a part of the body.

The real functions of orthoses are:

- a. prevent deformity
- b. correct deformity

- c. maintain correction
- d. control instability
- e. relieve weight bearing
- f. facilitate ambulation.

How about people already missing a limb? This situation entails the use of prosthesis. So again by definition, prosthetics is a science that deals with functional and cosmetic restoration for all or part of a missing limb (artificial limb). Prosthesis therefore is an appliance to replace part of a body. This can be outside (exoprosthesis) or inside (endoprosthesis). What is important in a prosthesis is it should restore the function of a limb and will also be used for cosmetic function.

Ideally when choosing for prosthesis, we should think for patient's consideration such as - level of function, lifestyle, total weight of the orthosis/ prosthesis, mental capacity, manual dexterity and of course the skin and soft tissue condition. Whether we choose an orthosis and/or prosthesis it must be at least functional, well fitting, lightweight cosmetically acceptable, locally manufactured and with easy maintenance.

All said and done the bottom line is still prevention!

The time to act is now - better foot care through education and prevention! After all small steps when added make a giant leap. ○





WOUND CARE: NEW TECHNIQUES

Pete de la Peña, MD
National Kidney and Transplant Institute (NKTi)

I start my write up with a saying that “beauty may only be skin deep”. But how deep is the skin?

Imagine the skin as the largest organ in the body. It has a surface area of more than 20 square feet. This accounts for 6 to 8 lbs (2.5 to 3.5 kg) of body weight. The skin performs lots of vital function. It is for protection, sensory perception, absorption, excretion, metabolism and thermoregulation. If there be any break in the skin - we call it a “wound”. This will be the main topic of my story “the art of wound care”.

More than 382 million in the world have diabetes mellitus. This figure is predicted to reach 592 million by 2035.

Diabetic foot describes the foot of a diabetic patient that has risk for ulceration, infection and/or destruction of deep tissues associated with neurologic abnormalities,

peripheral vascular disease and metabolic complications of diabetes in the lower limb.

A wound is a disruption of the normal structure and function of the skin and skin architecture.

An acute wound has normal wound physiology and healing is anticipated to progress through the normal stages of wound healing, whereas a chronic wound is defined as one that is physiologically impaired (e.g., diabetic wound ulcer).

Wound care requires a multidisciplinary approach:

It encompasses:

- Antibiotic treatment (when necessary)
- Control of blood sugar
- Wound debridement
- Wound care techniques

We start wound care with a little bit of history. History in wound care dictates that wounds should not be occluded but left exposed to the air. However this was debated when clinical evidence showed that wounds

healed more rapidly compared with wounds that dried out. Moist wound healing promotes easier migration of epidermal cells in the moist environment. The acute wound fluid is also rich in metalloproteinases, growth factors and other cytokines that stimulate wound healing.

Moist wound healing is associated with less prominent scar formation. Cleaning with normal saline solution is important for decreasing bacterial load and removing necrotic tissues. We don't usually advocate use of iodine and other septic solution (alcohol/ hydrogen peroxide /daikin) because these would potentially impede wound healing thru their toxic effects on wound tissue.

Debridement when necessary. This also consists of

- Surgical (sharp excisional debridement)
- Enzymatic (application of exogenous enzymatic agents to the wound) - still remains to be controversial.
- Biologic (maggot therapy) - the larvae of the fly secrete proteolytic enzymes that

liquefy necrotic tissue and this is subsequently ingested while leaving the healthy tissue intact.

Topical therapy - this is the use of growth factors for wound healing. This also encompasses the use of platelet-derived growth factors, fibroblast growth factors, and granulocyte - macrophage colony stimulating factors (GM-CSF).

The use of topical antiseptics is sometimes irritating and partially cytotoxic (if used chronically). There are at least 2 topical preparations that seem to be beneficial. The use of silver preparation and cadexomer iodine.

Choosing a cleaning agent: The type of cleaning agent you'll use depends on wound type and characteristics.

- a. **Sterile normal saline solution** - the most commonly used cleaning agent, provides a moist environment, promotes granulation tissue formation and causes minimal fluid shift in healthy adults.

- b. **Antiseptic solution** - sometimes used to clean infected or newly contaminated wounds, may damage healthy tissue and delay wound healing.

We will just discuss here some basic principles in wound dressing. Regardless of the dressing or topical agent used, always follow the manufacturer's instructions for the wound dressing. Here are the types of wound dressing:

Alginates - Made from seaweed, these are available as sterile pads, ribbons or ropes. These are non-occlusive dressings are non-adherent and promote autolytic debridement to soften and remove necrotic tissue.

Antimicrobial dressings - these contain ingredients such as silver, iodine and polyhexethylene to protect against bacteria.

Collagen dressings - highly absorbent dressings and also maintain moist wound healing. They stimulate the deposit of collagen fibers necessary for the growth of tissue and blood vessels.

Foam dressings- These are absorbent, sponge-like polymer dressings. These provide comfort, allow water to evaporate and permit the free flow of oxygen and other gases. They also allow trauma-free removal because of low adherence to wound surface.

Hydrocolloids- These are carbohydrate-based material, adhesive, moldable wafers that are impermeable to oxygen, water, and water vapor.

Hydrogels - made of water or glycerin base. These hydrate wounds and soften necrotic tissue.

Transparent film dressings - made of polyurethane, adhere to the skin and help maintain moist wound healing.

No matter how scientific and precise the techniques are, these will not work if the patient /relatives will not participate in cleaning of the wound.

After all is said and done, collaboration is still the key in the art of wound care! ○



dabetes ON THE MOVE philippines

Joy Arabelle C. Fontanilla, MD
Asian Hospital and Medical Center

January to April 2014 HIGHLIGHTS

50th Diabetes Workshop Anniversary
Bagasbas Lighthouse, Daet, Camarines Norte
March 13, 2014



Left to right (front seated): Ms. Ruth Gelito, Ms. Imelda Cardino, Dr. Agnes Cruz, Dr. Ma. Teresa

Left to right: Dr. Ma. Teresa Plata-Que, Mr. Hendrik Balona, Dr. Paul Palencia, Dr. Agnes Cruz, Dr. Francis Pasaporte, Ms. Evangeli De Jesus



Dr. Tommy Ty Willing speaks about the value of HbA1c in the diagnosis and management of diabetes.

50th DiabetesWorkshop
Bagasbas Lighthouse, Daet, Camarines Norte
March 14, 2014

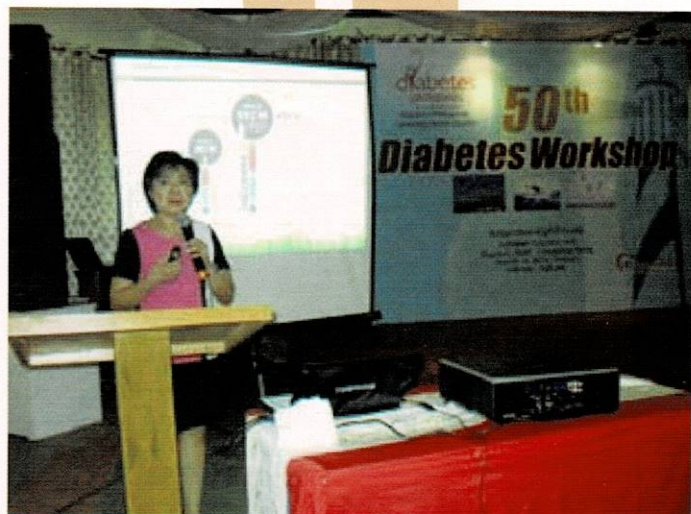


The MD participants stand for the invocation.



Seated 2nd from left to right: Ms. Imelda Cardino, Dr. Richard Elwyn Fernando, Dr. Paul Palencia with the MD participants

Dr. Ma. Teresa Plata-Que talks about
“Influence Tactics for Behavior Change”.



15th Diabetes Forum
Bagasbas Lighthouse, Daet, Camarines Norte
March 14, 2014

Dr. Francis Pasaporte discusses identification of depression in people with diabetes to the allied healthcare professional participants.



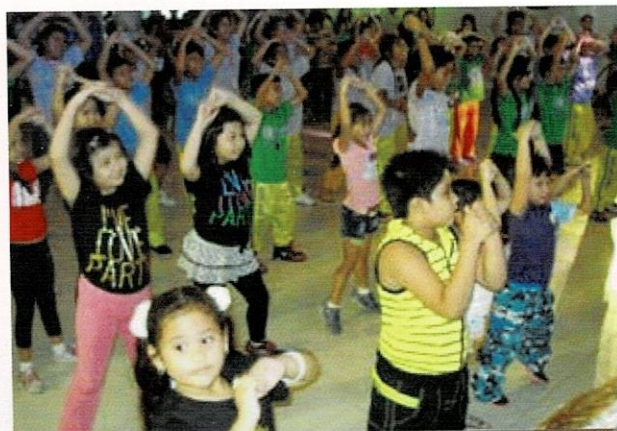
Ms. Leyden Florido speaks about exercise recommendations for diabetes patients.



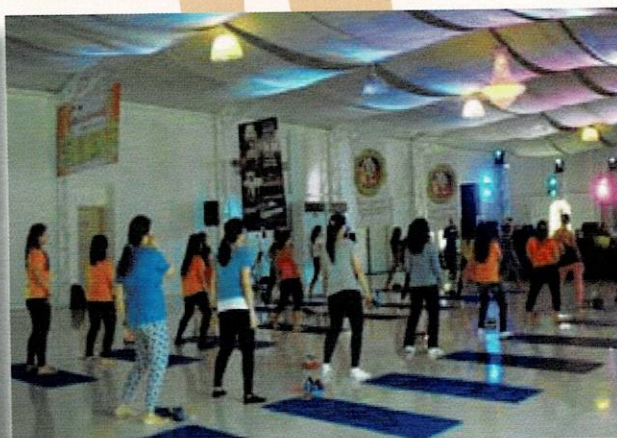
One Fitness Day

Elements Tent, Eton Centris, Quezon City
March 29 2014

Diabetes Philippines was invited as booth exhibitor at the One Fitness Day fundraiser organized by the American Association of Clinical Endocrinologists (AACE) Philippine Chapter. Adults and kids alike did the zumba as well as various fun and fitness learning activities all day long with TV host/dancer/zumba instructor Ms. Regine Tolentino.

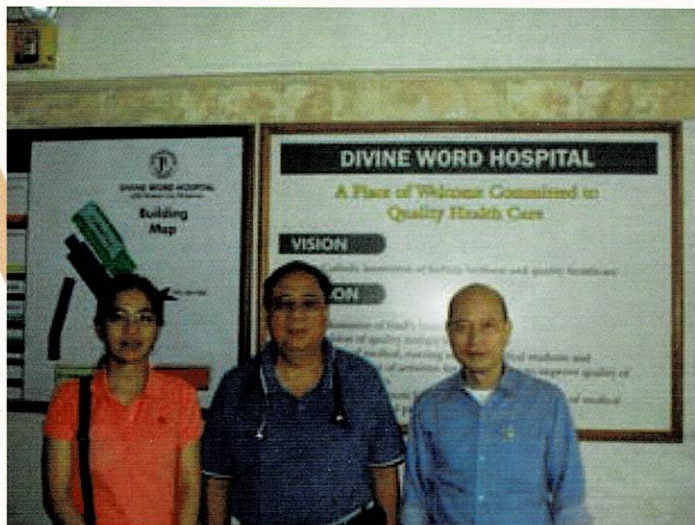


AACE Philippine Chapter President Dr. Florence Santos (4th from left) cuts the ribbon to officially open the event.



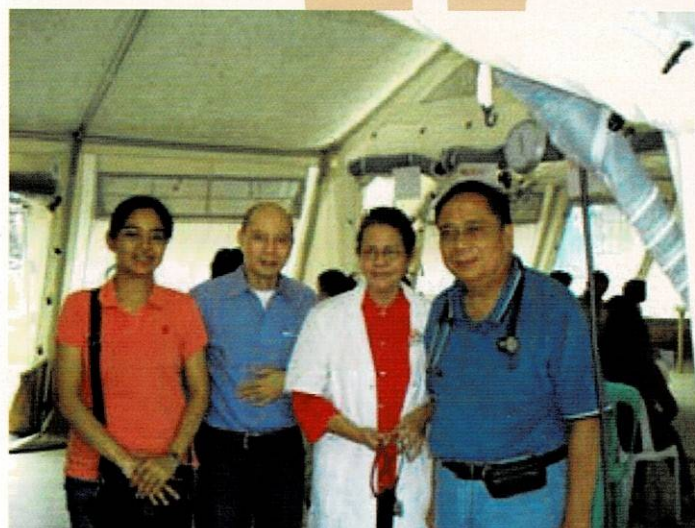
Tacloban Visit January 31, 2014

Diabetes Philippines (DP) President Dr. Richard Elwyn Fernando visited Tacloban in the wake of Typhoon Yolanda. He met with and personally gave financial aid on behalf of DP to Tacloban Chapter President, Dr. Avito Salinas. He also visited Bethany Hospital (including the tent outside it which served as an extension of the hospital services), RT Romualdez Hospital, Divine Word Hospital and Mother of Mercy Hospital.



From left to right: Ms. Ruth Gelito, Dr. Avito Salinas and Dr. Richard Elwyn Fernando.

From left to right: Dr. Avito Salinas, Ms. Ruth Gelito and Dr. Richard Elwyn Fernando

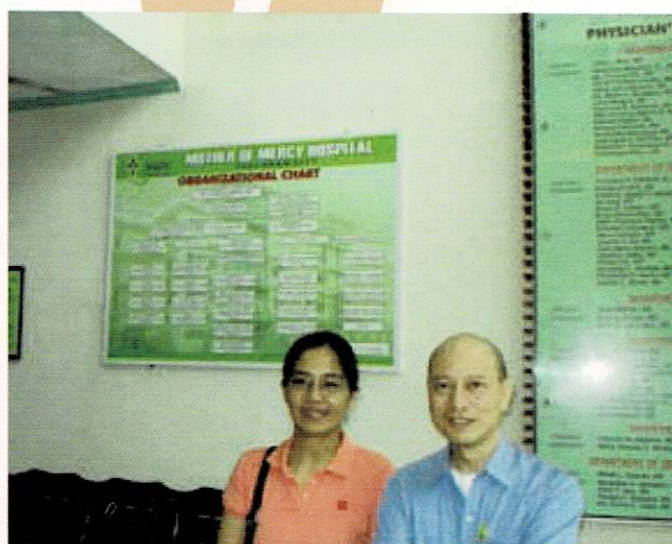


From left to right: Ms. Ruth Gelito, Dr. Elwyn Fernando, Dr. Judit Amparado and Dr. Avito Salinas



From left to right: Dr. Avito Salinas, Dr. Elwyn Fernando, Dr. Dennis Esquivel and Ms. Ruth Gelito

Dr. Avito Salinas with hemodialysis patients.





2014 DIABETES PHILIPPINES SCHEDULED ACTIVITIES

- **50th DiabetesWorkshop and 15th Diabetes Forum**
Bagasbas Lighthouse, Bagasbas, Daet, Camarines Norte
March 14, 2014 (Friday)
Scientific Chairperson: Dr. Richard Elwyn V. Fernando
Coordinators: Dr. Paul Luis Palencia & Ms. Evangeli A. De Jesus
- **51st DiabetesWorkshop and 16th Diabetes Forum**
King's Royale Hotel and Resort, JASA, Bacolor, Pampanga
August 8, 2014 (Friday)
Scientific Chairperson: Dr. Richard Elwyn V. Fernando
Coordinators: Dr. Nessael Rozul & Mr. Maxim T. Legaspi
- **52nd DiabetesWorkshop and 17th Diabetes Forum**
Metro Event Center, METROPLAZA, AV Fernandez Ave., Dagupan City
September 12, 2014 (Friday)
Scientific Chairperson: Dr. Richard Elwyn V. Fernando
Coordinators: Dr. Lalaine L. Duque & Mr. Maxim T. Legaspi
- **31st DP Annual Convention of Diabetes Philippines
9th Course on Diabetes and Vascular Disease**
EDSA Shangri-La Hotel, Mandaluyong City
November 12 - 14, 2014 (Wednesday - Friday)
Scientific Chairperson: Dr. Editha I. Arceo-Dalisay
- **Gimik Diabetes Year 8
World Diabetes Day Celebration/Lay Annual Convention**
November 16, 2014 (Sunday)
Venue: Pasig City Sports Center

FOR INQUIRIES PLEASE CALL:

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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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