Against Diabetes

The ‘Young Warriors Against Diabetes’ Programme - Children with Type 1 or Type 2 Diabetes and below 20 years who enroll in this programme will be entitled to 30% concession in OPD at each visit, a special identification badge, and an annual free checkup.

From left to right: Dr. Vijay Viswanathan, Tmt. S. Gokula Indira, Honorable Minister for Tourism, Govt. of Tamil Nadu and Ms. Mari Ruddy, Director and Founder TeamWILD, USA.

- The ‘Scholarship for Underprivileged Children’ Programme - As an extension of the ‘Changing Diabetes in Children’ Programme, an existing initiative in partnership with Novo Nordisk, MVH has launched a scheme that will provide 3 underprivileged children with Diabetes an annual scholarship of ₹ 10,000/- for higher education after Plus 2.

Tmt. S. Gokula Indira, Honorable Minister for Tourism, Dr. Vijay Viswanathan, Ms. Mari Ruddy, and Mr. Dinakaran of Novo Nordisk with children with Type-1 diabetes.

Dr. Vijay Viswanathan delivering the IMA CGP Silver Jubilee Oration at the National IMA Conference ‘IMACON 2012’ held in Kanyakumari on 27th December 2012.

It was held at the Taj Club House, Chennai on 1 December, 2012. Dr. Peter Rossing, Head of Research & Chief Physician, Steno Diabetes Center, Denmark received the award from Dr. V. Kanagasabai, Dean, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai.
Dear Readers

In this issue, you can read about some complications of diabetes. Foot complications are a common cause for hospital admissions for people with diabetes. Be aware of the gravity of the situation and take all precautions to prevent amputations and high cost of treatment.

Kidney disease is another complication that comes at a high cost in terms of human suffering and finances.

In addition, there is a lot of information on other aspects of diabetes. Try out the quiz and test your knowledge about foot care.

“Like us’ on Facebook and post your queries so that we can help you. Visit our blog site for more information on diabetes.

With regards

Dr. Vijay Viswanathan, MD, PhD, FRCP (London) FRCP (Glasgow)
Head & Chief Diabetologist
M.V. Hospital for Diabetes (P) Ltd

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Managing Diabetic Foot Complications

S. Bamila and Seena Rajsekhar
Department of Podiatry

In India, diabetic foot infection is a common cause for hospital admissions for people with diabetes. Diabetic foot amputations are the most frequent of diabetic complications in developing countries. Patients with foot complications spend a higher percentage of their income for treatment when compared with those without foot infections.

Risk Factors For Diabetic Foot Ulcers:
Several risk factors increase the chances of developing foot problems and diabetic infections in the legs and feet of people with diabetes.

- **Footwear:** Poorly fitting shoes are a common cause of diabetic foot problems.
- **Nerve damage:** People with long-standing or poorly controlled diabetes are at risk for damage to the nerves in their feet.
- **Poor circulation:** Especially when poorly controlled, diabetes can lead to accelerated hardening of the arteries or atherosclerosis. When blood flow to injured tissues is poor, healing does not occur properly.
- **Trauma to the foot:** Any trauma to the foot can increase the risk for a more serious problem to develop.
- **Infections**
  - Athlete’s foot, a fungal infection of the skin or toenails, can lead to more serious bacterial infections and should be treated promptly.
  - Ingrown toenails should be handled right away by a foot specialist. Toenail fungus should also be treated.
- **Smoking:** Damage to the small blood vessels in the feet and legs is a consequence of smoking any form of tobacco. This damage can disrupt the healing process and is a major risk factor for infections and amputations. So, it is very important to stop smoking.
- Limited joint mobility.

- Socioeconomic & socio cultural practices like barefoot walking at home, floor level activities.
- Poor education and socio-economic conditions.
- Lack of awareness about diabetic foot care /self neglect.
- Late referral to the podiatry department.
- Diabetes not under control
- Previous ulcer
- Previous amputation
- Untreated calluses
- Foot injuries (for example, unnoticed trauma in shoes or when walking barefoot)
- Burns (for example, excessively hot bath, hot water bottle, hot radiators)
- Nail infections
- Heel friction in patients confined to bed
- Foot deformities (callus, clawed toes, bunions, pes cavus, hallux rigidus)

**Treatment and Prevention**

**Footwear /offloading:**
Footwear and orthotics play an important role in diabetic foot care. Orthotics designed with Plastazote foam, the most important material for protecting the insensitive diabetic foot, are usually recommended. Diabetic
Footwear should also provide the following protective benefits:

- High, wide toe box (high and wide space in the toe area)
- Rocker Soles designed to reduce pressure in the areas of the foot most susceptible to pain, most notably the ball-of-the-foot.
- Firm Heel Counters for support and stability.
- Moulded footwear for highly deformed foot
- Velcro fasteners to accommodate edema

**Foot care & Diabetes**

Proper foot care is especially critical for people with diabetes because they are prone to foot problems such as:

- Loss of feeling in their feet
- Changes in the shape of their feet
- Foot ulcers or sores that do not heal

Simple daily foot care can prevent serious problems. According to the National Institute of Health, the following simple everyday steps will help prevent serious complications of diabetes:

1. Take care of your diabetes
2. Check your feet every day
3. Wash your feet every day
4. Keep the skin soft and smooth
5. Wear shoes and socks at all times
6. Protect your feet from hot and cold
7. Visit the podiatry clinic /diabetologist regularly.
8. Consult the podiatrist if you notice any infection, swelling, etc

The World Health Organisation (WHO) has projected that the maximum increase in diabetes would occur in India. Considering the large population and the high prevalence of diabetes, the burden of diabetes in India would become enormous.

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**Seasonal Affective Disorder: (SAD)**

This is a condition thought to be caused by lack of daylight and sunlight hours which creates an imbalance of certain hormones which in turn affect mood, appetite and sleep and bring about changes such as depression, increased anxiety, loss of interest in usual activities, being less physically active, sleeping more, fatigue, inability to concentrate or finish tasks, social withdrawal, ill health, or overeating.

**Diabetes and SAD:**

For people with diabetes, managing diabetes and depression can be tricky. SAD can affect appetite, choice of food and eating patterns which can all affect blood glucose levels. You may also feel exhausted and anxious about things you would normally handle easily, and may end up putting off vital routine activities such as injecting or testing because it suddenly becomes too much to handle.

Stress can also raise blood glucose levels.

Some simple lifestyle factors to improve symptoms of SAD -

Exercise regularly. Eat a healthy balanced diet with plenty of fruit and vegetables. Get as much natural light as possible, make your surroundings as bright as possible, sit near windows. Try to avoid stressful situations.
Managing Stress ...

Stress is a disease of modern times and is believed to cause more ailments than any other cause known to modern medicine.

There are many ways to overcome stress - yoga, meditation, physical exercise, massage, aroma therapy, music therapy, laughter therapy, relaxation therapy, Tai-chi, Qigong, medication and so on.

However, whatever you do, unless you have a healthy diet, stress will take its toll on you.

During times of stress, a healthy person is better able to handle situations. The body loses a lot of its store of nutrients especially proteins and vitamins A, B and C during this time. A balanced diet is the key to ensure that the body gets all the nutrients it needs.

In addition, specific foods contain nutrients that can help reduce stress and anxiety.

Almonds, banana, broccoli, cottage cheese, green tea, lime juice, milk, blueberries, oranges, oats, whole grain rice and spinach can reduce stress and anxiety.

Citrus fruits are a rich source of vitamin C which is known to boost the immune system or reduce allergies and is now known to be good in stress management.

Banana contains a type of protein that is converted to serotonin which helps a person to relax, improves the mood, and makes one feel happier. It is also a good source of magnesium, an anti-stress mineral because of its calming effect.

Milk is rich in antioxidants, Vitamins B2 and B12 and calcium and protein. Calcium has a calming effect on muscles.

So, when trying to deal with stress, reach out for these foods instead of that cup of coffee!
Diabetes mellitus is a major health problem and has become a serious concern in the Indian population. It leads to various complications affecting the neuro-vascular systems. One such complication is Diabetic Nephropathy.

Diabetic nephropathy, also known as Kimmelstiel-Wilson syndrome, is a progressive kidney disease caused by angiopathy of capillaries in the kidney glomeruli. Diabetic nephropathy is characterized by the following:

- Persistent albuminuria (>300 mg/d or >200 μg/min) that is confirmed on at least 2 occasions, 3-6 months apart
- Progressive decline in the glomerular filtration rate (GFR)
- Elevated arterial blood pressure

Currently, Diabetic Nephropathy is one of the most significant long-term complications in terms of morbidity and mortality for individual patients with diabetes. It is generally considered after a routine urinalysis and screening for microalbuminuria in people with diabetes. Patients may have physical findings associated with long-standing diabetes mellitus. Early treatment delays or prevents the onset of diabetic nephropathy or diabetic kidney disease. Regular outpatient follow-up is the key in managing diabetic nephropathy successfully.

Apart from the individual human suffering, the cost of dialysis in patients with type 2 diabetes is very high.

The normal process The process of digesting the protein in food creates waste products. In the kidneys, millions of tiny blood vessels (capillaries) with even tinier holes in them act as filters to remove these waste products. As blood flows through the blood vessels, waste products squeeze out through the holes and become part of the urine. Useful substances, such as protein and red blood cells, are too big to pass through the holes in the filter and remain in the blood.

Diabetes can damage this system. High levels of blood sugar make the kidneys filter too much blood. All this extra work is hard on the filters and after many years, they start to leak and useful protein is lost in the urine.

Having small amounts of protein in the urine is called microalbuminuria. When kidney disease is diagnosed early (during microalbuminuria) several treatments may keep kidney disease from getting worse.

Having larger amounts of protein in the urine is called macroalbuminuria. When kidney disease is caught later (during macroalbuminuria) end-stage renal disease or ESRD, usually follows.

In time, the stress of overwork causes the kidneys to lose their filtering ability. Waste products then start to build up in the blood. Finally, the kidneys fail (ESRD) and a person with ESRD needs to have a kidney transplant or to have the blood filtered regularly by machine (dialysis).

Prevent Progression in Diabetic Nephropathy

Several studies have clearly shown that ACE inhibition is effective in reducing renal progression in both Type 1 and Type 2 diabetic patients who already have microalbuminuria. It has been proposed that the benefit is independent of blood pressure.

In patients with obvious diabetic nephropathy (macroalbuminuria and abnormal GFR) blood pressure reduction, usually with an ARB or ACE inhibitor, has dramatically improved the renal condition.
Prevent Diabetic Nephropathy—

The best way to prevent diabetic nephropathy is to control your blood sugar.

Your blood pressure should be monitored frequently, and blood pressure should be kept below a peak level (systolic pressure, the “top” blood pressure number) of 130 mm Hg, and kept below a bottom number (diastolic pressure) of 80 mm Hg. These goal numbers for blood pressure are lower than the numbers that are used for people who do not have diabetes.

Any person who has diabetes and who also has high blood pressure should regularly take blood pressure lowering medications.

Avoiding medications that can sometimes have harmful side effects upon the kidneys also can help to prevent kidney disease.

A low-protein diet (10% to 12% or less of total calories) also may slow or halt the progression of kidney disease.

If you smoke cigarettes, you should quit.

Tender Coconut Water

Dew from the Heavens

Although a variety of fruits grow in abundance in many tropical locations, coconut water, is the most popular natural thirst-quencher in the tropics. It not only satisfies thirst but invigorates the body and brings about a sense of well-being and renewed health.

It is not only a refreshing beverage but also a health tonic.

Coconut water contains a variety of nutrients including vitamins, minerals, antioxidants, amino acids, enzymes, growth factors, and other phytonutrients. Coconut water is a good source of the major minerals like magnesium, calcium, and potassium. It is particularly rich in potassium an 8-ounce cup of coconut water has more potassium than a banana. It also contains a variety of trace elements such as zinc, selenium, iodine, sulfur, manganese, boron, molybdenum. All of these minerals are in the form of electrolytes and are easily absorbed by the human body.

Coconut water is fat-free and is relatively low in sugar when compared with other fruit juices. It contains only a fifth of the sugar in an equal amount of fresh grape or apple juice. Its mildly sweet and pleasing taste makes it an excellent alternative to fruit juice and sodas.

Coconut water improves blood circulation, and is beneficial for people with diabetes. A characteristic effect of diabetes is poor circulation and a tendency to develop atherosclerosis. Many of the complications associated with diabetes, such as numbness in the feet, loss of vision, and kidney failure are a consequence of poor circulation. Coconut water helps relieve these symptoms by dilating blood vessels, improving blood flow, and reducing plaque formation. It also helps to moderate sugar absorption and improve insulin sensitivity.
High blood pressure is one of the primary risk factors associated with heart disease and stroke. Potassium and magnesium are known to help bring down high blood pressure. Coconut water, which is a good source of both of these minerals, is effective in reducing high blood pressure and increasing circulation.

It is an age–old belief that coconut water can cure disease and ensure good health. Traditionally, coconut water has been useful in preventing and relieving many health problems such as dehydration, constipation, digestive disturbances, malnutrition, fatigue, heatstroke, boils, diarrhea, kidney stones, osteoporosis, urinary tract infections and sterility. Coconut water is usually part of the treatment to nourish a patient back to health.

Coconut water is very effective in treating dehydration and heatstroke. In the tropics where heatstroke and dehydration are common problems, coconut water is far more effective in relieving symptoms associated with these conditions than either plain water or fruit juice. Coconut water contains more essential electrolytes, less sugar, and does not have any of the chemical additives found in commercial drinks. Fluids and electrolytes in coconut water are absorbed more quickly and more efficiently into the bloodstream than other beverages and fluids.

Coconut water has long been known for its therapeutic effect on the urinary and reproductive systems. It is reported to clear–up bladder infections, remove kidney stones, and improve sexual vitality. Some of the most interesting components of coconut water are the plant growth hormones, particularly cytokinins a group of hormones that regulate growth, development and ageing.

**SNIPPETS...**

**A good first drop...**

Follow these steps to get a good drop of blood on the first stick with the least pain and an accurate result.

Wash your hands in soap and running water wherever available. If you don’t clean your hands, you could have a blood glucose level that is artificially high and if you use insulin, it can become an issue. For example, if you have just eaten an apple, you may have some residue on your fingers. Hand sanitizer and alcohol wipes may leave residue on your finger.

Dry your hands well. Blood tends to spread on a damp finger. On dry skin it forms a nice bead.

Shake your hands briskly at your sides 3– 5 times just as you would do before using a mercury thermometer, to get your blood down to the fingertips.

Stick – set your lancet to the right depth - you need just a drop of blood. Use the side of your finger for less pain - there are fewer nerve endings.

Milk the finger down gently. Don’t squeeze hard or you may change the composition of the blood thereby affecting the result.

Test your blood glucose also if you are sick or if you have an infection, before you start a new medication, if you are under a lot of stress, or if feel as though your blood glucose level is too low.

(- Diabetic Living, Jan-Feb 2012)
A Prevalence of Risk Factors study by the WHO conducted among males and females aged 50 and more across 6 countries including India, shows that this age group faces serious risk of chronic diseases. The biggest underlying risk factor for chronic disease in older people is high blood pressure.

**Insufficient nutrition intake** - 87.95% men and 93.5% women

**Low physical activity** 24% men and 26% women

**High blood pressure** Around 1 in 4 men and an equal number of women

**Abdominal obesity which is high risk for** Cardio-Vascular Disease. Almost 3 in 4 men and over 4 in 5 women.

*SAGE (Study on Global Ageing and Adult Health)*

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### You can still have your favourite pie by making it lighter in fat and carbs…

- Remove the crust - it contains most of the fat/crabs,
- Use the filling and put a layer of crushed crackers / digestive / special diabetic biscuits for the crunchy feeling.
- Go nut - instead of using cream or ice cream toppings use a sprinkling of nuts which will add flavor to the pie.

Don’t dot the pie with butter and save 100 calories and 12 gm of fat for every tablespoon you omit.

*(Diabetic Living, Jan-Feb 2012)*

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### Changing lifestyles and diets are responsible for over two-thirds of the cases of colo-rectal cancer. So, try to change risk factors that can be modified and cut the incidence to a great extent.

**Do’s**
- Keep an ideal body weight and BMI
- Eat lots of fruits and vegetables
- Exercise regularly
- Quit smoking
- Avoid refined food rich in calories and fat

**Don’ts**
- Eat excess red meat and processed meat
- Eat food rich in calories
- Follow a sedentary lifestyle
- Use tobacco or drink
- Binge on processed and fat rich foods
Beware of a low-carb high-protein diet.

A low-carb high-protein diet without considering type or source if used on a regular basis is associated with increased cardiovascular disease. A bit of both is better for the heart. Eating a mix of all food groups instead of cutting out some will keep you healthy inside and out.

Try and include lean proteins and whole grain and high fibre carbohydrates along with fruit and vegetables and small amounts of healthy fats in your diet.

(Times of India)

You are what you eat...

A daily glass of orange juice provides sufficient Vitamin C, potassium and folic acid to improve your skin, hair and nails.

Vitamin C is essential for the production of collagen as well as lutein. The yellow pigment reduces sun damage on skin and improves its elasticity.

Drink 200 ml of juice daily.

(Times of India)

Weighty Medications

Some diabetes drugs cause weight gain. They put more insulin into circulation to lower blood glucose or cause the insulin the body produces to be more effective. The disadvantage of having more insulin is that it’s a growth hormone and likes to build tissues like fat cells with any extra calories. The growth of fat tissue means added weight.

For coping with Type 1 diabetes mellitus, one needs a good support system of family, doctor, educator and dietitian, and the school/workplace/spouses. In addition one needs to be open about the condition so that others are aware of how they should respond in times of emergency.

(Times Of India)

Want to fight flab? Begin the day with eggs.

Best for those who want to lose weight.

A major UK review of studies has found that eggs contain a powerful ingredient that can help cut the amount of calories people eat at lunch and dinner. People feel fuller and so resist snacking.

Specific proteins found in egg are superior to others when it comes to keeping hunger at bay.

Portion control- An egg provides a fixed quantity which helps people recognize how much they have consumed.

Vitamin D content of eggs may help to support general health of fat people since they are known to be low in this nutrient - a lack that can lead to increased risk of diabetes and heart disease.

(Times of India)
**Diabetic complications in the feet can be very dangerous. Complications and amputations can be prevented with proper foot care from a podiatrist.**

A podiatrist is a specialist qualified by education and training to diagnose and treat conditions affecting the foot, ankle, and structures of the leg.

1. A person with diabetes should never walk barefoot.  
   T/F

2. Any doctor will be able to provide information about foot care to a person with diabetes.  
   T/F

3. Asians are at greater risk of developing diabetes.  
   T/F

4. A person with diabetes should visit a podiatrist only if feet begin to hurt.  
   T/F

5. A person with diabetes may experience elevated temperatures called hot spots on their feet and these can lead to formation of ulcers.  
   T/F

6. Having diabetes makes feet more susceptible to common infections such as athlete’s foot and fungal toe nails.  
   T/F

7. If a person with diabetes develops a diabetic ulcer, it will lead to amputation.  
   T/F

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**CELEBRATING WORLD DIABETES DAY- 14 November, 2012**

“Protect Our Future” is the UN theme which aims to emphasize the urgent need for action to protect against diabetes and related diseases by engaging millions of people and spreading awareness on diabetes, and preventive & corrective measures.

*M.V. Hospital for Diabetes hosted many events - a 60 second public awareness film; launch of Diabetes Care on Wheels Programme; and a Human Chain at the blue-lit Napier Bridge*

**The Human Chain initiative at Napier Bridge** was organized by M.V. Center for Diabetes in association with Indian Coast Guard Region. It was an initiative to increase public awareness about the deadly lifestyle disease and emphasize the theme.
The walk was led by Inspector General S.P. Sharma, TM, PTM, Commander, Coast Guard Region (East) and Dr. Vijay Viswanathan, Head, Chief Diabetologist, M.V. Hospital for Diabetes.

Staff of MVH formed a human chain within the hospital campus to highlight the team spirit in their endeavor to tackle diabetes.

‘Diabetes Care on Wheels’ - a community outreach program was also launched at the same occasion to increase public awareness about diabetes and its complications, especially of the foot. The vehicle will go to residential apartments and other important places and impart diabetes education to the public and also do some tests for diabetes at a subsidized cost.

LAUNCHED...
A 60- second film written & directed by popular small screen star Vijay Adhiraj and produced jointly with The Hindu, India’s National Newspaper, to raise public awareness of deadly diabetes was launched by Mr. Arun Anant, Chief Executive Officer, The Hindu.

The Department of Dietetics held a week-long programme of various activities to mark this occasion.

Answers to Quiz

1. True- Always protect feet from injury by wearing proper, well-fitting socks and shoes.
2. False- Diabetes is a complicated disease that affects different parts of the body. So, get help from a team of doctors which includes a podiatrist.
3. True
4. False- Diabetes can lead to loss of sensation or numbness in feet, so they may not feel pain if there is a problem. Check feet daily for redness, swelling, ulcers that don’t heal, or scaly skin as these can be symptoms of more serious problems and consult podiatrist.
5. True- Podiatric research has shown that this is possible if people do not look after their feet and do not get proper medical treatment on time.
6. True- Lowered immune response can make this more common.
7. False- There are several effective treatments for ulcers that are detected early.

New member list from L – 2326 – 2345

| L – 2326 | Mr. Asokan, E | Namakkal - 637001 |
| L – 2327 | Mr. Kedar Prasad Maheswari | Guwahati - 781001 |
| L – 2328 | Mr. Pawan Poddar | Siliguri |
| L – 2329 | Mr. Dhanpatraj Sanklecha | Chennai - 2 |
| L – 2330 | Mr. Saikat Chatterjee | Jamshedpur - 11 |
| L – 2331 | Mr. Barkat Ullah Balu | Dhaka - 1207 |
| L – 2332 | Mr. Palash Sureka | Chennai - 40 |
| L – 2333 | Mr. Hohamed Aminuzaman | Katihar - 854105 |
| L – 2334 | Mr. Yashwir Jaggi | Hazaribag - 825301 |
| L – 2335 | Mr. Sahdeo Kanodia | Amarpur |
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| L – 2337 | Dr. Rauder Singh Oberoi | Assam |
| L – 2338 | Mr Prem Kumar Soni | Nepal |
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| L – 2341 | Mr. Dipak Pandey | West Bengal - 723121 |
| L – 2342 | Mr. Siddharth Kedia | Mumbai - 400070 |
| L – 2343 | Mr. V P Matriya | Bhopal 462023 |
| L – 2344 | Mr. Dunga Prasad | Hyderabad - 500020 |
| L – 2345 | Mr. Arif Sultana | Kolkatta - 700014 |