The Health Insurance Specialist

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Our next issue will focus on Gastroenterology, apart from other informative health articles

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About Your Company

India's First Stand Alone Health Insurance Company has begun its operations in May 2006. Today the Company's Capital base stands at Rs. 303 Crores.

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- Star Health is the Lead Insurer for Kalaignar Kaapeetu Thittam, Health Insurance scheme for BPL families in Tamilnadu, which covers more than 1 crore families.
- Aarogyasri has been adjudged as the winner of eINDIA 2009 Awards in the category of eHealth Government/ Policy initiative of the year as well as Civil society / Development agency of the year. The Award was presented on 26th August 2009 at Hyderabad by center of Science Development and Media studies, Uttar Pradesh, India.
- Aarogyasri has won THE MANTHAN SOUTH ASIA AWARD 2009 on 19th December 2009 at New Delhi for eGovernance, implementation of Aarogyasri and first Health Insurance Company to revolutionalize ICT (Information, Communication & Technology).
- We are proud to inform that we have opened a representative office in Dubai on 3rd March 2010.

• Star Health Specialties

- A user friendly website with Health tips
- 170 offices across India with more than 2500 Employees
- Cashless treatment facility with over 4200 Network Hospitals across India
- A full-fledged 24X7 call Centre with a Toll free facility (1800 425 2255) for effective claims handling
- 24 X 7 Health Information Helpline - 24 x 7 telephone Health Information Helpline that makes FREE Expert Medical Consultation available to all customers at all times

Kindly let us have your views addressed to The Editor,
Star Health and Allied Insurance Company Ltd., to the address given above or mail to editor@starhealth.in

Message From CMD

My Dear policy holder,

This issue is dedicated to those who have diabetes and to those who would like to delay the onset (vulnerable group). Very eminent Doctors have written articles in this issue, which will be of great use when you go through them. Star always feels that its policy holders are part of its family and, therefore, they should be educated on all aspects relating to the human body so that it would enable them to prevent occurrence of any disease. In case of there being any problem STAR will stand with their policy holders.

About your company's performance, the financial year 2009-2010 is coming to a close and the company is expected to close the year around with Rs. 1000 crore premium, which Could be possible only because of the support given by you and references made by you to your friends and relatives.

When we serve large numbers of policy holders, in one or two areas there could be something wanting. We will always be receptive to correct the same, if it is brought to our notice.

One of our services meant for our policy holders' welfare is not fully utilized. It is the medical advice being given through Toll Free number about which a write up was given in our earlier issues. This Medical advice will go a long way in assisting you when you have common ailments like cough, cold, etc. In case if there is any short coming in this service, as a Chairman, I will be thankful to receive your suggestions so that it can be set right.

As you could read, we have acquired many feathers in our cap which you can be proud of.

Looking forward to write to you in the next issue.

Always at your service,

V. Jagannathan

Chairman-cum-Managing Director

NEW ADDITION TO OUR PRODUCT RANGE

STAR CRITICARE PLUS INSURANCE POLICY

In these days of spiraling medical costs the customer has to plan judiciously to ensure adequate protection – more so if the disease is a major one.

Star Health is proud to introduce "Star Criticare Plus" insurance policy which provides protection under two Sections – reimbursement for hospitalization and lump-sum compensation on diagnosis of specified Critical Illnesses.

The hospitalization Section provides for payment of expenses incurred on diseases / illness / accidental injuries. The minimum period of hospitalization is 24 hours. In respect of specific day-care treatments this minimum period of stay in the hospital is waived.

Section II is the Critical Illness Section which offers lump-sum payment of the sum insured if the Insured person is diagnosed with any of the defined Major Diseases. The Major diseases covered are

- First Diagnosis of Cancer, Chronic Kidney Disease, Brain Tumour
- Undergoing Major organ transplant for the first time (Major Organ means Heart, Liver, Pancreas)
- Occurrence of any of the following for the first time-
- Cerebro-Vascular Stroke causing Hemiplegia
- Acute Myocardial Infarction resulting in Left Ventricular Ejection Fraction of <25%
- Established irreversible Coma
- Established irreversible Paraplegia
- Established irreversible Quadriplegia

A waiting period of 90 days will apply for claims under this Section.

This insurance is offered for varying sum insured starting from Rs.2 Lacs and going upto Rs.10 Lacs. Cover is on individual basis: but a family can take cover in which case a discount of 5% for 2 members and 10% for more than two members, is available.

The unique feature of this policy is that upto the point of diagnosis of any of the Critical Illness covered, any hospitalization

expenses incurred will be paid under Section I: subsequently the lump-sum would be paid.

On payment of lump-sum the policy will continue with Section I benefits (subject to the availability of the sum insured) until expiry date. It can be renewed under any other health policy of the Company but excluding the ailment for which the claim was paid.

Premium Chart

Sum Insured (Rs)	5mnths to 35 yrs	36yrs to 45yrs	46yrs to 55yrs	56yrs to 65yrs	66yrs to 70yrs (Only for Renewal)
200000	3750	4200	6400	7550	11150
300000	5400	6000	8900	11600	16200
400000	7000	7680	12300	15900	21050
500000	8400	9400	15200	19500	25900
1000000	14600	16100	22600	28200	35350

Service Tax Extra @10.3%

Amount paid is eligible for relief under Section 80-D of the Income Tax Act.

Diabetes

SAFE INSURANCE POLICY

India has a diabetic population of 30 million - the highest in the world and the number is increasing rapidly every day. Diabetes needs immediate attention because it affects vital Organs in the body over the time and treatment can be very expensive.

Star Health and Allied Insurance Co. presents a policy that helps those affected by Diabetes Mellitus Type II and offers insurance protection for treating most commonly occurring complications.

Coverage Offered for Specific Conditions

- **Eyes:** Diabetic Retinopathy requiring laser treatment
- **Kidneys:** Diabetic Nephropathy leading to chronic renal failure
- **Feet:** Diabetic foot ulcer requiring micro-vascular surgical correction
- The policy covers the cost of treatment up to the limit provided

Diabetes Benefits

- Hospitalization Cover
- Boarding and room charges at 2% of the sum insured subject to a maximum of Rs.2500 per day in Class A cities and Rs.1250 per day in other locations
- Nursing expenses
- Surgeon's fees, Consultant's fees and/or Anesthetist fees
- Cost of blood, oxygen, diagnostic expenses
- Cost of medicines and drugs

Special Features

- Hospitalization expenses on donor of kidney for renal transplant surgery are payable subject to availability of sum insured
- Post-renal complications on the insured person covered
- Second transplant following failure of the first transplant covered

Pre-Acceptance Medical screening

- All applicants will have to undergo a pre-acceptance medical screening at company nominated center.

Sum Insured Options

- The insurance is available for sums of Rs.50,000, Rs.1,00,000, Rs.2,00,000, Rs.3,00,000, Rs.4,00,000 and Rs.5,00,000

Premium in Indian Rupees (Service Tax extra)

Sum Insured	26 - 35 Yrs	36 - 45 Yrs	46 - 55 Yrs	56 - 65 Yrs	66 - 70 Yrs
50000	805	990	1235	1485	2225
100000	1140	1615	1900	2185	2470
200000	1885	2565	3420	3765	4105
300000	2300	3135	4180	4600	5020
400000	4655	4990	6650	7315	7980
500000	6385	6840	9120	10035	10945

Exclusions

- Patients who have already developed complications of Diabetic Retinopathy and/or Diabetic Nephropathy leading to Chronic Renal failure and/or Diabetic foot ulcer
- Expenses on treatment of Diabetes Mellitus Type II (A detailed list of exclusions is available in the policy conditions document)

Eligibility

- Any person between 26 years and 65 years of age who is diagnosed with Diabetes Mellitus Type II can take this insurance
- This limit of 65 years is applicable only for initial entry in to the scheme. Renewals will be accepted up to 70 years

DIABETES

and the eye

The window of the soul

Dr. Lingam Gopal M.S., DNB, FRCS (EDIN.)

Consultant, Neuro-Ophthalmology, Director - Research, Vision Research Foundation , Sankara Nethralaya, Chennai.

The sense of sight is one all of us take for granted but any slight alteration in our visual perception definitely affects our quality of life. Diabetes is notorious for damaging the eyes and requires strict control of blood sugar along with extra caution and regular medical evaluation.

What is diabetes?

Diabetes mellitus is a condition of altered glucose metabolism wherein there is a mismatch between the amount of insulin required to metabolize the glucose and the amount available. Depending upon the age at onset and other criteria, it is identified as juvenile onset or adult onset. Diabetes unfortunately is a lifelong disease.

What does diabetes do?

Certain changes take place in several organs in the body due to the long term presence of the disease. Although good and consistent control of blood sugar tends to delay the onset of these affects on other organs, it is not always so. Hence the need to be alert as to the occurrence of secondary affects on other organs.

Although many organs can be affected by the long term presence of diabetes mellitus, the eye and kidney are most commonly affected.

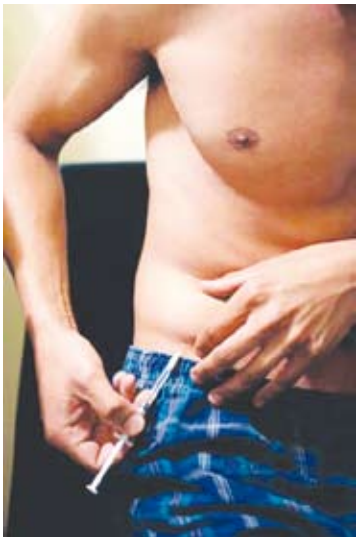
How many diabetics will face eye problems?

Roughly 50% of the patients suffering from type 1 diabetes (juvenile onset) develop eye problems while about 33% of patients suffering from type 2 diabetes (adult onset) may have eye problem even at the diagnosis of diabetes itself. Although many parts of the eye can be affected, it is the affect on the retina that is most important, in terms of affect on vision and the need for frequent evaluation.

How does diabetes affect the retina?

The affect on the retina due to diabetes (diabetic retinopathy) is because of the slow changes that take place in the small blood vessels in the eye. The vessels narrow down and sometimes get occluded leading to segments of the retina not having nutrition and oxygen.Variable amount of scarring can take place on the surface of the retina, sometimes leading to the retina being peeled off the eye wall. A detached retina cannot function adequately.

How is the vision affected?



Vision need not be affected initially and hence the early changes can only be identified by retinal examination by an eye specialist. Vision can be affected in several ways.

1. Maculopathy- this is signified by collection of fluid and sometimes fat in the layers of retina that constitute the macula. The swelling so caused reduces the vision to a variable degree. Initial symptom could be just mild blurred vision or distortion of vision.

2. Bleeding into the vitreous cavity- New blood vessels can bleed into the vitreous cavity and cause variable visual loss depending on the extent and location of the bleed (hemorrhage). Most bleeds are heralded by the symptom of sudden onset shower of black spots.Recurrent bleeds and other complication can still occur and need treatment. It must also be reemphasized that new vessels may be present in a given eye without having bled and so patient can be entirely oblivious of their presence.

3. Retinal detachment- Due to the changes in the vitreous gel that can result in unwanted scarring process, the retina can get pulled off its moorings – called tractional retinal detachment. As a complication vision can be seriously affected. Persistent pull on the retina can also result in retina giving way-'break formation'. This complicates matter by a rapid onset loss of vision due to rapid spread of the retinal detachment.

A combination of the above three problems can occur in a given eye.

What are the tests that may be conducted to detect the disease?

A detailed eye examination including retinal examination is a must to detect the disease. This is done by an eye specialist after the pupils are dilated with eye drops. The examination is called ophthalmoscopy. In addition to examination with ophthalmoscope, the eye specialist may choose to perform some more tests to detect, confirm or further elucidate the disease findings.

1. Fluorescein angiography- In this test, a dye is injected intravenously and serial photographs are taken of the retina. The passage of the dye in the blood vessels of the eye gives the necessary information.

2. Optical coherence tomography- Ultra high resolution images of the macula are possible using this instrument that enables the precise delineation of the pathology in the macula. It also helps monitor the improvement or otherwise with treatment.

3. Ultrasonography- This test is performed if the eye specialist is not able to see the back of the eye due to presence of blood in the vitreous cavity. The status of the retina (detached or attached) can be identified.

What are the treatments available for these problems?

1. Laser photocoagulation- This remains the main stay of the treatment of various forms of diabetic retinopathy. Laser photocoagulation is a deliberate burning of areas of the diseased retina, in order to preserve the more functional part.The efficacy of the treatment is evaluated in 3-4 months time and if need be the treatment may have to be repeated.Laser however may not result in improved vision

2. Injection of drugs into the eye- In case the maculopathy is resistant to laser photocoagulation, sometimes the doctor may decide to inject drugs into the eye. A group called as 'anti VEGF drugs' are available such as Macugen, Avastin or Lucentis. Alternately steroid preparations are also injected. of

the drug however repeat injections may be often required

3. Surgery- For those eyes that progress despite all the above interventions, surgery can offer a solution. Surgery is in the form of vitrectomy and additional procedures. Surgery aims at clearing opaque vitreous and removing abnormal scar tissue and repairing the retinal detachment.

Can diabetic retinopathy be prevented?

Studies have shown that a rigid control of diabetes, and associated disorders such as raised blood pressure and raised blood cholesterol levels can go a long way in reducing the risk and severity of the retinopathy.

Can diabetic retinopathy be reversed?

Perhaps not. In most cases with treatment, the disease is brought to some control so that vision is preserved. A complete reversal of all damage is not possible.

How does one know whether diabetic retinopathy has occurred?

It should be emphasized that the diabetic retinopathy may not cause symptoms until sometimes very late in the disease. Even conditions necessitating urgent treatment may remain asymptomatic for a long time-Hence the need for routine examination. Symptoms when they occur, involve sudden onset shower of black spots, sudden onset blurred vision or loss of vision.

How frequently does one need to have eye examination?

The first examination should be conducted

immediately after the diagnosis of diabetes mellitus. In general if the retina does not show evidence of diabetic retinopathy, a yearly follow up is advised. If early retinopathy is seen, a half yearly visit is advised

Are there any special situations for out of turn eye examination?

Pregnant women who are also diabetics should have eye examination, since pregnancy can potentially worsen the eye disease.

Does the control of blood sugar on a particular day reflect on the problems in the eye?

No. The actual blood sugar values at a given time are not important. More important is the control of blood sugar over a period of years.

Can diabetes mellitus affect the eye in ways other than causing retinopathy?

Yes. People who suffer from diabetes tend to develop early cataracts. The optic nerve that conveys electrical stimuli to the brain from the eye can also be affected sometimes – causing a condition called 'ischemic optic neuropathy'. The vision in this condition can be affected to a variable degree suddenly.The incidence of open angle glaucoma (raised pressure in the eye) is also higher in patients who are diabetics.

DIABETES COMPLICATING PREGNANCY

As all must be aware, India is the "diabetes capital "of the world, and Type II Diabetes is appearing at a younger age. At the same time, many couples are postponing pregnancy to the late twenties/ thirties. So, it is not surprising that the incidence of Diabetes complicating pregnancy is increasing.

Two Categories of patients need to be considered:-

a) Overt diabetes—where a woman known to be diabetic conceives.

b) Gestational diabetes—where diabetes is unmasked for the first time during pregnancy.

We will deal with gestational diabetes in this session

Gestational Diabetes

Pregnancy is, by itself, a diabetogenic state—where insulin resistance increases and insulin levels rise. This, combined with life-style changes, obesity, early onset Type II diabetes, older age at pregnancy, unmasks latent diabetes during the pregnancy.

DM complicating pregnancy is 11 times common in India the European populations.

The risk factors for developing gestational diabetes are:-

- older age at pregnancy
- higher pre -pregnancy weight (overweight or obese prior to conceiving)
- first degree relative having diabetes
- polycystic ovarian disease
- previous baby weighing more than 4 kg
- previous still-birth
- previous abnormal GTT
- previous hydramnios

Going by the long list of effects of diabetes on pregnancy, the need for early detection and proper control of this increasingly common condition cannot be overemphasized.

Screening

In addition to the routine tests for pregnant women, it is now the accepted procedure to screen ALL pregnant women in India for diabetes as early as possible. This is done with an oral glucose "challenge" of 75 Gm of oral glucose load, with the blood level being checked after 2 hrs. A reading of >140 mg

is considered to be indicative of Gestational Diabetes.

If nausea and vomiting make this test impractical, at least a fasting sugar level is tested at the first antenatal visit. A value greater than 90mg requires further evaluation.

Those with high risk may be asked to have a full 3 hr GTT.

If values are normal, they are repeated later at 24wks and again in the last trimester.

Fetal surveillance

The developing fetus also needs to be monitored for congenital anomalies (birth defects) with some or all of the following tests:-

--Ist trimester ultra sonogram to rule out major abnormalities and to confirm gestational age.

-- At 16-18 weeks of pregnancy an alpha feto protein estimation or triple test to r/o chromosomal anomalies like Down's syndrome.

--targeted scan at 18-20 wks and fetal ECHO at 24-26 wks to r/o cardiac abnormalities in the fetus.

-- in last trimester , fetal well-being is monitored with biophysical profile weekly or biweekly starting at 32 weeks, being required more often later in pregnancy.

Outcome during delivery

Diabetes complicating pregnancy is, in itself, not an indication for Caesarean section; this is decided on after considering the risk factors in individual cases—the mother's age, weight, other complications, size of pelvis, size of fetus and its well being, obstetric history of the mother, whether conditions are favourable for labour and normal delivery, etc.

The babies of these women are at risk of respiratory distress, hypoglycemia, hypocalcemia, jaundice of newborn, and, later on, diabetes. So ideally, a pediatrician should be available at the delivery.

It is essential to check the fasting and / post prandial blood sugar 6 weeks after delivery, and again after 6 months in high risk women.

Before the next pregnancy, pre- pregnancy Counselling is advised.

Contraception

Choices are many. The common ones are IUCD, contraceptive pills (newer ones are more suitable than earlier formulations) and barrier methods like the condom.

In India, insulin is the drug of choice in pregnant women, as this also helps to prevent large babies and the Subsequent diffcult delivery.

It would be advisable to complete one's family early. A gestational diabetes complicated pregnancy is a high risk one but if managed in a timely, systematic and medically supportive manner the little bundle of joy can enter the world normal and healthy with a healthy mother.

Dr.TARA, M.B.B.S., DGO,
Medical Officer, Star Clinics, Velachery

Management

Management of a woman with diabetes complicating pregnancy is a team effort involving physician/ diabetologist, pediatrician, nutritionist in addition to the obstetrician.

Weight gain in pregnancy should be kept within the 10-12 kg limit

Caloric requirement should be adequate, with 30-35 kcal/kg of ideal body weight, with 1.5 gm of protein / kg body weight, enough carbohydrate with 50-60% Complex carbohydrate.

Exercise is advised though this should be as per habit and tolerance level. Starting of rigorous, new exercise regimes pregnancy is NOT RECOMMENDED.

Diabetic diet is not a deprived diet

Recommended Dietary & Lifestyle changes for Diabetics

The major worry for all newly diagnosed diabetics is that there will be drastic changes and heavy restrictions on the types of food that they can eat. It may lead to a phobia regarding food and also the cravings may induce the patient to make unhealthy food choices. Many myths and misconceptions surround the diabetic diet which we shall try to clarify here.

The diet for diabetes does not mean a 'sugar free' diet. Sugar can be eaten as part of a balanced, healthy diet. Diet plays a vital role in the maintenance and quality of life in a diabetic, there is no reason that they should feel deprived even if there is a certain amount of prudent restriction and life style changes that should be followed.

Following are some Beneficial Foods: these can be taken in abundance

- Onions, garlic, cinnamon
- High fibre foods like beans, lentils
- Fenugreek seeds
- Fish
- Barley
- High chromium food (broccoli)
- Whole grains – millet, rice, wheat, barley grain,
- Algae spirulina, chlorella
- Vegetables
- Whole & cooked fruit

Foods with insulin like action:

- Brussels sprouts
- Cucumbers
- Green beans
- Garlic
- Oatmeal & oat flour products
- Soybeans
- Avocados
- Raw & green veg.
- Wheat green
- Buck wheat
- Fresh flax seed oil
- GLA oils (evening primrose, black currant seed oil, spirulina)

Foods to avoid:

A diabetic should try to avoid what are now called as "white foods" like the following.

Dr. C.B. KRISHNAKUMAR MD (Internal Medicine)
Medical Advisor - Star Health and Allied Insurance Co. Ltd.,
Corporate Office, Chennai.

- Food rich in fat – red meat, egg, dairy products
- Sugars
- White flour, rice

These have a high glycemic index.

What is the Glycemic Index ?

Glycemic index (GI) relates to the way your body's sugar levels respond to certain foods Foods that have a low glycemic index will have little effect on the body's sugar levels. Comparatively, foods that rank high on the glycemic index will provoke an immediate response in the blood sugar levels which especially in diabetics is to be avoided.

NIDDM protective foods:

Fibre in carbohydrate protect against NIDDM (Type 2)

- fruit and vegetables
- High fibre foods, such as wholegrain breads and cereals,
- Mono unsaturated oils, eg. Olive oil
- Complex carbohydrates

Nutritional Supplements for Diabetics

1. Vitamin E – antioxidant & blood oxygenator
2. Vitamin C – Lowers sorbitol in diabetics, a sugar that causes to damages eyes nerves & kidneys. Vitamin C improves glucose tolerance
3. Vitamin B6 – deficiency causes: neuropathy prevents diabetic complications by cross liking of collagen & inhibits platelets aggregations
4. Vitamin B12 treats diabetics neuropathic normal Nerve cell functions
5. Biotin – process glucose, high glucokinace activity & improves glucose metabolism
6. Chromium – rich in brewer's yeast

- Reduces fasting glucose, high glucose tolerance
- Reduces insulin levels, high total cholesterol
- & triglycirides, high HDC

7. Vanadium & Potassium – high insulin sensitivity

Note:

- Niacin – impairs glucose tolerance so avoid. Exercise in diabetics: the role of exercise in enhancing the control of diabetes cannot be overstated. Exercise can help control your weight and lower your blood sugar level by making insulin more effective. It also lowers your risk of heart disease, a condition that is common in people who have diabetes. Exercise can also help you feel better about yourself and improve your overall health.
- Aerobics
- Yoga

Lifestyle changes: for Diabetics

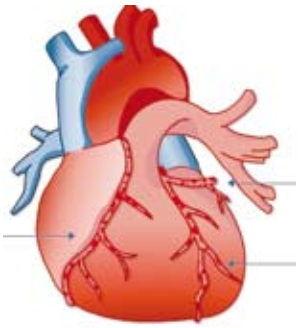
1. Lose excess weight
2. Take Heart healthy food
3. Daily exercise – walking, swimming
4. Quit smoking
5. Moderate alcohol intake

Sleep changes in Diabetics:

1. Polyuria – disturbs sleep

For good sleep:

- Avoid caffeine & alcohol
- Don't drink fluids 2 hrs before bedtime
- Recommended High protein snack before bed time
- Light exercise
- Hot bath



CARDIOVASCULAR DISEASE & DIABETES MELLITUS

Prof. S.THANIKACHALAM MD, DM Chairman and Director, Cardiac Care Center, Sri Ramachandra University.

Generally diabetes mellitus was considered a disease of the rich in yester years and that too only in elderly. This is not true any longer. Well structured epidemiological studies for the prevalence of diabetes in India showed that it is not true that only rich people are affected by diabetes. Further, studies revealed that it affects both sexes and all age group above 18 years.

THE REASONS FOR DIABETES MELLITUS:

The basic metabolic causes of the Type-II Diabetes Mellitus are the combinations of impairment in insulin – mediated glucose disposal (insulin resistance) and defective secretion of insulin by pancreatic beta cells. Often there is a strong genetic factor in onset of diabetes mellitus.

Insulin resistance typically precedes the onset of diabetes and is commonly accompanied by other cardiovascular risk factors like high LDL cholesterol (bad cholesterol, low HDL cholesterol (good cholesterol, high plasma triglyceride level, hypertension, other prothrombotic factors, high oxidative stress and obesity.

Taking many epidemiological data and long term observational data into consideration scientific community is convinced that diabetes mellitus deserves to be designated as a major risk factor for cardio vascular disease among population at large both men and women. Further patients with diabetes develop symptomatic and asymptomatic cardiovascular disease at an early age and the prognosis is guarded than patients without diabetes mellitus.

The defective glucose disposal by body may manifest in different forms

1. Diabetes mellitus (DM – Fasting blood sugar >126 mg/dL and Post prandial blood sugar >200mg/dL
2. Impaired glucose tolerance (IGT) Fasting blood sugar >100 mg / dL and post prandial >140 mg/ dL
3. Impaired fasting glucose (IFG) Fasting blood sugar >100 mg/dL and post prandial < 140 mg/ dL
4. Only impaired glucose tolerance Fasting blood sugar <100 mg/dL where as post prandial blood sugar > 140 mg/dL
5. Glycosylated Haemoglobin (HBA1C) > 6

There is an ample chance for people in categories 2 to 5 to get back to normal metabolic state by taking enough initiative in controlling the diet, regular dynamic exercise, reduction in body weight and life style modifications. This can be termed as primary prevention of diabetes mellitus and hence the related complications especially cardiovascular. Few may require added low dose diabetic drugs to achieve normal glucose metabolic state.

ATHEROSCLEROSIS AND DIABETES:

Atherosclerosis is the major reason for diffuse vascular disease especially coronary artery disease and Cerebro vascular disease and peripheral vascular disease by affecting inner layer of the vascular wall by lipid accumulation – oxidized LDL cholesterol - that leads to a condition called atherosclerosis. There is progressive vascular occlusions ultimately interfering with blood supply to heart muscle. Associated factors like smoking, obesity, sedentary habit, hypertension high triglycerides, low HDL cholesterol and high LDL Cholesterol contribute

to the tempo and progression of the disease process. Increased oxidatative stress due to multiple reasons aggravate the tempo of the disease much earlier in life and affect the prime youth of millions of young women and men. Women especially loose benefit of premanopausal age protection from atherosclerotic heart disease

HYPERTENSION:

High blood pressure (HTN) is one among the important risk factors in diabetic subjects. Hypertension prevalence in diabetic population is almost twice as compared to non diabetic populations (general populations) nearly 50% diabetics have hypertension. The UKPD and other studies proved beyond doubt that the long term target BP control in diabetics results in significant reduction in all diabetics related micro vascular and macrovascular complications.

The international consensus has set the target for lowering the BP to 130/80mmHg or still lower especially in diabetics with kidney involvement and with high urinary protein excretion – proteinuria

RENAL DISEASE:

Kidney disease is a common and often severe complication of diabetes. Approximately 35% patients of new patients beginning dialysis therapy have Type-II diabetes and the leading cause for mortality is cardiovascular disease in end stage renal disease.

The kidney functions in diabetics therefore must be appropriately monitored at regular intervals, so that effective interventions especially at microalbuminuria stage can be introduced, early in the course of renal disease. Even though direct measure GFR (glomerular filtration rate) is the most reliable estimate of the amount of residual kidney function, micro and macroalbuminuria and rising serum creatinine level should alert the ongoing reno vascular disease at rapid tempo and the necessity for aggressive multiprong therapy.

DIABETIC DYSLIPIDEMIA (ALTERED CHOLESTEROL METABOLISM):

This emphasizes the specific pattern of elevated low density cholesterol, small, LDL(c) particles and low high density cholesterol (HDL) and elevated triglyceride levels seen in diabetics. Growing evidence suggests the all the components of the lipid triad are independently atherogenic and increase the tempo of vascular disease.

DIABETIC CARDIOMYOPATHY

Yet another cardiac involvement seen in chronic diabetic patients though infrequently seen is significant decrease in cardiac pumping function, at times, alarmingly low cardiac muscle efficiency. There is no obstruction in the large epicardial coronary arteries by coronary angiography or at post-mortem specimen examination. There is a consensus among researchers who took deep interest in this aspect of cardiac disease that the uncontrolled blood sugar level seems to be nucleus to the pathogenesis of Diabetic cardiomyopathy.

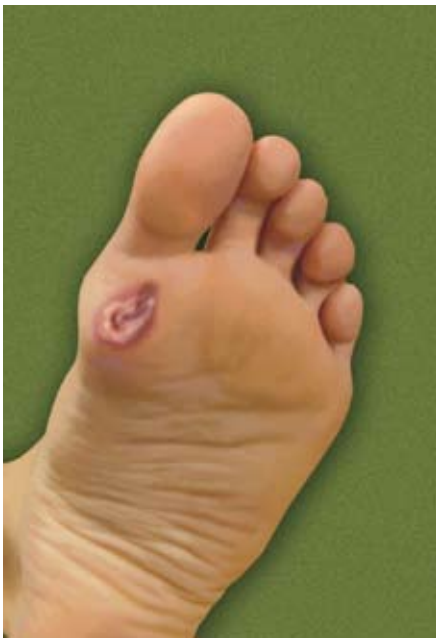
Hence primary goal should be prevention of diabetes mellitus, especially in those individuals with impaired glucose tolerance, leave alone

overt diabetes mellitus. It needs appropriate risk assessment taking into account the major risk factors like cigarette smoking, elevated blood pressure and abnormal serum lipids(fast), excess body weight especially abdominal obesity, less physical activity, which play a significant role as components towards onset of complications and its tempo.

Further, periodical checking for microalbuminuria estimation of serum creatinine and graded Exercise test ECG, may help to identify target organ involvement early and detection of occult vascular disease to take necessary treatment.

Strict control of fasting blood sugar and post prandial blood sugar, to keep HBA1C glycosylated hemoglobin less than 7, by regular physical exercise, diet control and drugs will pay rich dividend to overcome micro/ macro vascular complications which in turn manifest as heart attack, stroke and renal failure.

Diabetes is a disease that can be controlled to ensure a good quality of life. It requires a detailed and committed modification in life style with follow up.



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The Bane of Diabetics

Infections and Diabetes Mellitus [DM]

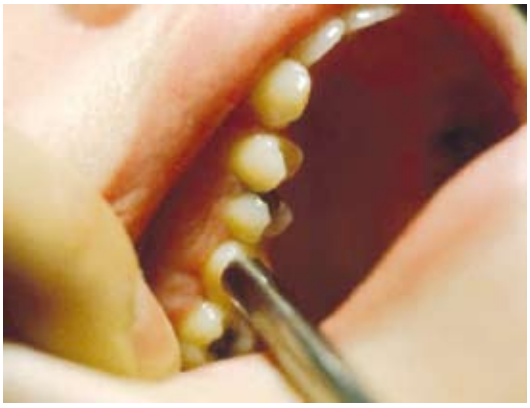
By the year 2025, India is predicted to have the most number of people with diabetes mellitus in the world. It is and will continue to be a major public health issue .The complications associated with erratic blood sugar control are of concern not only to Drs but also the general population

It is believed and proven that diabetics are at a greater risk for infections and their complications. It has also been shown through a number of well planned studies that effective control of sugars is critical to reducing the burden of infections in the very ill. The eradication of infectious agents involves the natural immune response. Dysfunction in the blood supply and depressed function of the white blood cells as evidenced in diabetes contributes to the increased risk. A recent study has shown that patients with DM are at an increased risk of lower respiratory tract infection [RTI], urinary tract infection [UTI], and skin and mucous membrane infections.

WE shall now deal with each of these briefly:

Urinary Tract Infections

Diabetics suffer from an increased incidence of bacteria in the urine which is usually asymptomatic. Diabetes also increases the risk of complications including kidney infections and abscess formation. Treatment may require a prolonged course of antibiotics.



Dental infection

The association between diabetes and dental infections is well recognized. Gum infections are common and quite difficult to treat.

Respiratory Tract Infection

DM is an underlying and important risk factor for suffering community acquired pneumonias. These infections are also associated with increased severity and a greater incidence of recurrence. Tuberculosis occurs 4 to 11 times more frequently in patients with diabetes and tends to be more aggressive involving both lungs. The chance for development of multi-drug resistant tuberculosis remains higher in these patients.

Dental infection

The association between diabetes and dental infections is well recognized. Gum infections are common and quite difficult to treat.

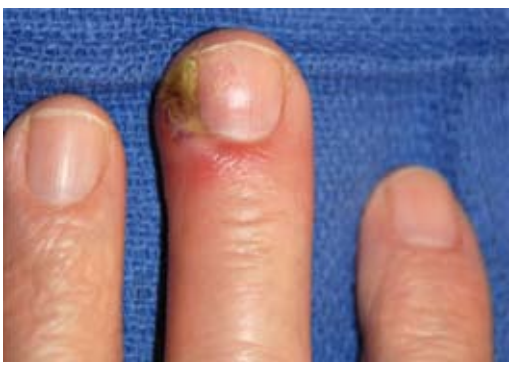
Skin and soft tissue infection

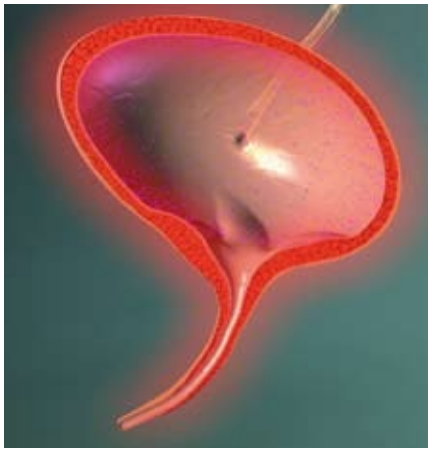
Skin and soft tissue infections are more common in diabetes, presenting as cellulitis and /or carbuncles etc.. Patients with poorly controlled sugars show higher degree of oral thrush infection and superficial fungal infections. Diabetic foot infections and ulcers occur due to the combined involvement of the peripheral nerves that lead to the loss of protective sensation and poor blood supply secondary to long standing diabetes. Prolonged antibiotic treatment with aggressive surgical removal of dead tissue can prevent the loss of the foot.

Unusual Infections

Uncommon fungal infections, like 'mucormycosis', that can affect the sinuses ,brain or lungs in uncontrolled diabetics, is often fatal. The sinus infection presents as a swelling and redness of the cheek and would warrant immediate surgery and follow up with antifungal drugs. Severe ear infection called 'malignant otitis externa' needs intravenous antibiotics.

Gall bladder infection can be severe and predominantly affects elderly diabetic men. Psoas abscesses, affecting the back muscles and bone, need drainage and broad-spectrum antibiotic therapy.



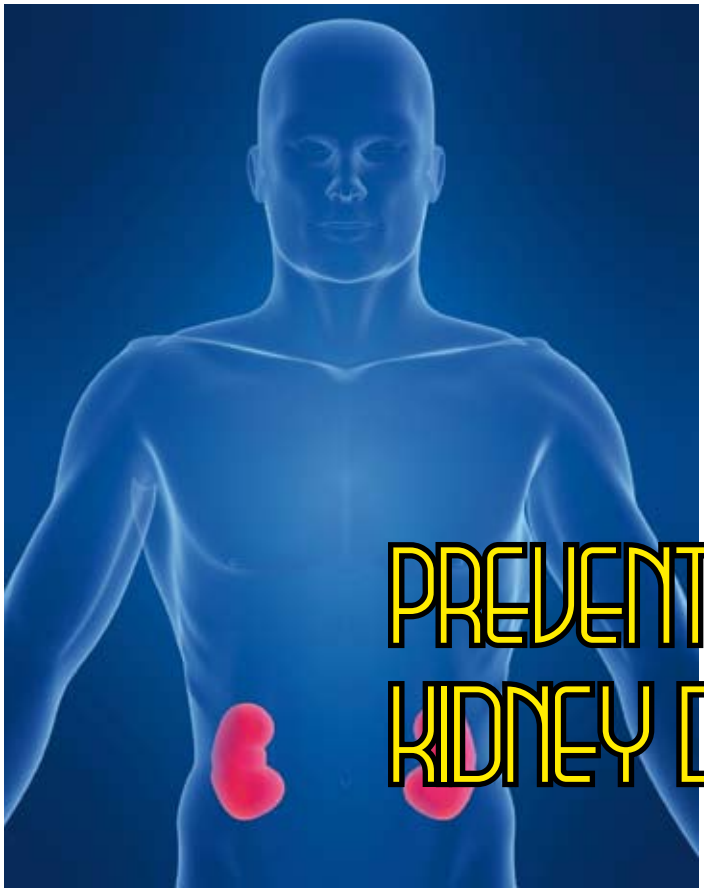


How to prevent infections in diabetes?

All these infections occur due to poor control of sugars in chronic diabetics.

The following guidelines should be followed to minimize chances of infection

- Regular follow ups and good control of sugar levels
- Practice careful foot care.
- In addition to wearing shoes and socks to avoid minor bumps and scrapes, the feet should be examined daily for any blisters, cuts, scrapes, sores or other skin problems that could allow an infection to develop.
- Meticulous foot and skin care is needed to and urgent attention given to minor cuts and scrapes to ensure they do not turn into ulcerating and wide spread infections
- Good urinary hygiene, especially for women



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PREVENT DIABETIC KIDNEY DISEASE

Diabetic nephropathy (DN) is one of the common vascular complications of diabetes, which leads to progressive loss of kidney function. DN is a leading cause of end-stage renal disease (ESRD) accounting for one third to one half of all kidney failure cases seen at various centres. The frequency of ESRD is nearly 30 percent in Type 1 (insulin dependent) diabetic individuals and ranges from 4 to 20 percent in Type 2 (non insulin dependent) diabetic individuals. Type 2 diabetic individuals with kidney complications also face an increased risk of death from cardiovascular disease which in fact is a common cause of death in these individuals than the kidney disease itself.

Stages of Diabetic Nephropathy

Diabetic nephropathy usually progresses slowly through several stages. In Stage 1, there is hyperfiltration of urine but no leakage of albumin or protein. In Stage 2, leakage of tiny amounts of protein or albumin is present, this stage is called – stage of Microalbuminuria. In Stage 3 or Macroproteinuria stage, increasing proteinuria occurs leading to loss of large amounts of protein, causing 'nephrotic syndrome' a condition in which fluid retention and swelling due to low amounts of protein in the blood is observed. In Stage 4, the kidneys become less able to remove 'poisons' from the blood resulting in raising levels of various chemicals such as urea and creatinine. This is known as 'Chronic Renal Failure'. Stage 5 is known as 'End Stage Renal Disease' (ESRD) and in this stage, the urine output decreases, serum creatinine level becomes very high and there is an imminent need for renal replacement therapy (RRT).

Microalbuminuria in the range of 30–299 mg/24 hour has been shown to be the earliest detectable and treatable stage of diabetic nephropathy and is

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also a significant marker for cardiovascular diseases in both diabetic and non-diabetic subjects. Patients with microalbuminuria are more likely to progress to clinical albuminuria/overt nephropathy (≥300 mg/24 h) and decreasing GFR over a period of years. Once macroproteinuria occurs, the risk for ESRD is high. In parallel with these changes, there is rise in blood pressure, which may begin even before the development of microalbuminuria but usually occurs during the early microalbuminuric phase.

Risk factors for diabetic kidney disease:

Luckily not everyone with 'long standing diabetes' gets nephropathy. Infact, over 50% of diabetic patients will never develop kidney disease even if their blood sugars are poorly controlled. The risk factors for diabetic nephropathy are shown in table below.

RISK FACTORS FOR DIABETIC NEPHROPATHY	
NON-MODIFIABLE	**MODIFIABLE**
● Ethnic susceptibility	● Poor glycaemic control
● Genetic predisposition	● Elevated blood pressure
● Male gender	● High cholesterol
● Duration of diabetes	● High dietary protein intake
	● Smoking

Symptoms

During the early stages of diabetic nephropathy, there are usually no symptoms. As the condition progresses, individuals with diabetic nephropathy may present with swelling (edema) of the feet and legs and later throughout the body, increase in blood pressure, larger amounts of protein leaking into the urine (macroproteinuria) and elevated levels of fats (cholesterol and triglyceride) in blood. Once the kidneys are more severely damaged, blood sugar levels may drop because the kidneys retain insulin in the body and a stage of "burnt out diabetes" may occur. In late stages, patients become severely anemic, breathless and serum potassium levels may rise necessitating urgent dialysis.

Screening for diabetic nephropathy

Screening for nephropathy at its earlier stage of microalbuminuria, is important because it is reversible at this stage. Type 2 diabetic individuals should be screened at the time of diagnosis and yearly thereafter even if test is normal. If microalbuminuria or later stages of nephropathy are present, the test should be repeated bimonthly in order to classify the level of albumin in the urine. Frequent measurements are recommended as albumin levels vary up to 40% from one day to another.

Thereafter, it is recommended to screen for microalbuminuria on a yearly basis. Starting with atleast 5 years after diabetes is diagnosed.

Management and Prevention of diabetic nephropathy

Control of blood sugar is one of the most important factors in the prevention of nephropathy in both Type 1 and Type 2 diabetic individuals. Intensive management of blood sugar to achieve near-normal levels significantly reduces the progression of diabetic nephropathy.Aiming for Glycosylated Hemoblobin (HbA1c) levels (which provides a weighted average of the blood glucose level for the previous 3 months) of less than 7 % appears to be effective in preventing diabetic kidney disease.

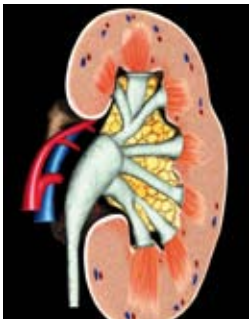
In patients with established diabetic nephropathy, control of hypertension is perhaps the most important factor, to reduce rate of progression of the renal disease.. Aggressive antihypertensive intervention will greatly decrease the rate of fall of GFR and significantly increase the median life expectancy in Type 1 patients with a decrease in mortality from 95% to 45 % and a need for dialysis and transplantation from 73% to

31%. In general, people with diabetes should aim for blood pressure <130/80 mmHg and if nephropathy is present, then a more stringent target of <120/75 mmHg is recommended. In patients with underlying nephropathy, angiotension-converting enzyme (ACE) or angiotensin receptor blocker (ARB) therapy is also indicated as part of initial management.

With the onset of renal failure, dietary protein is to be restricted to 0.8 g of protein/kg body wt / day (10% of daily calories). Prevention of renal failure allows patients to maintain a superior quality of life and to reduce economic burden on the society and the individual.

End Stage Renal Disease (ESRD):

When end stage kidney failure is reached, dialysis and transplantation are the only options. Early detection and treatment can slow the rate of kidney damage and significantly lengthen the time required to reach the stage of dialysis or renal transplantation.



Three treatment modalities are available for renal replacement therapy: (i) hemodialysis, (ii) Continuous ambulatory peritoneal dialysis (CAPD) and (iii) transplantation (kidney transplantation or a combined pancreas and kidney transplantation). Each technique has its own advantages and disadvantages and the kidney specialist is the best person to decide on the option for a given individual based on his or her condition.

Prevention is the best way to avoid lasting kidney damage from diabetic nephropathy. Once the condition is established, most people tend to progress slowly to chronic renal failure. By tight control of blood sugar and blood pressure diabetic kidney disease can be prevented in the majority of the patients.

STEPS TO REDUCE THE RISK AND OR SLOW THE PROGRESSION OF NEPHROPATHY

- Monitoring/screening for microalbuminuria
- Optimize glucose control
- Optimize blood pressure control
- Angiotensin-converting enzyme (ACE) inhibitor or Angiotensin Receptor Blockers (ARB)
- Control blood lipids especially serum cholesterol
- Modify diet
- Cessation of smoking

DIABETIC NEUROPATHY

PINS AND NEEDLES CAN IT BE SOMETHING MORE?

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Dr.Mohan's Diabetes Specialities Centre & Madras Diabetes Research Foundation, Gopalapuram, Chennai

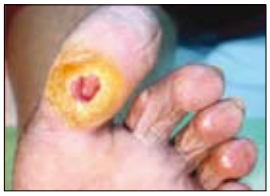
Neuropathy (nerve damage) is a common complication of diabetes and is associated with considerable morbidity and mortality.Neuropathy reduces the ability to detect sensations particularly in the feet and hence predisposes an individual to injuries and trauma. Diabetic neuropathy (DN) may cause damage to the nerves in the feet, which along with poor blood circulation can predispose to foot ulcers and even to the dreaded gangrene leading to amputation of the foot. But it's not only the feet that are vulnerable, diabetes-related neuropathy can affect any organ in the body including the digestive tract, heart, and the sex organs.

Studies conducted by Dr.V.Mohan and his colleagues at the Dr.Mohan's Diabetes Specialities Centre and the Madras Diabetes Research Foundation, Gopalapuram, Chennai, showed upto 70% of the patients with over 15 years of duration of diabetes develop neuropathy. Of the total diabetic population in India, 15-20% may have foot problems of which 90% is due to neuropathy. In fact 50% of the hospital admissions at our centre are due to diabetes related foot problems.

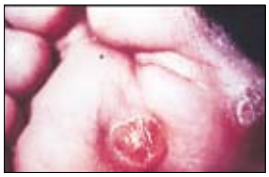
TIPS FOR PROPER FOOT CARE

- Examine your feet daily for blisters, bleeding, and lesions between your toes; use a mirror if it is difficult to see the entire foot
- Keep the feet clean by daily washing with luke warm water and soap
- Avoid extreme temperature (Hot/cold)
- Dry the feet carefully and pay special attention to the spaces between the toes to prevent athletes' foot
- Nails should be trimmed straight across with nail clippers or nail scissors.
- Do not walk barefoot
- Do not sit cross-legged for long time
- Do not cut corns / calluses with blade or knife. Home surgery is dangerous
- Do not smoke
- Use appropriate footwear
- Your feet must be examined at a diabetes centre at least once a year.
- Consult the diabetes care team immediately if you notice anything wrong with foot

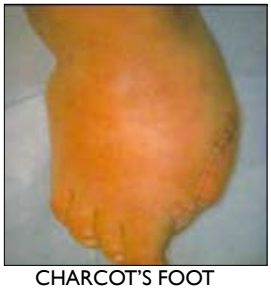
In summary, proper examination, early detection and implementation of adequate preventive measures would help to overcome this debilitating and devastating problem of diabetic neuropathy and thus help prevent unnecessary amputation.



NEUROPATIC ULCER



CALLUSES



CHARCOT'S FOOT

Types of neuropathy

There are three types of neuropathy: sensory, motor and autonomic. Sensory neuropathy, which affects the nerves that carry information to the brain about sensations from various parts of the body. This is the most common form of diabetic neuropathy. Motor neuropathy affects the nerves that carry signals to muscles leading to muscle wasting, foot deformities or nerve paralysis. Autonomic neuropathy affects the nerves that control involuntary activities of the body, such as the action of the stomach, intestine, bladder and even the heart leading to bloated stomach, diabetic diarrhea, bladder neuropathy (which means the bladder is unable to empty completely), and impotence in men.

Risk factors

In general it must be assumed that every one with diabetes has an increased risk of developing diabetic neuropathy. However, some people have a lower risk and while others have very high risk. The risk factors for neuropathy are summarized in the table below.

RISK FACTORS FOR DIABETIC NEUROPATHY

- High blood glucose
- Long duration of diabetes
- Smoking
- Alcohol consumption
- Overweight
- Over 50 years of age
- Taller individuals

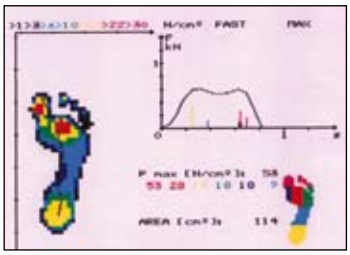
In addition deficiency of certain vitamins, especially B-1 (thiamin) and B-12, and a job or hobby that puts stress on any nerve for long periods of time increases the chances of developing neuropathy.

Symptoms of neuropathy

Neuropathic symptoms depend on the causes and on which nerve or nerves are involved. Indeed, some patients have no symptoms at all. 30 to 40 percent of diabetic patients have neuropathic symptoms whereas it is only 10% in non-diabetic population. The most common symptoms of diabetic neuropathy are numbness or loss of sensation in the feet. The patient may feel as if he is walking on 'cotton wool' or on a 'mattress'. Other symptoms include pins and needles, pricking sensation, burning sensation of feet or even severe pain in both feet. These symptoms often begin gradually. In some cases the skin becomes more sensitive in which even light touch can produce agonizing pain.

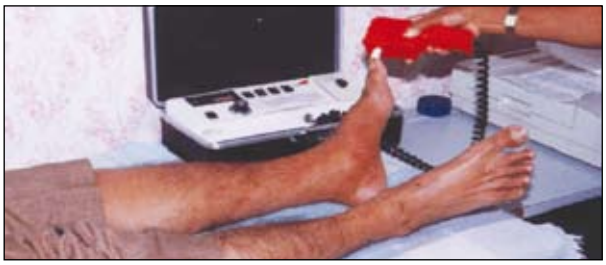
Foot Examination

The early detection of diabetic neuropathy can prevent or delay adverse outcomes such as lower-extremity amputations and thus results in fewer hospitalizations of patients with foot ulcers. Diabetic individuals should have their foot examined frequently, alteast once a year to detect neuropathy at the earliest. Foot pressure distribution should be done to detect areas that are prone to get calluses and corns in the foot. This helps in designing customized diabetic footwear according to the individual which effectively redistributes the pressures and thereby prevent the formation of calluses and corns in diabetic foot. Impaired vibratory threshold can be identified in all patients with neuropathy using a biothesiometry. This is a quick non-invasive and simple to perform diagnostic technique that helps to detect and quantify early sensory loss in diabetic patients.



FOOT PRESSURE DISTRIBUTION

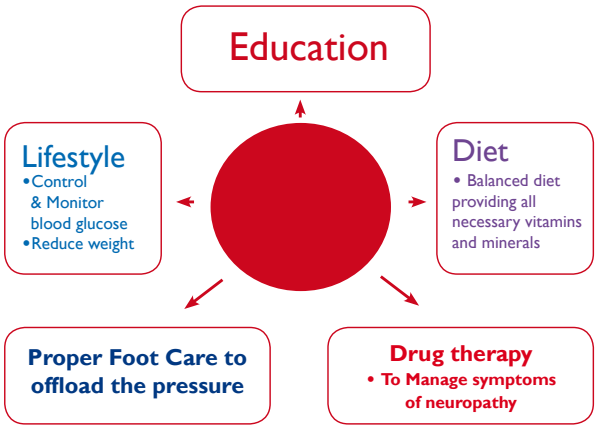
FOOT PRESSURE MEASUREMENT



BIOTHESIOMETRY

Management and prevention of diabetic neuropathy

Although neuropathic problems in diabetes cannot be eradicated completely, it can be diagnosed and managed effectively by a multidisciplinary approach that focuses on prevention, education, regular foot examinations, aggressive intervention, and optimal use of therapeutic footwear. These measures can help to reduce the incidence of morbidity associated with neuropathy. Meticulous care by a diabetologist, podiatrist, orthopedic surgeon, or rehabilitation specialist experienced in the management of diabetic patients is mandatory. The key prevention strategies for neuropathy include the following as shown in the figure.



Diabetes, Depression and Stress

A case of mind over matter

"Life is not over because you have diabetes, make the most of what you have & be grateful"

Depression is not generally listed as a complication of diabetes. However it can be one of the most common and dangerous complications. It can creep up insidiously and may be notoriously difficult to diagnose in light of all other medical problems the diabetic is having. The rate of depression in diabetics is much higher than in the general population. A depressed person may not have the motivation to maintain good diabetic management and depression is frequently associated with unhealthy appetite choices and changes, they may overeat or starve. Today it is well documented and accepted that psychological factors and psychiatric conditions can affect the course of medical illnesses .The stress of depression itself may lead to hyperglycemia in diabetics

A recent study of depressed diabetes patients over 60 years old found that integrating the courses of treatment for diabetes and depression proved highly effective and led to an improvement in quality of life

Spotting Depression

Spotting depression is the first step. Getting help is the second. If you have been feeling really sad, blue, or down in the dumps, check for these symptoms:

- Loss of pleasure - reduced interest in doing things you used to enjoy.
- Change in sleep patterns these may be as varied as trouble falling asleep, waking often during the night, you sleep excessively, including during the day.
- Early to rise - You wake up earlier than usual and have difficulty getting back to sleep.
- Change in appetite - You eat more or less than you used to, resulting in a quick weight gain or weight loss.
- Trouble concentrating -You are distracted while watching TV program or reading because other thoughts or feelings get in the way.
- Loss of energy - You feel tired all the time.
- Guilt - You feel you "never do anything right" and worry that you are a burden to others.
- Suicidal thoughts - You feel you want to die or are thinking about ways to hurt yourself.

If you have three or more of these symptoms, or if you have just one or two but have been feeling bad for two weeks or more, it's time to get help.

Getting Help

If you are feeling symptoms of depression, don't keep them to yourself. First, talk them over with your doctor. There may a physical cause for your depression.

Poor control of diabetes can cause symptoms that look like depression. During the day, high or low blood sugar may make you feel tired or anxious. Low blood sugar levels can also lead to hunger and eating too much. If you have low blood sugar at night, it could disturb your sleep. If you have high blood sugar at night, you may get up often to urinate and then feel tired during the day. Do not stop taking a medication without telling your doctor. Your doctor will be able to help you discover if a physical problem is at the root of your sad feelings

Managing Diabetes

- tight glucose control is the best way to prevent serious complications of diabetes,
- goal of diabetes management is to keep blood

glucose levels as close to the normal range as possible.
- Healthy eating,
- physical activity,
- insulin injections, or using an insulin pump are basic therapies for type 1 diabetes.
- Blood glucose levels must be monitored through frequent checking.
- Management of type 2 diabetes and its complications is possible with improved monitoring of blood glucose, new drugs, and weight control management.
- Blood pressure drugs called ACE (angiotensin-converting enzyme) inhibitors help to prevent or delay heart and kidney disease which are invariably a complication of long standing untreated diabetes

Get Treatment for Depression

- Since there are many different treatments for depression, they must be carefully chosen by a trained professional based on the circumstances of the person and family.
- Prescription antide pressant medications are generally well-tolerated and safe for people with diabetes. Specific types of psychotherapy, or "talk" therapy, also can relieve depression.
- However, recovery from depression takes time.
- In people who have diabetes and depression, scientists report that psychotherapy and antidepressant medications have positive effects on both mood and glycemic
- Treatment for depression in the context of diabetes should be managed by a mental health professional—for example, a psychiatrist, psychologist, or clinical social worker—who is in close communication with the physician providing the diabetes care.

Remember, depression is a treatable disorder of the brain. Depression can be treated in addition to whatever other illnesses a person might have, including diabetes.

If you think you may be depressed or know someone who is, don't lose hope.

Seek help for depression.

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S. Niranjani,
Physiotherapist & Fitness Consultant

Fitness section

Tips before starting exercises

- Check with your doctor before starting exercises
- Adjust the diabetic treatment plan as needed
- Check blood sugar level before and after exercises
- Warm up before exercises and after exercises
- Use a well fitted shoes
- Drink plenty of water during workout
- Recommended to work out at least 3 times in a week for about 30 to 45 min
- Exercises should be done regularly
- Do not lift heavy weights

Regular exercises is especially important for all persons with diabetic .Exercising regularly generally helps to control the blood glucose level because the muscles cell uses more sugar and oxygen than those at rest . There are two types of exercises one is Aerobic and the other is Anaerobic. Anaerobic activities like Weight training and

Aerobic training helps to lower the blood sugar level .For maximum benefit aerobic exercises should be done 3 to 5 min a week, 20 to 30 min each time. If a person is taking insulin then it is easier to balance his blood glucose if he exercises at the same time everyday

Exercise in combination with a healthy diet is the best thing a person can do to take care of himself Exercise burns calories and therefore it helps to lose weight or maintain healthy weight .It improves the blood circulation especially in the arm and leg where people with diabetic can have problem Exercise reduces the level of medication we need to treat diabetic or even eliminate the need of medication

Selecting your exercises

If the person is recently diagnosed with diabetes he/she should see the doctor before starting exercises program. Doctor can best guide the type of exercises that are good for him depending on how well the diabetes is controlled

Exercises like walking, swimming or bicycling must be appropriate choice.. Person should ensure that the shoes are well fitted and remember to do warm up and cool down before and after the exercise and at the same time should be alert in checking for any blister in the feet. Avoid doing any strenuous exercise.

How often should I walk?

People should try to exercise at the same time every day and for the same duration. This will help him to control his blood sugar. It is mainly recommended to exercises at least 3 times a week for about 30 to 45 min. If a person does not have time, they should break their routine into shorter intervals. They can exercise 10 to 15 min in the morning and then 10 to 15 min during the lunch time and again 10 to 15 min in the evening.

Precaution to be taken care

- Avoid straining or over exertion during exercises
- Avoid wearing tight clothes
- Avoid long gap between your meals , take regular meals
- Avoid exercises if found any blister in the feet till it gets healed
- If the person is ill or suffering from infection avoid exercises
- Presence of ketones in the urine please avoid performing exercises
- Experiencing any tingling or numbness in the feet avoid exercises
- Avoid exercises when feeling dizzy or nausea or short of breath

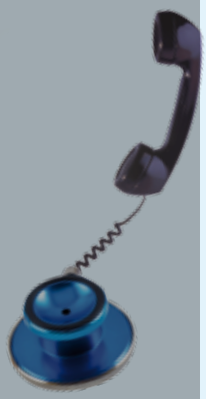
Time to get into your peak shape

Want to get back to shape which you have lost!!

Follow the simple, yet important tips on Diet and Exercises, which will make you, fit in your old clothes. Loosing weight is an easy task but needs one's commitment. Loosing weight should be gradual and in a systematic manner. So the first step is to start up with warm up and then walk for an hour every day. This, you can break up into two 30 min segments. Build your stamina slowly. Don't over push yourself, listen to your body need. Replish your body with 2 to 3 liters of water through out the day. In about 2-3 months you would be able to cover 7-8 kms in an hour, at one stretch. Always remember to wear proper walking shoes, start slowly and then gradually increase your speed and distance to reach your goal. Stop when you feel dizzy and don't over exhaust yourself.

Exercises and Diet goes hand in hand So always have a balanced diet which includes protein, complex crabs like wholegrain and cereals, Fruits and vegetables at least 5 servings a in day. Always ensure that you have small frequent meals instead of having heavy 3 main meals, break it into 5-6 per day. Never skip your breakfast and over stuff yourself, always leave little space in your tummy for a little more. That way you will never over eat Reduce your intake of sugar, aerated drinks, refined food, junk and fatty food.

Always remember short cuts are for roads not for your body. The just don't work. You are never too young or too old to exercises. Start Now. Today is the first day of the rest of your life. Time to get into your peak shape in your own committed way. Look out for our next edition on Tummy exercises with some healthy recipes to keep you going all day long.



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Language: The receiver of the call will converse in Tamil, Hindi, Malayalam and of course in English. We will be thankful to receive your communications on any suggestions to make the system better and more effective to the editor of this magazine.

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STAR Personal & Caring Health Insurance

Claims Procedure

At Star Health Insurance, we always interact with customers with a humane and healing touch. We ensure it remains the same when customers need assistance by keeping the claim process simple and easy. We have a 24X7 medical assistance for consultation and facilitation with regard to hospitalization needs. Our aim is to provide cashless hospitalization in a hassle - free and time bound manner.

We have entered into arrangements with network hospitals to provide cashless hospitalization, so you don't have to worry about any advance payments. The steps to avail this benefit are as follows:

- Inform the Star Health Call Centre by quoting the Star Identity Card or Policy number within 2 hours of admission. This is mandatory.
- Show the Star Identity Card / quote the Policy number at the hospital reception and request for cashless hospitalization.
- Ensure that the completed Pre - authorization form and related medical reports are faxed to the Star Health Call Centre by the hospital. This is mandatory.
- A copy of Pre-authorization form duly filled along with all relevant medical reports (that substantiates the need for hospitalization) should be provided by the hospital to the visiting Star Health doctor.
- On receipt of duly filled Pre-authorization form and based on the feedback from Star Health's doctor, appropriate decision will be communicated to the hospital by us.
- The authorization letter mentioning the amount sanctioned for the treatment will be faxed to the hospital. This helps the policy holder to get treatment without paying any money to the hospital.

SMS 'STAR' to 56677 / www.starhealth.in

Star toll - free : 1800 425 2255 - Fax toll - free 1800 425 5522