

# Sowkhya

January 2015

Magazine™

## Eating Healthy in 2015

Are You On Your Way?

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A Real Pain In The ....!

## Coffee

10 Amazing  
Facts You Didn't  
Know.

## Type 2 Diabetes

Understand the  
Basics.

**And A Lot More!**

# WISHING OUR READERS A HAPPY AND PROSPEROUS NEW YEAR!!

## Welcome to the latest edition of Sowkhya Magazine™ – Our first in 2015!!

It has been a wonderful year that has just passed, with our magazine readership growing and the birth of our Facebook page. We are, as always, truly indebted to our patients and readers for making this magazine a success so far. 2015 is going to be an exciting year, and we are currently working on certain projects that will help our patients understand heart disease and everything related to it at the click of a button. In addition, we will be coming out with more information booklets and leaflets which we hope will provide you with the information you are looking for when it comes to your health and well being.

In this month's edition, we have discussed diabetes mellitus in some detail. With over 60 million people across India currently suffering from this condition, it is important to keep informed about it. Diabetes can be riddled with complications if left untreated, and taking the right steps and following the right advice is important. We have only touched up on a subject that has textbooks written about it, and in the coming few months we shall endeavour to cover most of this disease in detail.

In addition, we have also talked about certain common conditions such as irritable bowel syndrome and clinical depression. Included amongst these articles are other fascinating nuggets of information that we are sure you will enjoy. Did you know that the world's most expensive coffee comes from an elephant? Read on to discover more!

Finally, we would like to thank you from the bottom of our hearts for making Sowkhya Magazine™ a success so far. We wish you the very best in the year to come, and hope it brings you the joy and happiness you deserve. Happy New Year again!



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## Diabetes Mellitus – Know Your Basics

Diabetes Mellitus is a condition that affects millions of people across India. Described as early as 800BC by Indian physician Sushruta (called it madumeha), the statistics are now shocking with over 62 million people currently suffering from the condition. It is estimated that by 2030, we will have nearly 80 million people who suffer from the condition.

While these statistics are undoubtedly hair raising, a large part in the development of diabetes is the lack of sufficient knowledge about the condition. This article aims to clear some of the basic concepts that will give you an idea about what diabetes is and how it comes on.

### What is diabetes mellitus?

Diabetes mellitus is a condition where the blood sugar levels are high in the blood. The normal value of blood sugar ranges between 80 to 100 mg/dL. The table on the right describes the criteria that help make a diagnosis of diabetes.

### Types of diabetes

There are 2 types of diabetes mellitus – type 1 (insulin dependent) and type 2 diabetes (non-insulin dependent). Diabetes in pregnancy is called gestational diabetes.

**Type 1 diabetes:** This condition is often seen in children and young adults. It is not very common. In type 1 diabetes, the pancreas gland in the body does not produce enough insulin. This insulin is required to maintain normal blood sugars. Low levels of blood insulin levels mean that food substances such as rice and sugars are not broken down to release energy. Instead, the blood sugar levels start to rise, leading to complications if not treated soon. Treatment is through insulin injection therapy.

**Type 2 diabetes:** This is the more common form of diabetes that affects adults. In type 2 diabetes, the pancreas produces insulin normally, but the cells in the body do not respond to it. This is called insulin resistance. In times of insulin resistance, the blood sugar levels start to increase gradually. As time passes, the pancreas starts to produce more and more insulin, but the blood sugar levels still remain high. Ultimately, the pancreas stops producing insulin. In the early stages, patients with type 2 diabetes can be managed with diet and exercise, but as time progresses, tablets and/or sometimes insulin is needed.

### What are the symptoms and signs?

Patients with diabetes may not have any symptoms whatsoever. However, some patients do report weight loss, increase in appetite and an increased frequency of urination. Increased thirst is also a recognised symptom. Patients can feel excessively tired. A small proportion of patients who are unaware they have diabetes may notice that they have numbness in the hands and feet (this is a feature of type 2 diabetes). Finally, small cuts and bruises may take a lot longer to heal.

### How is it diagnosed?

Early diagnosis is key to preventing the development of complications. A simple blood test performed on an empty stomach (after 8 hours fasting) can help make a diagnosis. The diagnostic criteria are described in the table above. Though clinical history may indicate diabetes, blood tests are essential to confirm it.



### Laboratory Definition of Diabetes

1. Fasting Blood Sugar > 126mg/dL
2. Blood sugar 2 hours after food > 200mg/dL
3. HbA1c > 6.5%
4. Random blood sugar > 200mg/dL with symptoms of diabetes checked anytime of the day.

## Follow A Healthy Diet This Year....The Easy Way!

2014 is now over – it's time to welcome 2015; a new and exciting year that is filled with hope and prospects. This year could bring true the dreams that you always had and help you reach the goals that you always wished to achieve.

One thing that you could achieve this year is changing your diet to a healthy one. It is in our nature to enjoy the varieties of foods that we have at our disposal – many a times to the extent that we are unaware of the effects it might have on our body. The Indian diet is rich in fats, carbohydrates and proteins, and while some of this may be essential for a healthy well being, it is unfortunately consumed in proportions that are just too unhealthy. In other words, we are eating too much, without being conscious about how much we should be eating.

Unhealthy eating has one important consequence – obesity. In India, the rising incidence of obesity means that more and more people are prone to illnesses such as high blood pressure, diabetes and heart disease. But the problems do not stop there. Obesity can cause back ache, bone problems, acidity and skin problems, many of which require regular visits to the doctor's clinic. Continue eating unhealthily, and you are looking at spending most of 2015 getting prescriptions and taking tablets.

### It's time for a change

Eating healthy can radically change an individual's body weight. In turn, this can reduce the chances of developing heart disease and its associated risk factors. There are no specific guidelines for Indians regarding what the best diet is to stay healthy, but the tips below should help you make a start.

#### *Reduce your carbohydrate and fat intake*

Carbohydrates are the main energy source in our diet. Rice, bread, wheat and ragi are the staple foods that form a large portion of the meals we have every day. The daily requirement of calories of the average Indian man is around 2500 to 3000 calories, while in women it is around 2000 – 2500 calories. The diet we consume seems to have this caloric content and possibly more.

The problem with consuming excess carbohydrates is this – we only require a certain amount of calories to sustain regular activity, and the rest gets converted to body fat. This, of course, depends on what sort of lifestyle we follow. For example, a sedentary man who consumes a large amount of carbohydrates every day will undoubtedly put on weight, as a large amount of this gets converted to fat that is deposited around the abdomen. On the other hand, an individual who performs exercise regularly and has an active job will likely burn all the calories consumed. This means their body fat content is less.

If you are looking to follow a healthy diet, cut down your carbohydrate intake as much as you can. Replace simple sugars such as rice and ragi with more complex carbohydrates such as rava (semolina), wheat and whole grain products. These release calories slowly into the blood, maintain energy levels and keep the person fuller for longer (thus preventing snacking on junk food). If possible, eat a carbohydrate meal just once a day, replacing the others with a soup, salad or some healthy cereal.

#### *Eat 5 portions of fruit and vegetables a day*

Currently in the western world has emerged a dictum of eating '5 portions of fruit and veg' every day. Each portion is calculated as a single fruit, a bowl of vegetables, a bowl of soup etc.

The primary benefit of eating this many fruits and vegetables is that it provides the body with the essential vitamins and minerals needed for optimal organ functioning. Vitamins are needed for enzymes in the body to work at their best. They are needed for foods that we eat to produce energy; energy that the muscles can use for regular physical activity. In addition, fruits and vegetables provide the body with a good dose of fiber.

#### *Eat more fiber*

Fiber in the diet is essential to maintain a healthy digestive system. It also binds to bad fats and has been shown to reduce cholesterol levels and blood sugar levels. It is an ideal product to help maintain a healthy body weight. Foods rich in fiber include wheat, bran and green leafy vegetables.

**Follow these simple steps, and you are looking at losing weight and ending this year with health and vitality!**

## Depression – Don't Let It Get You Down.

Depression is a state of mind that is characterised by a lack of interest in things that one was previously passionate about. It is often thought to be due to stress and worries in life. However, this is far from the truth.

Yes, there is no doubt that mental stress and 'tension' that we face in our day to day lives can sometimes get us down. We lose interest in people, passions and things that we once loved to indulge in. It can alter our sense of well being.

However, depression can occur in people who do not have any sort of stress whatsoever. It is believed that there may be some alteration in the different chemicals in the brain that are responsible for maintaining mood. Studies have shown that depressed people may have some form of change in the structure of their brain. Depression is also inherited. Risk factors can include alcohol abuse, illnesses such as cancer, traumatic events in the past and the use of certain medication.

Depressed individuals tend to lose interest in daily activities. Some sleep all the time and some just cannot sleep. Thoughts of suicide are not uncommon. Difficulty concentrating, excessive anxiety, anger, agitation and restlessness can all be symptoms. These can be diagnosed by a trained medical professional through a detailed history.

But there is light at the end of the tunnel. Depression is wholly treatable through medication and counselling with a psychologist. People who have depression can fully recover and go on to lead fruitful lives. Exercise and a healthy diet seem to help. A good night's sleep also seems to work well. Avoiding triggers is essential. If you think you have a friend or family member who suffers from depression, get them the help they need by visiting a psychiatrist.



## Gall Stones – A Nagging Problem

The gall bladder is a small organ that is located under the liver. It is responsible for the production of digestive juices (bile) that aid the breakdown of food that we consume every day. The juices flow through the common bile duct into the intestine where they mix with the pancreatic juices and help digestion.

### What are gall stones?

Gall stones are small stones made of cholesterol and bile pigments that clump together in the gall bladder. They may be composed mostly of cholesterol (called cholesterol stones) or bile pigments (called pigment stones).

### What causes gall stones?

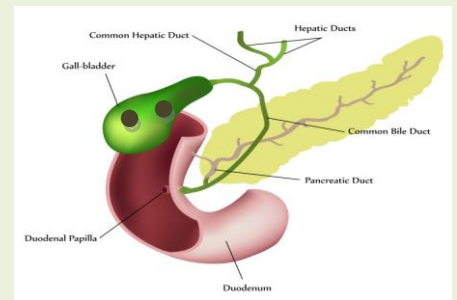
Gall stones tend to be more common in women and in the elderly. Obesity is a well recognised cause. A diet that is high in fat seems to increase the chance of developing gall stones. Of course, genetics also plays a small role. People with diabetes have high triglyceride levels which can also lead to gall stone formation. Taking the birth control pill can increase estrogen levels, which in turn can increase the risk of gall stone formation. 'Fat and fertile females' (called the 3 F's) are at risk.

### Signs and symptoms

Most patients do not have any symptoms. Multiple stones may be present without causing any effect at all. However, when the stones pass into the common bile duct (see picture), they can block the duct causing pain and sometimes jaundice. The pain is usually just under the right rib cage, and is accompanied by nausea and vomiting.

### Diagnosis and treatment

Gall stones are diagnosed through blood tests and ultrasound scans of the abdomen. Special tests such as an endoscopy or MRI scan can also help detect them. Patients who do not have symptoms may not need any special treatment. However, multiple gall stones or the presence of a stone in the common bile duct may need to be treated through surgery. New laparoscopic surgical techniques have now emerged that can remove the gall bladder through minimally invasive methods and do not require long hospital stays. Stones may also be removed through endoscopic techniques before removing the gall bladder completely.



## 10 Cool Facts About Coffee



Just the other day we found a really nice coffee mug lying around the house. On the mug were numerous facts that we found interesting and rather amusing. Here are a few that we think you will like.

1. We all know that caffeine can stimulate the mind and keep us awake. But did you know that this effect of coffee was first discovered in Ethiopian goats? The shepherds noticed that the goats would eat coffee berries and become hyperactive and restless!
2. Coffee is grown along the coffee belt – a stretch of land that lies between the Tropics of Cancer and Capricorn.
3. Coffee grows on trees that can rise up to 30 feet in height.
4. After oil, coffee is the most commonly traded commodity on the planet.
5. Arabica is the most commonly consumed type of coffee, followed by Robusta. In India, we mostly drink Arabica coffee.
6. The word 'cappuccino' comes from the resemblance of the coffee beverage to the outfits worn by the Capuchin Monks.
7. 40% of the world's coffee is produced in Brazil and Columbia.
8. The world's most expensive coffee is 'Black Ivory Coffee'. The coffee beans are harvested from the droppings of elephants that eat the berries and cannot digest the bean. The digestive juices impart a special flavour to the coffee. It costs \$50 (Rs. 3000) per cup!
9. Coffee improves your performance when you exercise.
10. A previous custom in Turkey required the husband to provide the wife with a cup of coffee when asked. If they did not, it was grounds for divorce! This custom is no longer practised however (no doubt the men are heaving a sigh of relief!).

## HOW IT HAPPENS? Our Voice

Ever wonder how it is we are able to speak and why our voice is the way it is? We all know that it is our vocal cords that produce the sound, but how exactly is it generated? Sound production is a lot more than just movement of the vocal cords. It involves the larynx, the cords and the lungs along with numerous other structures in the oral cavity.

While it may sound simple, the process of voice production is rather complex. The lungs pump air up the wind pipe through the vocal cords. The vocal cords, also called the vocal folds, are thick tissues that are really like a valve that can vibrate. All animals have these but only humans can use them to speak. These cords can 'chop' or break the air being breathed out into fine vibrations that are converted to sound. The vocal cords lie within the larynx – a tube through which air enters and exits the lungs. The muscles of the larynx can contract and relax when needed. These movements of the muscles can either tense up the vocal cords or loosen them. This action ultimately causes different sound pitches.

But that's not all. As the sound passes up through the larynx, the tongue, cheek and palate alter the sound as well, allowing for articulation of sound into words. These structures are therefore called 'articulators'.

The human voice is never the same between 2 individuals, though it may sound the same sometimes. The voice depends on the size and shape of the larynx, the thickness of the vocal cords, the lung capacity to hold air and the shape of the structures in the mouth. Our emotions can play a role in how the muscles contract as well, and you may have noticed that we have different voices when we cry, laugh or get angry. The presence of infection can affect how the vocal cords vibrate. Singers train their muscles and breathing to allow them to reach high and low notes while singing. Women have shorter vocal cords, which is why the pitch is higher.

In short, the human voice is amazing and unique.

## Tips To Maintaining Your Health Records in 2015

As a patient, it is important to maintain a good health record so that this can be produced before a doctor when the need arises. For doctors, being aware of the patient's past medical history is just as important as the current health problem they are facing.

In this day and age, medicine has advanced so much that it is hard to keep up with what procedures and tests are being performed, and what treatments are being given to patients. When unwell, the doctor seeing the patient would like to know what these treatments are, and many times patients forget the names of the procedures and medicines (understandably so). So here are some tips that can help you maintain good health records that can come to your use at any time of the day.

- 1. Have a hard bound file** – Files are excellent to keep health records organised. Use dividers to label the years or the tests that have been done. For example, you could place the doctor's prescription in the first section, the blood tests in the next section, X-rays in the third section and so on. You decide what is easy for you, and stick with the pattern.
- 2. Use your smart phone** – One of the problems we sometimes face is patients arriving to clinic without their files or have lost their last prescription. A smart phone becomes invaluable at such times. Almost everyone these days owns a smart phone that can take pictures in high quality. Just taking a picture of your latest prescription, your ECG and any other test reports can help a doctor tremendously in case you forget to bring old records to the clinic (it is rarely that anyone leaves their phone at home). Click the picture and place it in a separate folder once it has been labelled. This may be hard for some to do, so ask a young family member to help you out – they are always up for playing with gadgets!
- 3. Keep a health card** – Having a small card that carries your essential health information is becoming more and more important these days. At Baliga Diagnostics, we are working on providing a service where patients with long term health problems can have a list of their medicines and diagnoses placed on a card that they can keep in their purse (or wallets). It is of great help if you are travelling abroad.

Maintain a good health record this year (and for years to come), and looking after your health will be easy for both the doctor and the patient.

## Diabetic Peripheral Neuropathy – A Burning Issue

Diabetes can affect numerous vital systems including the nerves. Diabetic peripheral neuropathy is a complication of diabetes that affects the legs and feet. Here we take a look at this condition in brief.

### What is diabetic peripheral neuropathy?

The peripheral nervous system consists of nerves that supply the peripheral parts of the body i.e. the hands and the feet. In diabetic peripheral neuropathy, the high levels of blood sugar alter the function of these nerves, leading to troublesome clinical symptoms.

### What are the symptoms?

Typical symptoms include tingling and numbness in the feet, burning pain in the soles of the feet and sometimes difficulty in walking. Some patients feel like they are walking on a wet surface, while some feel they might slip when they walk. Patients may have problems with maintaining balance. Holding things tightly with your hands may be hard. Vibration sense is lost in feet, along with muscle reflexes.

Diabetic peripheral neuropathy is rarely one of the first symptoms of diabetes. Symptoms can vary from patient to patient.

### How is it diagnosed?

The diagnosis of diabetic peripheral neuropathy is primarily made from clinical history. No specific tests are needed to confirm the diagnosis in patients with diabetes. However, in some patients, nerve conduction studies may be performed.

### What are the problems with diabetic peripheral neuropathy?

The main problem with this condition is the development of numbness of the feet. When there is no sensation, patients may not realise it when they step on a sharp object or injure themselves. Injury can lead to infection, and this can be difficult to treat in diabetes patients. Complicated infections (like diabetic foot) may ultimately require amputation.

### How is it treated?

Diabetic peripheral neuropathy is difficult to treat. Vitamin B supplements or vitamin B12 injections may help. Powerful painkillers such as pregabalin have been shown to be helpful. Good blood sugar control is very essential.

## Irritable Bowel Syndrome – More Irritating Than You Think!

Have you ever experienced a time when you had periods of constant bloating, diarrhoea or constipation? Then you may have irritable bowel syndrome.

Irritable bowel syndrome, also called IBS, is a condition that affects the large intestine. It is not clearly known why and how this condition develops, but it is believed that it may be due to problems with the way the nerves work in the bowel. There may be a change in the way the muscles of the large intestine contract and relax, and these movements can cause discomfort and pain. Certain foods (like chocolate, cauliflower, milk and alcohol), stress, hormones and infections can trigger the condition. Mental stress is a well recognised factor that triggers symptoms.

Patients with IBS tend to have either constipation (called IBS-C) or diarrhoea (called IBS-D) as the predominant symptom. But along with those, they may also have constant bloating, pain in the abdomen, passing excessive gas and the presence of mucus in the stools. Not all these symptoms are present in everyone.

There are certain criteria that doctors use to diagnose IBS, though they are not clear cut. The presence of colicky pain in the abdomen that lasts for at least 3 days a month in the last 3 months, along with the presence of a change in the bowel habit and stool consistency are used as criteria. Changing the diet is the best way to manage this condition. Avoid foods that are 'gas producing' such as cabbage, certain legumes and pulses. Regular exercise can help. Anti-diarrhoeal medication may help. Fiber supplementation in patients with IBS-C is useful. The use of medication that relieves bowel spasm has been found to be useful. Certain antidepressant medication can slow down bowel movements and relieve the symptoms.



## Treatments For Type – 2 Diabetes – Debunking the Myths

Patients with diabetes are often placed on multiple medical therapies that help control the blood sugars and allow them to lead normal lives. Unfortunately though, they often do not know how these drugs work and why they are taking so many. This article aims to briefly review the commonly prescribed medicines. Please note we have not used trade names of the drugs, but have instead used the actual name (generic name) of the medicine.

### Metformin

This is the most commonly prescribed medicine for type 2 diabetes mellitus. They fall under a class of drugs called 'biguanides'. In patients with type 2 diabetes, the cells in the body do not respond to the insulin that is being secreted by the pancreas gland. Metformin works by increasing the sensitivity of the cells to insulin, allowing them to respond normally. This means that the cells can start to use glucose in the blood stream for energy (which in turn reduces blood glucose levels to normal). It also helps patients lose weight, which is why it is given to overweight patients with diabetes. Metformin can cause acidity, and should therefore be taken after food. Loose stools may also occur. Low blood sugar is uncommon.

### Glimepiride

This drug is a 'sulfonylurea' that reduces blood sugar level by increasing the secretion of insulin by the pancreas. It is often added on to metformin and is available as a combination medication. Rarely, patients may develop headaches and nausea after taking this medicine. It is to be taken just before eating food.

### Gliptins

This includes the drugs sitagliptin and vildagliptin, which fall under a class of drugs called 'DPP-4' inhibitors. They work by blocking an enzyme called 'di-peptidyl peptidase – 4' which is responsible for the breakdown of hormones called incretins. Incretins are responsible for the release of insulin from the pancreas, and DPP-4 can stop this, which is not good for diabetes. Blocking DPP-4 with gliptins can help improve the action of insulin. Gliptins can also help with weight loss. Some patients may develop nausea, headache and a skin rash as a side effect.

These are some of the most commonly prescribed medicines, though many others like gliclazide, glibenclamide and pioglitazone are available. Keep an eye out for our booklet on diabetes management coming soon this year!

## New Year Resolutions – How Determined Are You?

At the start of every New Year, we sit down with a pen and paper, or just indulge ourselves with the thoughts of what we wish to achieve in the year ahead. Many of us choose weight loss, some choose better money management, some prefer to achieve academic excellence, travel the world, buy a home and some even wish to get married.

You may be surprised to hear that while most of us make New Year resolutions, only **8 %** of us actually achieve our desired goals!! Why is this so? Well, many of us think too big and believe that goals we set are easy to achieve. We forget that while we may want to make the change, we must realise that it not the final result that matters, but more so the journey we take towards achieving it. Many a times, this journey can be too hard, and we give up. Only the very determined few reach their target, and these are the aforementioned 8%.

So how can this number be increased? Firstly, set yourself a realistic goal, and set short term goals. For example, if you are looking to lose weight, try and lose 1 kg per month rather than 10 kg a year. Change your diet for 4 weeks first, and see how you cope. Work around how the journey goes, and 'tweak' it so that you can make it work every month for you.

A great way of reaching your goals is to start with a friend. The company of friends makes your effort easier, and it is always great to have someone motivate you along the way. Finally, positive self talk always helps! You are bound to hit some road bumps on the way. But tell yourself that whatever you might encounter on the way, you will still achieve your goals.

In the words of Swami Vivekananda – '**Arise, awake, and stop not till the goal is reached**'.



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...and so our journey continues...