



Giving Back Life

Have a Healthy Heart



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Beware of the Peril



The most dangerous aspect of hypertension or high blood pressure is that people who usually suffer from it, don't have any outward symptoms. If they fail to keep this killer pressure under check, they are at risk for heart attack, brain stroke, heart failure, kidney problem, eye disease, and many more complications



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Design
Kuldeep Singh

Advertisements & Marketing
Gaurav Gautam, Abhinav Kumar
Email:sales@doublehelical.com

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Contact us
Email: editor@doublehelical.com
Website: www.doublehelical.com,
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War Against Diseases

Thanks for your continued support and best wishes for your magazine Double Helical's endeavours to keep you updated with the latest happenings in the healthcare sector. With intensive research and adaptation of new treatment technology, healthcare in India has come under maximum impact. In such a situation, with increasing consumption of medicines, instant demand for medical equipment puts a lot of stress on supply chains. Today, healthcare managers and industry experts understand that efficient management of materials can not only reduce the operating cost but also increase the quality of care. To know more about this fact we are delighted to publish an exclusive health column on this topic.

As a part of our special focus on Ayurveda, we have highlighted a new study on the use of herbal medicines to treat rheumatoid arthritis. The well-known Ayurvedic herbal medicines like Ashwagandha and mineral formulation -Sidh Makardhwaj are useful in managing rheumatoid arthritis. A study was recently conducted by Ministry of AYUSH in collaboration with Department of Pharmacology, AIIMS. This study validates the use of Ayurvedic herbo-mineral and mineral formulations in the light of undue apprehensions in the minds of public regarding safety index of these formulations.

To provide innovative solutions to eye-related problems, we have highlighted eye correction with a smile which is absolutely blade-free technology that offers many advantages over the conventional laser vision correction such as maximum safety, precision and comfort to eye patients

We have also dealt with some of the burning issues like increasing trends of hypertension (BP), heart attacks, liver cirrhosis, hearing loss and many more. The most dangerous aspect of hypertension or high blood pressure is that people who have usually have it don't have any outward symptoms. If they fail to keep this killer pressure under check, they are at risk for heart attack, brain stroke, heart failure, kidney problem, eye disease, and many more health complications. As a part of special coverage, we have sought to turn the spotlight on

the need to stay fit, irrespective of age. To keep yourself fit, it is important to follow a balanced diet which includes all the food groups in the right amount and proportion. A flawed diet is the precursor to diseases like obesity, heart diseases, diabetes, high blood pressure, depression, high cholesterol and many other diseases which are linked to unhealthy eating habits.

We bring you special coverage on liver transplant in children with the latest successful example being of a three and half year old child. In fact, the doctors in India have the expertise to carry out liver transplants in patients from three months to 80 years of age, with more than 95 per cent success. Generally, 90 per cent of the babies born to infected hepatitis B mothers would develop chronic hepatitis B. This can be prevented by universal Hepatitis B vaccine to all babies soon after birth.

In today's stressful life, heart attack is a very serious issue. Obviating the need for traumatic open heart surgery, interventional cardiology is a non-surgical technique which is becoming a growing trend in the treatment of heart disease. Non-surgical treatment through interventional cardiology has been of tremendous help to a large number of patients especially the ones who are unfit for surgery.

However, the selection of the patient for a particular treatment is of paramount importance. As an added emphasis, we have included a guest column on the same by a renowned heart surgeon and specialist. There is also a special column on health care management through optimising efficiencies by supply chain management technologies which is one of the most critical aspects of an effective hospital management. It leads to the desired product availability, minimizing storage space, maximizing patient care, reducing material handling time and costs for medical staff and optimizing the inventory.

We are raising these and many more issues, incorporating the opinions of reputed and competent doctors. Happy reading!

Amresh K Tiwary
Editor-in-chief

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Eye Correction with a Smile



Blade-free SMILE technology offers many advantages over the conventional laser vision correction such as maximum safety, precision and comfort to eye patients

BY DR MAHIPAL S SACHDEVA

The use of Femtosecond laser has greatly enhanced the efficacy and safety of laser vision correction. With the innovative SMILE technology, you can have a laser vision correction procedure which is not only 100 per cent blade free, but which also allows you the luxury of no corneal flap, and which offers you a painless treatment.

Consumer awareness is very low at present in India as stated by a number of studies. People don't know about safe practices for storing food items, preservation techniques at household levels, hazards of food preservatives and additives for health

What is SMILE?

SMILE (Small Incision Lenticule Extraction) is not only a 100 per cent blade-free approach to laser vision correction, but is a step superior to the no blade approach of Femto-Lasik in which a laser is used to create the corneal flap, which is then folded back by the surgeon to perform the Lasik procedure. While Femto-Lasik or No Blade Lasik is superior to the more

traditional method of microkeratome blade Lasik, it still means that a corneal flap needs to be created in your eye.

The SMILE method, by contrast, enables your surgeon to perform laser vision correction without any flap at all. There is no danger that the flap can get displaced, either immediately after the procedure, or even years after the procedure. And the corneal surface cells hardly get disturbed during the procedure, which means that there is hardly any pain or discomfort during the procedure.

How does the SMILE method work?

During SMILE, tiny pulses of laser light, about one quadrillionth of a second each, pass harmlessly through the outer portion of the cornea and form two uniform layers of microscopic bubbles just beneath the surface of your eye. This defines a “lenticule” within the cornea, which corresponds to the number which needs to be corrected.

The exact dimensions of these two layers of bubbles are determined by your surgeon based on what’s best for your eye and your refractive error. The whole process is computer controlled for maximum precision to limits that are not attainable with any hand-held blade. The SMILE lenticule creation process takes only 20-30 seconds per eye.

Immediately after the lenticule creation process, surgeon will separate the two tissue layers where these bubbles occur, and then quickly extract the lenticule from the cornea, from an incision which is only 3-5 mm wide.

That’s it. Your eye now begins to heal. You may experience some foreign body sensation or pain for a couple of hours, but you can resume all normal activities almost immediately after the procedure. There is no flap in the eye, so there is no need to be terribly careful.

Is it right for me?

If you are looking for blade-free treatment which is even safer and more precise than any other Lasik, the answer is yes.

SMILE procedure also creates the



SMILE procedure also creates the potential for outstanding visual results. More patients achieve 20/20 or better when SMILE is done

potential for outstanding visual results. More patients achieve 20/20 or better when SMILE is done. And patients report better quality of vision overall, particularly in their ability to see well in low light, such as at dusk or in the night. The treatment induces less aberration in the eye and also induces less dry eyes.

What are the surgical advantages of SMILE?

SMILE gives the surgeon many advantages over the conventional Lasik treatment. These include:

No Flap to Displace: Since there is no flap, flap displacements and flap related complications cannot occur.


Less Dry Eye: Because of the tiny incision, there is less cutting of corneal nerves, leading to less dry eye and improved corneal sensitivity after the procedure.

Better Corneal Biomechanics: Since the lenticule is removed from a small

incision, the corneal biomechanical strength is less reduced after SMILE than with other techniques.

Much More Precision and Stability: SMILE does not involve using an excimer laser at all, only a femtosecond laser. The total energy introduced by the laser into the eye is up to 10 times less than an excimer laser. So inflammation is less, and there is more stability of the result. While an excimer laser is dependent on atmospheric humidity and other conditions, the femtosecond laser is much more robust. The result is a much more precise treatment. This ensures that the patient has a more comfortable and better visual quality after SMILE.

Where is SMILE offered?

SMILE is offered only in the very best laser centers across the world. In India, the Centre for Sight NVLC has been a pioneer in SMILE with maximum SMILE procedures done across the world. At the Centre for Sight, this technology is available at its Delhi, Vadodara, Mumbai and Hyderabad branches. The Centre for Sight was the first to introduce Femtosecond Lasik laser in the South East Asia. 

(The author is Chairman, Centre for Sight, New Delhi)



Giving Back Life



The doctors in India have the expertise to carry out liver transplants in patients from three months to 80 years of age, with more than 95 per cent success

BY DR NEELAM MOHAN

Liver transplantation means the replacement of a diseased liver with a healthy liver from a brain dead/cadaveric donor or a living donor. Liver transplantation nowadays is a well accepted treatment option for end-stage liver disease and acute liver failure with a 95 per cent success rate.

According to international guidelines, any liver cirrhosis patient assessed to have a life expectancy of less than a year should be considered for a transplant. Timely transplant is of essence in obtaining good results. Cadaveric donation is extremely poor in India and the liver transplants are predominantly related to living donors. A healthy adult has nearly 70 per cent extra liver and a healthy liver is the only organ which regenerates. There are two lobes of the liver; therefore, one can donate a part of his/her liver.

As recently as five-seven years ago, liver transplantation was not well developed in India. However now, the country runs among the world's largest liver transplant centres where the doctors have the expertise to transplant patients from three months to 80 years of age every day, with more than 95 per cent success.

The common liver disorders in children are Hepatitis A and E infection due to contaminated food and water, chronic Hepatitis B infections, portal hypertension due to blockage in vein supplying blood to the liver, and Wilson disease due to defect in copper metabolism.

Among other states, Bihar needs at



least 1000 liver transplants a year but less than two dozen patients undergo liver transplants. The total population of Bihar is around 8 crores (6 per cent of total population of India). The urban poverty of Bihar is 32.91 per cent as compared to 23.6 per cent of the whole nation. Only 77 per cent of Bihar's population lies within 15 min of safe water supply and therefore water borne infections are common. Another common liver disease in the states is extra hepatic portal vein obstruction in children, a condition where the vein supplying blood to the liver gets blocked. This usually results from infections of the umbilicus (belly button/ nabhi) in the newborn period, therefore babies delivered at home or by midwives have a higher incidence of this infection due to unhygienic delivery practices.

Bihar has a higher incidence of

Generally, 90 per cent of the babies born to infected hepatitis B mothers would develop chronic hepatitis B. This can be prevented by universal Hepatitis B vaccine to all babies soon after birth

chronic hepatitis B infection. The average incidence in the country is 3-4 per cent. However in Bihar, it is more than 5 per cent. Hepatitis B infections are spread through vertical transmission (pregnant mother – baby), contaminated blood transfusion or needles and sexual route. It was heartening to see that the GDP on health spent in Bihar in the last fiscal was more than Rs 13,000 crore, higher than the other states in the country. It would be only proper if the government considers free hepatitis B vaccine for the entire state, rather than Patna alone, where the per capita income is Rs 30431 as compared to the state's per capita income, which stands at Rs 5772, probably one of the lowest in the country.

Generally, 90 per cent of the babies born to infected hepatitis B mothers would develop chronic hepatitis B. This can be prevented by universal Hepatitis B vaccine to all babies soon after birth. There are only few places in the country where the government provides free Hepatitis B vaccine to all babies such as in Delhi, Chennai, Hyderabad, Mumbai, Pune, Bhopal, Bangalore and also Patna.

The team of Medanta Hospital, Gurgaon has the experience of nearly 1000 liver transplants in India. We have recently conducted a liver transplant of three and a half month old child Ashtik Dholepuria from Indore, who weighed 4



kg. Considered as one of smallest children for liver transplant, he was suffering from jaundice and biliary atresia. Her mother donated him 20 percent of her liver.

Though nutritional biliary atresia was not developed in Ashtik, the blood vessels in him were very small in sizes – 2-3mm. There was a high risk of thrombosis. Therefore, we had to maintain excellent fluid balance to prevent blockage and avoid bleeding from cut surface. The management of small baby is much more difficult than that of older patients. The hospital has to have a well-experienced team of doctors and nurses in handling such small child.

Biliary atresia is a condition where the bile duct (pith kinali) is not formed by birth. This is to be treated as an emergency because early surgery preferably within 4-8 weeks of age is required; otherwise it progresses to cirrhosis/end stage liver disease, requiring liver transplantation. Most of the time the diagnosis of this ailment gets delayed in India, including Bihar, due to delayed referral. It is very important for all doctors to realise that

Biliary atresia is a rare disease of the liver and bile ducts that occurs in infants. Symptoms of the disease appear or develop about two to eight weeks after birth


whenever a newborn has dark urine and light colored stool it's a matter of worry.

Biliary atresia is a rare disease of the liver and bile ducts that occurs in infants. Symptoms of the disease appear or develop about two to eight weeks after birth. Cells within the liver produce liquid called bile. Bile helps to digest fat. It also carries waste products from the liver to the intestines for excretion. This network of channels and a duct is called the biliary system. When a baby has biliary atresia, bile flow from the liver to the gallbladder is blocked. This causes the bile to be trapped inside the liver, quickly causing damage and scarring of the liver cells (cirrhosis), and eventually liver failure.

The incidence of biliary atresia is approximately one in 10,000 children,

with the disease being more common in males and in Asian and African-American newborns. Biliary atresia is not an inherited disease and does not run in families. Indeed, there have been cases of identical twins, where only one child has the disease. The causes are not well understood. It is hypothesised that an event occurring during foetal life or at the time of birth may trigger the disease like infection with a virus or bacterium, a problem with the immune system, an abnormal bile component and an error in development of the liver and bile ducts.

Post transplant, the patient requires immune suppressive medicine usually for life. Children who survive liver transplant will usually achieve a normal lifestyle.

They attend normal school sports, activities etc and get married and produce children. The cost of liver transplant comes around approximately to Rs 16-17 lakh. 

(The author is Director, Department of Pediatric Gastroenterology, Hepatology and Liver Transplantation at Medanta Hospital, Gurgaon)



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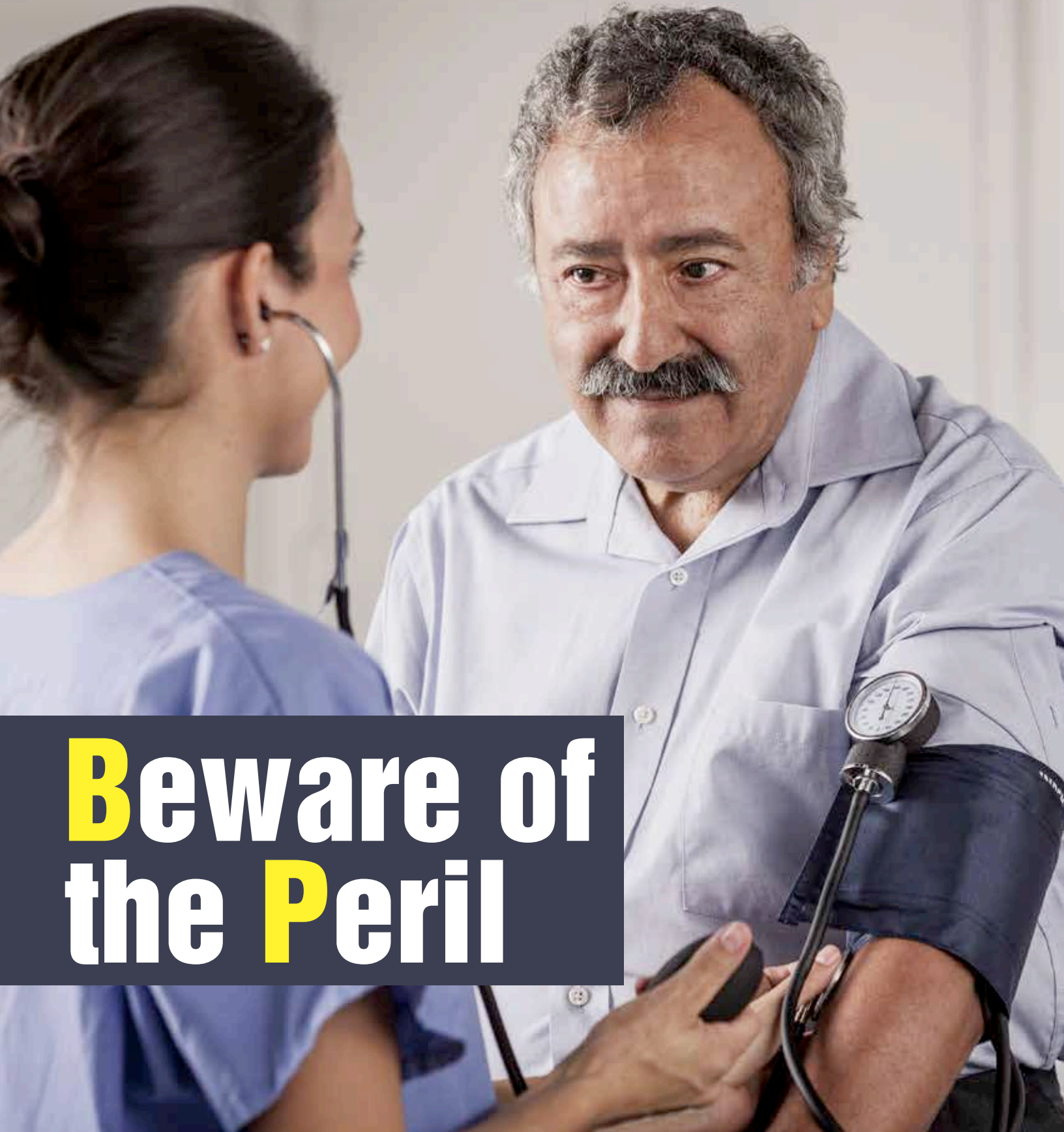
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Beware of the Peril

The most dangerous aspect of hypertension or high blood pressure is that people who usually suffer from it, don't have any symptoms. If they fail to keep this killer pressure under check, they are at risk for heart attack, brain stroke, heart failure, kidney problem, eye disease, and many more complications

BY AMRESH K TIWARY

If you are experiencing symptoms like severe headache, fatigue or confusion, vision problems, chest pain, difficulty breathing, blood in the urine and pounding in your chest, neck and ears; don't ignore them and rush to your doctor immediately. You could be having a hypertensive crisis that could result in heart attack and many more ailments.

Commonly known as the silent killer because it typically has few symptoms until after it has done considerable damage to the heart and arteries, hypertension or high blood pressure, is being considered as a dangerous condition that affects approximately 25-35 percent of adults per year. It means almost 30 percent who have high blood pressure don't know they have it and, therefore, don't know that they are at risk for heart attack, brain stroke, heart failure, kidney disease and eye disease, etc.

There are two types of hypertension – primary and secondary. For most adults in the age group starting from 30 to 40 years and above there is no identifiable cause of high blood pressure. This type of high blood pressure, called essential hypertension or primary hypertension, tends to develop gradually over many years.

Secondary hypertension (secondary high blood pressure) is caused by another medical condition. Secondary hypertension differs from the usual type of what is usually referred to simply as high blood pressure, essential or primary hypertension,

that has no clear cause and is thought to be linked to genetics, poor diet, lack of exercise and obesity.

Secondary hypertension can be caused by conditions that affect your kidneys, arteries, heart or endocrine system. It can also occur during pregnancy.

Proper treatment of secondary hypertension can often control both the underlying condition and the high blood pressure, which reduces the risk of serious complications — including heart disease, kidney failure and stroke.

According to doctors, blood pressure is the force of blood pushing against the inside of the arteries as the heart pumps the blood through body. The blood pressure readings are recorded with two numbers, listed as a ratio, with one number over another number. The top number, or systolic pressure, is the force of blood when heart beats, and the bottom number, or diastolic pressure, is the force of your blood against the artery walls when heart rests. A normal blood pressure reading is under 120/80 millimeters of mercury (mmHg). The high normal range of hypertension patient is 140/90 mmHg and above. The treatment is dependent on 120/80 mmHg and above. In most cases, treatment includes lifestyle changes and/or medications.

Says Dr N P Singh, President, Hypertension Society of India and Head of Department, Medicine, Pushpanjali Crosslay Hospital, Vaishali, Ghaziabad, "As per latest



"As per latest research, high blood pressure typically has no symptoms, but it causes progressive harm to the cardiovascular system. When blood pushes with too much force through the cardiovascular system, it can damage the walls of the arteries as well as the heart muscle. Damage to the arteries that supply the heart muscle with blood can eventually contribute to a heart attack."

Dr N P Singh, President, Hypertension Society of India and Head of Department, Medicine, Pushpanjali Crosslay Hospital, Vaishali, Ghaziabad.

Knowing BP



Blood pressure (BP) is the measure of the force of blood pushing against blood vessel walls. The heart pumps blood into the arteries (blood vessels), which carry the blood throughout the body. High blood pressure, also called hypertension, is dangerous because it makes the heart work harder to pump blood to the body and contributes to hardening of the arteries, or atherosclerosis, and to the development of heart failure. A blood pressure reading has a top number (systolic) and bottom number (diastolic).

The exact causes of high blood pressure are not known, but several factors and conditions may play a role in its development, like smoking, overweight, obesity, lack of physical activity, too much salt in the diet too much alcohol consumption (more than 1 to 2 drinks per day), stress, older

age, genetics, family history of high blood pressure, chronic kidney disease, adrenal and thyroid disorders

In as many as 95 per cent of reported high blood pressure cases in the western countries, the underlying cause cannot be determined. This type of high blood pressure is called essential hypertension. Though essential hypertension remains somewhat mysterious, it has been linked to certain risk factors. High blood pressure tends to run in families and is more likely to affect more men than women. Age and race also play a role. Essential hypertension is also greatly influenced by diet and lifestyle. The link between salt and high blood pressure is especially compelling. People living on the northern islands

of Japan eat more salt per capita than anyone else in the world and have the highest incidence of essential hypertension. By contrast, people who add no salt to their food show virtually no traces of essential hypertension.

Normal: Less than 120 over 80 (120/80)

Prehypertension: 120-140 over 80-89

Stage 1 high blood pressure: 140-159 over 90-99

Stage 2 high blood pressure: 160 and above over 100 and above

High blood pressure in people over age 60: 150 and above over 90 and above

research, high blood pressure typically has no symptoms, but it causes progressive harm to the cardiovascular system. When blood pushes with too much force through the cardiovascular system, it can damage the walls of the arteries as well as the heart muscle. Damage to the arteries that supply the heart muscle with blood can eventually contribute to a heart attack. Similarly, damage to the arteries that supply the brain with blood can contribute to a stroke, and damage to the arteries

that provide the kidneys with blood can lead to kidney disease. That's why it is called one of the silent killers of the body."

There is only way to know more about high blood pressure that is to be tested. The doctor will not diagnose with high blood pressure based on one reading. Typically three elevated readings are needed to confirm the diagnosis. This is one reason you may be asked to use a blood pressure cuff at home or a machine at a pharmacy

and keep a log of blood pressure readings over several days. Treatment usually consists of a combination of the like monitoring, lifestyle changes and medications. You will need to have your blood pressure tested periodically to make sure that treatment is keeping it in a healthy range. Lifestyle changes, exercise, weight loss, salt reduction, quitting smoking and stress reduction all can help lower blood pressure.

Dr S Chakravorty, Consultant & Diabetologist, Metro Hospitals and



“When a direct cause for high blood pressure can be identified, the condition is described as secondary hypertension. Among the known causes of secondary hypertension, kidney disease ranks highest. Hypertension can also be triggered by tumours or other abnormalities that cause the adrenal glands (small glands that sit atop the kidneys) to secrete excess amounts of the hormones that elevate blood pressure”.

Dr S Chakravorty,
Consultant & Diabetologist,
Metro Hospitals and Heart
Institutes, Noida,

Heart Institutes, Noida, says, “One of the most dangerous aspects of hypertension is that you may not know that you have it. In fact, nearly one-third of people who have high blood pressure don’t know it. The only way to know if your blood pressure is high is through regular checkups. This is especially important if you have a close relative who has high blood pressure.”

People who have high blood pressure are at increased risk of heart attack

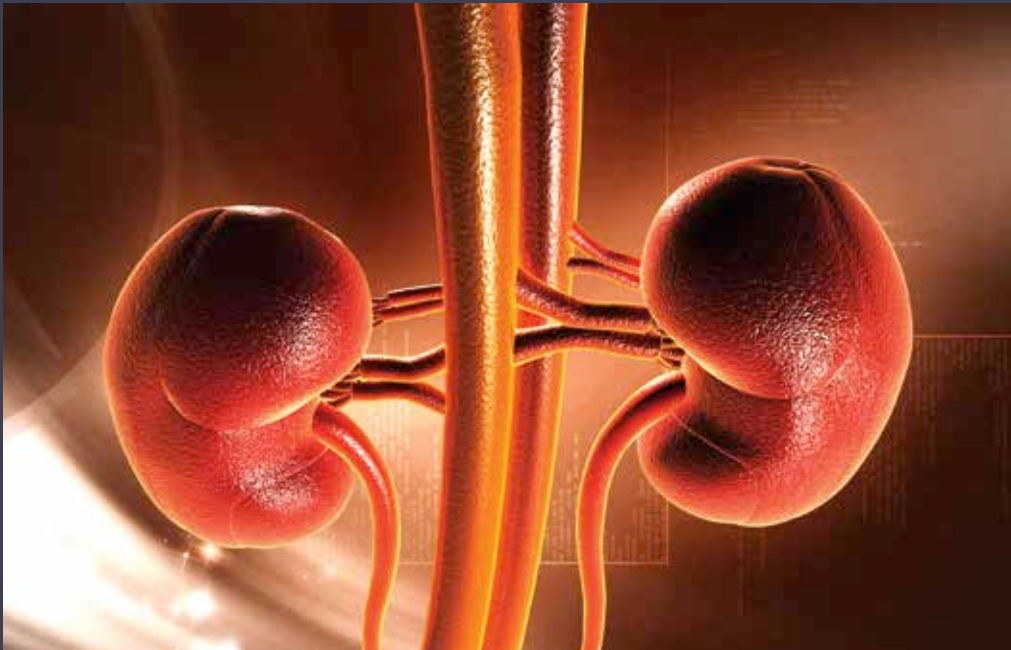
or stroke. We’ve known that for decades. There has actually been some debate over the last few years about whether you might do some harm as a doctor if you treat high blood pressure too aggressively.

The majority of all people with high blood pressure are salt sensitive, means anything more than the minimal bodily need for salt is too much for them and increases their blood pressure. Other factors that can raise the risk of having essential

hypertension include obesity; diabetes; stress; insufficient intake of potassium, calcium, and magnesium; lack of physical activity; and chronic alcohol consumption.

Elaborates Dr S Chakravorty, “When a direct cause for high blood pressure can be identified, the condition is described as secondary hypertension. Among the known causes of secondary hypertension, kidney disease ranks highest. Hypertension can also be triggered by tumours or other

The role of hypertension in chronic kidney disease



over the past two decades, and is reported to affect people increasingly. A patient is determined to have ESRD end-stage renal disease when he or she requires replacement therapy, including dialysis or kidney transplantation. The rise in incidence of CKD is attributed to an aging populace and increases in hypertension diabetes, and obesity. CKD is associated with a host of complications including electrolyte

According to Lt Gen P P Verma, Chief Consultant in Medicine and Nephrology, Indian Armed Force, "As per reports, over 10 percent of world population has chronic kidney disease and 60 percent of these patients have hypertension, if one considers only stage 3.5, over 85 percent patients have hypertension. Talking other way round, hypertension is responsible for 15-20 percent of CKD. In a nutshell hypertension is the cause and effect of CKD. Control of hypertension not only checks developments but retards progression of CKD and the associated CV (cardio vascular) morbidity. Etiology of hypertension in CKD is multi-factorial. Salt and water retention plays an important role."

The role of hypertension in CKD is defined as persistent kidney damage accompanied by a reduction in the glomerular filtration rate (GFR) and the presence of albuminuria. The prevalence of CKD has steadily increased

imbalances, mineral and bone disorders, anemia, dyslipidemia, and hypertension. It is well known that the disease is a risk factor for cardiovascular disease (CVD), and that a reduced GFR and albuminuria are independently associated with an increase in cardiovascular and all-cause mortality.

Hypertension has been reported to occur in 85% to 95% of patients with CKD. The relationship between hypertension and this disease is cyclic in nature. Uncontrolled hypertension is a risk factor for developing CKD and is associated with a more rapid progression of the disease and is the second leading cause of ESRD. Meanwhile, progressive renal disease can exacerbate uncontrolled hypertension due to volume expansion and increased systemic vascular resistance. Multiple guidelines discuss the importance of lowering blood pressure to slow the progressive CKD on of renal disease and reduce

cardiovascular morbidity and mortality. However, in order to achieve and maintain adequate BP control, most patients with CKD require combinations of antihypertensive agents; often up to three or four medication classes may need to be employed.

High BP can be either a cause or a consequence of CKD. High BP may develop early in the course of CKD and can be associated with adverse outcomes such as worsening renal function and development of cardiovascular disease. Hypertension is a major promoter of the decline in GFR in both diabetic and non diabetic kidney disease. Furthermore, large, observational, prospective trials in the general population showed that hypertension is a strong independent risk factor for ESRD. A strong relationship was observed between both systolic (SBP) and diastolic BP (DBP) and ESRD, regardless of other known risk factors, in men who were recruited in the Multiple Risk Hypertension-related mechanisms that are involved in the progression of renal damage include the systemic BP load, the degree to which it is transmitted to the renal microvasculature and local susceptibility factors to barotrauma, which is the degree of damage for any degree of BP load. Among these last factors, proteinuria, glomerular hypertrophy, fibrogenic mediators, genetic factors, and age are the most important.


Arterial hypertension together with proteinuria is one of the most important factors associated with the progression of both diabetic and non diabetic chronic kidney disease. The role of hypertension and proteinuria in renal disease progression, the BP target that should be achieved to slow the progression of renal damage and the influence of baseline and current proteinuria on the renoprotective effects of antihypertensive therapy are discussed thoroughly. The interaction between the renoprotective effects of specific antihypertensive agents—mostly angiotensin-converting enzyme inhibitors and angiotensin receptor blockers—and the level of achieved BP also are evaluated. The body of evidence provided by several studies emphasises the importance of both lowering BP and inhibiting the renin-angiotensin system as specific goals for renal and cardiovascular protection in CKD.

CKD is a worldwide public health problem. In India, there is an increasing incidence and prevalence of renal failure with poor outcome and high costs and an even higher prevalence of earlier stages of CKD. Moreover, CKD is associated with elevated cardiovascular morbidity and mortality. Therefore, strategies that are aimed at identifying, preventing, and treating CKD and its related risk factors are needed.

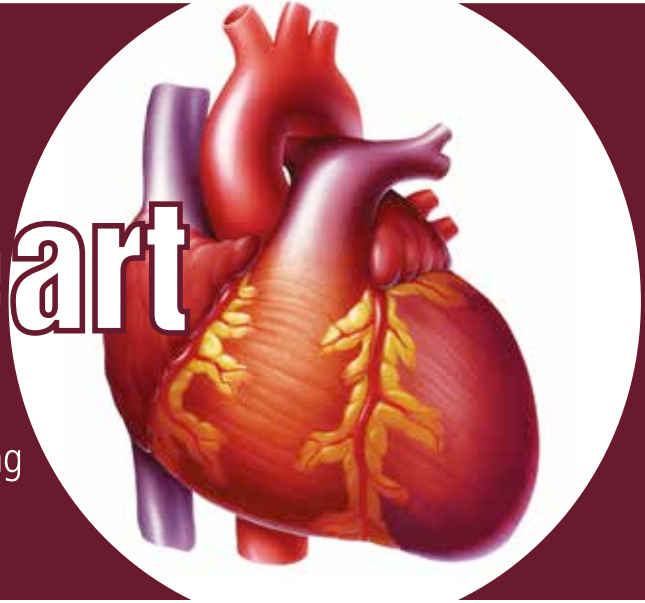
abnormalities that cause the adrenal glands (small glands that sit atop the kidneys) to secrete excess amounts of the hormones that elevate blood pressure. Birth control pills -- specifically those containing estrogen -- and pregnancy can boost blood pressure, as can medications that constrict blood vessels.”

Very severe high blood pressure (such as 180 over 110 or higher) may lead to malignant high blood pressure. This is also called hypertensive emergency or hypertensive crisis.

Today, doctors focus on the role of hypertension and proteinuria as both independent and interdependent risk factors for renal disease progression. They also discuss BP targets that should be achieved to slow the progression of renal damage, the influence of baseline and current proteinuria on the renoprotective effects of antihypertensive therapy, and the interaction between the renoprotective action of specific antihypertensive agents—mostly angiotensin-converting enzyme inhibitors and angiotensin receptor blockers (ARB)—and the level of achieved BP.

It seems now that with most of the medicines that are commonly used for high blood pressure treatment, pushing the dose very high makes people feel bad, dizzy, and overly fatigued. So, doctors now want to introduce therapies gradually, starting with lifestyle modifications, again, trying to get people to lose weight, trying to get them to eat better, trying to get them to exercise. If that can be accomplished, one can usually see a few millimeters difference, but typically even in the ideal patient, you need more, you need medicines. So, starting with older medicines that have been used in long term studies that have been used by millions of people, they know about their safety. They can gradually get the blood pressure towards the optimal target and once it is achieved, they actually minimise their risk of heart attack or stroke. 

Have a Healthy Heart



Obviating the need for traumatic open heart surgery, interventional cardiology is a non-surgical technique which is becoming a growing trend in the treatment of heart disease

BY DR. PURSHOTTAM LAL

Over the last two decades or so, the field of cardiology has witnessed rapid strides.

A significant improvement has taken place as far as the treatment of various types of heart disease is concerned. More and more patients are nowadays treated with non surgical means by interventional cardiology thereby obviating the need for traumatic open heart surgery. Interventional cardiology involves the intervention of the catheter and other devices through the groin under local anaesthesia just like angiography to treat various heart diseases non-surgically.

Broadly the heart diseases are divided into four categories — coronary artery disease, valvular heart disease, congenital heart disease and heart rhythm disease.

Non-Surgical Treatment of Coronary Artery Disease

The coronary arteries are tiny tube like structures that carry blood and oxygen to the heart muscle. If a blood vessel in the heart becomes only partly blocked, then chest pain (angina) may occur however, if the heart vessels is totally blocked heart attack takes place. In 1977, Dr. Grunzig performed the first balloon angioplasty. To deal with many limitations of balloon angioplasty new devices were introduced such as slow rotational angioplasty to open 100 per cent occluded artery by using hand held battery operated drill, coronary atherectomy to remove the fatty deposit from the artery with the help of shaving blade, rotablator embedded with diamond crystals to open up calcified arteries at very high speed rotation and stenting (spring like

structure made of an alloy) to keep the artery open. Drug eluting stents have played a revolutionary role in the treatment of coronary artery disease and have virtually replaced bypass surgery even in the complex situations. Latest advancement by using absorbable stents (wherein stent dissolves gradually over a period of time thereby not leaving any permanent scaffold within the coronary artery) has given a new outlook for the non surgical treatment of coronary arteries although long term results are still awaited.

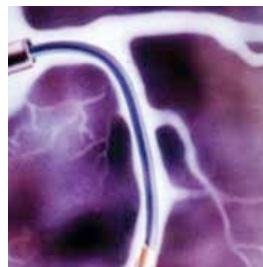
Non-Surgical Treatment of Valvular Heart Disease

Rheumatic heart disease involving heart valves still remains common in India particularly in patients coming from low socio-economic groups. It causes narrowing of the heart valves or leakage in the valves or both.

Narrowing of the mitral valve called mitral stenosis is the commonest and at times it is detected during later part of the pregnancy when the patient starts feeling extreme difficulty in breathing, palpitations.



Slow rotational



Atherectomy



Rotablator



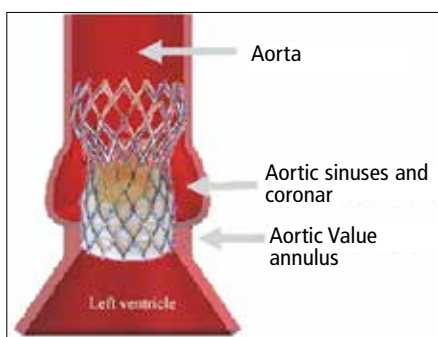
Stent Angioplasty

Unless this tightness in the valve is removed, it becomes dangerous for the life of the patient and the baby. In 1984, Dr Inoue introduced a balloon named Inoue Balloon to open the tight valve without surgery. This Inoue balloon has become the most popular and common balloon in the world to open up the narrow valves of the heart and the procedure is called as Valvuloplasty. This balloon is primarily used for opening mitral valve (mitral valvuloplasty or PTMC). The procedure of mitral valvuloplasty is done in the



Inhoue Balloon

cath lab just like angiography and usually takes 15 minutes. During pregnancy, the procedure of valvuloplasty can also be done under echo guidance only without the use of cath lab to avoid any risk factors of radiations to the foetus. The patients who are having significant leak in their valves require open heart surgery. In case of aortic valve disease, balloons don't work very well and open heart surgery is preferred. The new advances in the Interventional Cardiology have brought up certain



Rotablator

valves like core valve which can be used to replace the diseased aortic valve without open heart surgery. The use of this valve is rather limited due to high cost and surgical replacement of the valve still remains the treatment of choice. In patients suffering from leaky valves (mitral regurgitation), the diseased valve has to be replaced with open heart surgery.

Non-Surgical treatment of Congenital Heart Disease

Medical and nonsurgical treatment for congenital heart disease varies depending upon types of congenital heart defects. Common procedures to treat heart diseases include non-



The Saviour of Hearts

Dr. Purshottam Lal has been working as Director, Interventional Cardiology and Chairman at Metro Group of Hospitals. Trained in UK, Germany and USA, certified by American Speciality Board, Dr. P. Lal has been fellow of American College of Cardiology and fellow of Royal College of Physicians (Canada), Fellow of Society of Cardiac Angiography and Interventions in USA. He has the unique distinction of introducing the largest number of procedures in the field of interventional cardiology for the first time in the country such as slow rotational angioplasty, atherectomy, rotablator, heart hole closure etc. and has been listed in Limca Book of World Records several times. He has developed his own technique of partial artificial heart and mitral valvoplasty without cath lab. He has performed the first case of non-surgical closure of heart hole (ASD) with monodisc device and first case of non-surgical aortic valve replacement with core valve, both being first time in the world. He has developed 12 hospitals with a mission 'No patient should ever be returned for want of money'. He has been named as 'Creator of Affordable Healthcare' by 'Express Healthcare'. He was awarded the Dr. V.V. Shah Oration by the Cardiological Society of India in 1992 and was selected for the award of Padma Shree in 1993. He was honoured with Distinguished Achievement Award of Highest Order by the National Forum of Indian Medical Association (2006-07) for performing the largest number of angioplasties/stenting as a single operator in the country. He has been awarded Padma Bhushan in 2003, Dr. B.C. Roy National Award in 2004 and Padma Vibhushan in 2009. He has been Member, Central Council of Health and Family Welfare, Member of Expert Committee for medical devices, Ministry of Health, Govt. of India, Member of Delhi Medical Council and Member of Board of Governors, Medical Council of India.




anaesthesia. These special nonsurgical procedures offer many advantages, including short procedure time, no visible scarring, little or no pain, little or no blood loss and quick recovery with patients frequently able to resume normal activities the next day. The procedure has been a blessing for the young girls who otherwise would have suffered from big scar in the chest due to the open heart surgery and causing social stigma.

Advanced Treatments for Abnormalities of Heart Rhythm, Hypertension and Peripheral Vascular Disease and Abdominal aneurysm

In patients suffering from rapid heartbeat in the form of PAT, ventricular tachycardia, atrial fibrillation, heart block, severe left ventricle dysfunction, various modalities of treatment in the form of radiofrequency ablations, variety of pacemaker and ICD implantations are available. These procedures are done non surgically and at times are life-saving procedures. Another treatment modality is being under investigation for hypertensive patients not responding to medical treatment. The procedure known as RDN involves the use of

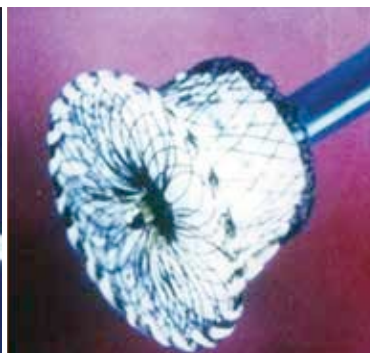
surgical closure of different types of holes in heart such as ASD, VSD, PDA. Various devices such as Monodisc, Amplatzer, double button have been developed to treat selected cases without open heart surgery. Out of these devices Amplatzer Septal Occluder and Amplatzer Duct Occluder remains the most popular and commonly used devices. These devices are fitted in the hole with the help of catheters introduced through the groin under local

radiofrequency waves with the help of catheter. Patients suffering from obstruction in the arteries of the legs can be tackled with implantation of stents thus saving the patients from gangrene. Similarly special kind of stents can be used for the repair of abdominal aneurysm saving the patient from high risk surgery. A critical block in the carotid artery called carotid artery stenosis can give rise to stroke. It can be rectified successfully by the implantation of the stent thus preventing the patient from stroke.

Non surgical treatment through interventional cardiology is a growing trend and has been of tremendous help to a large number of patients especially the ones who are unfit for surgery. However, the selection of the patient for a particular treatment is of paramount importance. 



PDA Closure Device



VSD Closure Device

(The author is Director, Interventional Cardiology and Chairman at the Metro Group of Hospitals)

Medicos Organise World Glaucoma Day



The Delhi chapter of Glaucoma Society of India, along with the Guru Nanak Eye Centre (GNEC) of Maulana Azad Medical College (MAMC), Delhi Ophthalmological Society and Dr Shroff's Charity Eye Hospital (SCEH) recently initiated awareness to combat Glaucoma by participating in the Walk to make India, 'Glaucoma Free'.

This important initiative was flagged off on the World Glaucoma Day by the chief guest, Commando Surender Singh, ex-hero of the Taj Mumbai shoot out. On the day, guest of honour, Dr V K Tewari, Health Education Officer, Head of IEC unit, NPCB; Prof. B Ghosh, Director, GNEC; GSI presidents Prof. Harish Aggarwal, Prof. JC Das, Dr. Harsh Kumar (Padam Shree); senior ophthalmologists, doctors, para-medicos, patrons, friends and students joined hands and put their feet together to walk to combat the dreaded disease. A screening event for glaucoma patients and a lecture session about the disease also took place at Dr. Shroff's Charity Eye Hospital by Dr. Suneeta Dubey's team. The highlight of the initiative, a street play scripted by Prof. Kirti Singh


on the importance of glaucoma screening and management was performed by students of Maulana Azad Medical College.

Dr. Kirti Singh, Director & Professor, Guru Nanak Eye Centre, MAMC thanked all the guests, doctors, patrons and participants, thus, "The awareness initiative organised in association with our like-minded partners and participants has been successful with over 250 people who walked for the cause. This is indeed a big step towards creating awareness and helping to beat invisible glaucoma. Early detection and treatment protect the eyes against serious vision loss. Complying with medications and timely laser or surgical therapy is of utmost importance to arrest this disease. However, the majority of patients and their families are not aware of this. Creating awareness is very important since treatment only prevents further damage and does not restore lost vision. This requires improving



communication among people with glaucoma and their doctors as well as their families and other eye care professionals."

A public lecture and patient information Q&A session about Glaucoma was organised by Prof. Kirti Singh and Prof. U Yadava at the Guru Nanak Eye Centre.

March 8 -15 was observed as the World Glaucoma Week across the world as a joint initiative between the World Glaucoma Association and the World Glaucoma Patient Association. It has been increasingly successful for the past seven years in creating greater glaucoma awareness and treatment. 

From Farm to Fork



India is yet to take adequate measures to meet the growing concerns for food safety. Food-borne illnesses occur as frequent outbreaks in several areas

BY DR SUNEELA GARG/DR CHARU KOHLI



Dr Suneela Garg



Dr Charu Kohli

200 diseases, ranging from diarrhea to cancers. So, be informed to ensure that the food on your plate is safe to eat.

Food safety is an important issue in India with grave public health implications. Food safety refers to all those hazards which make food unsafe to health. Hazards can arise at many points from food production to consumption.

It can be agricultural practices for crop production, poor hygiene for transportation and handling, food processing, adulteration, distribution, preparation and serving. Food borne illnesses are global public health problems. Over 200 diseases are caused by unsafe food containing harmful bacteria, parasites, viruses, chemical

substances. India is yet to take adequate measures to meet the growing concerns for food safety. Food-borne illnesses occur as frequent outbreaks in different areas. A number of outbreaks have been reported like an outbreak in 1998 in Delhi, India, due to consumption of contaminated mustard oil. Looking at the dismal status of food safety in the world, the World Health Organization (WHO) stated the theme for World Health day for the year 2015 as "How safe is your food: From farm to plate, make food safe".


India does have adequate legislative framework for food safety. The Indian food industry is regulated by number of legislations covering sanitation, licensing and permits. There is Food Safety and Standards Authority of India (FSSAI) established by Government of India to develop standards for food and to regulate and monitor the manufacture, processing,

Un safe food is linked to the deaths of an estimated two million people in India annually. As our food supply becomes increasingly globalised, new threats are constantly emerging. Food containing harmful bacteria, viruses, parasites or chemical substances is responsible for more than

Consumer awareness is very low at present in India as stated by a number of studies. People don't know about safe practices for storing food items, preservation techniques at household levels, hazards of food preservatives and additives for health

storage, distribution, sale and import of food so as to ensure the availability of safe and wholesome food for human consumption. FSSAI has laid down separate regulations for different aspects like packaging and labeling, information to be given on food items for consumers etc. Food adulteration is also one important aspect to deal with. Prevention of Food Adulteration Act (PFA Act) has been enacted. The Act provides protection against food adulteration/contamination.

A disheartening picture emerges from the researches conducted in the field of food safety in India. Studies conducted among food handlers shows them suffering from many infectious diseases, with poor personal hygiene, addiction and substance abuse etc. Microbes were also reported in samples collected from stools of food handlers and food prepared. Public eating establishments are also reported to be in poor conditions. In the above context, consumer awareness plays a very important role. Consumer awareness is very low at present in India as stated by a number of studies. People don't know about safe practices for storing food items, preservation techniques at household levels, hazards of food preservatives and additives for health. They do not know meaning of agmark, ISI mark and they don't check expiry date on food items etc.

In order to improve the current situation of food safety in India, important measures need to be taken immediately. First of all, public health surveillance system needs to define the magnitude and burden of food-borne disease, identify the causative factors, predisposing factors and investigate outbreaks so that control measures can be rapidly implemented and prevention efforts need to be in place. Standardised reporting formats should be prepared for personnel. Second, raising awareness of community regarding safe food and hygiene is an important initiative. All efforts should be made to involve school children, parents, college students and others in joining hands to fight food adulteration and promoting safe and hygienic food. Third, legislations related to food safety should be enforced strictly and lastly, research should be promoted in this field so that reliable, timely and accurate data is available for policy making. 

(The authors are associated with Department of Community Medicine, Maulana Azad Medical College, New Delhi)

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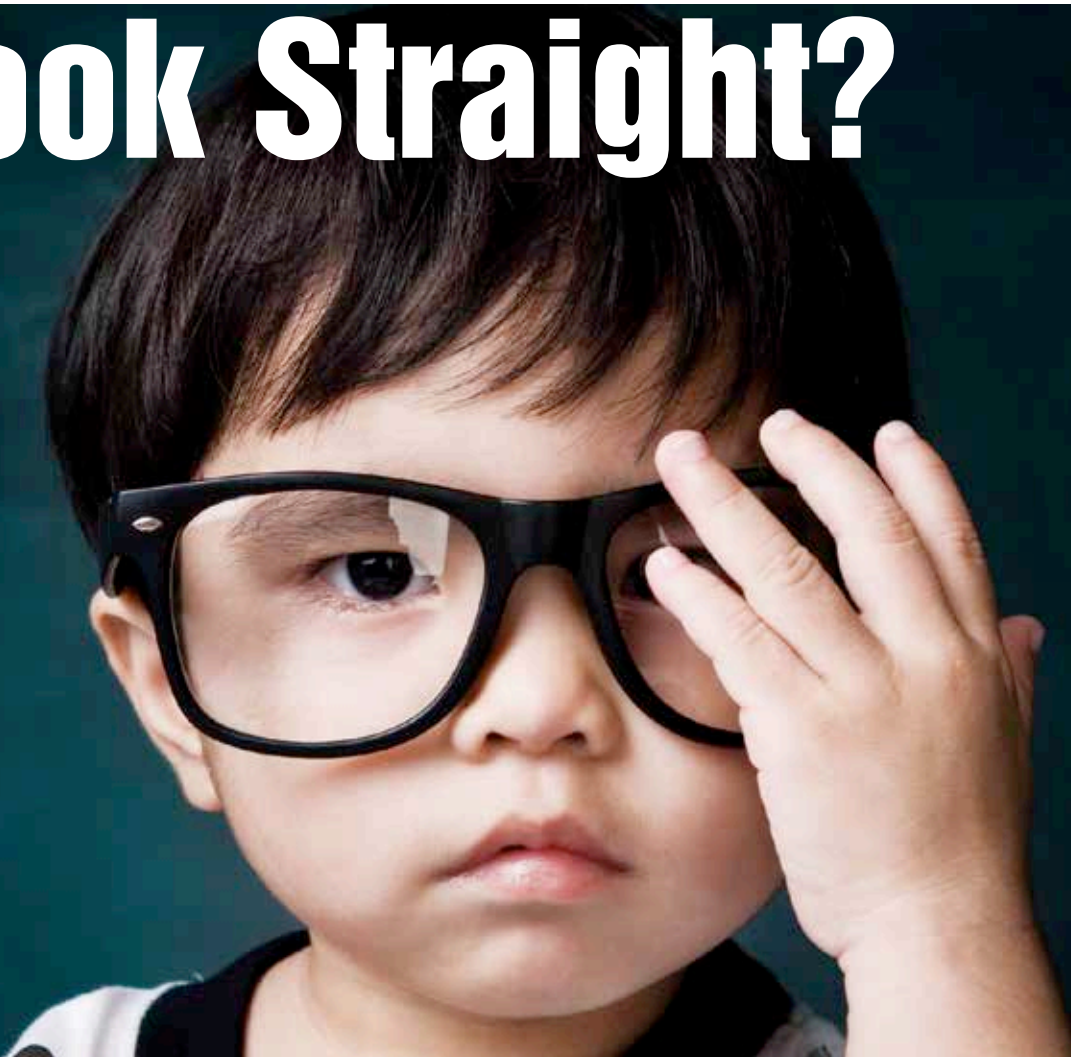


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Does your Child Look Straight?



Squint is a common problem that affects about 1-2 percent of general population in 20. Most squints develop before preschool age, usually by the time a child is three years old, though they develop in older children or in adults too

BY DR VIMLA MENON

If your child's eyes do not move together and he turns the head to one side, please don't waste your time, immediately take him to an eye specialist. These symptoms are of a squint which leads to unsymmetrical points of reflection in each eye and inability to gauge depth. In order to improve vision, the weakened muscles in the affected eye or eyes must be put to work.

Generally, squint is a condition where the eyes do not look in the

same direction. Whilst one eye looks forwards to focus on an object, the other eye turns either inwards, outwards, upwards or downwards. Most squints occur in young children. In the initial stages, deviated eyes can cause vision detonation, this visual loss called amblyopia or lazy eye which can become permanent unless treated early in childhood. This treatment involves patching the good eye, to force the use of the affected eye.

Sometimes surgery is needed to correct the appearance of a squint.

Squints that develop in children usually have different causes to those that develop in adults. In many cases of childhood squint, the reason why a squint develops is not known. In some cases of childhood squint (and most cases of adult squint), the squint occurs because of a disorder of the eye, the eye muscles, the brain or the nerves.

You may observe squint at the age of up to four months which can be a part of development process. It should be diagnosed as squint till the child is six months old. Some squints are much more obvious than others. You might notice your child has an eye that does not look straight ahead. Another sign of squint is that your child might close one eye when looking at you, or turns his or her head on one side.

The movement of each eye is controlled by six muscles that pull the eye in specific directions. The lateral rectus muscle pulls the eye outwards. The medial rectus muscle pulls the eye inwards. The superior rectus muscle is mainly responsible for upwards movements, whilst the inferior rectus muscle mostly pulls the eye downwards. Finally, the superior and inferior oblique muscles help to stabilise the eye movements - particularly for looking downwards and inwards, or upward and outward movements. For example, to look to the left, the lateral rectus muscle of the left eye pulls the left eye outwards and the medial rectus of the right eye pulls the right eye inwards towards the nose.

A squint develops when the eye muscles do not work in a balanced way and the eyes do not move together correctly. It is important to know whether the squint is present all the time (constant), or comes and goes.

A concomitant squint means that the angle (degree) of the squint is always the same in every direction that you look. That is, the two eyes move well, all the muscles are working, but the two eyes are always out of alignment

by the same amount, no matter which way you look. But an incomitant squint means that the angle of squint can vary. For example, when you look to the left, there may be no squint and the eyes are aligned. But when you look to the right, one eye may not move as far and the eyes are then not aligned.

Being long sighted (or less commonly, short-sighted) can cause the eyes to develop a squint. Generally, long-sightedness causes a convergent squint (eyes turning in). This is because long-sighted children have to make more effort to focus, and this causes the eyes to turn in.

Most children with a squint have one of the above types of squint, and are otherwise healthy. In some cases, a squint is one feature of a more

Astigmatism is a vision problem where the surface of the eye (the cornea) or the lens is more oval-shaped, rather than round. This leads to problems with focusing



Dr Vimla Menon

generalised genetic or brain condition. Squints can occur in some children with cerebral palsy, Noonan's or Down's syndrome, hydrocephalus, brain injury or tumour, retinoblastoma - a rare type of eye cancer and several other conditions.

Amblyopia is sometimes called a lazy eye. It is a condition where the vision in an eye is poor and it is caused





by lack of the eye's use in early childhood. The visual loss from amblyopia cannot be corrected by wearing glasses. However, it is usually treatable. If amblyopia is not treated at early stage before the age of about seven years; the visual impairment usually remains permanent.

A squint is the most common cause of amblyopia. In many cases of squint, one eye remains the dominant focusing eye. The other, turned eye (the squinting one) is not used to focusing, and the brain ignores the signals from this eye. The turned eye then fails to develop the normal visual pathways in childhood and amblyopia develops in this eye.

A squint can be a cosmetic problem. Many older children and adults who did not have their squint treated as a child have a reduced impaired binocular vision. When adults develop squint they often have double vision, as their developed brain cannot ignore the images from one eye.

It is important to diagnose a squint (and amblyopia) as early as possible. Routine checks to detect eye problems in babies and children are usually done at the newborn examination and at the

Surgery is often needed to correct the appearance of the squint itself, and may help to restore binocular vision in some cases. The main treatment for amblyopia is to restrict the use of the good eye

6-to 8-week review. There should also be a routine preschool or school-entry vision check as well as annual checkup. Initial seven years of a child are most important for treatment of vision and squint.


A baby with a constant fixed squint, after six months age or with an intermittent squint that is worsening for two months, should be referred for assessment to an eye specialist preferably paediatric eye specialist.

Various tests can be done to check a child's vision (even if they are unable to read yet). Sight tests can even be done for babies. Tests to find a squint can involve covering and uncovering each eye in turn. This often shows

which eye has the squint, and how it moves. The pupils of the eye can be checked with a torch, to check they become smaller (constrict) with light, and widen (dilate) when the light is removed.

Surgery is often needed to correct the appearance of the squint itself, and may help to restore binocular vision in some cases. The main treatment for amblyopia is to restrict the use of the good eye. This then forces the affected eye to work. If this is done early enough in childhood, the vision will usually improve, often up to a normal level. In effect, the visual development of the affected eye catches up. The common way this is done is to

put a patch over the good eye. This is called eye patching. The length of treatment with an eye patch is dependent on the age of the child and the severity of the amblyopia. The patch may be worn for a few hours a week or for most of the day, every day. The treatment is continued until either the vision is normal or until no further improvement is found. It may take several weeks to months for eye patching to be successful.

Vision therapy can be used as a treatment to maintain the good work achieved by eye patching. This involves playing visually demanding games with a child to work the affected eye even harder - like eye training. If a child has a refractive error (long or short sight, for example), then glasses are prescribed. This corrects vision in the eye. It may also straighten the squinting eye, if the refractive error is the cause of the squint. 

(The author is Formerly Professor, Dr R P Centre, AIIMS and Visiting Consultant Squint and Neuro Ophthalmology, Centre For Sight, New Delhi)

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Stay Fit with



To keep yourself fit, it is important for you to follow a balanced diet which includes all the food groups in the right amount and proportion

BY AMRESH K TIWARY



Balanced Diet

Good health is the key to looking beautiful and fit. It also means eating right, getting required amount of sleep and burning the calories through exercise. There is heightened awareness on the role of nutrition and good diet in maintaining good health. An unhealthy diet becomes a major risk factor for a number of chronic diseases like high blood pressure, diabetes, abnormal blood lipids, overweight/obesity, cardiovascular diseases, and cancer.

Now dieticians have come to play an important role to help people maintain their overall health. Dieticians provide nutritional assessment and counseling in order to prevent and treat illnesses by promoting healthy eating habits and recommending modifications in diet and also the lifestyle.

According to doctors/dieticians, to avoid any chronic or seasonal disease and keep yourself fit yourself, it is

A flawed diet is the precursor to diseases like obesity, heart diseases, diabetes, high blood pressure, depression, high cholesterol and many other diseases which are linked to unhealthy eating habits

important to follow a balanced diet which includes all the food groups in the right amount and proportion in order to achieve good health, free from diseases and deficiencies. There are six main food groups which should be included daily, like carbohydrates, protein, fat, dairy, fruits and vegetables, and water. These different food groups contain different vitamins and minerals which are important for our body.

According to World Health

Organisation (WHO), about 2.7 million deaths are attributable to a diet low in fruits and vegetables every year. Globally it is estimated to cause about 19% of gastrointestinal cancer, 31% of heart disease, and 11% of strokes, thus making it one of the leading preventable causes of death worldwide.

Fears of high cholesterol were frequently voiced up until the mid-1990s. However, more recent research has shown that the distinction between high- and low-density lipoprotein must be addressed when speaking of the potential ill effects of cholesterol. Different types of dietary fat have different effects on blood levels of cholesterol. The dietary cholesterol itself is only found in animal products such as meat, eggs, and dairy, but studies have shown that even large amounts of dietary cholesterol only have negligible effects on blood cholesterol.

Says Charu Dua, GM, Dietetics and hospitality Services, Pushpanjali



Crosslay Hospital, Vaishali, Ghaziabad, “Have correct calorie intake for your lifestyle as well for the body frame, and make good food choices such as consuming more of whole grains and more of good carbohydrates which come from whole grains like wheat, ragi, oats and all vegetables and fruits, lean protein like egg white, chicken without skin, skimmed milk, curds and nuts. A healthy eating habit can be practiced by considering food as nourishment rather than looking at it as something to gulp down in a hurry like any other routine.”



Charu Dua, GM, Dietetics and hospitality Services, Pushpanjali Crosslay Hospital, Vaishali, Ghaziabad

According to Priya Brahma, Dietician, Bajaj Action Hospital, New Delhi, “Fats are essential for our health as they support a number of our body functions. But the dark side of fats is that some types of fats lead to cholesterol which heralds heart diseases, type 2 diabetes, cancer and obesity. It is advisable to use oil sparingly and the best oil to use is Monounsaturated Fatty Acids (MUFA) such as rice bran oil, mustard oil, olive oil which is good for the health of heart.”


Exclusion of oil from diet is not a good

idea at all. If followed, it leads to deficiency of fat soluble vitamins in the body. About two liters of oil per month for a family of four can be considered as safer.

A flawed diet is the precursor to diseases like obesity, heart diseases, diabetes, high blood pressure, depression, high cholesterol and many

Healthy diet may consist mostly of whole plant foods, with limited consumption of energy dense foods, red meat, alcoholic drinks and salt while reducing consumption of sugary drinks, and processed meat. A healthy diet may contain non-starchy vegetables and fruits

other diseases which are linked to unhealthy eating habits. In women, unhealthy eating habits can lead to menstrual problems, underweight, and cystic ovarian syndrome. Lifestyle diseases are the result of inappropriate relationship people have with their environment. These lifestyle diseases take years to develop and are quite insidious, thus disturbing the quality of human life. Once encountered, these diseases become an inseparable part of human life as they don't lend themselves easily to cure.

Observes Charu Dua, “We should know how to differentiate between good carbs and bad carbs. Many years back our parents and grandparents were healthy because they were doing lot of physical activity. These days we have replaced good carbs with refined carbs like Maida, refined sugar, white rice etc., and we also indulge in less physical activity. So we end up accumulating more calories and burn less leading to accumulation of fats. Consuming healthy carbs like whole grains, beans, fruits and vegetables is important as they are digested slowly and help people feel full longer. They also help stabilize blood sugar and insulin levels.” 

Healthy Food for All

Breakfast for kids should be low in sugar, but be substantial enough to fuel their bodies until they are able to eat again – whether that be a healthy mid-morning snack or through lunch time.

Says Dr Anup Mohta, Director, Chacha Nehru Bal Chikitsalay, East Delhi, “There should be nutrition values in children’s breakfast items including cereals. When we don’t have breakfast we actually get hungrier later and are more vulnerable to eating less healthy food.”

Says Priya Bharna, “Food choices for children can vary, so it makes them excited to eat. But make sure that they are the right types of foods. Sometimes you can find both easy and healthy choices. Your breakfast items should have a good amount of whole grains, protein and less amounts of sugar. So, keeping an eye on sugar in any given product, we really like to see parents serve good things like oatmeal with some fruit. Frozen fruit is great because it helps cool it down but adds good flavor without a lot of sugar.”

A healthy diet provides the body with essential nutrition: fluid, adequate essential amino acids from protein, essential fatty acids, vitamins, minerals, and adequate calories. The requirements for a healthy diet can be met from a variety of plant-based and animal-based foods. A healthy diet supports energy needs and provides for human nutrition without exposure to toxicity or excessive weight gain from consuming excessive amounts. Where lack of calories is not an issue, a properly balanced diet (in addition to exercise) is also thought to be important for lowering health risks, such as obesity, heart disease, type 2 diabetes, hypertension and cancer.

Diets to promote weight loss are divided into four categories: low-fat, low-carbohydrate, low-calorie, and very low calorie. A meta-analysis of six randomized controlled trials found no difference between the main diet types (low calorie, low carbohydrate, and low fat), with a 2–4 kilogram weight loss in all studies. At two years, all calorie-reduced diet types cause equal weight loss irrespective of the macronutrients emphasized.

There may be a relationship between lifestyle including food consumption and potentially lowering the risk of cancer or other chronic diseases. A diet high in fruits and vegetables appears to decrease the risk of cardiovascular disease and death but not cancer.

Healthy diet may consist mostly of whole plant foods, with limited consumption of energy dense foods, red meat, alcoholic drinks and salt while reducing consumption of sugary drinks, and processed meat. A healthy diet may contain non-starchy vegetables and fruits, including those with red, green, yellow, white, purple or

orange pigments. Tomato cooked with oil, allium vegetables like garlic, and cruciferous vegetables like cauliflower probably contain compounds which are under research for their possible anti-cancer activity.

The World Health Organization (WHO) recommends food habits like eat roughly the same amount of calories that your body is using. A healthy weight is a balance between energy consumed and energy that is burnt off. You should limit intake of fats, and prefer less unhealthy unsaturated fats to saturated fats and trans fats. Increase consumption of plant foods, particularly fruits, vegetables, legumes, whole grains and nuts. Limit the intake of sugar.

Other recommendations include essential micronutrients such as vitamins and certain minerals, avoiding directly poisonous and carcinogenic (benzene) substances and avoiding foods contaminated by human pathogens.

Consume whole grains (the less processed the better), vegetables, fruits and beans. Avoid white bread, white rice, and the like as well as pastries, sugared sodas, and other highly processed food

Pay attention to the protein package: good choices include fish, poultry, nuts, and beans. Try to avoid red meat.

You should choose foods containing healthy fats. Plant oils, nuts, and fish are the best choices. Limit consumption of saturated fats, and avoid foods with trans fat.

- Choose a fiber-filled diet which includes whole grains, vegetables, and fruits.
- Eat more vegetables and fruits—the more colourful and varied, the better.
- Calcium is important, but milk is not its best source. Good sources of calcium are fortified soy milk, baked beans, and supplements which contain calcium and vitamin D.
- Water is the best source of liquid. Avoid sugary drinks, and limit intake of juices and milk. Coffee, tea, artificially-sweetened drinks, 100-percent fruit juices, low-fat milk and alcohol can fit into a healthy diet but are best consumed in moderation. Sports drinks are recommended only for people who exercise more than an hour at a stretch to replace substances lost in sweat.
- Limit salt intake. Choose more fresh foods, instead of processed ones.
- Moderate alcohol drinking has health benefits, but is not recommended for everyone.
- Daily multivitamin and extra vitamin D intake has potential health benefits.
- Other than nutrition, you should undergo frequent physical exercise and maintain healthy body weight.



Priya Bharna
Dietician, Bajaj Action
Hospital, New Delhi



Ingredients of balanced diet

Exchange List

Sl.NO	Exchange	Approx. Amt of raw food(g)	Approx Measure of raw food	Energy (Kcal)	Protein	Carbohydrate (gm)	Fat(g)
1.	Milk	250	1 Cup	170	8	12	10
2.	Meat/Poultry /Pulses						
a	Meat	40	2 pieces or 1 egg	70	7	Neg.	5
b	Pulse	30	3 tbsp	100	7	17	Neg
3.	Vegetables						
a	Veg A	100	1/2 Cup	Neg	Neg	Neg	Neg)
b	Veg B	100-150	1/2 Cup	40	2	7	Neg
4.	Fruit	80-100	1 portion	40	Neg	10	Neg
5.	Cereal	20	-	-	-	-	-

Carbohydrates: They are broken down by digestive system to sugars or glucose which acts as the main fuel for our brain and whole body. Carbs should be a part of three major meals — breakfast, lunch and dinner and 80% of carbohydrate should be in the complex form (healthy). There is more emphasis on intake of complex carbohydrate as they provide energy for longer periods and provide satiety too. They also contain vitamins, minerals and fibres which are beneficial for our health.

Foods: Wholegrain cereals such as oats, bulgur wheat, barley, quinoa, rice, sorghum, bajra, sago, wheat flour, semolina, rice flakes, puffed rice, bread, pasta noodles, etc., root vegetables such as potato, sweet potato, yam, sugar and sugary products, honey and jaggery.

Protein: They are broken down by our digestive system to amino acids which build blocks of our body. They are required for building muscles, for normal growth of body, for quick healing of wounds and injuries. Ideally, 15-20% of total calories should come from protein daily. Egg, meat, fish, poultry, dals, pulses, legumes, beans, nuts, soy and its products are major sources of protein. It mostly becomes difficult for vegetarians to achieve the required amount of protein daily because

vegetarian sources of protein such as dals and pulses do not contain all amino acids. Therefore, they should always be combined with cereals in order to achieve complete protein.

Fat: Mostly people consider this food group (butter such as peanut butter or almond butter, oil such as rice bran oil, olive oil, groundnut oil, etc. and ghee) as bad or unhealthy but it is an important food group which should not be avoided but should be used in moderation. Fat is important for absorption of fat soluble vitamins (A, D, E and K). It also forms a layer under our skin to regulate the body temperature and cushions the organs (protect the organs). 25-30% of total calories should come from good quality fat.

Dairy: It is the main source of calcium required for growth and strength of bones and teeth. Requirements are higher in teenagers as they are still growing. Also requirement increases in women after menopause. Decreased intake of this food group (milk, curd, paneer, cheese, buttermilk and lassi) may lead to osteoporosis and easy fractures. At least two servings should be included daily.

Fruits and vegetables: They contain fibre, vitamins, minerals, antioxidants and photochemical. Always include

different variety of fruits and vegetables to obtain different vitamins and minerals. Include five servings of vegetables and two servings of fruits daily. They can be included in different forms such as salad, soups, vegetable juice, whole fruits, smoothies, subzi, etc.

Water: It is the most important group which is always neglected. 60-70% of our body is made up of water and it is important to stay hydrated always. Dehydration leads to headache, bad breath, fatigue, tiredness. Good hydration will keep you fresh and energetic. There is no restriction on water intake except some medical conditions (kidney disorder, cardiac disorder, etc.). One should drink at least two litres of water (requirement changes with climate and physical activity).

It would be best to incorporate four food groups. Don't wait till you get hungry. It is important to consciously eat at the right time for your body's metabolism to work optimally.

Get your portion size right by charting it out depending on your weight loss goals, etc. Here are some common measures: One serving of fruit equals to a tennis ball sized fruit (you can include more than one fruit if they are smaller in size). One serving of rice is one-third cup cooked rice.

Optimising Efficiencies



Supply chain management technology is one of the most critical aspects of an effective hospital management as it leads to optimum product availability, minimising storage space, maximising patient care, reducing material handling time and costs for medical staff and optimising the inventory

BY ANKUR GARG



The healthcare supply chain is a vast, disintegrated network of products and players, loosely held together by manual and people-intensive processes. Managing the flow of information, supplies, equipment, and services from manufacturers to distributors to providers of care is especially difficult in clinical supply chains, compared with more technology-intensive industries like consumer goods or industrial manufacturing. As supplies

move downstream towards hospitals and clinics, the quality and robustness of accompanying management and information systems used to manage these products deteriorates significantly. Technology that provides advanced planning, synchronisation, and collaboration upstream at the large supply manufacturers and distributors rarely is used at even the world's larger and more sophisticated hospitals. This article outlines the current state of healthcare supply chain management

technologies, addresses potential reasons for the lack of adoption of technologies and provides a roadmap for the evolution of technology for the future.

Increasing global population and consequent increase in consumption has led to manifold increase in production. Healthcare has come under maximum impact in such a situation with increasing consumption of medicines, instant demand for medical equipment and thereby putting a lot of stress on supply chains, with effective supply chain management being the difference between a good/shoddy healthcare management in hospitals, dispensaries even at a chemist shop.

With effective supply chain management healthcare industry has seen many improvements. Today healthcare managers and industry experts understand that efficient management of materials can not only reduce the operating cost but also increase the quality of care.

HEALTHCARE SUPPLY CHAIN

Healthcare supply chain involves the flow of many different product types and active participation of various stakeholders. The main purpose of healthcare supply chain is to ensure timely delivery of products to fulfill needs of providers.



Healthcare has come under maximum impact in such a situation with increasing consumption of medicines, instant demand for medical equipment and thereby putting a lot of stress on supply chains

Three essential components of a healthcare supply chain are as follows-

- Producers- Responsible for making medical products
- Purchasers- Wholesalers, distributors or retailers
- Providers- Hospitals, doctors, clinics, physicians

Effective supply chain management is one of the most critical aspects of an effective hospital management today as material management itself

can account up to 45 per cent of a hospital's operating budget with almost 30-35 per cent attributing to supply chain costs alone.

INTEGRATED SUPPLY CHAIN IN HEALTHCARE

The final objective in healthcare is to ensure patient care and comfort. An integrated supply chain management goes a long way in ensuring this. Hospital supply chain should ensure product availability, minimising storage space, maximising patient care space, reducing material handling time and costs for medical staff and optimising the inventory. Hospital supply chain has to ensure proper linkages to clinical systems, revenue cycle, IT and clinical operations.

Healthy supply chains can be characterised by following modes of integration

- Integration and co-ordination of processes
- Integration and co-ordination of information flows
- Integration and co-ordination of planning processes
- Integration of intra and inter organisational processes
- Integration of market approach
- Integration of market development



SUPPLY CHAIN STRATEGIES IN HEALTHCARE

Following strategies can be used by institutions to optimise the supply chain

- Virtual centralisation of supply chain

Cooperation using virtually centralised supply chain management can set hospitals on the path to controlling costs and improving service. Virtual centralisation is integrating operations from the perspective of the market rather than the health system. The most developed example is a consolidated service centre (CSC) that is jointly owned and managed by multiple hospitals and healthcare systems. A CSC brings together geographically based groups of hospitals to form single entities that

Today healthcare managers and industry experts understand that efficient management of materials can not only reduce the operating cost but also increase the quality of care

work together to centralise contracting, procurement, distribution, and logistical operations. The CSC serves as the focal point not only of distribution, but also of centralised contracting, procurement, and customer service.

Consolidated Service Centre formation

This innovative approach helps to solve


critical problems relating to staff, time, and budget shortages. And while saving money is the top priority, a CSC also provides networking opportunities for participants.

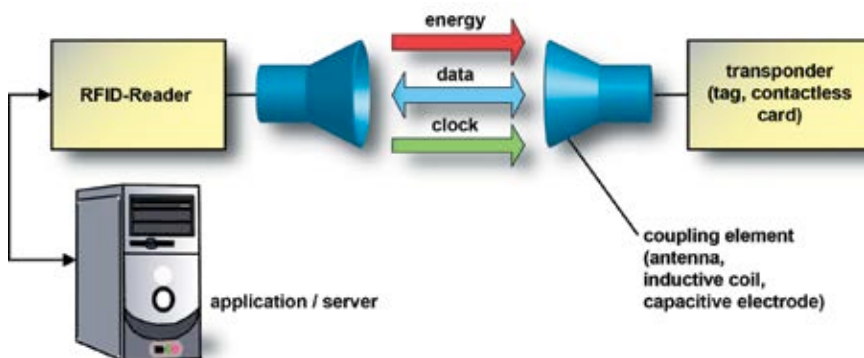
Radio Frequency Identification (RFID) Applications in Healthcare

Radio Frequency Identification (RFID) is a technology that connects objects to the Internet, so that they can be traced, and companies can share data about them. In contrast to bar codes application, RFID tags are robust and do not require line-of-sight identification, thus eliminating the need for human intervention. The tags are programmable and contain information regarding destination, weight, and a time stamp. The tags allow automation throughout the supply chain which includes warehouse space optimisation and efficient goods tracking in order to bring down the cost and enhance customer service. RFID tags offer real-time, accurate information and compel applications and processes across the organisations to provide value to service.

RFID Applications

Real-time tracking of goods throughout the supply chain provides one of the major opportunities for improving customer service. Real-time information on delivery time supports Just-in-Time (JIT) manufacturing and retailing, enabling organisations to make strategic decisions

As reform continues to force health sector to find new ways to cut costs and increase effectiveness, many organisations forget about the processes and supplies needed to keep the business moving. Getting a better grip on managing a healthcare organisation's supply and demand will save huge amounts of money to the organisation while also increasing positive patient care. 



(The author is SAP Consultant, MS Engineering Management, University of Southern California, USA)



Mind your Heart!

Heart blockage may even affect people who appear healthy. It is frequently a sign of some other underlying heart problem

BY DR K K AGGARWAL



Heat diseases can be congenital, valvular heart disease or blockage in the heart. The blockage in the heart affects 10-15 per cent in the society. For blockages, one can go for medical treatment, cardiac interventions or surgical interventions. Advances in medical treatment involve aggressive lifestyle

management, newer options in diet therapy involving low carbohydrate diet and newer drugs. In 80 per cent of the cases today, one should be able to manage blockage with lifestyle and drug treatment.

If the arteries are blocked and cannot be managed with drugs, then the next option is to open the artery and put a drug eluting stent (chhalla or spring). Most advances are in the types of stent with basic purpose of preventing stent clotting and stent re-blockages.

Stents can be of cobalt or platinum. Similarly, the drugs can be of different categories. Most of these drugs are also given in cancer in high dosage. The advances in stents are also in the field of absorbable stent where the stent is no longer seen after 6 months when placed in the artery. Next is the bypass surgery. Earlier bypass surgeries used to be done in a heart which has been stopped and the body put on heart lung machine. But now, most of the surgeries are done on beating heart. Many centers are also doing robotic surgeries.

For those people, where bypass

surgeries cannot be done, extra corporeal, shock wave myocardial revascularisation therapy can be attempted. This uses lithotripsy machine which gives shock wave of 1/10th strength and creates new vessels in the heart. If still a person cannot respond and the heart is weak, it is possible to put a three lead pacemaker and finally a heart transplant. If still, a patient dies, he can still be revived in the next 10 minutes of the death by administering CPR-1.

The heart of an individual with heart block beats irregularly and more slowly than normal. In some cases the heart may actually stop for up to 20 seconds, caused by a delay, obstruction or disruption along the pathway that electrical impulses travel through to make the heartbeat.

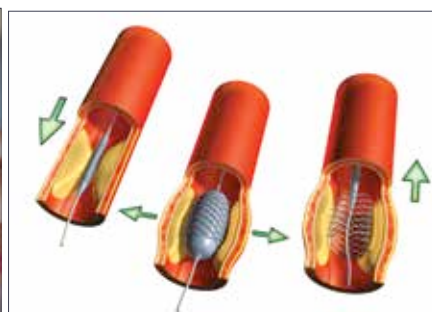
Heart block more commonly affects elderly individuals with a history of heart disease or smoking. Heart block may affect people who appear healthy. It is frequently a sign of some other underlying heart problem. Electrical impulses that make the heart beat may

be slowed or blocked as a result of injury or damage to the heart muscle, or blockage of a blood vessel. Even alterations to impulses that last only a fraction of a second can cause bundle branch block (heart block). Sometimes heart block can make it more difficult for the heart to pump blood properly through the circulatory system, meaning that muscles and organs, including the brain do not get enough oxygen to function properly. Heart block itself does not usually require direct treatment. However, the underlying health conditions which generally accompany it, such as coronary heart disease, do.

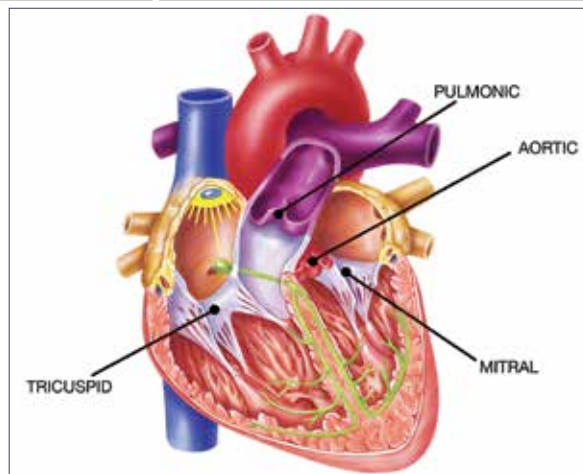
Heart block typically causes lightheadedness, fainting (syncope) and palpitations. Coronary artery disease, on the other hand, causes chest pain (angina) or heart attack (myocardial infarction).

A healthy human heart beats at approximately 60 to 80 times per minute. A heartbeat is one contraction of the heart muscles, which push blood around the body. Every muscle contraction is controlled by electrical signals that travel between the atria (the upper chambers of the heart) and the ventricles (the lower chambers). Partial heart block occurs is when the electrical impulses are delayed or stopped. The heart does not beat regularly. Complete heart block occurs is when the electrical signals are completely stopped. The heartbeat will drop to about 40 times per minute.

A symptom is something the patient feels and reports, while a sign is something other people, such as the doctor detect. For example, pain may be a symptom while a rash may be a sign. The main signs and symptoms of heart block include slow or irregular heartbeats, shortness of breath, irregular heartbeat is felt (palpitations), lightheadedness, syncope (fainting), presyncope - a feeling that you are about to faint, possible pain or discomfort in the chest, and difficulty in doing exercise, because not enough blood is pumped around the body.



Electrical impulses that make the heart beat may be slowed or blocked as a result of injury or damage to the heart muscle, or blockage of a blood vessel



What are the causes of heart block?

In a healthy heart electrical impulses that travel inside a heart muscle signal it to contract - to beat. The impulses move along a pathway; from the atria (upper heart chambers), through the AV (atrioventricular) node, to the ventricles (lower heart chambers). Along this pathway there is a cluster of cardiac fibers which divides into two branches; the right and left bundles. Each heart ventricle has a branch. If there is damage to one of these branch bundles the heart may not beat properly. The impulses that tell the heart to beat may be blocked or slowed down, resulting in uncoordinated ventricular contractions.

Acute (sudden) heart block may also occur after a heart attack or a heart operation. In some cases, the condition may be congenital (the person is born with it).

Diagnosing heart block

An ECG (electrocardiogram) is the

most common test for detecting bundle branch block (heart block). The device records the patient's heart's activity. A technician placed probes on the skin of the chest which reveal the patterns of electric impulses through the heart as wave patterns. Certain wave abnormalities may indicate bundle branch block. This test can also determine which bundle branch is affected (the left or right).

Holter tape - the patient wears a portable device which records all their heartbeats. It is worn under the clothing and records information about the electrical activity of the heart while the person goes about his/her normal activities for one or two days. It has a button which can be pressed if symptoms are felt - then the doctor can see what heart rhythms were present at that moment.

Echocardiogram scan allows the doctor to see the heart muscles and valves.

Electrophysiology test - tiny electrical shocks are used to determine the cause of the abnormal rhythm (in the



heart).

Tilt-table test - The patient is placed on a tilt table bed which changes his/her position. This test may sometimes provoke abnormal heartbeats (arrhythmia).

What are the treatment options for heart block?

There is no heart-block-specific treatment. The majority of people with bundle branch block are symptom free and do not require treatment. However, those with underlying conditions which may be causing the heart block will need to have treatment for those conditions.

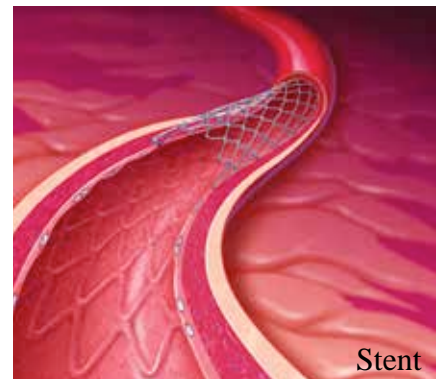
Because heart block affects the electrical activity of the heart, it may sometimes be difficult to promptly diagnose other heart conditions, especially heart attacks. Medication will be used to treat underlying conditions, such as hypertension (high blood pressure) or the effects of heart failure.

A pacemaker helps in if the patient has a history of fainting, doctors may

Sometimes heart block can make it more difficult for the heart to pump blood properly through the circulatory system, meaning that muscles and organs, including the brain do not get enough oxygen to function properly


recommend implanting an artificial pacemaker. This is a battery-operated device which is implanted under the skin. It is about the size of a quarter (US coin) and weighs less than an ounce. They are placed near the patient's collarbone during a surgical procedure that lasts from one to two hours. The patient receives a local anesthetic.

Pacemakers today are extremely sophisticated; many can be set to produce an electrical impulse only when one is required. Some modern ones can tell if the heart stops beating



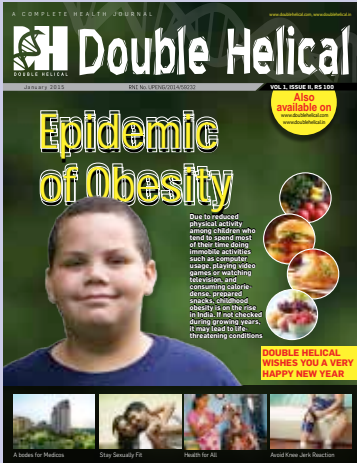
Stent

and produce an electrical impulse to restart it. These devices can last many years before the generator (battery) needs to be changed.

Pacemakers are not affected by cell phones, personal stereos or household appliances. A person who has a pacemaker should not undergo an MRI (magnetic resonance imaging) scan. 

(The writer is Padma Shri, National Science Communication and Dr B C Roy National Awardee and presently Honorary Secretary General, Indian Medical Association, New Delhi)

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Contact us

Email: editor@doublehelical.com

Website: www.doublehelical.com, www.doublehelical.in

Race for Better Hearing

On the occasion of International Ear Care Day 2015, an event called the Run for Better Hearing—Mini Marathon was organised in New Delhi by Sound Hearing 2030 in collaboration with CBM. The aim was to raise awareness and promote ear and hearing care across the world.

The event sought to facilitate spreading awareness among people and strengthen support regarding the cause of ear and hearing care. There are millions of hearing impaired children who need care and the attention of both the government and public at large. They are often ignored and laughed upon as deaf and dumb as people, by and large, are neither sensitive nor knowledgeable about the plight of these children. It is important that the society not only notices them but helps in their upliftment and education so that they can be integrated into the normal mainstream.

Braving the morning chill heavy rains, the event was attended by 550 children who came forward to support the social cause of deafness. The event also saw participation of a large number of children who were from special schools of New Delhi and students from the medical colleges. The students who registered on spot included MBBS and PG students of Maulana Azad Medical College and students from nearby schools. Students from Delhi Public School Panipat, Ashtavakra Rehabilitation Centre, Deaf School Kalkaji, Akshaya Pratishtha school, Ali Yavaj Jung National Institute of Hearing Handicapped, AIRSR, Banarasi Das Chandiwala Institute Of Physiotherapy and various law colleges participated in the event. The children did not let



the bad weather lower their tempo and enthusiasm.

Before the start of the run, the IEC material developed by Sound Hearing 2030 was displayed at the venue.

The run was flagged off at 8 am by Dr. Deepak Tempe, Dean of Maulana Azad Medical College along with Dr Arun Agarwal, Dr Suneela Garg, Dr Deeksha Khurana, Dr Janki Mehta and Dr Shilpi Narang. The children were divided into different age groups and the run was conducted.

Due to excessive rains, the prize distribution was organized in the Constitution Club, New Delhi.

During this ceremony, the winners and runners-up in all categories were rewarded. A talk regarding activities of Sound Hearing 2030 and its future initiatives was delivered during the event. The certificates of participation were given to all the students who participated in the run. This event would go a long way in sensitizing the people regarding the cause of ear and hearing care.

Sensitisation of CRPF (paramilitary) personnel

A sensitization programme was held recently in the CRPF Camp, Najafgarh, Delhi in order to spread awareness regarding ear and hearing care. The programme was targeted towards officers and jawans of paramilitary forces and their families. The dignitaries who graced the occasion were Inspector General (Medical) and Deputy Inspector General (Medical) of CRPF. The programme began with the lighting of lamp by dignitaries and representatives of Sound Hearing 2030.

The first talk was delivered by IG (Medical) who explained to the audience about the importance of ear care. The content of the talk included commonly encountered ear problems in children, adults and elderly. He also elaborated on the various types of hearing loss and the treatment and rehabilitation options available to the paramilitary personnel and their dependents.

Next, Dr Tanu Anand spoke about





the burden of ear problems globally and in India. She also explained about the common myths relating to ear care in the community and the dos and don'ts related to ear care.

Dr Deeksha Khurana elaborated the burden of congenital deafness and significance of early identification of hearing loss. She also highlighted the various milestones which can help detect hearing loss in a child.

The concluding talk was given by Dr R.K. Singh (ENT specialist, CRPF) who explained to the audience the basic concepts related to anatomy and physiology of ear. His talk emphasised on noise induced hearing loss which is most common cause of hearing loss in paramilitary personnel due to their long exposure to ammunition blasts and firing.

The talk ended with vote of thanks to the dignitaries and team from Sound Hearing 2030 which had travelled a long distance to be part of the programmed. The programme was interactive in nature and was followed by discussion. The IEC



material developed by Sound Hearing 2030 was displayed at the venue.

Helping Families and children living in the slums

In order to spread awareness regarding ear and hearing care, short talks were delivered by Sound Hearing 2030 team in the Barapullah slum community. The talks were given in two schools run by Neev, an educational project of Nav Abhiyan (A grassroot development initiative promoting self-reliance and self esteem), with one of them being run in the slums. The participating parents and children belong to a low socio-economic background.

The talk was conducted using IEC material (Including Pamphlets, posters and flipcharts) developed by Society of Sound Hearing. Since the community was predominantly Tamil speaking, the team roped in a volunteer from within the community to translate the talk in Tamil.

The content of the talk included commonly encountered ear problems in children, elaborating on various milestones which can help detect hearing loss in a child and various do's and don'ts related to ear care. Special mention was given to various factors responsible for hearing loss in children. Parents were also informed about "Neonatal Hearing Screening




Programme" run in Lok Nayak Hospital Delhi.

The community participated in the interactive talk actively and showed interest in listening and learning. Before the start of the run, the IEC material developed by Sound Hearing 2030 was displayed at the venue.

The run was flagged off at 8 am by Dr. Deepak Tempe, Dean of Maulana Azad Medical College along with Dr Arun Agarwal, Dr Suneela Garg, Ms. Deeksha Khurana, Ms. Janki Mehta and Ms. Shilpi Narang. The children were divided into different age groups and the run was conducted.

Due to excessive rains, the prize distribution ceremony could not take place on that day and was organized in Constitution club, New Delhi on 26th March 2015.

During this ceremony, the winners and runners-up in all categories were rewarded. A talk regarding activities of Sound Hearing 2030 and its future initiatives was delivered during the event. The certificates of participation were given to all the students who participated in the run. This event would go a long way in sensitizing the people regarding the cause of ear and hearing care. 

A stylized background image featuring a glowing blue ECG line (heart rate monitor) overlaid on a pair of golden scales of justice. The scales are positioned in the center, and the ECG line fluctuates across the frame, symbolizing the balance and health aspects of the policy.

In the Right Direction

The National Health Policy seeks to address the need to improve the performance of healthcare systems and prioritise the role of the Government in achieving this aim

BY DR A K AGGARWAL



The draft of the new National Health Policy 2015 is a first step in achieving universal health coverage as it emphasises health as a fundamental right. But there are big challenges to be surmounted before this goal becomes a reality. Recently, the union government has made an allocation of Rs 33,150 crore in the new health budget 2015-16 to improve the healthcare system in the country. But this is grossly insufficient.

The government spends a dismal 1.04 per cent of the gross domestic

product (GDP) on health care – this translates to Rs 957 per capita in absolute terms. As the government spending on healthcare is one of the lowest in the world, the draft policy seeks to address this critical issue by recommending an increase in government spending to 2.5 per cent of GDP (Rs 3,800 per capita) in the next five years. But even this increase in allocation falls short of the requirement to meet the deficiencies in the healthcare services in the country.

A new policy is only as good as its implementation. The past policies have

faced innumerable constraints in implementation. The National Health Policy, therefore, envisages an implementation framework to deliver on these policy commitments. Such a framework would specify approved financial allocations in relation to measurable numerical output targets and time schedules. It would also reflect learning from past experiences and identify administrative reforms to regulate public financing, institutional design, human resource policies for this sector, re-structuring of institutions required for better governance and management at national, state and district levels. It also calls for measures for improving institutional capacity to deliver, taking into account the division of powers, functions and accountability between the Centre and states with respect to health sector performance

India today is armed with technologies and knowledge for providing healthcare to her people. Yet the ground reality is different. We witness so much of ill health, disease, premature death, and suffering on a large scale, despite the existence of medical interventions for prevention and treatment. What does it indicate? The power of existing interventions is not matched by the capacity of health systems to deliver them to those in greatest need on an adequate scale.

The National Health Policy addresses the urgent need to improve the performance of health systems. It is being formulated at the last year of the Millennium Declaration and its Goals, in the global context of all nations committed to moving towards universal health coverage. Given the two-way linkage between economic growth and health status, this National Health Policy is a declaration of the determination of the Government to leverage economic growth to achieve health outcomes and an explicit acknowledgement that better health contributes immensely to improved productivity as well as to equity.

Maternal mortality now accounts for 0.55 per cent of all deaths and 4 per



India today is armed with technologies and knowledge for providing healthcare to her people. Yet the ground reality is different. We witness so much of ill health, disease, premature death, and suffering on a large scale, despite the existence of medical interventions for prevention and treatment

cent of all female deaths in the 15 to 49 year age group. The 46,500 maternal deaths demand that the commitments to further reduction must not flag. However it also signifies a rising and

unfulfilled expectation of many other health needs that currently receive little public attention. There are many infectious diseases which the system has failed to respond to – either in terms of prevention or access to treatment. Then there is a growing burden of non-communicable disease. The second important change in context is the emergence of a robust health care industry growing at 15 per cent compound annual growth rate (CAGR). This represents twice the rate of growth in all services and thrice the national economic growth rate. Thirdly, expenditure due to healthcare costs is increasing and is now being estimated to be one of the major contributors to poverty. The drain on family incomes due to healthcare costs can neutralise the gains of income increases and every Government scheme aimed to reduce poverty. The fourth and final change in context is that economic growth has increased the fiscal capacity available. Therefore, the country needs a new health policy that is responsive to these contextual changes. Other than these objective factors, the political will to



ensure universal access to affordable healthcare services in an assured mode – the promise of Health Assurance – is an important catalyst for the framing of a New Health Policy.

The primary aim of the National Health Policy, 2015, is to inform, clarify, strengthen and prioritise the role of the Government in shaping health systems in all its dimensions: investment in health, organisation and financing of healthcare services, prevention of diseases and promotion of good health through cross sectoral action, access to technologies, developing human resources, encouraging medical pluralism, building the knowledge base required for better health, financial protection strategies and regulation and legislation for health.

India is set to reach the Millennium Development Goals (MDG) with respect to maternal and child survival. While the narrowing of these gaps and closure, demonstrate a significant effort we could have done better. Notably, the rate of decline of still-

While acknowledging these achievements, we need to be mindful and confront the high degree of health inequity in health outcomes and access to healthcare services

births and neonatal mortality has been lower than the child mortality on the whole. In some states, there is stagnation on these two indicators. India has also shown consistent improvement in population stabilisation, with a decrease in decadal growth rates, both as a percentage and in absolute numbers. Twelve of the 21 large states for which recent Total Fertility Rates (TFR) is available, have achieved a TFR of at or below the replacement rate of 2.1 and three are

likely to reach this soon. The challenge is now in the remaining six states of Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh, Jharkhand and Chhattisgarh but even here rates are declining. However, these six states between them account for 42 per cent of the national population and 56 per cent of the annual population increase. In the remaining small states and Union Territories except Meghalaya, the Crude Birth Rate (CBR), is less than 21 per 1000. The national TFR has declined from 2.9 to 2.4. The persistent challenge on this front is the declining sex ratio.

While acknowledging these achievements, we need to be mindful and confront the high degree of health inequity in health outcomes and access to healthcare services. There are urban-rural inequities and there are inequities across states. Marginalized communities and poorer economic quintiles of the population continue to fare poorly. Outreach and service delivery for the urban poor, even for immunisation services have simply



been inadequate.

The situation in the quality of care is also a matter of serious concern and this seriously compromises the effectiveness of care. For example though over 90 per cent of pregnant women receive one antenatal check up and 87 per cent received full TT immunisation, only about 68.7 per cent of women have received the mandatory three antenatal check-ups. Again whereas most women had received iron and folic acid tablets, only 31 per cent of pregnant women had consumed more than 100 IFA tablets. For institutional delivery, standard protocols are often not followed during labour and the postpartum period. Sterilisation related deaths, a preventable tragedy, are often a direct consequence of poor quality of care. Only 61 per cent of children (12 -23 months) have been fully immunised. There are gaps in access to safe abortion services too, and in care for the sick neonate.


India's progress on communicable

disease control is mixed. The most acclaimed success of this period is the complete elimination of polio. In leprosy too, there have been significant reductions, but after a reduction of an annual incidence of 120,000 cases, there is stagnation, with new infective cases and disabilities being reported. Kala-azar and lymphatic filariasis are expected to decline below the threshold for certifying by 2015, but as in leprosy there are likely to be blocks where the prevalence is above this threshold. In many more blocks, which have achieved elimination, continuing attention to identifying and managing low levels of disease incidence is required for some time to come.

In AIDS control, progress has been good with a decline from a 0.41 per cent prevalence rate in 2001 to 0.27 per cent in 2011 but this still leaves about 21 lakh persons living with HIV, with about 1.16 lakh new cases and 1.48 deaths in 2011. In tuberculosis, the challenge is a prevalence of close to 211 cases and 19 deaths per 100,000

population and rising problems of multi-drug resistant tuberculosis. Though these are significant declines from the MDG baseline, India still contributes to 24 per cent of all global new case detection. In malaria there has been a significant decline, but there are also the challenges of resistant strains developing and of sustaining the gains, in a disease known for its cyclical reemergence and focal outbreaks. Viral Encephalitis, Dengue, Chikungunya and Swine Flu are on the increase, particularly in urban areas and as of now we do not have effective measures to address them. Performance in disease control programmes is largely a function and reflection of the strengths of the public health systems. Where there are sub-critical human resource deployment, weak logistics and inadequate infrastructure, all national health programmes do badly.

This was one of the important reasons of the launch of the National Rural Health Mission (NRHM), which was geared to strengthen health systems. The NRHM led to a significant strengthening of public health systems. It brought in a workforce of close to 900,000 community health volunteers, the ASHAs, who brought the community closer to public services, improving utilisation of services and health behaviours.

The NRHM deployed over 18,000 ambulances for free emergency response and patient transport services to over a million patients monthly, added over 178,000 health workers to a public system that had depleted its workforce to sub-critical levels over a long period of neglect, provided cash transfers to over one crore pregnant women annually, empowering and facilitating them to seek free care in the institutions and began to address infrastructure gaps. 

(The author is Professor of Excellence and Renowned ENT surgeon, Maulana Azad Institute of Medical Science, New Delhi)

Big Boost to Health Sector

Despite no major incentives, the Union budget for 2015-16 is positive for healthcare sector in many respects

BY DR VINAY AGGARWAL



Compared to the previous budget in which no major announcements were made for healthcare/pharmaceutical industry, the Union budget for 2015-16 has brought some good news for the health sector. With a total allocation of Rs 33,150 crore, this time government seems to be serious about quality health issues. Increase in the tax exemption limit for health insurance premium will boost affordability, accessibility as well as help boost health insurance sales in the country.

The government has sought to correct the inverted duty structure in the pharmaceutical sector. It has tried to encourage manufacturing of raw material - basic drug ingredients - in India under its active pharmaceutical ingredients initiative. According to experts, it has also to see that the raw material import duty does not go down to the extent that it becomes a challenge to manufacture those raw materials in the domestic market.

While the percentage of budgetary allocation to healthcare has not increased, the recent Union budget has enabled EPF funds to also go into healthcare. Also, insurance and universal health coverage has been stimulated in a unique and strategic manner,

Under the new budget, there is increment in health insurance premium from Rs 15,000 to Rs 25,000 and from Rs 20,000 to Rs 30,000 for senior citizens. In addition, senior citizens above the age of 80 years, who are not covered by health insurance, will be allowed deduction of Rs 80,000 towards serious ailments. The increase in health insurance premium will enable people to seek out for quality healthcare which is a huge concern in the country. With this the union government has kept its healthcare budget for 2015-16 on a tight leash and asked states to contribute more funds for running the country's flagship health programmes.

The government has announced Rs

297 billion for its main health department, roughly 2 percent higher than current year's revised budget of 290 billion rupees. Since long time, the health sector has not received adequate attention and allocation in the budget. With such marginal increase, the promise of universal

With a total allocation of Rs 33,150 crore, this time government seems to be serious about quality health issues. Increase in the tax exemption limit for health insurance premium will boost affordability, accessibility as well as help boost health insurance sales in the country



According to a report by McKinsey, the health industry has the potential to grow more than twice in the next six years, from a projected market growth of USD 24 billion by 2015 to USD 55 billion by 2020. But India spends about one percent of its gross domestic product (GDP) on public health, compared with 3 percent in China and 8.3 percent in the United States. Various states manage their health



budgets separately.

Despite rapid economic growth over the past two decades, successive union governments have failed to spend generously on health. The nation even struggles to spend its allocated budget in the face of an inadequate number of doctors and a poor network of public hospitals, coupled with bureaucratic bungling.

The budget stipulates that states will be asked to increase their share in funding for the National Health Mission, the country's main health programme that provides basic medical services to millions of poor people. While the government said it would open six new large public hospitals across the country, the adequate funding has eluded the health sector.

A CARE report outlined that the health sector seeks incentives to boost domestic innovation in medical equipment which could be in the form of income-tax write-off of 250 percent of research and development expenses as well as in the form of creation of medical technology parks. The sector was also looking forward to incentives to boost health insurance. The pharmaceutical industry was expecting enhanced tax incentives for research and development (R&D) activities from the FM this Budget.

The bigwigs of the industry were hoping that Budget would provide them space to manufacture generic drugs and also some change in patent laws for their companies. The industry was also expecting initiatives to boost bulk drug manufacture. The current rate is five percent but the industry was expecting an increase in import duty on Chinese imports to 7.5 percent in order to boost domestic exports. The sector was keenly looking to incentivize medical/pharma research. Budget was expected to increase weighted deduction under section 35 (2AB) to 250 percent from 200 percent currently.

Finance Minister Arun Jaitley did not come out with any major announcements for the health sector.



Highlights


- Health Insurance Premium deduction hiked from Rs 15,000 to Rs 25,000; for senior citizens to Rs 30,000 from present Rs 10,000

- Deduction limit of Rs 60,000 on account of serious diseases to be enhanced to Rs 80,000 for senior citizens

- New scheme of providing physical aids for senior citizens living below poverty line proposed

But he sought to provide some solace by the proposal of AIIMS in five new states, three new National Institute of Pharmaceuticals Education and Research in Maharashtra, Rajasthan and Chhattisgarh and one Institute of Science and Education Research to be set up in Nagaland and Odisha each. The move will address issue of severe shortage of doctors and skilled staff. The Indian pharmaceutical market is expected to grow to USD 55 billion by 2020.

In my opinion, overall, the new union

budget 2015-16 offers no direct benefit to the healthcare industry, though it is certainly positive. Because of various initiatives, the net disposable income for the middle class goes up, this again could mean more money going into healthcare. It's a good overarching budget which is now destination-focused not directional. 

(The author is CMD, Pushpanjali Crosslay Hospital, Vaishali, Ghaziabad and former President, Indian Medical Association)



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Take Full Course

Though tuberculosis is a treatable and curable disease, however, it may become fatal in the case of incomplete or intermittent treatment, with its bacteria turning resistant to the commonly used anti-tuberculosis drugs

BY DR GYANDEEP MANGAL

Tuberculosis (TB) is an infectious disease caused by a bacterium, mycobacterium tuberculosis. It is spread through the air by a person suffering from TB. A single patient can

infect 10 or more people in a year. TB is one of the world's deadliest diseases. One-third of the world's population is infected with the bacteria that cause TB, and each year over nine million people around the world become sick with TB disease. Almost two million deaths worldwide occur each year from TB.

In India, two deaths occur every three minutes from tuberculosis. But these deaths can be prevented. With proper care and treatment, TB patients can be cured and the battle against TB can be won. TB can be treated by taking appropriate drugs for six to nine months. There are multi drug therapies currently approved by the government for treating TB. Of the

approved drugs, the first-line anti-TB agents form the core of treatment regimens like isoniazid (INH), rifampin (RIF), ethambutol (EMB) and pyrazinamide (PZA).

Regimens for treating TB disease have an initial phase of two months, followed by a choice of several options for the continuation phase of either four or seven months (total of six to nine months for treatment). It is very important that people who have TB disease finish the medicine, taking the drugs exactly as prescribed. If they stop taking the drugs too soon, they can become sick again; if they do not take the drugs correctly, the TB bacteria that are still alive may become resistant to those drugs. TB that is





resistant to drugs is harder and more expensive to treat.

India has a long and distinguished tradition of research in TB. The studies from the Tuberculosis Research Centre in Chennai and the National Tuberculosis Institute in Bangalore provided key knowledge to improve treatment of TB patients all around the world. Modern anti-TB treatment can cure virtually all patients. It is, however, very important that treatment be taken for the prescribed duration, which in every case is a minimum of six months. But the treatment is often interrupted because it is of such a long duration and patients feel better after just 1-2 months, also because many TB patients face other problems such as



poverty and unemployment. Therefore, just providing anti-TB medication is not sufficient to ensure that patients are cured. The WHO-recommended

Directly Observed Treatment, Short Course (DOTS) strategy ensures that infectious TB patients are diagnosed and treated effectively till cured, by ensuring availability of the full course of drugs and a system for monitoring



patient compliance to the treatment. The DOTS strategy along with the other components of the Stop TB strategy, implemented under the Revised National Tuberculosis Control Programme (RNTCP) in India, is a comprehensive package for TB control.

The DOTS strategy is cost-effective and is today the international standard for TB control programmes. To date, more than 180 countries are implementing the DOTS strategy. India has adapted and tested the DOTS strategy in various parts of the country since 1993, with excellent results.

Tuberculosis, commonly known as TB, is a bacterial infection that can spread through the lymph nodes and bloodstream to any organ in your body. It is most often found in the lungs.

The WHO-recommended Directly Observed Treatment, Short Course (DOTS) strategy ensures that infectious TB patients are diagnosed and treated effectively till cured, by ensuring availability of the full course of drugs and a system for monitoring patient compliance to the treatment

Most people who are exposed to TB never develop symptoms because the bacteria can live in an inactive form in the body. But if the immune system weakens, such as in people with HIV or elderly adults, TB bacteria can

become active. In their active state, TB bacteria cause death of tissue in the organs they infect. Active TB disease can be fatal, if left untreated.

Tuberculosis may be suspected on the basis of a chest X-ray picture or a positive skin test that indicates exposure to the bacteria. Sputum examination for presence of the organism is very strong evidence of disease. However, definitive diagnosis requires bacteriologic studies with isolation of the specific mycobacteria. Physicians ultimately diagnose disease based upon clinical symptoms in association with x-ray pictures and positive bacteriologic tests.

Tuberculosis is a treatable and curable disease. However, drug treatment requires that a number of antibiotics be taken for a prolonged



period of time, usually six to nine months. Some cases of tuberculosis are caused by mycobacteria that are resistant to the commonly used anti-tuberculosis drugs. Such resistant bacteria frequently arise as a result of incomplete or intermittent treatment. These cases are complicated by the need for multiple drugs for even more prolonged periods of time. Tuberculosis due to resistant mycobacteria can be incurable and fatal. Thus, it is essential that the prescribed treatment be followed accurately for the full course of therapy. Many treatment programmes use “directly observed therapy” where a health worker directly observes patients taking their medications to ensure compliance and help minimise resistance to therapy.

As the bacteria that cause

number of people infected with TB will ever have the active disease.


People who become infected, but are not sick have what is called latent TB infection (LTBI). People who have LTBI do not feel sick, do not have any symptoms, and cannot spread TB bacteria to others. While anyone can get TB disease, some people who get infected with TB bacteria are more likely to get sick. A skin test or a TB blood test can be used to detect TB infection. The Mantoux tuberculin skin test is performed by injecting a small amount of fluid (called tuberculin) into the skin in the lower part of the arm. A person given the tuberculin skin test must return within 48 to 72 hours to have a trained health care worker look for a reaction on the arm.

Certain groups of people (such as

Certain groups of people (such as people with weakened immune systems) are at very high risk of developing TB disease once infected with TB bacteria. Every effort should be made to begin appropriate treatment and to ensure completion of the entire course of treatment for latent TB infection

tuberculosis are transmitted through the air, the disease can be contagious. Infection is most likely to occur if you are exposed to someone with TB on a day-to-day basis, such as by living or working in close quarters with someone who has the active disease. Even then, because the bacteria generally stay latent (inactive) after they invade the body, only a small

people with weakened immune systems) are at very high risk of developing TB disease once infected with TB bacteria. Every effort should be made to begin appropriate treatment and to ensure completion of the entire course of treatment for latent TB infection. TB bacteria become active (multiplying in the body) if the immune system can't stop them from growing. When TB bacteria are active, this is called TB disease. People with TB disease may spread the bacteria to people with whom they spend many hours.

TB is the leading infectious cause of death among adults. TB kills more men than women, yet more women die of TB than all causes associated with childbirth combined. Since TB can be cured and the epidemic reversed, it warrants the topmost priority, which it has been accorded by the government. This priority must be continued and expanded at the state, district and local levels. Good quality microscopy allows health workers to see the tubercle bacilli and is essential to identify the infectious patients who need treatment the most. An uninterrupted supply of good quality anti-TB drugs must be available. In the RNTCP, a box of medications for the entire treatment is earmarked for every patient registered, ensuring the availability of the full course of treatment the moment the patient is initiated on treatment. Hence in DOTS, the treatment can never interrupt for lack of medicine. 

(The Author is a respiratory disease specialist, Balaji Action Hospital, New Delhi)



Reaffirming Faith

A recent study validates the efficacy and safety of Ayurvedic medicines, Ashwagandha and Sidh Makardhwaj, in the treatment of patients with rheumatoid arthritis

BY DR T DIVAKAR RAO

In a prospective study, conducted by Ministry of AYUSH in collaboration with Department of Pharmacology, AIIMS, it was found that the well-known Ayurvedic herbal medicines like Ashwagandha and mineral formulation Sidh Makardhwaj are useful in managing rheumatoid arthritis. The study validates the use of Ayurvedic herbo-mineral and mineral formulations dispelling apprehensions in the minds of public regarding the safety index of these

Arogyavardhini Vati, one of the herbo-mineral preparations used in liver disorders, was the first herbo-mineral formulation which was tested by the Dept of Pharmacology AIIMS and clinical trials were conducted at CGHS Ayurvedic Hospital, Lodhi Road in 2009-10

formulations. With funding from CCRAS (Central Council for Research in Ayurveda and Siddha), the study was conducted at CGHS Ayurvedic Hospital Lodhi Road on 125 patients under this writer's supervision.

Many well-known Ayurvedic experts discourage studies regarding Ayurvedic mineral preparations and their efficacy saying that these formulations have proven efficacy and devoid of any side effects as they have been used by many Vaidyas since ages. Here the question arises as to

why should the approval of AIIMS or any other reputed institution which deals with modern medicine is required to validate that the Ayurvedic formulations which contain heavy metals and minerals are safe? Also, what kind of Ayurvedic drugs still need research to verify their efficacy by the prospective studies or R&D by big pharma companies? It's a million dollar question to get a probable answer to which, it's necessary to know about Ayurvedic drugs and their classification and evolution to understand the concept of Ayurvedic pharmacology, to some extent.

Ayurvedic preparations are mainly categorised into herbal, herbo-mineral and mineral formulations. In Ayurvedic classics like Charak Samhita, Sushruta Samhita and Ashtang Hridaya, herbal preparations and to some extent herbo-mineral preparations were extensively described. In the nascent stage of Ayurveda, only herbal preparations were used exclusively in daily practice. After the 10th century, the use of herbo-mineral and mineral formulations came into wide usage. The probable reason for the change was that the metallic formulations can be given in smaller doses and their efficacy is far better and quicker than herbal and herbo-mineral formulations. In herbo-mineral formulations, metals are used as a vehicle to deliver the active element of herbs in the formulation to the target site where its therapeutic action has to be achieved. It is more or less the target delivery kind of pharmacokinetics which in the recent past modern medicine has adopted. The extensive usage of minerals in the treatment of various chronic diseases like rheumatoid arthritis, musculo skeletal disorders and chronic skin, respiratory and gut disorders metamorphosed the Ayurvedic medicine into a swift action treatment modality after the 13th century. The concept of using herbo-mineral and mineral preparations became the



Dr T Divakar Rao



The Department of AYUSH (Now the Ministry of AYUSH) has taken the step to evaluate Ayurvedic metallic preparations vis-a-vis their efficacy and safety levels at premier institutes like AIIMS, so that the medicines can be taken by the public without any second thoughts about their toxicity

backbone of the Ayurvedic treatment apart from the hugely accepted herbal treatment.

As the time progressed, these mineral preparations were in great demand in

the entire northern region of India in comparison to the South, particularly Kerala where herbal preparations and single herbs were in use.

Present Scenario

In the present context, the use of these metallic preparations which were in great demand earlier caught the ire of many developed countries including USA and UK regarding their alleged cumulative toxicity in the body. So, many countries have banned Ayurvedic herbo-mineral and mineral preparations and reputation of these wonderful formulations is at stake.

For the first time, the Department of AYUSH (Now the Ministry of AYUSH) has taken the step to evaluate Ayurvedic metallic preparations vis-a-vis their efficacy and safety levels at premier institutes like AIIMS, so that the medicines can be taken by the



Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic, systemic, inflammatory and progressive disease. The prevalence of rheumatoid arthritis has been reported to be 0.75 per cent in Indian population. The disease is more common in women than in men and occurs between the ages of 40 and 60 year.

It leads to irreversible joint damage and systemic complications, and is associated with substantial morbidity and increased mortality. Patients with active RA suffer from significant decline in functional capacity and 40 per cent become work disabled within five years from onset of symptoms. Direct and indirect costs are also enormous. The goals of rheumatoid arthritis management are to control pain and swelling, delay disease progression, minimise disability and improve quality of life. (NSAIDs have both analgesic and anti-inflammatory properties but do not change disease outcomes and their side effects include gastrointestinal ulcers (15-20% of patients), ulcer with bleeding and perforations (2-4% of patients over 70 year of age). Glucocorticoids have greater action on joint pain than NSAIDs but have numerous side effects including adrenal suppression, ulcers and osteoporosis. Disease Modifying Anti-


Rheumatic Drugs (DMARDs) reduce the progression of joint erosion but they have slow onsets and no analgesic activity. Methotrexate has been shown to cause pulmonary complications.

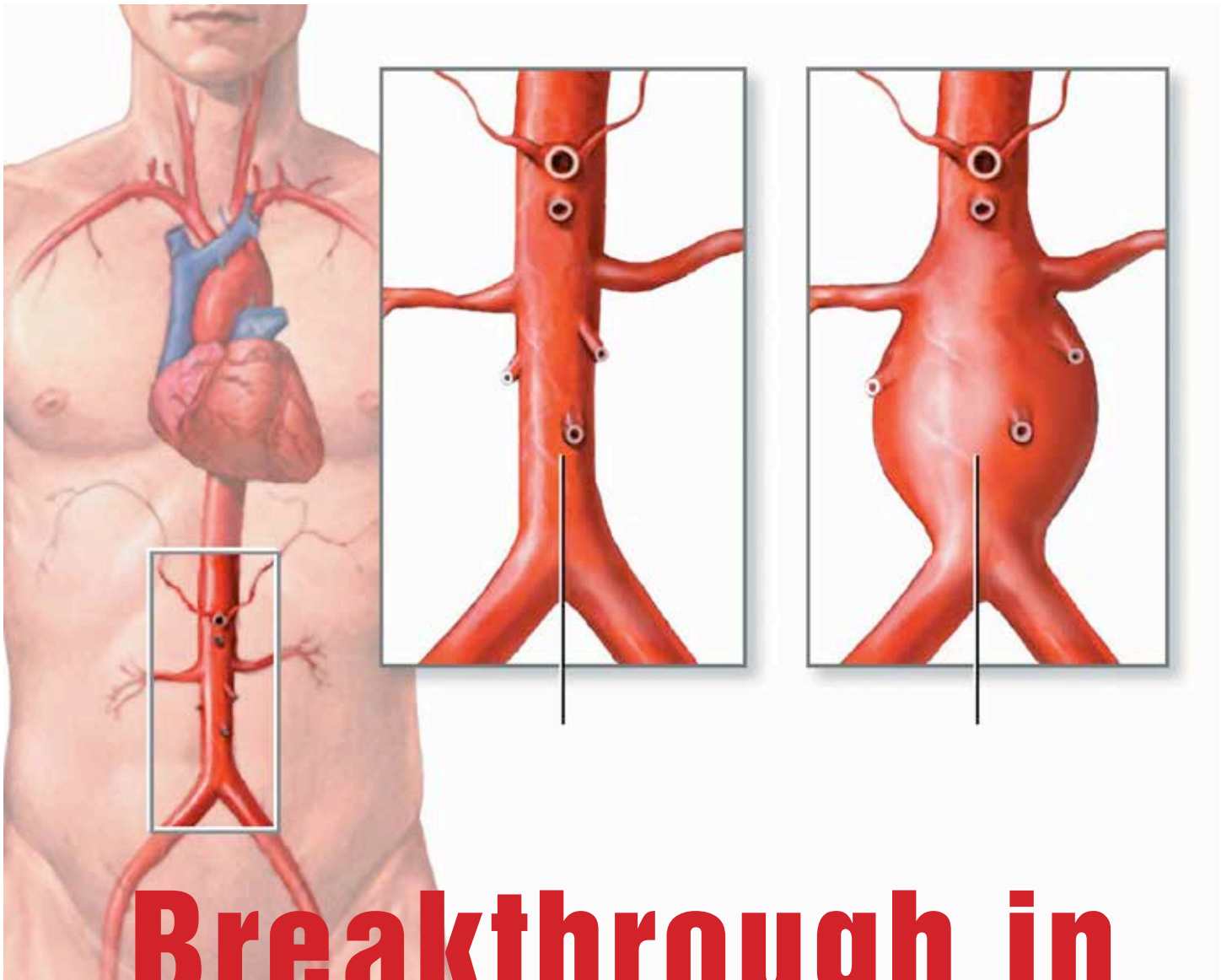
Ayurveda is a widely practiced system of traditional medicine in India. It has been shown that 60-90 per cent of persons with arthritis use complementary and alternative medicine. Stress is widely recognized as an important risk factor in inflammatory rheumatic diseases. Withania somnifera (Ashwagandha) exhibits anti-inflammatory, anti-tumour, anti-stress, antioxidant, immunomodulatory, haematopoietic and rejuvenating properties. Sidh Makardhwaj is a formulation mentioned in Ayurvedic Formulary of India. It is a sublime product made from pure mercury, sulphur and gold. It is used in rheumatoid arthritis, and neurological disorders, as rasayana for vigour and longevity of life. Though Ashwagandha and Sidh Makardhwaj have been used in the treatment of patients with rheumatoid arthritis for many decades, their effectiveness have not been evaluated. The present study was, therefore, undertaken to evaluate the efficacy and safety of Ayurvedic treatment i.e. Ashwagandha and Sidh Makardhwaj in patients with RA.

public without any second thoughts about their toxicity. The Dept of pharmacology, AIIMS has adopted many experimental (In-vivo and In-vitro) techniques which can certify the usage of these drugs. Arogyavardhini Vati, one of the herbo-mineral preparations used in liver disorders, was the first herbo-mineral formulation which was tested by the Dept of Pharmacology AIIMS and clinical trials were conducted at CGHS Ayurvedic Hospital, Lodhi Road in 2009-10. The results were encouraging as the study concluded that it's a safe drug to use in routine practice.

Ashwagandha along with Sidh Makardhwaj can treat rheumatoid arthritis – a chronic, systemic inflammatory disorder that primarily affects joints. It may result in deformed and painful joints, which can lead to loss of function. The disease may also have signs and symptoms in organs other than joints. The chronic disease seldom responds to modern medicine. Now with the outcome of the study, the options are widely open for the public to opt for Ayurvedic treatment as an effective alternative to the modern medicine in which long term usage of NSAIDs (Non-steroidal Anti-Inflammatory Drugs), commonly known as pain killers, have their own limitations.

Conclusion

The prospective study of more and more Ayurvedic herbo-mineral and mineral preparations in future at premier institutes like AIIMS and other reputed institutes will strengthen faith in public's mind towards Ayurvedic Mineral preparations provided the right manufacturing ethics are followed which is altogether a different story to tell. The study is in the right direction and I hope that the next generation of Ayurvedic graduates grab this opportunity and tell the world that Ayurvedic medicines are safe and the results are encouraging and satisfying. 

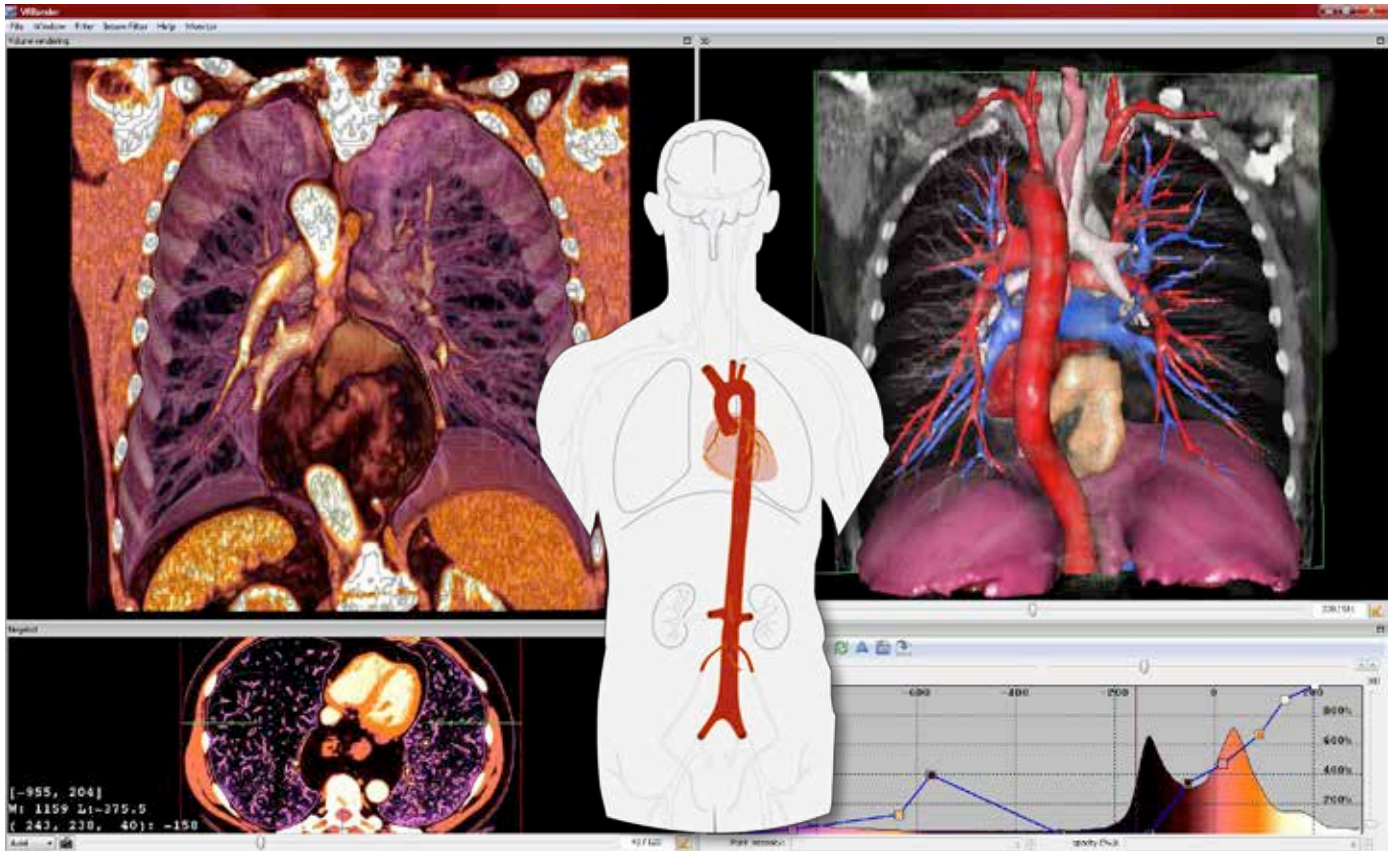


Breakthrough in Non-Surgical Repair

The aortic aneurysms are serious health risks because they can burst or rupture. A ruptured aneurysm can cause severe internal bleeding which can rapidly lead to shock or death. Only 20-30% of the patients who manage to get to the hospital with a ruptured TAA survive. For this reason, it is crucial to treat the aortic aneurysms early to prevent their rupture and death.

The aorta is the largest artery in body and carries blood

away from heart to all parts of the body. The part of the aorta that runs through the chest is called thoracic aorta and when the aorta reaches abdomen, it is called abdominal aorta. Sometimes as the people grow older the wall of the aorta in chest or abdomen can become weak and stretch to like a balloon called aneurysm. Most of the people don't have much complaints. However, some people complain pain in the chest or upper back and shortness of breath. There is no obvious reason for the development of the aneurysm. However, the




people suffering from high BP, smoking and having family history of aneurysms can have more chances of developing the aneurysms.

It is diagnosed by doing chest X-Ray, ultrasound, echocardiography, CT scan, MRI and angiography. In case the aneurysms are small and not causing the symptoms, the size of the aneurysm is determined every six months either by ultrasound or CT scan. As far as treatment of large aneurysms is concerned, it is done either by open surgical repair or non surgical endo vascular repair. Open surgical repair needs meticulous expertness and is extremely high risk surgery whereas non surgical endovascular repair is relatively simple and the recovery is fast. The complication of these procedures are paraplegia (weakness of both lower limbs) and lack of blood supply to the intestine.

It may be mentioned here that Dr Purshotam Lal performed the first case of endovascular repair of abdominal aortic aneurysm involving the aneurysms of the arteries of the legs with AAA graft of Boston Scientific on a 68-year-old doctor from Chandigarh in 1997-1998 for the first time in the country.

We describe here a case of 51-year-old patient Vijay Kumar from Fiji who had complaints of chest and back pain in the past and was diagnosed to have the aneurysm involving the thoracic and abdomen. **CT angiography done at the Metro Hospital revealed an aneurysm involving the thoracic aorta as well as abdominal aorta starting just below the origin of subclavian artery extending up to the celiac trunk.** There was evidence of thrombosis as well dissection in the aorta. A non surgical repair was done through the right

groin area like angiography procedure and 3 stent grafts were put of the length 117 mm long, 107 mm long and 212 mm long of Medtronic Company virtually reconstructing the whole of the descending aorta starting from the subclavian artery up to the renal artery. It was one of the longest aneurysm coming across and to the best of our knowledge very few cases of such a long thoracic aneurysm requiring 3 stents have been done across the country. **The procedure was successfully performed by a team of doctors led by Dr Purshotam Lal, Chief Interventional Cardiologist at Metro Hospital & Heart Institute Noida on March 24, 2015.** The patient did very well without any complications and discharged within a week in excellent condition.

The awareness about the aortic aneurysm is of utmost importance since majority of the aneurysm don't cause any symptoms and their rupture means almost death. It is estimated that 4% of the people may have small or medium size aneurysm while six men out of one thousand will have large thoracic aneurysm requiring urgent treatment. A screening program is therefore very important. A simple ultrasound test can detect whether a thoracic aneurysm is present. It takes few minutes but it really could help save the life. The aortic aneurysms are six times more common in men than women and become increasingly common with age. Although it can happen to anyone but preventive steps can help to reduce the risk of developing an aortic aneurysm. These steps include giving up smoking, controlling of blood pressure, eating a healthy balanced diet, maintaining a healthy weight and taking regular exercise. 

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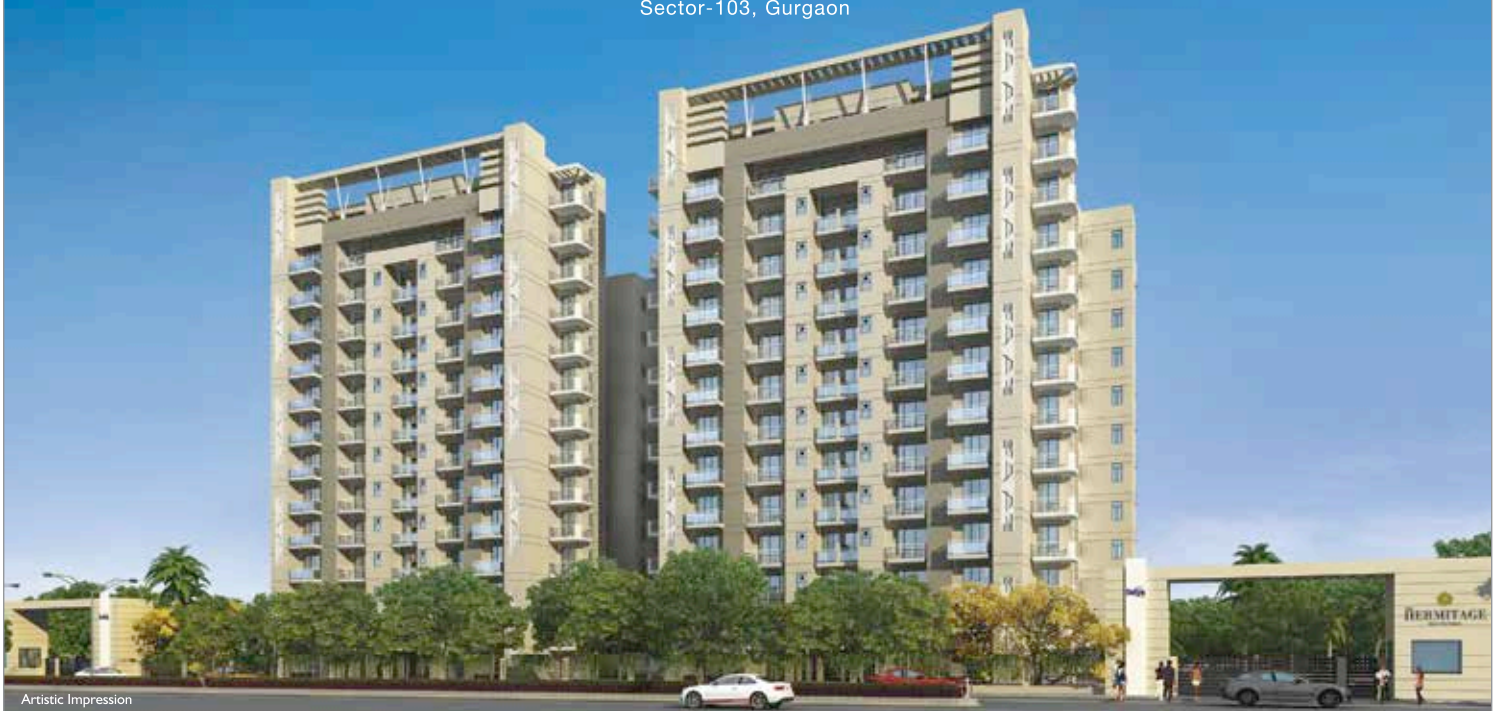
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License No. 28 of 2011 dated 28-03-2011 and Order No. LC-2415-JE(VA)/2011/14076-86 dated 21/9/11, Group Housing Colony measuring 10.20 Acres, M/s Satya Developers Pvt. Ltd. Building plans approval No. ZP-697/D(BS)/2011/14900 dated 05-10-2011 with Dwelling Units-468, Studio Apartment-44 & EWS-93. Provision for Community Centre/Club, Shopping Area and Nursery school, Original Approvals available at Corporate Office.

