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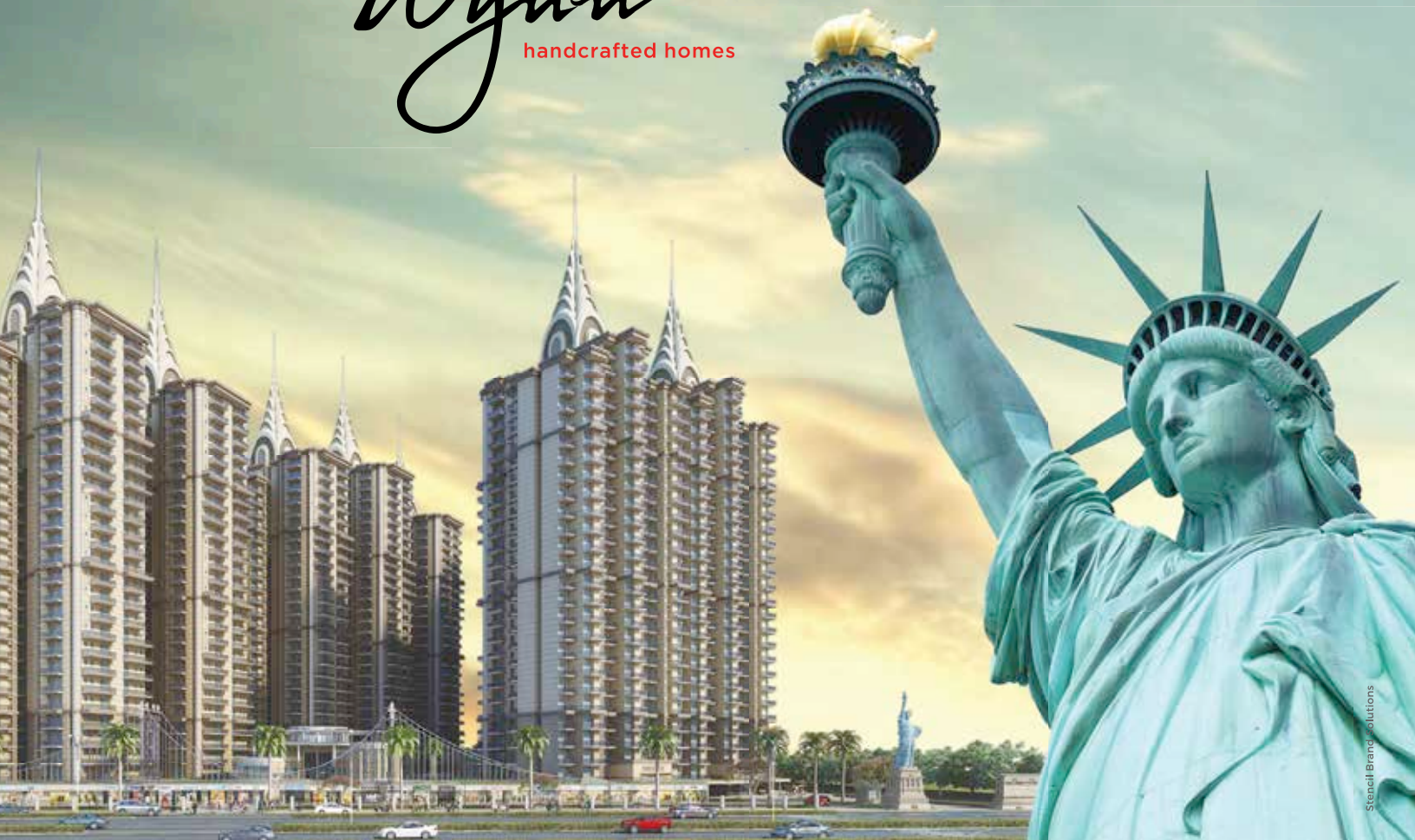
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Co-ordinating Editor
Sarvesh Tiwari

Editorial Team
Abhigyan, Abhinav,
Manisha Yadav

Designer
Dolly Bharti

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

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Contact us
Email: doublehelicaldesign@gmail.com, editor@doublehelical.com
Website: www.doublehelical.com, www.doublehelical.in

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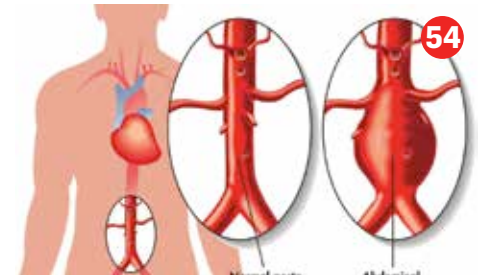
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The Bane of Infertility

Dear readers, We find it immensely satisfying every month to present to you a wide range of interesting, in-depth and analytical stories pertaining to the latest trends and advancements in the world of healthcare. We hope you would derive the same value and substance after reading the current July 2016 issue of Double Helical.

This time we bring you as our cover story a comprehensive package – enriched with analysis and expert viewpoints – on the transplantation of organs. Organ donation is a gracious act; it reaffirms our faith in humanity. Despite great advancement in the transplantation procedures, there is an acute shortage of organs due to inadequate awareness about the importance of organ donation in the country.

Each year hundreds of people die while waiting for an organ transplant. The gap between the number of organs donated and the number of people waiting for a transplant is getting larger. Transplant, as an option, has successful outcomes, and the number of people needing a transplant is expected to rise steeply due to an ageing population and an increasing incidence of organ failure.

Transplantation of one organ from one human being to another has always been a rigorous process which needs utmost care. A heart which is donated must be transplanted within four hours after removal from the donor. For a successful transplantation, great team efforts are required; if one person in the team is not cooperating, it is very difficult to transplant any organ successfully. The process starts from the donor; police in making green corridor; driver who

drives the ambulance as fast as possible; the hospital where the organ is transplanted, and the team of doctors operating upon the patient who receives the heart.

Transplantation over the past few decades has gradually become the accepted treatment for a number of conditions where organs like the kidneys, heart and liver have irreversibly failed. For a patient with kidney failure an alternative such as dialysis is available till an organ becomes available, but for a patient with liver or heart failure; the only hope of living may be to have an immediate transplant.

There have been several news reports about organ trafficking in India, putting the spotlight on the shortage of donors. Take, for example, kidney transplants. Against the global requirement of about 600,000 each year, only 60,000 are done. In India, of the 150,000 to 200,000 people who need transplantation, only 3,500 get it.

This scarcity will grow rapidly in the coming years because of increasing lifespan, rising incidence of end-stage kidney disease, and wrong legislative policies.

Now, we would like to share with you a new series that we have recently introduced. It highlights an individual's contribution to the medical field on the cover page. With this theme this time, we turn the spotlight on Dr Neelam Mohan, one of India's most quoted women doctors! On being interviewed by Double Helical on her recent honour of receiving the BC Roy National Award by the President of India, she says: "It's been a journey that has had several hurdles, stress and sacrifices but overall it has been very satisfying".

Another special story of this issue entitled "Unproductive Humans" reflects how the natural process of reproduction has become an uphill task due to stressful lives that people lead today. But there are options galore for assisted pregnancy these days.

The story points out that in nine Indian cities out of the 2,562 people who participated in a study, nearly 46 percent were found infertile. Results from another parallel survey conducted by 100 infertility specialists showed that nearly 63 percent of the infertile couples belonged to the child-bearing age (31-40).

Every human being wishes to procreate and historically, infertility has been like a curse for any individual affected by it. Couples may find it difficult to conceive naturally due to different reasons. The ART (Assisted Reproductive Technology) consists of a comprehensive programme that is offered to such couples.

Infertility centres these days provide comprehensive infertility management/ART Programme to patients. The various forms of treatments like Intrauterine Insemination (IUI), In Vitro Fertilization (IVF), Third Party Reproduction and Intracytoplasmic sperm injection (ICSI) are in vogue these days.

We hope you will enjoy reading such topical stories and encouraging us with your feedback to enable us to further improve your favourite magazine.

Amresh K Tiwary,

Editor-in-Chief

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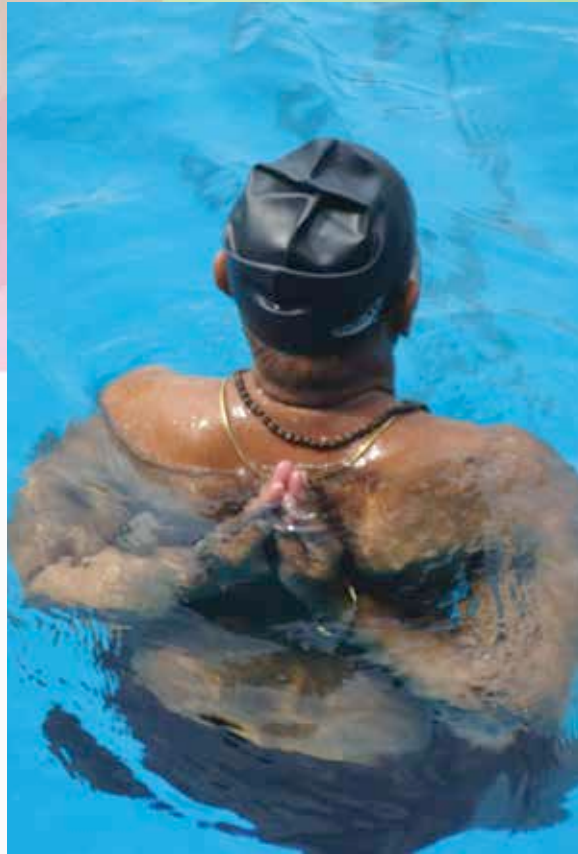
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Work Out Under Water

A great medium to transcend physical limitations, Water Yoga is gradually gaining popularity

BY MAHESH PALTA



The unique properties of water make it possible for the people of all ages, fitness levels and limitations to practice Water Yoga without much difficulty. Besides strengthening and toning the muscles and joints, Water Yoga deepens breath and lung capacity, eases aches and pains.

As Water Yoga is performed under water, the body bears less weight and consequently the muscles of the yoga enthusiasts remain relaxed. Moreover, it can be stretched and strengthened with less incidence of injury and so a wide variety of people have already started getting benefitted from water yoga.

Water is a great medium to exercise due to low impact and possibilities of creating various levels of resistance to suit individuals' abilities and needs

Even for the people with arthritis, hip, or knee replacements, multiple sclerosis, muscular dystrophy, anxiety, depression, pre-natal, post-natal, sciatica, post-surgery, or the people with difficulties in balancing, Water Yoga is equally beneficial. Water Yoga is like a blessing for the people who are not able to practice on the mat due to physical limitations, injury, or disease.

Water is a great medium to exercise due to low impact and possibilities of creating various levels of resistance to suit individuals' abilities and needs. It offers the potential for safely extending stretches in ways that are not possible for many people on land. Water Yoga has the same benefits as its land-based counterpart, but has the added advantage of being less stressful on the joints.

Water yoga gives super low impact work out and so it makes it possible even for the people with joint pain to improve their strength, flexibility, and range of motion during yoga. The buoyant effect of the water takes the




Overall benefits of Water Yoga:

- Little to no impact on joints, especially knees, hips and ankles
- It strengthens the muscles, while keeping the spine straight and supple
- It also strengthens pelvic floor and deep core muscles
- It makes yoga accessible to everyone including those with hip and knee joint problems
- By improving the balance, confidence and awareness of the Yoga enthusiasts are improved
- Releases stress and stimulates an anxiety-free relaxed state
- Expands breathing capacity and improves sleep

The buoyant effect of the water takes the pressure of a person's weight off the joints, alleviating pain or discomfort people may feel when exercising

pressure of a person's weight off the joints, alleviating pain or discomfort people may feel when exercising. In other words, your muscles and bones do not have to support your body in water as they would on land and so you can relax in a way that is impossible on land where muscles must be in a constant state of tension or tone.

Boon for the pregnant ladies

Water Yoga is particularly beneficial for the pregnant ladies as the resistance of the water helps them to stretch and tone muscles ready for birth but without the risk of overstretching and straining. The buoyancy that the water provides them allows a moment away from the "heavy" feeling of later pregnancy. For them, these exercises can also help to alleviate some of the discomforts associated with pregnancy, such as, back ache, swollen ankles and pelvic pain. 

(The author is a Water Yoga Guru)

Defying age

Age is nothing but a number, but how many of us believe that? When people cross the age of 60 or 70, their body starts to feel exhausted and they are more likely to give up on the activities or work that they enjoy doing the most. To add to the woes, many senior citizens suffer from various diseases like diabetes, short of breath, High BP, backaches, etc.

At the age of 70, I not only swim regularly but also perform various Water Asanas with ease. For me, Water Yoga is a new found love in my pursuit to make the most of his life.

When running a business, I did not have much time to take care of myself. When all my children settled I thought of taking out time for myself. But then I realised my body is not ready for it as the age was taking its toll on me. I had diabetes and arthritis, which in a way were restricting my lifestyle.

When I started practising swimming, I realized that the body is suppler inside water and it worked like a stress buster. With time I slowly started practising yoga. It took me nearly two years to practise yoga properly.

I first learned swimming at the age of 60 followed by few body movements under water. And now I can perform Surya Namaskar, Padmasana, Shirshasana, Shavasana, and Pawanmuktasana in water for an hour and can walk on his hands for up to 20 ft. Moreover, I am not suffering from arthritis and sugar any more.

After doing yoga consistently, I have seen tremendous changes in himself. For the past 10 years, I have been religiously practising Yoga every day for an hour.

I do not feel tired any more, and despite working for 12 hours a day I still feel energetic. I have also started enjoying my work. I feel like a young man again. For any problem that human body is facing, its solution lies in nature. It is in the water, it is in the air and it is in the plants. I do not take any medicines now. I practice yoga; it is all a part of nature.

I have started training over 25 people, including senior citizens and youngsters. Besides giving them training, I also elaborate on the benefits of Water Yoga to them. I am happy that many senior citizens have also started practising Yoga and feeling the change.

Two years back, 73-year-old Bal Mukund Bansal, a resident of sector-15A, was unable to walk due to pain in his joints. He considered getting a knee replacement done. However, he started practising yoga. Today, he walks 2-3 kms and does yoga for an hour every day, without going for a knee replacement.

Bansal says, "I can forget to eat but cannot forget to do yoga. This has given me a new lease of life. My fellow senior citizen, Palta urged him to practice yoga. He introduced me to Water Yoga and now it is a part of my life." he adds.

I now aim to share the benefits of Water Yoga with as many people as possible. I am trying to get in touch with some RWA clubs in Noida where I can go and provide training free of cost to all the residents, who wish to reap the benefits of Water Yoga. Yoga has given me a new life, I feel like a yoga man, and I am sure it can do wonders for others as well.

In Vigilance Mode



The Union Minister of Health and Family Welfare Ministry is all geared up to prevent the spread of dengue during the monsoon. Greater public awareness too is called for to control the menace

BY TEAM DOUBLE HELICAL

As the monsoon season during which the fear of the spread of dengue remains predominant, is on, **J P Nadda, Union Minister of Health and Family Welfare** recently held a high level meeting to review the preparedness of the Government in prevention and control of dengue in the country.

During the meeting, the Health and Family Welfare Minister informed that the Government has already taken all the necessary steps to combat dengue in the current monsoon season. He stated that the ministry has issued total

ten advisories to the state governments for prevention and control of dengue. "Also the ministry already held eight review meetings including two video conferences to sensitize the states," said Nadda in the meeting.

While taking stock of the situation, Nadda was also briefed on the ongoing preparations of the Health Ministry. The Health Minister was informed that to augment the diagnostic facilities for dengue, the number of Sentinel Surveillance Hospitals (SSHs) has been increased to 527 till date and all these are linked with 15 Apex Referral Laboratories with advanced diagnostic

facilities. ELISA based IgM test kits are also being supplied by the government through National Institute of Virology (NIV), Pune. The Health Minister also reviewed the awareness activities of the ministry and said that there is an urgent need to further enhance these activities for spreading extensive awareness regarding dengue in the country.

During the meeting, the Health Minister also directed the officers to conduct supervisory visits to various hospitals in Delhi for assessing the situation and the overall preparedness to provide on the spot technical guidance to the health authorities. The



Minister also directed the concerned department to organize meeting through video conferencing with all the state health ministers to review the situation. The minister also announced to hold meetings with the Delhi Municipal Corporation and New Delhi Municipal Corporation to review the situation in Delhi.

B P Sharma, Secretary (Health), B D Athani, Special DGHS, and other senior officers of the ministry were also present in the meeting.

According to **Dr A K Agarwal, Medical Advisor, Apollo Hospital, New Delhi** and Professor of Excellence, “The sudden outbreak of dengue has always created a scary situation in the national Capital and elsewhere. Although, the fear from this dreaded disease is natural, but rather than worrying, we should concentrate on



exploring the ways to prevent the outburst of dengue. For this, it is important that we fully understand how dengue is spread.

Dr Agarwal said, “To control the growing incidence of dengue, the Central government had already launched a mobile application ‘India Fights Dengue’ last year. This year as well the application will come handy in fighting

against the dengue as well as various the other Vector Borne Diseases, especially the fight against Dengue, can be won only with effective community participation and in this process, this App is highly useful as it empowers the community members with the knowledge on how to contribute towards the prevention of dengue.”

Dengue, a mosquito-borne viral disease has become a major health concern today, however with a complete action plan it can easily be prevented from spreading and its cure is also possible. We must also avoid getting panicky and instead arm ourselves with adequate knowledge of its prevention as well as its treatment.

Considering the chances of the spread of dengue cases, the government machinery has once again been forced to get into an emergency mode to prevent the situation from going out of control.

As the scare over the deadly fever can also grow in other parts of the country as well the Centre and the states need to put in collective efforts to tide over the crisis. Delhi/NCR has already witnessed the worst outbreak of dengue five year back when the death toll crossed the double digit figure and the number of deadly flu cases surpassed the 2000 figure. Gradually, the situation started getting out of control and the disease might have turned into an epidemic, if the concerned authorities as well as the other people had not pulled their acts together.

Prevention and cure

Dengue or dengue is a mosquito borne disease transmitted via an infected female Aedes Aegypti mosquito. When this infected mosquito bites a person, the dengue virus gets spread in the blood, leading to high fever. Dengue mosquito generally bites below the elbow or knee area during the day time.

Aedes mosquito breeds in clean water. As prevention is better than cure, so, it is very important that one should



ensure that no water gets collected in the nearby surroundings, so that the breeding of mosquitos can be prevented. For this purpose, it is advisable to always put one tablespoon full of petrol wherever water is standing so that breeding of mosquitoes can be stopped due to lack of oxygen supply Also in order to prevent mosquito bite use mosquito repellent creams and wear full sleeves clothes.

Bone breaking fever, severe joint and muscle pain or complete body pain are some of the symptoms one should watch for. If you notice any of these indications then immediately consult a doctor. Besides this, pain behind the eyes, headache, sore throat, mild skin rash followed by the feeling of vomiting and nausea are some of the other symptoms of dengue fever.

A person suffering from dengue fever also loses appetite due to high fever. In extreme cases, gall bladder inflammation or liver inflammation, abdominal pain, black stools and minor bleeding from skin, nose and mouth may also occur, which should be seen as


A person suffering from dengue fever also loses appetite due to high fever. In extreme cases, gall bladder inflammation or liver inflammation, abdominal pain, black stools and minor bleeding from skin, nose and mouth

medical emergency.

To identify dengue, correct diagnosis is most important. Once the symptoms are identified, immediately go for a dengue NS1 antigen test, viral isolation in culture (whose result appears after 6-10 days of infection), detection of viral RNA by PCR technique and specific IgM/IgG antibodies in paired sera (whose result appears after 5-7 days of infection). Depending upon the reports, the doctor may decide on further course of treatment, or regarding the patient's hospitalization.

In most dengue cases, the infection

is mild, but sometimes the infection becomes severe resulting in dengue hemorrhagic fever (DHF) and the blood platelet count becomes extremely low. Moreover, the patient also experiences, bleeding from nose, mouth or gums (caused by leakage in blood vessels) along with bruises on the body. In such cases immediate treatment is necessary as any delay in treatment may lead to collapse of blood vessels, or death.

After being diagnosed with dengue, people run for platelet transfusion, but instead of this proper hydration of the body should be given more importance. Drink lots of water (5liters a day), or take coconut water or lemonade. Post dengue, the patient loses body immunity and thus, becomes more susceptible to other ailments. So, it is also very important to have a well-balanced, diet rich in minerals, protein and vitamins. Paracetamol can be taken for bringing fever down. But, avoid taking any kind of painkillers as they can cause extensive bleeding (which can reduce the blood count even further) and damage the kidneys. 

Max Hospitals encourages students to imbibe a healthier lifestyle from a young age

Max Super Speciality Hospitals, Patparganj and Vaishali concluded the final round of 'Max Healthy India – Inter School Quiz Competition' recently.

The quiz, which spanned over 50 days, witnessed participation of over 1000 students from 20 leading schools in East Delhi, Noida and Ghaziabad. The participants included students from Junior Wing (3rd to 5th class), Middle Wing (6th to 8th Class) and Senior Wing (9th to 12th class).

The final round of the rigorous contest finale was inaugurated by Chief Guest Manish Sisodia, Deputy Chief Minister, Delhi. The event was also graced by Neeraj Mishra, Sr. Vice President, Operations, Max Super Speciality Hospital Patparganj and Vaishali; Dr. Vinay Aggarwal, Director, Crosslay Remedies Limited; Dr. Gaurav Aggarwal, Unit Head, Max Super Specialty Hospital, Vaishali, and Mr. Haresh Dahyalal Trivedi, VP Operations, Max Super Specialty Hospital, Patparganj. The initiative aimed to enable young residents of Delhi and NCR region to adopt a healthier way of life, in an engaging and fun-filled manner.

Neeraj Mishra said: "A healthy lifestyle is the key to a long life. Max Healthcare not only understands the rising health concerns but also its prominent role in providing solutions to the problem. It has been taking a series of steps to spread the message of adopting a healthy lifestyle across all age groups."

"At Max Super Speciality Hospitals, we have always been committed to bringing positive health changes in the lives of people. We have conducted various initiatives to help people stay healthy like free health check-ups,




Citizen plus etc. And now through 'Max Healthy India - Quiz Contest', we aim to spread awareness amongst school students," added Mishra.

Dr Vinay Aggarwal, Director, Crosslay Remedies Limited, said: "In past few years, there have been rising concerns about increasing incidence of advanced age diseases like heart diseases, obesity, myopia, high blood pressure, type 2 diabetes, back problems, etc in the younger generations. This is not only shocking but extremely worrisome as this shows how it is not just the adults that are leading extremely unhealthy lifestyle but also young persons."

Dr Vinay Aggarwal, added: "Today's youth is picking-up unhealthy habits like smoking, drinking, erratic sleeping patterns, consumption of junk food, etc. At Max Super Speciality Hospitals, Patparganj and Vaishali, it has been our endeavour to encourage one and all to adopt a healthy way of living. Children are very impressionable and we believe through innovative ways

like 'Max Healthy India – Quiz Contest', we can encourage the youth to imbibe a healthier lifestyle from a young age."

According to recent statistics shared by WHO, between 1990 and 2014, the number of overweight children in low and middle-income countries has more than doubled from 7.5 million to 15.5 million, globally. In India, 22% of Indian kids are obese and face health risks like early onset of diabetes, heart diseases, weak eye-sight and also cancer.

The shift in diet towards increased intake of energy-dense foods that are high in fat and sugars but low in vitamins is only contributing to the increasing incidence of diseases in children. A trend towards decreased physical activity levels due to the increasingly sedentary nature of many forms of recreation, changing modes of transportation, and increasing urbanization are some of the reasons of children not taking their health in right earnest. 



Nadda monitors preparedness for vector borne diseases

Emphasising the need for early preparedness to manage vector borne diseases such as dengue, malaria, JE and AES in the monsoon months, Union Minister of Health and Family Welfare, J P Nadda recently reviewed the status of vector-borne diseases and the preparation of states through video conference.

He interacted with health ministers, chief secretaries and principal health secretaries of 11 states - Assam, Bihar, Chhattisgarh, Jharkhand, Kerala, Karnataka, Maharashtra, MP, Telangana, Tripura and Uttar Pradesh. The advance review at the level of the health ministers and senior officials of the states was done in view of the predicted upsurge of vector borne diseases at the onset of monsoon.


J P Nadda reviewed the availability of diagnostic kits, drugs, testing labs, manpower and funds. Most states informed that they had adequate stored capacity of necessary drugs and testing

kits. The testing facilities were also adequate, they noted. Nadda advised the states to ensure price capping on dengue testing by private health facilities.

Stressing on the importance of inter-sectoral coordination and convergence of efforts in not only the prevention but also management of vector borne diseases such as dengue, malaria etc., Nadda advised them to review and strengthen inter-sectorial coordination with municipal corporations and departments of sanitation, drinking water, urban development etc., for more focussed efforts within the states such as keeping premises of all public and private buildings free of vector-breeding. Municipal Corporations need to undertake house-to-house surveillance for more effective prevention and breeding control, he stated during the video conference. States reported that they have carried out rounds of fogging and DDT spraying and shall undertake other measures to

prevent vector breeding. He also advised states to involve resident welfare associations to sensitise them to keep the localities free of mosquitoes.

The Minister also underscored the need to develop special strategy and effective micro-plans for endemic districts. He requested the health ministers to personally guide the state's efforts and monitor the measures. He assured the states of all necessary support to enhance their capacity to manage vector borne diseases. Effective surveillance and monitoring was key to success in combatting these diseases, he emphasised. The Health Minister also advised states to fill the vacant posts of entomologists at the state, zone and district level.

Awareness being the key to prevention of many diseases, Nadda stressed on the importance of conducting focussed and intensive IEC campaigns and sustaining them through the monsoon season. 



A Memorandum of Understanding was signed here between Ministry of Health and Family Welfare and Doordarshan for IEC campaigns in the presence of Secretary (Health), B P Sharma and other senior dignitaries, at New Delhi. Vandana Gurnani, Joint Secretary, MoHFW and Supriya Sahu, DG, Prasar Bharati signed MoU on behalf of Ministry of Health and FW and DD respectively.

Re-looking at TFR

The government will re-strategize and focus on the districts where Total Fertility Rate (TFR) is high in order to bring down the TFR level in the country.

“There is a need to do micro-planning for these districts and develop need-based programmes to address TFR,” stated J P Nadda, Union Minister of Health and Family Welfare at a function recently organised by Jansankhya Sthirita Kosh (JSK) to mark the World Population Day.

Faggan Singh Kulaste, Union Minister of State for Health and Family Welfare, Anupriya Patel, Minister of State for Health and Family Welfare, B P Sharma, Secretary (Health) and Gauri Singh, Principal Secretary, Health and Family Welfare, Madhya Pradesh, were also present on the occasion, along with other senior officials.


Nadda said that communication skills need to be developed at all the levels so that we can send the right message to the target audience. He further advised to do mapping to reach out to those left out in the programme. The promotion of family planning – and ensuring access to preferred contraceptives are essential for securing the well-being of the people, while supporting the health and development of communities, Nadda said.

Elaborating further, he emphasized on the need to enhance male participation in the family planning process and urged

that we cannot achieve the desired results unless the men are not motivated to actively take part in family planning.

Faggan Singh Kulaste, Minister of State for Health and Family Welfare said that population explosion is a big challenge for us. We can reap the benefits of population only if we are able to provide good health, education and look after overall well-being of the people. Kulaste further added that this requires participation at all levels from all stakeholders. He also highlighted the challenges in addressing the family planning needs in the backward areas of the country.

Anupriya Patel, Minister of State for Health and Family Welfare said that the problem of over-population calls for global revolution. She further added that it is our collective responsibility to fight this challenge. She appealed the people to come together and ponder over this issue and come out with solutions.

The participants also deliberated on the theme “Zimmedari Nibhao, Plan Banao” taking the benefits of family planning well beyond woman’s health, to incorporate her well-being and prosperity. He also gave away awards to the winners of the painting competition organised by Jansankhya Sthirita Kosh to create awareness regarding family stabilisation among young children. 

The health ministry organises Intensified Diarrhoea Control Fortnight

On the directions of the Minister of Health and Family Welfare, J P Nadda, the health ministry recently launched nationwide “Intensified Diarrhoea Control Fortnight (IDCF)”. The IDCF is observed from 11th to 23rd July across the country. The Ministry also unveiled a package of measures putting the Government’s resolve to end child diarrhoea deaths on the overdrive.

As directed by the Health Minister J P Nadda to reach out to the under-five children, the timing of the programme was very critical in view of the onset of monsoon and diarrhoea.


ASHAs shall visit all households with children below five years of age for pre-positioning the ORS. They shall also explain the benefits of these. The importance of this activity is that ORS will be available in the household when needed at the time of diarrhoea. It is often observed that during critical stages of diarrhoea, ORS is not available in the households. Secondly, all health facilities shall have ORS corners which shall continuously demonstrate the way to prepare the ORS mixture. These corners will also administer ORS and Zinc to children who are in need of these during diarrhoea. With a sharpened focus on demand generation, an important component of the IDCF is IEC activities that shall not only create awareness but also generate demand. Intensified community awareness campaigns on hygiene and promotion of ORS and Zinc therapy will be conducted at the state, district and village levels.



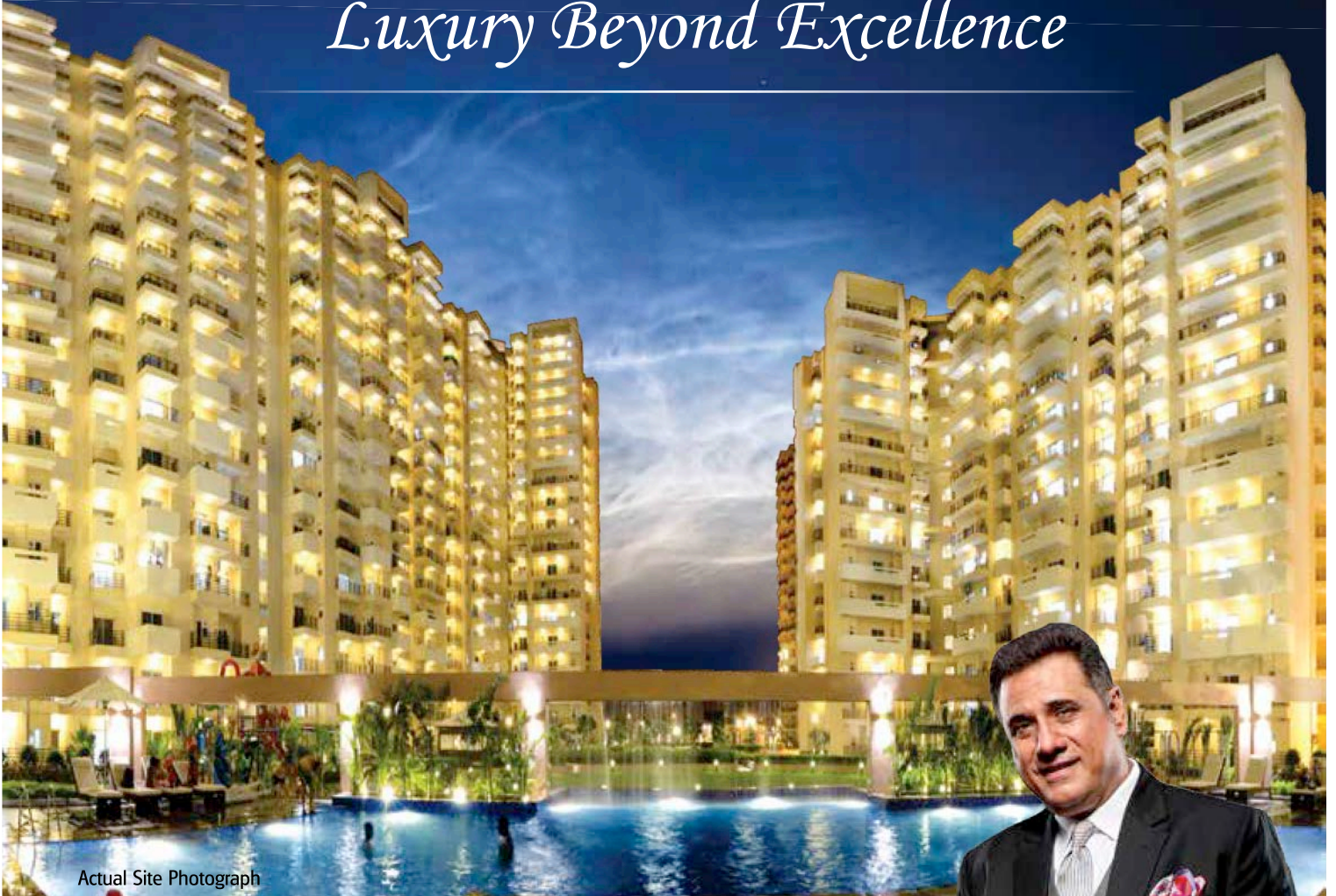
There are about 10 crore children below five years of age across the country. During last year, due to the interventions carried out as part of IDCF, about 6.3 crore children were reached out to. This year in order to expand the cover of this fortnight, the target is to cover all the under-5 children. 21 Lakh children could be prevented from hospitalisation and death due to Diarrhoea last year.

More than 5 lakh schools participated in the IDCF campaign and more than 3.5

lakh ORS corners were set up in the country. In order to ensure a sturdy mechanism for monitoring, this year, 23 national monitors shall assess the efficacy of the activities. This shall be complemented by monitors from the State governments and development partners.

The combination of ORS and Zinc has been found to be the most cost-effective intervention to prevent deaths due to diarrhoea and has been recognised as one of the best practices globally. 

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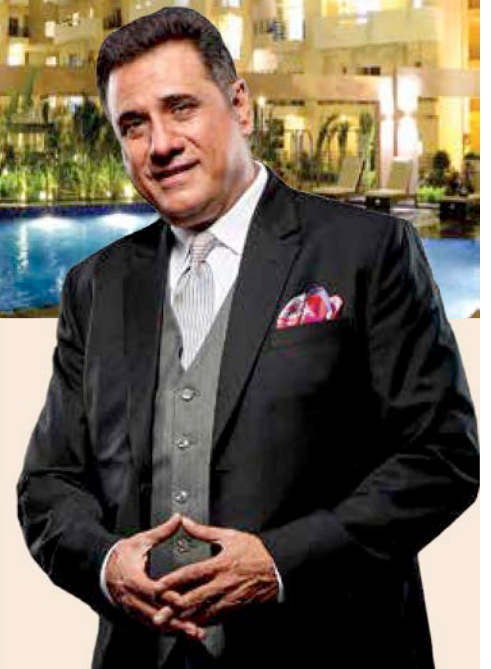
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Flawed Vision

If you experience blurring and diminishing of vision, dullness of colour and loss of sharpness, it is imperative to consult a retinal eye specialist

BY DR. MAHIPAL S SACHDEV



Central Serous Retinopathy (CSR) is a condition which affects the retina of the eye. The retina is the light-sensitive structure which lines the back of the eye like wallpaper. It is responsible for detecting and transmitting the images seen by our eyes to the brain for interpretation in the form of electrical impulses. Any injury or disease affecting the retina can be responsible for poor vision.

How does CSR occur?

Microscopically, the retina is composed of ten layers and is a compact structure. In CSR, there is a collection of fluid under the neurosensory retina within the eye.

Underlying the retina is a layer of blood vessels called the choroid. The innermost layer of the retina is the Retinal Pigment Epithelium (RPE) which



is normally responsible for preventing fluid from entering under/into the retina. However, in cases where there is a discontinuity in the RPE, any fluid leakage from the choroid can accumulate under the retina and form a localised fluid pocket resembling a dome and is referred to as a 'Neurosensory Detachment of the Retina'.

What are the Signs and Symptoms?

When a patient is suffering from CSR, he/ she will most often complain of central blurring of vision. The images appear distorted. The vision may be 100% quantitatively, but the quality of vision is diminished.

In addition, the patient may also complain of dullness of colour and loss of sharpness. Some patients also complain of seeing a 'ring' in the field of vision.

If any patient does notice any of these signs, it is imperative to consult a retinal eye specialist for proper diagnosis and management.

What are the risk factors for CSR?

Various studies conducted around Central Serous Retinopathy have determined that young, active adult males between the ages of 25-50 are most often affected by the disease. However, women are also prone to the

disease.

Most common risk factor seen is stress. Individuals with high stress jobs, anxious & type A personalities are most likely to develop the condition.

Other secondary causes include usage of certain drugs like Corticosteroids (either oral/injectable/inhalational/skin application).

What are the tests which help in diagnosis?

If any individual is suffering from this condition, the Ophthalmologist (Eye Specialist) will conduct a complete Ophthalmic Examination including a dilated fundus evaluation. A special non-invasive test called 'Optical Coherence Tomography' (OCT) is essential to confirm the presence of fluid under the retina. OCT is a cross sectional image of the retina which provides details about changes in the structure.

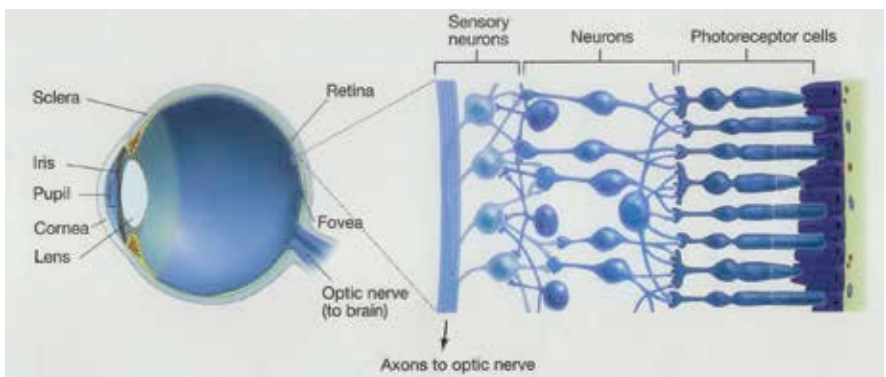
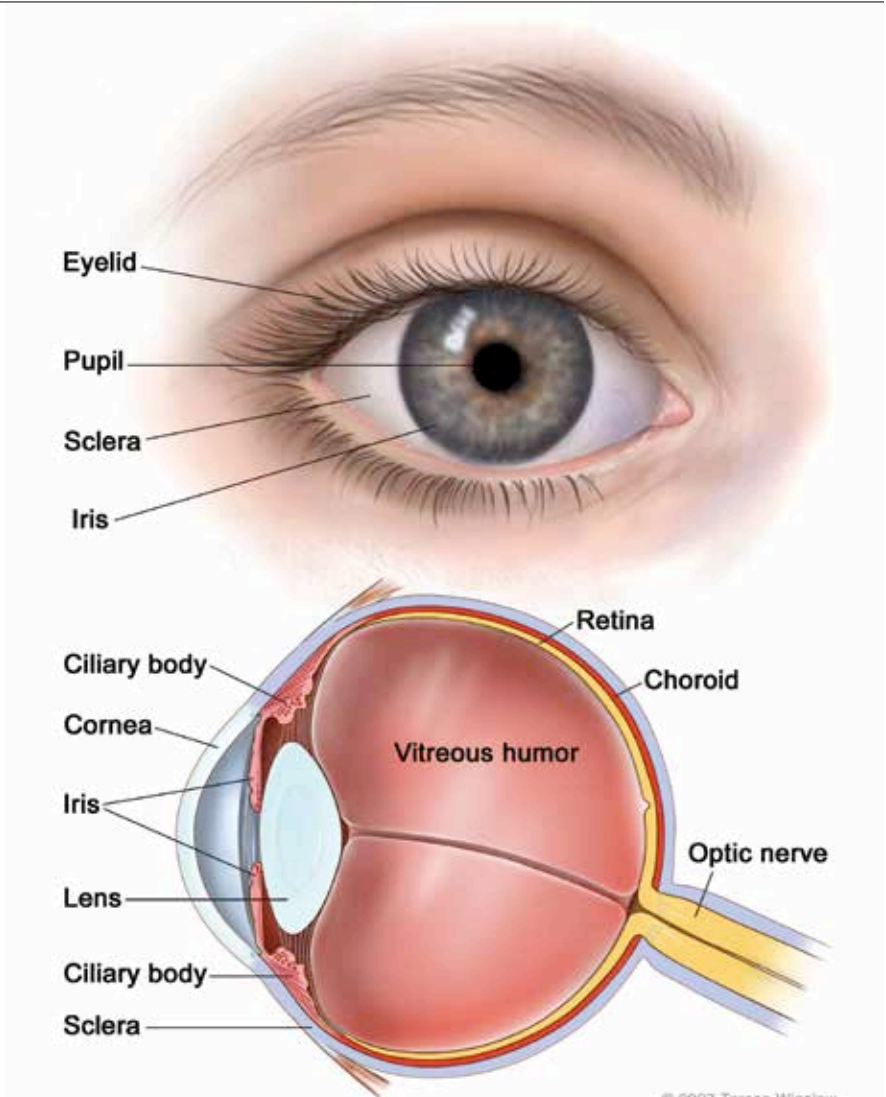
In addition, the retinal eye specialist may also conduct a 'Fundus Fluorescein Angiography' (FFA) test for diagnosis. In this test, a special dye (fluorescein) is injected intravenously and using special filters, serial photographs of the retina are taken. If CSR is present, the dye will leak from the site of RPE discontinuity and form abnormal patterns which are visible on FFA.

What is the treatment of CSR?

Acute central serous retinopathy clears up spontaneously in a few months without leaving any residual sequel. Patients usually recover completely without any vision loss if treated in time.

However, in cases where the condition becomes chronic where there is significant visual impairment, treatment becomes mandatory. Such cases can develop permanent central scarring which can impair central vision. Depending on the where in the retina the leakage is occurring, treatment can vary from laser to photodynamic therapy.


In cases where certain medication act as the causative agent, stopping the particular drug can be beneficial but



should not be done without prior medical consultation.

Prevention

There is nothing that can help prevent the condition. Although there is an association with stress, avoidance of stress does not ensure that CSR will not develop.

The disease has a tendency to recur, hence regular follow up with the retinal specialist are essential to ensure that recurrences are diagnosed sooner so that treatment maybe initiated early, if required. 

(The author is renowned Eye Specialist and CMD, Centre for Sight, New Delhi)

Let your skin bloom!



Monsoon implies new life, greenery and rejuvenation, as well as skin problems for some. Let your skin experience the positive effects of monsoon by following the wisdom of Ayurveda

**BY DR PARTAP
CHAUHAN**



The mere mention of monsoon conjures up images of greenery, raindrops drumming, gurgling streams, kids splashing on puddles and everything wonderful. But not everything is so rosy about the monsoon season - it is bad news for the skin. The monsoon season is notoriously known for aggravating skin problems such as dermatitis, urticaria, ringworm, herpes and eczema.

Why skin problems aggravate during monsoon?

The rainy season is responsible for aggravation of pitta, the functional energy of our body dominant in fire element, and is primarily responsible for metabolism and digestion of food. The imbalance or the aggravation of pitta during this season triggers a variety of skin disorders. In Ayurveda, though skin diseases are caused due to imbalances in all the three doshas, the prime dosha involved is pitta. Pitta

symbolizes heat or fire. Therefore all those foods or activities that increase the fire element in the body should be eliminated. This includes hot, spicy, fried, oily and greasy foods. Acidic foods like tomatoes, citrus fruits, yogurt and vinegar should be avoided. Exposure to heat and sun, drinking too much tea, coffee, and alcohol, and smoking also aggravate pitta.

10 monsoon skin care tips:

Avoid spicy and oily food

The imbalance or the aggravation of pitta during this season triggers a variety of skin disorders.

Say no to pitta aggravating beverages

We understand that you can't begin your day without a cuppa but try to reduce your daily intake. Coffee and alcohol is a strict no because it is notoriously known for aggravating pitta and acidity. Replace them with pitta



pacifying herbal teas.

Keep Dry!

Getting a little wet or sometimes getting drenched is not uncommon when you are outdoors during the rainy season. However, don't let your skin remain wet for a long time while enjoying the monsoon showers. It is important to keep your skin folds and feet dry and clean at all times. Damp skin is a breeding ground for fungal infections.

Wheat grass, a tonic for your skin

Wheatgrass is a tonic for your skin. It is helpful in boosting the immune system and helping you in warding off or controlling skin disorders in monsoon. A healthy immune system is reflected in a healthy and glowing skin. Wheatgrass is rich in antioxidants and is instrumental in detoxifying the blood.

Drink a lot!

No, we are not talking about the one

that gets you tipsy! Clean and pure water is what we recommend. Drink at least 8-10 glasses daily. Though you need to keep dry outside in this season to prevent skin problems it is important to consume adequate quantities of water to keep your skin hydrated.

Eat Fresh!

Eat fresh and unprocessed food to keep your body and your skin functioning at an optimum level. Don't rely on packed, refrigerated and processed food. Instead of ordering pizzas, burgers or feasting on chips, relish some fresh

It is beneficial to use the herbs that have cooling effects on the body (pitta pacifying) such as fennel, coriander seeds and Indian gooseberry (amla) for a glowing skin in monsoon.

homemade food. Eat a lot of fruits and green vegetables.

Avoid alcohol-based skin cleansers

You should avoid any alcohol-based skin cleanser because it irritates and dries your skin. Instead use a herbal soap or cleanser regularly to get rid of excess oil, grime and dust, and of course to keep you skin free of bacterial infections. We recommend Jiva Citrus Lotion, which is a cleanser that contains herbal extracts of lemon and orange.


Use cooling herbs

It is beneficial to use the herbs that have cooling effects on the body (pitta pacifying) such as fennel, coriander seeds and Indian gooseberry (amla) for a glowing skin in monsoon. Amla helps to detoxify the liver and aids digestion - and is also a good source of Vitamin C and other minerals. One of the benefits of taking it regularly is a flawless complexion.

Drink Aloe Vera gel!

Aloe Vera gel is very beneficial for the skin because it purifies the blood. Fresh Aloe Vera gel can be taken in the dose of two or three tablespoons on an empty stomach every day. You can also use fresh Aloe Vera plant gel on your skin - it has anti-aging, anti-tanning, antimicrobial and anti-inflammatory properties.

Take mild laxatives

A clean bowel movement is imperative for a healthy skin. Taking mild laxatives such as Triphala powder or other natural laxatives such as prunes, figs and raisins is beneficial if you don't have clean bowel movements. A teaspoonful of Triphala powder can be taken at bed time every night, with warm water or milk. 

(The author is Ayurvedacharya
Director, Jiva Ayurveda, New Delhi)



Hazards of Coughing

Coughing may appear to be a simple problem, but if it is persistent for a long time, it may lead to serious health problems

BY ABHIGYAN

Hailing from Darbhanga in Bihar, Anju Sharma had been ignoring her cough for almost three weeks. Even though severe bouts of cough, especially at night had disturbed her sleep leaving her exhausted and irritable since the past couple of days, she had not done anything with regard to this problem.

Gradually, it started affecting her personal life as well as her performance at work. What began as a sporadic cough for her rang a daunting alarm when one morning she ejected blood stained sputum. Her problem would not have gone up to this level had she consulted a doctor on time.

According to **Dr. J.K. Samaria, HOD Chest Medicine, BHU and Hon. Secretary, Indian Chest Society**, the case of Anju is very common to the sudden changes in weather, dust, smoke and/or pollution. In such instances the patients require specific medical interventions that can help relieve them of the symptoms of dry cough which would improve their quality-of-life and help them get back to performing their daily chores with ease.”

Most cough episodes will clear up, or at least significantly improve, within two weeks. However, any cough that hasn't improved after a few weeks may be a reflection of a serious health issue which should never be ignored and a doctor should be consulted on urgent basis. Also if you cough up blood or have a “barking” cough, never ignore it, but see a doctor immediately.

Ignoring the gradual escalation in coughing episodes accompanied by chest pain has been deemed by experts as the key cause of making it a serious health condition.



What causes coughing?

A cough results from a number of conditions, both temporary and permanent. Coughing is a defence mechanism of our body, which it uses

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to clear the air passage of mucus, dust, or smoke. In other words, a cough is a common reflex action that clears the throat of mucus or foreign irritants.

When your airways become clogged with mucus or foreign particles such as smoke or dust, a cough is a reflex reaction that attempts to clear the particles and make breathing easier. Usually, this type of coughing is relatively infrequent, but coughing will increase with exposure to irritants such as smoke, although there are a number of conditions that can cause more frequent bouts of coughing.

Therefore, when coughing becomes persistent in nature, a clinical examination is vital. The most common cause of a cough is a respiratory tract infection, such as a cold or flu. Respiratory tract infections are usually caused by a virus and may last from a few days to a week. Infections caused by the flu may take a little longer time to clear up.

Smoking is the second most common cause of coughing. A cough caused by smoking is almost always a chronic cough, with a distinctive sound. It's often known as “smoker's lung” or “smoker's cough.”

Asthma is also one of the most



It is also very important to note that a cough that results from a virus can't be treated with antibiotics. You can, however, soothe by the following measures:

- Keep hydrated by drinking plenty of water.
- Elevate your head with extra pillows when sleeping.
- Use cough drops to soothe your throat.
- Gargle hot salt water regularly to remove mucus and soothe your throat.
- Avoid exposure to irritants, including smoke and dust.
- Add honey or ginger to hot tea to relieve your cough and clear your airway.
- Use decongestant sprays to unblock your nose and ease breathing.

common causes of coughing, especially in young children. Typically, asthmatic coughing involves wheezing, making it easy to identify. Mild cases of asthma may just be observed, but more severe cases will require treatment using an inhaler. However, it is possible for children to grow out of asthma as they get older.

Some medications may also cause coughing, although this is generally a rare side effect. Angiotensin-converting enzyme (ACE) inhibitors, commonly used to treat high blood pressure and heart conditions, can cause coughing. Two of the more common brands are known as Zestril and Vasotec. The coughing stops when the medication is discontinued.

When coughing becomes a health threat

In general, a cough that lasts for less than three weeks is an acute cough. A cough that lasts between three and eight weeks, improving by the end of that period, is a subacute cough. A



persistent cough that lasts more than eight weeks is a chronic cough.

A dry cough is described as a non-productive cough, which means it produces little to no mucus. It is irritating and causes a tickly throat. In certain cases it may be a nasal allergy, acidity, asthma, chronic obstructive pulmonary disease (COPD) or even tuberculosis (TB). Hence, one should consider visiting a doctor if his/her cough persists.

Dr Anup Mohta, Director, Chacha

Nehru Bal Chiktshalay, East Delhi, says, “Most coughs will clear up, or at least significantly improve, within two weeks. If you have a cough that hasn't improved in this amount of time, see a doctor, as it may be a symptom of a more serious problem. If additional symptoms develop, such as a fever, chest pains, headaches, drowsiness, or confusion, contact your doctor as soon as possible. Coughing up blood or breathing difficulties require immediate medical attention in emergency.”

A cough that is the symptom of a more serious condition is unlikely to go away on its own. If left untreated, the condition may worsen and cause other symptoms. While infrequent coughing is necessary to clear the airways, there are ways one can prevent catching other coughs.

Smoking is the most common cause for a chronic cough. It can be very difficult to cure a smoker's cough. There are a wide variety of methods available to stop smoking,



from gadgets like electronic cigarettes to advice groups and support networks. After one can stop smoking, even it is less likely to that individual to catch cold or suffer from a chronic cough.

The treatment

There are not too many effective alternatives available for the treatment of dry cough. On the grounds of better efficacy and based on the number of patients who have responded positively to the drug over the years, antitussives like codeine will continue to be preferred choice for the treatment of dry cough to treating artificially induced, disease-related or unexplained dry cough.

Dr. J.K. Samaria adds, “As an expert physicians, it is imperative for us to have the choice to prescribe the best-suited medication with clinically proven efficacy. Codeine-based cough suppressants have been prescribed for years since they are the gold standard for symptomatic relief and



treatment of dry cough. However, due to the abuse potential of this category of medication, there needs to be a strict adherence to selling of codeine-based cough syrups only against a physician’s prescription.”

“However, if your cough is likely due to bacteria, your doctor will prescribe oral antibiotics. You’ll usually need to take the medication for a week to fully cure the cough. She may also prescribe either expectorant cough syrups, or cough suppressants that

contain codeine,” says **Dr Manisha Yadav, Medical Practitioner.**

In most cases, a cough disappears naturally within a week or two after it first develops. However if it is prolonged the patient should be brought under medical observation for sure. “If your doctor can’t find a cause for your cough, they may order additional tests. This could include a chest X-ray to assess whether your lungs are clear, along with blood and skin tests if they suspect an allergic response. In some cases, phlegm or mucus may be analyzed for signs of bacteria or tuberculosis,” said Dr Shikha.

Though, a cough typically doesn’t cause any long-lasting damage or symptoms. In some cases, a severe cough may cause temporary complications like tiredness, dizziness, headaches and fractured ribs. These are very rare, and they will normally cease when the cough disappears. In cases where the previous treatments are either not possible or extremely unlikely to be successful, doctors may prescribe cough suppressants.

Throwing more light on the seriousness of this very simple disease as it may appear initially, Dr Mohta, said, “It is very rare for a cough to be the only symptom of heart problems, but a doctor may request an echocardiogram to ensure that your heart is functioning correctly and is not causing the cough. Difficult cases may require additional testing.”

“A CT scan offers a more in-depth view of the airways and chest, and it can be useful when determining the cause of the cough. If the CT scan doesn’t show the cause, your doctor may refer you to a gastrointestinal (GI) specialist or a pulmonary (lung) specialist. Some of the testing these specialists may use includes esophageal pH monitoring, which looks for evidence of GERD,” he added. 📄



Gift of Life



Transplantation of organs has undergone great advancement but it suffers from an acute shortage of organs as there is inadequate awareness about the importance of organ donation in the country

BY AMRESH KUMAR TIWARY

Each year, hundreds of people die while waiting for an organ transplant. There is an acute shortage of organs, and the gap between the number of organs donated and the number of people waiting for a transplant is getting larger. Transplants, as an option, have successful outcomes, and the number of people needing a transplant is expected to rise steeply due to an ageing population and an increasing incidence of organ failure.

Transplantation of one organ from one human being to another has always been a rigorous process which needs utmost care. A heart which is donated must be transplanted within four hours after removal from the donor. For a successful transplantation, great team effort is required; if one person in the team is not cooperating, it is very difficult to transplant any organ successfully. The process starts from the donor; police in making green corridor; driver who drives the ambulance as fast as possible; the hospital where the organ is transplanted, the team of doctors operating upon the patient who receives the heart.

Transplantation over the past few decades has gradually become the accepted treatment for a number of conditions where organs like the kidneys, heart and liver have irreversibly failed. For a patient with kidney failure an alternative such as dialysis is available till an organ becomes available, but for a patient with liver or heart failure; the only hope of living may be to have an immediate transplant. Organ donation is a gracious act; it reaffirms our faith in humanity.

State of organ transplant in India

There have been several news reports about organ trafficking in India, putting the spotlight on the shortage of donors. Take, for example, kidney transplants. Against the global requirement of about 600,000 each year, only 60,000 are done. In India, of the 150,000 to 200,000 people who need transplantation, only 3,500 get it. This scarcity will grow rapidly in the coming years because of increasing lifespan, rising incidence of end-stage kidney disease, and wrong legislative policies.

Says **Dr Rajesh Agarwal, Nephrologist, Sri Balaji Action Cancer Hospital**: "There should be a uniform legislative policy to augment organ donations and enforce regulatory mechanisms. Organ transplantation is different from other healthcare activities



Dr Rajesh Agarwal



and the law on this subject should be enacted by the Centre. Also needed is a centralised regulatory authority to monitor the transplantation procedures, inspect hospitals, and summon the concerned managerial and medical, paramedical staff involved in the procedure. The authority constituted under the Transplantation of Human Organs Act 1994 doesn't have pan-Indian jurisdiction. It should be mandatory to report all transplantations to the central organ donation authority, with details of the donor and the recipient, members of the authorisation committee and the transplantation team. All transplantations must be registered, which should allot a wait listed number to each registrant".

DR Ravi Bansal, senior consultant, Nephrologists', PSRI Hospital Delhi Said "International organ donation policy is well established. More than 80% of transplants are cadaveric. In Netherland, organ donation is included in curriculum of school students. They have option of taking the pledge to

donate organ before they exit from school and join higher education. Central Organ Sharing Program is a well established. In India, laws are adequate but awareness is negligible. So, there is a need to make doctors and general public more aware of these laws.

In the last 12 years, there has been great advancement in the field of organ transplantation in India. People are discussing or talking about the problem of donating organ. The Government is organizing awareness programs to

Kidney transplant takes place generally at the end stage renal-disease. The donor can either be a living person or a deceased person. As per statistics, kidney transplant is the most frequent organ transplantation.

encourage people for donating their organs. It promotes awareness programmes for organ donation on both electronic and print media. The Organ Retrieval and Banking Organisation (OROB) promotes organ donation at the table of colleges, societies and other fora. This is steadily leading to changes in urban areas, though not so much in rural areas.

Statistics

- In India every year nearly:
- 500,000 people die because of non-availability of organs
- 150,000 people await a kidney transplant but only 5,000 get one
- 1,00,000 lakh people suffer from corneal blindness and await transplant nationally, only 0.08 persons in per million populations (PMP) donate, while the total population is 1.2 billion. This is incredibly small figure with respect to total population.
- According to a report of National Organ and Tissue Transplant



DR Ravi Bansal

Organization (NOTTO), 10750 kidney transplants, 3570 liver transplants and only 29 of heart transplants took place in India recently. Among this 14038 transplants were living transplant, while the rest were cadaver ones.

- 90% of people in the waiting list die without getting an organ.

Wholly throughout the world, the trade of human organs is illegal except in Iran. In India before the Transplantation of Human Organ Act in 1994 the trade in organ was legal and it made India a lucrative market for organ trade for the world, but along with it many problems emerged. Due to the lack of awareness, the lower class people were not compensated properly for their donations, on the other hand some cases showed that the patients were actually unaware about the transplantations.

Heart Transplant:

Heart transplant is the most critical transplantation among all other

Government initiatives in organ transplant



While noting that donating organs is a gift of life and is an altruistic, egalitarian and essentially moral act, J P Nadda, Union Minister of Health and Family Welfare has urged people to come forward and donate organs to save lives. He stated that organ donation can benefit the recipient largely by improving health, quality and span of his life and even save him from death or other critical conditions. He was speaking at a function organised by Dadhichi Deh Dan Samiti (DDDS) recently. The Samiti organised a dialogue on framing of the protocol to develop respect for donated cadavers and the families of cadaver donors amongst the medical teaching community.

Health Minister urged the participants to list down the solutions that will encourage organ and body donation and assured that the Government will not delay its implementation. He further said that the ministry has started taking concrete steps for harvesting of cadaver organs and tissues and hope that it will be able to optimally utilise this vast national resource.

Elaborating his ideas, the Health Minister said that the benefits of initiatives should reach out to every nook and corner of the country and should not be limited to cities only. He added that the demand for organs continues to increase manifold in future keeping in view the increased incidence of lifestyle diseases. So, there is a need to create a system for improving the rate of safe, effective and ethical donation of cadaver organs for transplantation in those who need them badly.

Government is taking various steps to simplify organ donor law/rules and procedures. He said that the website of National Organ & Tissue Transplant Organisation (www.notto.nic.in) provides updated information and online facility for registering pledges for organ donation. 13,443 donors have already pledged for organ donation. A 24x7 call centre with toll free helpline number (1800114770) has been established for providing information on organ donation and coordinating matters relating to retrieval and allocation of organs recovered from cadaver donors.

Promoting the Cause

Anju Sharma who runs an NGO is engaged in creating awareness about eye donation among the common people. Her main objectives to increase collection of eyes from all over the country and to educate the public about eye donation and prevention of corneal blindness.

Like Anju Sharma many individuals these days are engaged in generating mass awareness about organ donations. In fact, one donor can save eight lives. As per a report, 250 people die every day in the absence of organs for transplant.

Donate Organs Save Lives is an independent online platform to further the cause of cadaver organ donation in India through educating the public about the importance of organ donation. The organization aims to help build a nationally coordinated approach to spread and gather information about organ and tissue donation for transplantation.

Human beings want to be remembered after their death. Still, there is little realization that the way to make a difference is by donating organs. It's a great legacy that one can leave behind.

The Deceased Organ Retrieval Sharing Organization (DORSO) is an autonomous and recognized agency for the Delhi State Deceased Organ Retrieval Transplant Authority. It wants to make a difference and enlighten the Indian Society about the new afterlife with organ donation. It has a specific role to monitor, evaluate, appraise and disseminate to the Delhi State Health Department on the periodic status of implementation of the cadaver programme.

While the deceased donation programme is yet to evolve, the living donation programme has been marred with constant kidney scandals. Although the history of cadaver transplants in India is recent, the first attempts to use a cadaver donor's kidney were undertaken in 1965 in Mumbai. The medical problems included technical difficulties in engrafting, immunological problems, and infection.

In India, despite the THO act, neither has the commerce stopped nor have the number of deceased donors increased to take care of organ shortage. The concept of brain death has not been promoted or widely publicized. Most unrelated transplants currently are being done under the cloak of legal authority from an authorization committee. The few deceased donations that are taking place are due to the efforts of a few non-government organizations (NGO) or hospitals that are highly committed to the cause.

To a large extent, the failure of the THO act has been because of the way it has been interpreted and implemented by authorities and hospitals.

Recently, the government has come under much criticism by the public and media. It has added a few legislations in the form of a Gazette to curb the illegal unrelated donation activities and has tried to plug the loopholes in the THO Act.



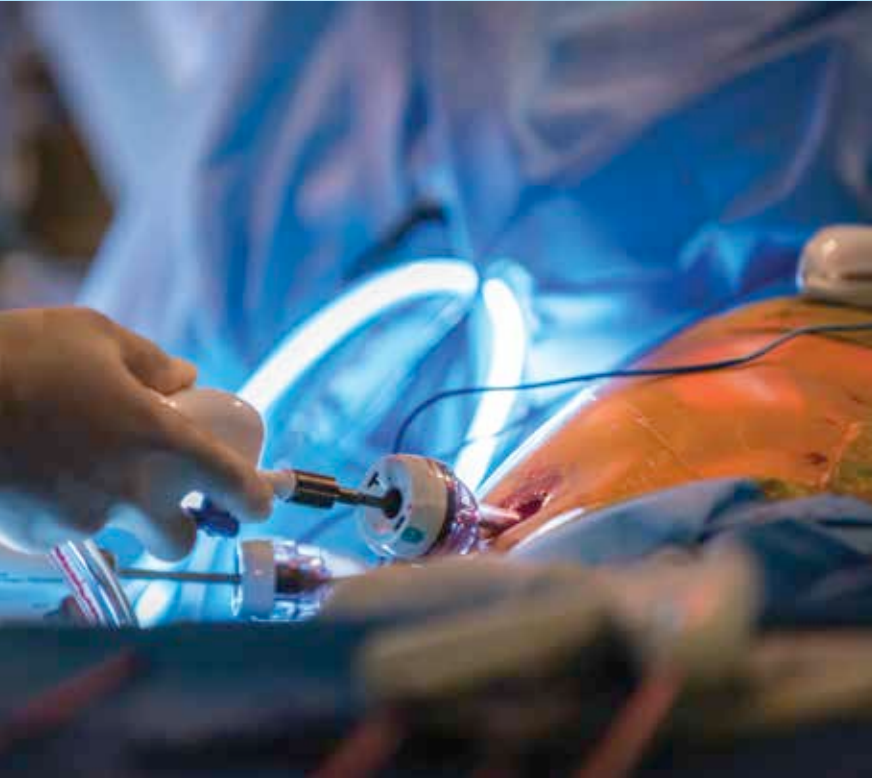
The main provisions of the THO Act and the newly passed Gazette by the Government of India include the following:

For living donation - The relatives who are allowed to donate include mother, father, brothers, sisters, son, daughter, and spouse. Recently, in the new Gazette grandparents have been included in the list of first relatives. The first relatives are required to provide proof of their relationship by genetic testing and/or by legal documents. In the event of there being no first relatives, the recipient and donor are required to seek special permission from the government appointed authorization committee and appear for an interview in front of the committee to prove that the motive of donation is purely out of altruism or affection for the recipient.

Brain-death and its declaration - Brain death is defined by the following criteria: two certifications are required 6 hours apart from doctors and two of these have to be doctors nominated by the appropriate authority of the government with one of the two being an expert in the field of neurology.

Regulation of transplant activities by forming an Authorization Committee (AC) and Appropriate Authority (AA.) in each State or Union Territory. Each has a defined role as follows:

Role of Authorization Committee (AC) - The purpose of this body is to regulate the process of authorization to approve or reject transplants between the recipient and donors other than



a first relative. The primary duty of the committee is to ensure that the donor is not being exploited for monetary consideration to donate their organ. The joint application made by the recipient and donor is scrutinized and a personal interview is essential to satisfy to the AC the genuine motive of donation and to ensure that the donor understands the potential risks of the surgery. Information about approval or rejection is sent by mail to the concerned hospitals. The decision to accept or reject a donor is governed by Sub Clause (3), Clause 9 of Chapter II of the THO Act.

Role of Appropriate Authority (AA): The purpose of this body is to regulate the removal, storage, and transplantation of human organs. A hospital is permitted to perform such activities only after being licensed by the authority. The removal of eyes from the dead body of a donor is not governed by such an authority and can be done at other premises and does not require any licensing procedure. The powers of the AA include inspecting and granting registration to the hospitals for transplant surgery, enforcing the required standards for hospitals, conducting regular inspections of the hospitals to examine the quality of transplantation and follow-up medical care of donors and recipients, suspending or cancelling the registrations or erring hospitals, and conducting investigations into complaints for breach of any provisions of the Act. The AA issues a license to a hospital for a period of five years at a time and can renew the license after that period. Each organ requires a separate license.

transplantation of organs. Apart from the relaxation time of transplantation its success depends on many other issues, like the condition of the organ, other circulatory action or even age of the receiver body. For a heart transplant, the diseased heart is removed and replaced with the donated heart. During the surgery, a mechanical pump moves blood through the body.

Kidney Transplant:

Kidney transplant takes place generally at the end stage renal-disease. The donor can either be a living person or a deceased person. As per statistics, kidney transplant is the most frequent organ transplantation. The success rate is very high in this type of transplantation as there are many ways in which a human body can be supported for a while through dialysis in order to purify the blood. Therefore, we can say that the criticality of kidney transplantation is comparatively less.

Liver Transplant:

It is also known as hepatic transplantation. The diseased liver is fully or partially replaced by a healthy and donated liver. It is an option for end-stage or acute liver disease. Immunosuppressive drugs are used to lower the chance of rejection of the transplant by the body and this is the case like all other all other graft. Liver transplant is tagged with a controversy where the alcoholic patients get a transplant in order to fight the alcoholic cirrhosis, as other non-alcoholic patients may be considered as more deserving of that transplant.


Eye transplant:

In eye transplantation, the cornea part of the eye is transplanted, therefore, it is also called corneal transplantation. Cornea is the transparent part of the eye. The cornea rejection in the patient's eye can occur at any time after the transplantation, even after decades because of several causes.

Intestine Transplant:

It is one of the rarest types of transplantations due to the high rate of rejection by the receiving body. Due to the improvements in immunosuppressive regimens, it is done on a more frequent basis. Though the options for treatment of the intestine are many, but in some critical cases the transplantation is the only options.

Pancreas Transplant:

Pancreas is one of the vital organs in our body as it regulates the sugar level in our body. Therefore, generally a diabetic patient goes for pancreas transplantation. It can also be partially replaced as in the case of liver. 



Hampering the Cause



Organ donation finds few takers in the country due to lack of awareness and understanding about organ donations, religious attitudes, superstitious belief and bureaucratic hurdles

BY DR S P YADAV

In a vastly populated country like India where near about 200,000 people need a new kidney every year and around 100,000 need a new liver, only few percentage of the demand for new organs is met, which amounts to 2% - 3% of the total demand.

Finding a donor match is difficult to begin with. In India, this challenge is compounded by bureaucratic hurdles and lack of awareness. A lot of red-tapism and paperwork involved in getting a transplant done also contributes in worsening the situation.

Under Indian law, for instance, it's relatively easy for close relatives to donate an organ, or part of it, to a family



member in need. According to existing rules, if the potential donor is not related to the person who needs the organ, the transplant needs to be approved by a state-level committee or by a hospital committee that includes government officials. This results in unnecessary delay in the donating process.

Most of the Indians, mainly the north Indians carry a superstitious belief that donating organ is an evil practice and an individual's soul will not rest in peace if the body parts are mutilated. This is mainly due to the lack of awareness prevailing over there. The most common myth prevailing in the process of organ donation is that, if the doctor knows that the individual has given his consent for

organ donation, he wouldn't work hard to save his life.

Organ transplantation can be lifesaving for patients with organ failure. Thousands of these patients may die because there are not enough donated organs to meet the demand. The main factor limiting organ donation is that less than half of the families of potential donors consent to donation. Many organs can be donated, including heart, intestines, kidneys, liver, lungs, and pancreas. Tissues that can be donated include corneas, heart valves, and skin. Donations may be used in people who have organ failure, who are blind, or who have severe burns or serious diseases. If you wish, you may specify which organs and tissues you would like to donate. While you are alive, you may donate a kidney or part of your liver to a specific / related matched patient. More than 6,000 transplants from living donors are performed each year. The number can go up and save many more lives if people give consent for donating their organs after death.


Any person can become a donor irrespective of age, caste, religion, community, current or past medical condition. However, patients suffering with active cancer, active HIV and active infection or intravenous drug use cannot do the same, though most cancer patients can donate cornea. There are

According to existing rules, if the potential donor is not related to the person who needs the organ, the transplant needs to be approved by a state-level committee or by a hospital committee that includes government officials. This results in unnecessary delay in the donating process

two ways in which an individual can opt for organ donation: Opt In, where the donor gives consent, or Opt Out, where anyone who has not specifically refused is considered a donor. In India the Opt In system is adopted.

Organ transplant works on two principles, firstly, living donor transplant. Secondly, deceased donor transplant. In living donor transplant, a living person decides to donate his or her organ(s) to someone in need of a transplant. Living donors are usually family members or close friends of the person who requires a transplant. In deceased donor transplant, organs from a brain dead individual are transplanted into the body of a living recipient. The deceased individual in this scenario can only be a victim of brain death. This kind of transplant initially requires the recipient to wait on a list until a suitable organ is available based on the recipient's medical profile.

The shortage of organs is virtually a universal problem. Even in developed countries, where rates of deceased organ donation tend to be higher than in other countries, organs from this source fail to meet the increasing demand. The prerequisites for the success of a transplantation programme include awareness, positive attitude of the public towards organ donation and consent by relatives for organ donation in the event of brain death.

Lack of knowledge and understanding about organ donations, religious attitudes, and superstitious beliefs have generated fear and mistrust in the minds of the common man and, especially, the terminally ill patients. To increase the number of donors, initiatives should be taken to ease the entire process by making the people aware about registration for organ donation as this may help the doctors to found the donor more easily. 

(The author is senior Urologist and CMD, Pushpanjali Hospital, Gurgaon)



Pioneering Paediatric Liver Transplants

Dr Neelam Mohan is one of India's most quoted women doctors! On being interviewed by Double Helical on her recent honour of receiving the BC Roy National Award by the President of India, she says: "It's been a journey that has had several hurdles, stress and sacrifices but overall it has been very satisfying."

Having done her graduation and internship from Osmania Medical College in Hyderabad in 1990, she did her master's degree in Paediatrics and then training in Paediatric Gastroenterology from AIIMS under Prof. M.K Bhan and N.K Arora. Despite working in the one of the best centres in India, she felt that there was much to learn especially in the organ that she was interested in: liver.

Dr Neelam Mohan left for UK in 1997 and was mentored by Dr D. Kelly, a big name in the field of Paediatric Hepatology and Liver Transplantation and Prof Ian Booth in Paediatric Gastroenterology at Birmingham Children's Hospital, UK. She would work from 8:00 am to 9:00 pm to ensure she would get the best of learning and experience from the experts. Her efforts

were truly appreciated. She returned to India in 1999 after learning more about liver transplants, paediatric liver and GI diseases. "Finding a job was an arduous task then as no one was interested in my precise domain," recalls Dr Mohan.

"I got my first break at Sir Ganga Ram Hospital (SGRH), thanks to the vision of Dr S.C. Arya (Paediatrician) and Dr. S.K Sama (Chairman SGRH & HOD (Gastroenterology). At Sir Ganga Ram Hospital, where I worked for over a decade, I got opportunity to make a rapid progress towards my professional goal and to evolve this completely new field of healthcare in India. I dedicated my heart and soul to this cause and eventually played a pioneering in liver transplant", adds Dr Mohan.

DR NEELAM MOHAN'S MEDICAL JOURNEY IN HER OWN WORDS

1999-2009

I was keen to have this branch recognized by doctors first, so would travel on the weekends to different places in India, lecturing to paediatricians on this subject. Liver transplantation was first not an acceptable thought to most. There was

lack of confidence in doctors and public because it had not been done in India.

Those who could afford high cost would go to USA/UK where it costed nearly Rs 70 lakh to 1 crore. I got my first break in liver transplantation in 2004, when we did the first Cadaveric reduced liver transplant in India. It was August 15th and it shall always be special besides being the Independence Day of our country.

Besides liver transplantation, I would spread awareness of various diseases of liver and gut problems and increase awareness on role of endoscopy in children and new-borns.

I didn't get anything on a platter and had my own share of difficulties, jealousy of colleagues and had to sacrifice a lot of family time and fun time, but I'm grateful and blessed as eventually I was conferred with the prestigious Dr B C Roy National Award for best talents in encouraging the development of medical specialties, by the President of India.

2010 – 2015

I humbly say that I created India's first unit of Paediatric Gastroenterology, Hepatology and Liver Transplantation at

Conferred with the prestigious Dr B C Roy National Award for best talents in encouraging the development of medical specialties, by the President of India.



Dr. Neelam Mohan with 3-year-old Rishi, a Citrullinemia patient cured of his diseases by Liver Transplant in 2013

Medanta – The Medicity, on the encouragement of Dr. Naresh Trehan, Chairman & Managing Director, Medanta, a visionary in medical field. I became a part of a horizontal expansion, and we spread into various verticals besides liver transplantation and liver/GI diseases such as motility, endoscopy, capsule endoscopy, manometry and diagnostic and therapeutic procedures

with an extremely strong support of intensivists surgeons and interventional radiologists making it the first such department in the country which provided comprehensive A to Z facilities for new-borns, children and adolescents with gastrointestinal and liver diseases including the zenith of liver care that is liver transplantation. Today we have more than 200 successful paediatric

liver transplants in India and we can claim to be at par with America and UK, if not better.

MILESTONES IN THE CAREER OF DR. NEELAM MOHAN

Pioneered developments in the field of liver transplant in India – credited with the maximum paediatric liver transplants in India. She's credited with



Receiving the DMA Centenary Award by the then Health Minister Harsh Vardhan and Finance Minister Arun Jaitley, 2014

few firsts in the world such as

- World's first liver transplant in an infant with factor VII deficiency-2010
- World's youngest domino liver transplants - 2009.
- World's first interlinked 3 paediatric living related transplants with 2 donors 2011.
- South Asia's 1st combined liver

kidney transplant with 2 donors - 2007

Besides the above, she is credited with several firsts in the field of paediatric liver transplantation in India such as

- 1st successful cadaveric reduced liver transplant -2003,
- 1st successful survival of liver transplant in an acute liver failure

-2004,

- 1st successful emergency liver transplant on a patient transported to Delhi by air ambulance in deep coma - 2005,
- 1st Bloodless Transplant - 2006,
- 1st Swap Liver Transplantation - 2009,
- 1st Domino liver transplant, where patient's liver could save another



Dr. Neelam Mohan addressing students in Govt. High School, Pataudi

- child's life -2009,
- 1st ABO incompatible liver transplant - 2012,
- 1st Liver transplant curing a baby with Citrullinemia and global delay-2013,
- Youngest liver transplantation in a 4 kg baby - 2015.
- 1st successful liver transplant for curing liver and associated lung failure severe Hepatopulmonary Syndrome - 2016

OTHER ACHIEVEMENTS

India's first doctor to start therapeutic endoscopic work in new-borns and young infants. Established India's first one-year fellowship in paediatric gastroenterology, certified by the Indian Academy of Paediatrics and subsequently 2 years fellowship program in Paediatric Gastroenterology

certified by National Board of Examinations (NBE). She has been the founder secretary of Indian society of Paediatric Gastroenterology, Hepatology and Nutrition (ISPGHAN). It's a matter of pride for India as she is the first Indian to be elected unanimously as Secretary (2015 -2017) and President elect for 2017 to 2019 of Commonwealth Society of Paediatric Gastroenterology and Nutrition (CAPGAN)

ACADEMIC ACHIEVEMENTS

Her academic achievements have been hugely applauded and she has been invited as faculty for more than 600 presentations, lectures, oration, key note addresses in conferences in various Indian cities and outside India eg UK, USA, Europe, Hong Kong, Singapore, Korea, Pakistan, Nepal, Sri Lanka, Dhaka, Saudi Arabia, Istanbul, Israel, Poland,

Taiwan, Dubai, Kenya, Japan, China among others. She has to her credit 200 publications and has been among the experts writing international and national guidelines in Paediatric Hepatology.

PUBLICATIONS & PRESENTATIONS

She has 200 publications, of which 80 are international. She has edited two books on Paediatric Gastroenterology and Hepatology and has authored 50 chapters in various books in her field. On editorial board of national journals; Indian Paediatrics, emedinews (India's first national medical e-newspaper), IJCP publications, Paediatrics on Call and news channel NDTV. Presented papers and lectures at 600 forums, of which 163 are international.

SOCIAL RESPONSIBILITY

As part of her social responsibility,



Dr. Neelam Mohan in a Health Camp

she runs regular free clinics, health camps for children and organises health awareness seminars. These seminars are conducted for school and college going students where health awareness talks are held on basic subjects concerning nutrition, healthy liver, how to prevent hepatitis B & C spread. She founded Cherry Hill Educational Society and CHILD Society (Children Intestinal and Liver Disease Society) which provide free basic education to underprivileged children and health related activities respectively. Most importantly she's the convenor from India for Aman Ki Asha (AKA), Health Initiative Project between India and Pakistan. She was the organising secretary of 1st AKA Health initiative project between India and Pakistan in 2011 and was the convenor of a group of 15 experts from India at the 2nd Indo-Pak Health forum.

AWARDS & ACCOLADES

- Conferred with B C Roy Award, most prestigious award for best talents in encouraging the development of medical specialties, by Hon'ble President of India.
- Honoured with ZEE Swastha Bharat Samman Award" 2012 by Hon'ble Health Minister Ghulam Nabi Azad.
- "DMA Centenary Award- 2014 by the then Union Health Minister Harsh Vardhan and Finance Minister Arun Jaitley for her contribution in the field of child health.
- SGRH Alumni Award by chairman of her hospital for appreciation to her services to the medical profession and community- 2014.
- "DMA – Vishisht Chikitsa Ratan Award" by Delhi Medical Association by Governor of Delhi

-2012.

- Distinguished Service Award -2007 by the Indian Medical Association (Academy of Medical Specialties) for her contribution and achievements in liver transplantation.
- Dr. Sadhana International Empowerment of Women Award -2010.
- Eminent Doctor of the Year -2009 by Delhi Medical Association
- Doctor of the Year Award - 2010 by eMedinews.
- "Most Popular Doctor" Award for 2011 by eMedinews
- "Mahila Sree Award & Gold Medal" for the year 2011.

MESSAGE TO YOUNGSTERS

Passion, dedication and personal attention is the key to success. 📷

When the brain fades



Stay on your guard if you are experiencing difficulties with regard to memory, thinking or reasoning, the cognitive functions of brain

BY TEAM DOUBLE HELICAL

The word dementia describes a set of symptoms that can include memory loss and difficulties with thinking, problem-solving or language.

In vascular dementia, these symptoms occur when the brain is damaged because of problems with the supply of blood to the brain. Vascular dementia may develop after a stroke blocks an artery in your brain, but strokes don't always cause vascular dementia. Whether a stroke affects your thinking and reasoning depends on your stroke's severity and location. Vascular dementia also can result from other conditions that damage blood vessels and reduce circulation, depriving your brain of vital oxygen and nutrients.

Causes

If the lumen of vessels within the brain

becomes narrow gradually, it affects the blood supply to the brain and eventually brain cells are destroyed.

This death of brain cells can cause problems with memory, thinking or reasoning. Together these three elements are known as cognition. When these cognitive problems are bad enough to have a significant impact on daily life, this is known as vascular dementia.

Types of vascular dementia

There are several types of vascular dementia. They differ in the cause of the damage and the part of the brain that is affected. The different types of vascular dementia have some symptoms in common and some symptoms that differ. Their symptoms tend to progress in different ways.

Stroke-related dementia: A stroke

happens when the blood supply to a part of the brain is suddenly cut off. In most strokes, a blood vessel in the brain becomes narrowed and is blocked by a clot. This is called ischaemic stroke.

Do you Know?

About 20 per cent of people who have a stroke do develop this post-stroke dementia within the following six months.

Single-infarct and multi-infarct dementia: These types of vascular dementia are caused by one or more smaller strokes. These happen when a large or medium-sized blood vessel is blocked by a clot. The stroke may be so small that the person doesn't notice any symptoms

Subcortical dementia: Subcortical vascular dementia is caused by diseases of the very small blood vessels that lie



deep in the brain. These small vessels develop thick walls and become stiff and twisted, meaning that blood flow through them is reduced.

The most common cognitive symptoms in the early stages of vascular dementia are:

- problems with planning or organising, making decisions or solving problems
- difficulties following a series of steps (e.g. cooking a meal)
- slower speed of thought
- problems concentrating, including short periods of sudden confusion.

A person in the early stages of vascular dementia may also have difficulties with:

- memory - problems recalling recent events (often mild)
- language - speech may become less fluent

This death of brain cells can cause problems with memory, thinking or reasoning. Together these three elements are known as cognition. These cognitive problems are bad enough to have a significant impact on daily life

- visuospatial skills - problems perceiving objects in three dimensions.


Who can get affected by vascular dementia?

- Age is the strongest risk factor for vascular dementia. A person's risk of developing the condition doubles

approximately every five years over the age of 65. Vascular dementia under the age of 65 is uncommon. Men are at slightly higher risk of developing vascular dementia than women.

- A person who has had a stroke, or who has diabetes or heart disease, is approximately twice as likely to develop vascular dementia.

If someone does have dementia, an early diagnosis has many benefits: it provides an explanation for the person's symptoms; it gives access to treatment, advice and support; and it allows them to prepare for the future and plan ahead. For vascular dementia, treatments and lifestyle changes may also slow down the progression of the underlying disease.

Blood thinning drugs like Ecosprin, helps in maintaining the blood flow of the brain. 





Lurking Dangers

Prolonged exposure to tobacco and alcohol may lead to head and neck cancers. Making certain lifestyle changes can help in reducing the effects of these risk factors

BY DR A K AGARWAL

If you often experience symptoms or signs like a lump or sore (for example, in the mouth) that does not heal, a sore throat that does not go away, difficulty in swallowing, and a change or hoarseness in the voice, you should immediately consult your doctor.

Sometimes people afflicted with head and neck cancer may not show any of these symptoms. Or, these symptoms may be caused by a medical condition that is not cancer. Since many of these symptoms can be caused by other,

noncancerous health conditions as well, it is important to receive regular health and dental screenings. This is particularly important for people who routinely drink alcohol or currently use tobacco products or have used them in the past.

In fact, people who use alcohol or tobacco should receive a general screening examination at least once a year. This is a simple, quick procedure in which the doctor looks in the nose, mouth, and throat for abnormalities and feels for lumps in the neck. If anything



unusual is found, the doctor usually recommends a more extensive examination.

If cancer is diagnosed, relieving symptoms remains an important part of cancer care and treatment. This may also be called symptom management, palliative care, or supportive care. Do talk with your health care expert about symptoms you experience, including any new symptoms or a change in symptoms.

Most head and neck cancers begin in the squamous cells that line the moist surfaces inside the head and neck. Tobacco and alcohol use, and human papillomavirus infection are important

risk factors for head and neck cancers.

Rehabilitation and regular follow-up care are important parts of treatment for patients with head and neck cancers. Cancers of the head and neck are further categorised by the area of the head or neck in which they begin. These areas are described below:

Oral cavity includes the lips, the front two-thirds of the tongue, the gums, the lining inside the cheeks and lips, the floor (bottom) of the mouth under the tongue, the hard palate (bony top of the mouth), and the small area of the gum behind the wisdom teeth. The pharynx (throat) is a hollow tube about 5 inches

long that starts behind the nose and leads to the esophagus. It has three parts: the nasopharynx (the upper part of the pharynx, behind the nose); the oropharynx (the middle part of the pharynx, including the soft palate [the back of the mouth], the base of the tongue, and the tonsils) and the hypopharynx (the lower part of the pharynx).

The larynx, also called the voice box, is a short passageway formed by cartilage just below the pharynx in the neck. The larynx contains the vocal cords. It also has a small piece of tissue, called the epiglottis, which moves to



“Most head and neck cancers begin in the squamous cells that line the moist surfaces inside the head and neck. Tobacco and alcohol use, and human papillomavirus infection are important risk factors for head and neck cancers.”

there is no evidence of cancer in other parts of the head and neck. When this happens, cancer is called metastatic squamous neck cancer with unknown primary.

Many head and neck cancers arise after prolonged exposure to known risk factors such as tobacco, alcohol, and cancer-causing agents in the workplace. These cancers are generally considered preventable. Others, such as parathyroid cancer, are not associated with any preventable risk factor. Some people who develop head and neck cancers have no known risk factors.


People who use tobacco (including cigarettes, cigars, pipes, and smokeless tobacco) or drink alcohol excessively are at much greater risk for developing head and neck cancers. An estimated 85 percent of head and neck cancers are linked to tobacco use. A smoker's risk

of developing cancer of the larynx (voice box) or hypopharynx (the top portion of the esophagus) is up to 35 times higher than that of a non-smoker. Heavy use of alcohol raises the risk of those cancers two to five times. Those who smoke and drink heavily may raise their risk to 100 times that of non-users.

Men are two to three times more likely than women to develop a head or neck cancer because of their greater use of tobacco and alcohol. However, women are catching up: the rates of head and neck cancers found in women have been rising for several years.

There are many risk factors for cancers of the head and neck. The people who use paan (betel quid) in the mouth should be aware that this habit has been strongly associated with an increased risk of oral cancer. Poor oral hygiene and missing teeth may be weak risk factors for cancers of the oral cavity.

Use of mouthwash that has high alcohol content is a possible, but not proven, risk factor for cancers of the oral cavity. Certain industrial exposures, including exposures to asbestos and synthetic fibres, have been associated with cancer of the larynx, but the increase in risk remains controversial.

Making certain lifestyle changes can significantly lower a person's risk of developing a head and neck cancer. Quitting smoking can substantially reduce the risk, even for those who smoked for many years. People who already have a head and neck cancer and quit using tobacco can reduce the risk of developing a second tumour by as much as 60 percent. People who are exposed to toxic fumes and dust in the work place or in other environments can reduce the risk of head and neck cancer by wearing protective face masks. Companies can also install air-filtering systems to minimise employees' exposure to harmful fumes and dust. 

(The author is Professor of Excellence, Ex-President, Delhi Medical Council and Medical Advisor, Apollo Hospital, New Delhi)

cover the larynx to prevent food from entering the air passages.

The paranasal sinuses are small hollow spaces in the bones of the head surrounding the nose. The nasal cavity is the hollow space inside the nose. The major salivary glands are in the floor of the mouth and near the jawbone.

Cancers of the brain, the eye, the esophagus, and the thyroid gland, as well as those of the scalp, skin, muscles, and bones of the head and neck, are not usually classified as head and neck cancers. Sometimes, cancerous squamous cells can be found in the lymph nodes of the upper neck when



Unproductive Humans

As people lead stressful lives, the natural process of reproduction has become an uphill task. But there are options galore for assisted pregnancy these days

BY DR SWAPNIL SHIKHA



As per a study, in nine Indian cities out of the 2,562 people who participated in it, nearly 46 percent were found infertile. Results from another parallel survey conducted among 100 infertility specialists showed that nearly 63 percent of the infertile couples belonged to the child-bearing age (31-40).

As life runs on the fast lane, a monster called infertility slowly makes inroads into the lives of urban India giving more & younger couples sleepless nights & problems in having a child. It is rather ironic that from a time when family planning drives launched in the 70s were the government's prime focus, the country has come to a point where suddenly young and modern India seems

to be caught in the ever increasing problem of infertility.

A trip through the infertility roller-coaster seems inevitable for many such hard hit couples who soon after marriage realize how uphill a task getting pregnant can be nowadays! With the crisis brewing at a rapid rate, almost 30 million couples in the country suffer from infertility, making the incidence rate of infertile couples to be 10 percent. Today, the number of Indian couples turning to artificial methods to conceive has gone up considerably.

However, keeping infertility at bay is not impossible at all and all that is required is tenacity, consistency and will in our day-to-day activities. But before we go any further to delve deep into the problem, it is important to understand what exactly is infertility and how does one define it?

Every human being wishes to procreate and historically, infertility has been like a curse for any individual affected by it. Couples may find it difficult to conceive naturally due to different reasons. The ART (Assisted Reproductive Technology) consists of a comprehensive programme that is offered to such couples.

Infertility centres these days provide comprehensive infertility management/ART Programme to patients. The various forms of treatments like Intrauterine Insemination, (IUI) In Vitro Fertilization (IVF), Third Party Reproduction and Intracytoplasmic sperm injection (ICSI) are in vogue these days.

ICSI, pronounced "eeksee" or "icksy", is an in vitro fertilization procedure in which a single sperm is injected directly into an egg. The technique was developed by Gianpiero Palermo around 1991 in Brussels. Today it has become the treatment of choice for men with weak sperms that cannot travel themselves into the egg.

When can ICSI be performed?

Men with obstruction in their passages can father a child by using their own sperms that have been extracted by a surgeon. ICSI can also be offered to patients of previous IVF failures due to

failed fertilization and patients with unexplained infertility. ICSI is different from conventional insemination since we clean away the follicle cells from around the eggs and an embryologist chooses the sperm to be injected. A small number of eggs do not tolerate the injection procedure and you can expect that about 5% of eggs die as a direct result of ICSI. However, fertilization rates, embryo quality and pregnancy rates are the same as for couples who do not have ICSI.

How is ICSI performed?

The process involves the injection of a single sperm within the ooplasm of the oocyte. Following the first ICSI birth in 1992, thousands of babies have been born around the world. Sperms for ICSI can be obtained from ejaculation, even when only few are present, or through surgical retrieval from epididymis or testis.

Microinjection is normally performed under a specialized microscope with the aid of a micromanipulator which allows small movements under high magnification. The scientist/embryologist sits on the ICSI station, looks either directly into the microscope or at a monitor that magnifies the image and then injects the egg by moving two manipulators that look and function like joysticks. He holds the oocyte with one hand and injects through the other.

IVF

Reproduction is the process wherein there is fusion of the male and female gametes resulting in the exchange of genetic material, thus forming a new individual with an entirely different genotype.

Mammals reproduce through sexual reproduction but technology now allows mammals to reproduce "asexually" through the process of in vitro fertilization. In this technique, the entire process of fertilization takes place outside a woman's body. This involves extracting a woman's eggs, fertilizing the eggs in the laboratory with sperm, and then transferring the resulting embryo(s) into the woman's uterus through the

Experts advise on ways to conceive



Approximately 40% of fertility in couples can be attributed to male sub fertility. ICSI has raised hopes of these couples. This method of treating predominantly male-factor infertility has been a breakthrough, and it has established itself as the preferred method of treatment in the field of assisted reproduction.

According to **Dr Sonia Malik, Programme Director, Southend Fertility and IVF, New Delhi and President, Indian Fertility Society**, "Assistance can be given to both men and women depending on the cause of infertility.

Infertility management involves detailed investigations to reach a logical diagnosis and then specific treatment."

Infertility is defined as difficulty in conceiving or becoming pregnant, despite having regular sex without contraception for two years in a row. The time a couple takes to conceive could vary from days to months. Also earlier infertility was largely seen as only 'a female problem' with women easily becoming the target of social scorn. **Dr Gauri Aggarwal, Fertility Specialist, Yashoda Superspeciality Hospital, Ghaziabad**, observes: "However, such a theory no more exists and the time when women were solely battling the blame for being barren has become a part of the bygone era! There have been enough research revelations that have attributed the male for the cause of infertility and there is a general realization that implicating a woman with prejudice would only result in robbing the root cause of the issue. Now, one in every



5 men between the age group 18 to 25 is found to suffer from abnormal sperm count – one of the main cause of infertility."

With the problem having become widespread what are the reasons one may ask? Irregular and low sperm count, hampered sperm delivery and motility of sperm are prominent causes of infertility in men. Some other medical reasons such as obesity and lifestyle disorders that includes diet imbalance, addiction to smoking or alcoholism, sedentary existence, or mental and emotional stress contribute to poor sperm count.

On the other hand, Dr Sonia Malik points out: "Polycystic ovary disease (PCOD), a condition characterized by excess production of hormones and lack of ovulation coupled with hectic lifestyle and job stress lead to conception problem amongst women. Primary ovarian insufficiency (POI) is another cause of ovulation problems. POI occurs when a woman's ovaries stop working normally before she is 40. Other than the above changing lifestyle patterns, strenuous work schedules and stressful surroundings are some major reasons responsible for tilting the scale towards the inability to conceive. With an increase in stress and fatigue men & women often suffer from a steady decrease in the libido which has lately become an issue of concern for many."

Having said that all is not grim. It is prudent to adhere to certain precautionary measures on a day-to-day basis. The general preventive measures like -- maintaining weight, avoiding cigarettes, alcohol, reducing stress, increasing intake of nutritious

diet -- though very vital, may sound clichéd, but, certain factors that impact fertility in both men and women are being ignorantly dismissed.

High testicular temperature is increasingly attributed as a cause for male infertility. Scientific studies have indicated that prolonged use of mobile phones can significantly affect male infertility. Exposure to any type of intense and prolonged radiation is known to harm sperm production.

Although ovaries in women are protected in the interior of their body, testis located outside, not for aesthetic reasons, but for functional ones. Testicular temperature should be lower than the body temperature and anything distorting this may harm male fertility.

Thus, it would be wiser for men to wear loose underwear and pants and have frequent breaks when working in the sitting position continuously. Resting laptop computers on lap raises the scrotum's temperature, say researchers and hence it is better to avoid using mini computers on laps literally!

Though physical exercises are imperative, great caution is required especially when it comes to specific sports where testis is not properly protected in men. Testicular injuries must always be treated without any delay lest it may result in long-term consequences on fertility.



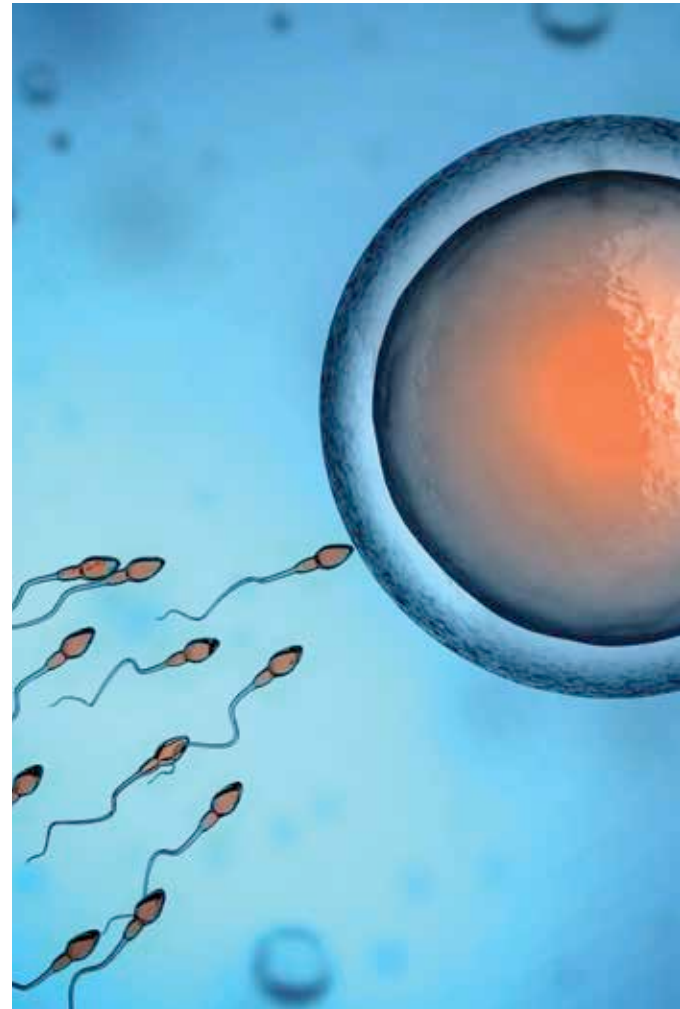
According to **Dr. Sowjanya Aggarwal, Infertility & IVF Specialist, Max Super Specialist Hospital, Vaishali**, another issue of concern is the declining libido among urban couples which has emerged as one of the main causes that has come to engulf couples living in the cities. Hectic schedules, poor work life balance, constant tension and increase in travel time leading to low levels of libido and less sexual activity among couples comes

across as the biggest hindrance in conceiving nowadays. As stress levels are usually high among urban couples, poor eating habits and increase in medical conditions such as diabetes lead to lack of quality and quantity of sperms and eggs. Thus habits such as smoking, tobacco consumption, drinking frequently, unhealthy food habits and no exercise have to be immediately done away with.

It could also be shocking to know that products like furniture polish, all-purpose cleaners, bug sprays, bathroom cleaners and room deodorizers may contain chemicals that could diminish conception by 33%. Organic, non-toxic alternatives are anytime a better option.

Dr. Sowjanya Aggarwal, said, "Paint thinners, household glues and oil paints can be toxic and negatively affect fertility increasing risk for miscarriage when pregnant. If a 'sniff test' indicates strong and offensive smell its only better to avoid them. Women should be wary of paraben, a preservative found in most of the cosmetics, from shampoo to moisturizers to, lipsticks. Parabens belong to a group called xenoestrogens, or false estrogens that could induce infertility".

Serving full fat dairy products a day could help fertility. Cow's milk, especially that which is milked when the animal is pregnant is rich in fertility enhancing hormones. Microwaved food could be quick but plastic needs to be avoided. Hormones leach more when unhealthy plastics are hot and wet. And finally, a good sleep is most ideal as 80 per cent of ovulation occurs between midnight and 4 a.m. Interrupted sleep could weaken immunity, disrupt reproductive hormone levels and hinder ovulation.



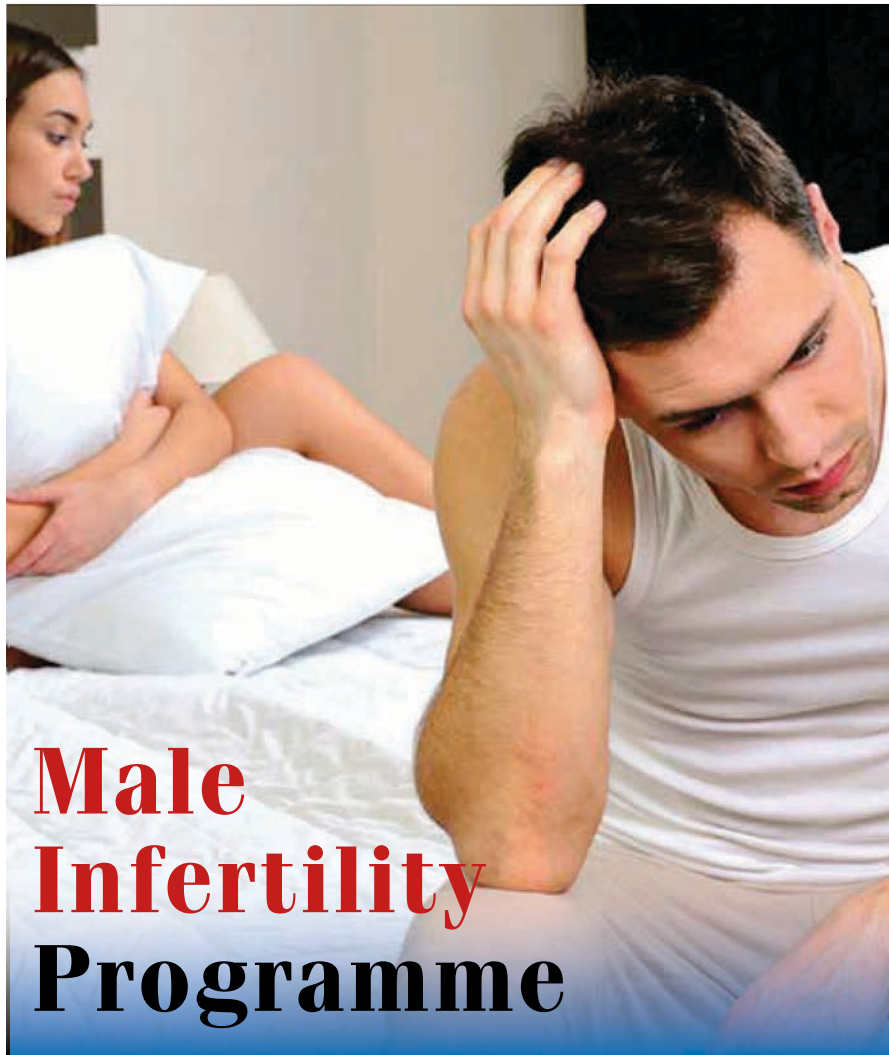
cervix (embryo transfer) where it can develop. Most couples transfer two embryos; however, more may be transferred in certain cases. IVF is the most common form of ART and it is often the treatment of choice for a woman with blocked, severely damaged, or absent fallopian tubes.

Evaluation and Preparation of a Couple

Proper evaluation of infertile couple before IVF is very important for success of IVF and prevention of complications. Any ART procedure should be preceded by traditional fertility workup & at this stage it should be decided whether ART should be instituted, postponed for other treatment modalities or refused to the couple. Once the patient has been selected to undergo ART treatment, thorough testing of patient should be undertaken to correct any problems which may lead to IVF failure. At this stage, it should also be decided whether specific procedure such as egg, sperm or embryo donation is required.

Third party reproduction

Third party reproduction refers to the use of



Male Infertility Programme

Ever since the human race evolved on the earth, it was the female who had been seen as responsible for procreation. So, if anything was amiss, the woman supposed to be at fault. All research focused around the development of medication and technology in female infertility. While such innovations improved success in female infertility, no attention was being given to the male counterpart. This was also because infertility was the realm of the gynaecologist! There were no special doctors for males with problems. In developing countries like India, another reason was a complete denial by the males in accepting themselves to be the cause of infertility in the couple!

However, the last century saw rapid advances in the management of the infertile male both in diagnostics and

treatment. The WHO gave guidelines for a proper semen examination and based on that treatment were issued.


Today, male infertility programme involves not only the standard testing procedures like semen analysis but also special tests to determine the fertilizing potential and quality of the sperm. This is called the DNA Fragmentation test. In patients who are azoospermic on testing, testicular fine needle aspiration is undertaken. If this too does not show sperms in the sample, doctors proceed to a testicular biopsy. The sample is checked for sperms and if positive, it is frozen or cryopreserved till the wife is readied for ICSI. Men who have mild male factor infertility, can be offered IUI but those that have weak sperms are treated by either IVF or ICSI and recently IMSI.

oocytes, sperm, embryos or uterus that have been provided to a couple/single individual (called intended parents) by a third person (donor) in order to help them/him or her to become a parent.

According to the present Indian guidelines on ART drafted by the ICMR, all donors except the surrogate need to be anonymous to the commissioning couples. The ICMR guidelines also state that this activity of supplying various gametes and surrogates will not be carried out by the IVF centre but separate entities called ART Banks. All the legal issues are also the responsibility of these banks. Once the requirement is fulfilled, the medical fitness of the donor is assessed. After fulfilling the various formalities, the couple and their donor/surrogate is taken into the third party programme.

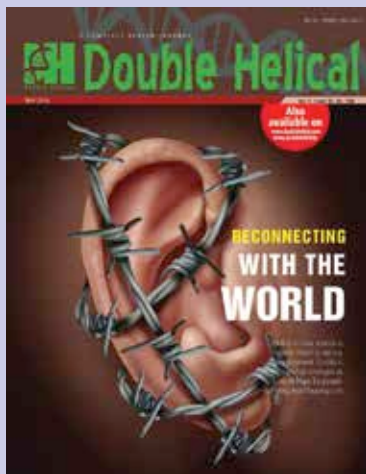
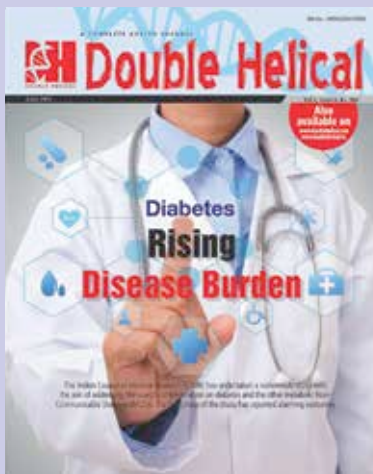
Recurrent Pregnancy Loss Programme

There is nothing more painful than losing a pregnancy repeatedly! It is not only devastating for the patient but also the treating doctor! RPL is defined as a situation where a woman has lost three or more than three pregnancies. In fact, RPL may be caused by chronic infections like genital tuberculosis! We also discovered that majority of recurrent failures whether at implantation or later pregnancy is due to an impaired blood circulation within the pelvis especially the uterus. The cause for this may vary.

Doctors carry out tests to rule out the cause of RPL and accordingly treat the patient. In case the patient has a genetic cause, the patient and her husband are informed regarding the defect and counseled regarding future implications. Endocrinal causes like PCOS can also be the reason and need to be tackled by taking insulin lowering medication. There is no need to go through extensive testing after a single pregnancy loss. This could have happened by chance and one should not worry about it. 

(The author is Director, Amrapali Healthcare Ltd, Noida)

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Keep calm

AND
CARRY
ON!



Don't let your mental equilibrium get disturbed by factors such as anxiety, demanding workloads, hectic lifestyles, family, social and financial responsibilities and unrealistic expectations of people

BY DR PRACHI



A 16-year-old boy Joginder Arora (name changed) from Amritsar was shot at after fight over parking. Raju, a bus driver, was hit by a hammer by a man in a BMW car for not giving way. A police constable was dragged for more than 50 metres and was killed by being crushed under the wheels of a car that he signalled to stop for crossing red light.

These are few examples of what is happening almost regularly in Delhi and are popularly referred to as road rage incidents and stress problems. In the past few years almost every day we get to hear about such incidents and the people on the roads in Delhi are so short-tempered that they don't even hesitate to hit, punch or even kill someone on the pretext of some minor issues on the road, leave aside the regular abuses and arguments.

There are biological, psychological and social factors that influence behaviour such as rage. Biological factors play a role in human behavior. Some individuals are genetically predisposed to have aggressive tendencies. This aggressive behavior is usually channeled in socially acceptable ways. Some of the psychological factors that affect human behavior are the result of early attachment to parental figures and the resolution of conflict

early in life.

Social factors are also important. For an individual to lose control and go into a rage, usually there is a combination of temperament, learned behavior and a high level of stress and frustration.

Rage is dangerous because as a person loses control, he can say things that he normally would suppress and even become violent. A moment of losing control can change one's life forever. You can lose your job, your relationships, or can land up in jail. The consequences for the individual can also be financial loss and psychological injury. The consequences for the victim are usually worse and can include long-lasting psychological scars and/or physical trauma. If an individual has an episode of rage, he should seek psychological help. If this problem is not

With so many sources of stress, it is difficult to find time to relax and disengage. This is why stress is one of the biggest health issues facing people today. Stress can cause mental health problems, and make existing ailments worse

addressed with professional assistance, it may develop into a pattern of self-destruction.

Some people will not like the consequences of their behavior and for that reason will try to retract their actions by offering an apology. But, in fact, the behavior actually reflects who they really are and are expressing feelings that are usually suppressed. Others will sincerely regret what was said or done and will carry the guilt for some time. In both cases, the individual's life will be changed after an episode of rage. Some people will learn and change their behavior; others will continue with their behavior especially if the consequences are benign. For those that have multiple episodes of rage, it will be more difficult to explain that they did not mean what was said or done.

Many situations and circumstances arise in everyday life that will anger, irritate and frustrate you, and often you will find it difficult controlling your emotions. When you feel overwhelmed by rage, your muscles tense, heart rate increases, breath becomes shorter and faster and temples start pounding.

There are definite triggers that may cause you to lose your temper – anxiety, demanding workloads, hectic lifestyles, family, social and financial responsibilities and unrealistic expectations of people. If someone



constantly calls you names, bullies, torments or humiliates you, this is bound to cause a reaction.

Parents often lose their temper when their children disobey them, do badly at school, contend with large problems, or feel they have been taken advantage of. Some people have a shorter temper than others and often become easily provoked and enraged. It hampers your personal relationships with friends and family, leads to violence, creates trouble in your professional life and people fear your temperamental nature.

There are various solutions and coping mechanisms such as psychotherapy, anger management, communication skills training, or self-control training. These strategies will teach you to draw boundaries, take positive control of negative emotions and channel them more constructively.

By including relaxation techniques such as deep breathing exercises, visualization techniques, repeating positive affirmations, meditation or yoga into your lifestyle can make a significant difference in helping you to control your temper and remain calm.

Many aggressive children and adolescents have grown up in violent homes and neighborhoods, but some become violent for other reasons, as in the student shootings at Columbine High School and other schools. In particular,

are there psychological or family variables that constrain children toward such a developmental pathway? Many analysts assume that demographic and socioeconomic factors account for most child aggression. Past studies on antecedents of aggression have reported that in general there is no single cause of aggression. Specifically, there are probably multiple pathways by which individuals become aggressive and or violent.

In summary, factors like harsh punishment, low self-esteem predict amount of aggression, but not as strongly as the other factors. Peer victimization, aggressive fantasy, gender, racial and ethnic group and socioeconomic status sensation seeking boys and older children are some of the factors responsible for uncontrolled anger.


When someone is under chronic stress, it begins to negatively affect his or her physical and mental health. The body's stress response was not made to be continuously engaged. Many people encounter stress from multiple sources, including work, money, health, and relationship worries; and media overload.

With so many sources of stress, it is difficult to find time to relax and disengage. This is why stress is one of the biggest health issues facing people

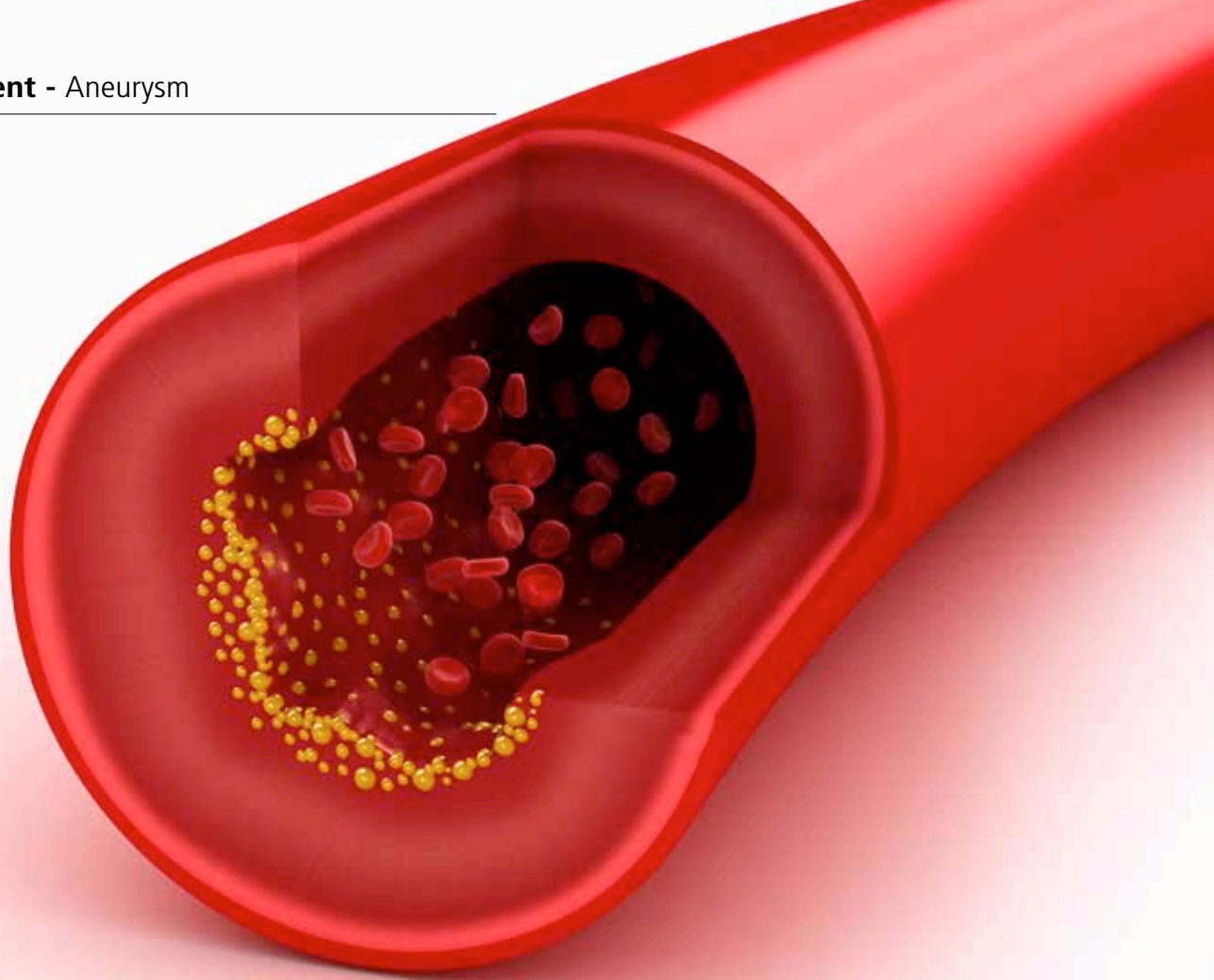
today. Stress can cause mental health problems, and make existing ailments worse. For example, if you often struggle to manage feelings of stress, you might develop a mental health problem like anxiety or depression. Mental health problems can cause stress.

Being under pressure is a normal part of life. It can be a useful drive that helps you take action, feel more energised and get results. But if you often become overwhelmed by stress, these feelings could start to be a problem for you.

Psychiatrists have an actual name for the kind of seething rage that goes beyond the speeding, tailgating, honking, or passing on the right that many aggressive drivers regularly do when they drive. People who experience road rage so violent that it leads to an assault against another driver, passenger, or car may be suffering from intermittent explosive disorder (IED), according to a report of the Archives of General Psychiatry. This disorder may affect up to 7 percent of the population, or about 16 million Americans over their lifetimes, according to the authors. This disease -- the psychiatric disorder most closely linked to impulsive violence -- usually begins in childhood or adolescence and includes repeated aggressive outbursts involving property destruction and/or injury over many years.

Treatment involves clinical interventions on people with the purpose of understanding, relieving and solving psychological disorders: emotional disorders, behavioral problems and personal worries and others. It is understood that every treatment or intervention involves some sort of interpersonal relationship and social situation. This type of aid may be named psychotherapy, behavior therapy or behavior modification, cognitive therapy (or cognitive-behavioral therapy), psychological counselling, or it may be recognized by other names depending on psychologist's theoretical orientation or preference. 

(The author is Clinical Psychologist, Sri Balajee Action Medical Institute, New Delhi



Obstructed Flow



It is important to explore the best treatment option for aneurysm, an excessive localized enlargement of arteries such as those supplying blood to the brain. Aneurysm may remain silent or rupture, causing serious problems and even death

BY DR RUPINDER SINGH BAWEJA

An aneurysm is an excessive localized enlargement of an artery caused by weakness in the arterial wall. It can occur in important arteries such as those supplying blood to the brain, and the aorta; the large artery that originates at

the left ventricle of the heart and passes down through the chest and abdominal cavities. The pathophysiology of an aneurysm (how it develops) is straightforward, although the causes are less well understood.

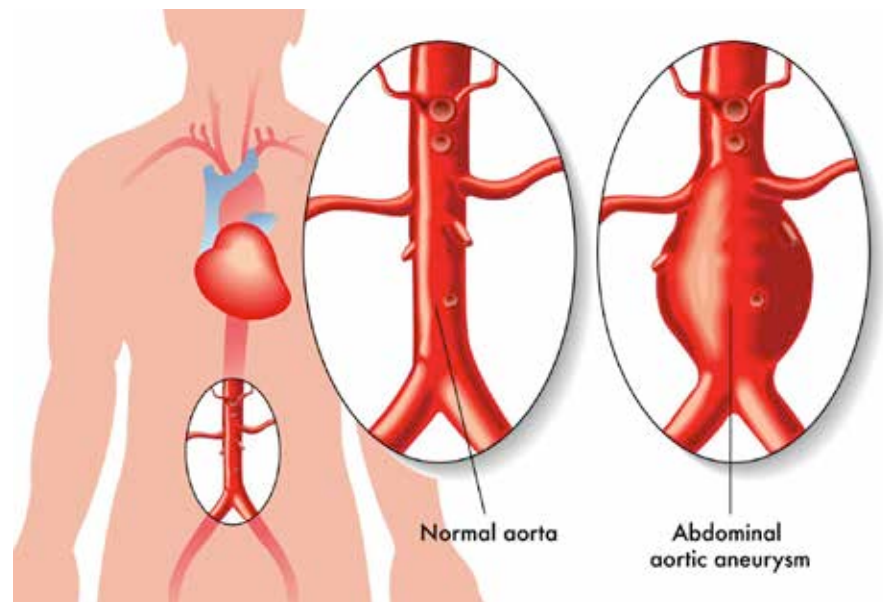
Most aneurysms do not themselves cause any symptoms. Even if an

aneurysm does not rupture, however, a large aneurysm may obstruct circulation to other tissues. An aneurysm can also contribute to the formation of blood clots that obstruct smaller blood vessels, potentially causing ischemic stroke or other serious problems. If an aneurysm has remained undetected, the first sign of it could be when there is a complication - in particular, a rupture - with symptoms resulting from this rather than the aneurysm itself.

A number of risk factors are known to be associated with the development of aneurysms, and the same factors also affect the chances of a developed aneurysm then rupturing. However, it is not fully understood why the artery wall weakens in the way that it does to cause an aneurysm. Some aneurysms, though less common, are present as an artery defect at birth (congenital).

The majority of people living with an aneurysm do not suffer any of the complications like severe chest and/or back pain leads to heart attack and headache. However, managing the risk factors is important, because all of these possibilities are serious. If a brain aneurysm leads to subarachnoid hemorrhage (a kind of stroke), the main symptom is sudden extreme headache, often so severe that it is unlike any previous experience of head pain. Other symptoms of aneurysm rupture include pain, low blood pressure, a rapid heart rate, and light-headedness.

Endovascular coiling is a minimally invasive technique, which means an incision in the skull is not required to treat the brain aneurysm. Rather, a catheter is used to reach the aneurysm in the brain. During endovascular coiling, a catheter is passed through the groin up into the artery containing the aneurysm. Not all aneurysms need to be treated and your physician may choose to closely observe your aneurysm. There are two main treatment options for patients who need to have their aneurysm treated: Open



surgical clipping and Endovascular therapy coiling. The open surgical clipping is performed by a neurosurgeon who will make an incision in the skin over the head, make an opening in the bone and dissect through the spaces of the brain to place a clip across the aneurysm where it arises from the blood vessel. This prevents the blood flow from entering the aneurysm. Most elective patients spend 2-3 nights in the hospital and then will go home on light restricted activity for 1-2 months after surgery.

There have been considerable advances in open surgery techniques. Many neurosurgeons can now perform

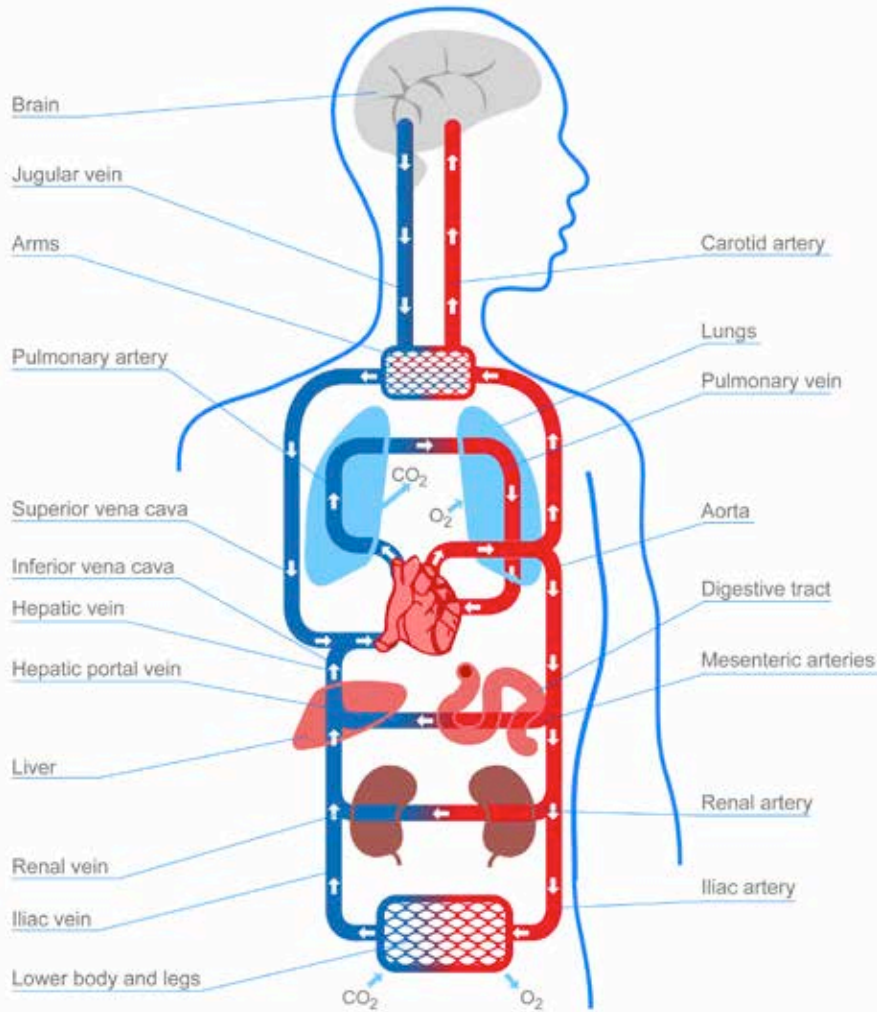
Endovascular coiling is a minimally invasive technique, which means an incision in the skull is not required to treat the brain aneurysm. Rather, a catheter is used to reach the aneurysm in the brain. During endovascular coiling, a catheter is passed through the groin up into the artery containing the aneurysm

mini craniotomies, or eye brow incisions to clip an aneurysm. In some patients, a small incision is made over the eyebrow. A small two inch window is then made in the bone over the eye and through this incision a small clip is placed across the opening of the aneurysm. These patients usually spend 1-2 days in the hospital after surgery and then go home. Patients are usually on light restricted activity for 1-2 months after surgery. However, it is still an invasive procedure and takes longer to recover from than a coiling procedure.

Endovascular treatment is performed by a neuro interventional surgeon who may be a neuro radiologist, neurosurgeon, or neurologist that has completed additional training. Studies have shown that patients with a ruptured aneurysm tend to do better in the long term after a coiling procedure.

A coiling procedure is performed as an extension of the angiogram. A catheter is inserted into a vessel over the hip and other catheters are navigated through the blood vessels to the vessels of the brain and into the aneurysm. Coils are then packed into the aneurysm up to the point where it arises from the blood vessel, preventing blood flow from entering the aneurysm. Most patients will go home the next day after surgery and are back to normal activities the following day. More than 125,000

THE CIRCULATORY SYSTEM



patients worldwide have been treated with detachable platinum coils

Additional devices, such as a stent or a balloon, may be needed to help keep the coils in place inside the aneurysm. Stent assisted coiling involves permanently placing a stent in the vessel adjacent to the aneurysm to provide a scaffolding of support that keeps the coils within the aneurysm sac. Balloon remodeling involves temporarily placing a removable balloon adjacent to the aneurysm while coils are positioned in the aneurysm.

There have been considerable advances in endovascular techniques over the last few years and the field continues to evolve. Most notable is the use of new flow diverting embolization devices. These devices are similar to a stent in that they are placed into the

main vessel adjacent to an aneurysm. These devices divert flow away from the aneurysm and provide scaffolding for healing of the vessel wall to occur. Over time, the aneurysm disappears.

Such technology allows doctors to treat many aneurysms that were previously considered untreatable or that were considered to be high risk by other methods. There are many other new devices that are becoming available as well, such as newer ones that are easier and safer to deliver, as well as stents that can bridge two vessels.


Until recently, most studies on the surgical clipping and endovascular treatment of brain aneurysms were either small-scale or retrospective studies that relied on analyzing historical case records. The only multi-centre prospective randomized clinical trial -

considered the gold-standard in study design - comparing surgical clipping and endovascular coiling of ruptured aneurysm is the International Subarachnoid Aneurysm Trial (ISAT).

The study found that in patients equally suited for both treatment options, endovascular coiling treatment produces substantially better patient outcomes than surgery in terms of survival free of disability at one year. The relative risk of death or significant disability within one year of being treated with coils was 22.6 percent lower than in surgically-treated patients.

The study results were so compelling that the trial was halted early after enrolling 2,143 of the planned 2,500 patients because the trial steering committee determined it was no longer ethical to randomize patients to neurosurgical clipping. Long-term follow-up will be essential to assess the durability of the substantial early advantage of endovascular coiling over conventional neurosurgical clipping for the treatment of brain aneurysms.

It is important to note that patients enrolled in the ISAT were evaluated by both a neurosurgeon and an endovascular coiling specialist, and both physicians had to agree that the aneurysm was treatable by either technique. However, this study provides compelling evidence that, if medically possible, all patients with ruptured brain aneurysms should receive an endovascular consultation as part of the protocol for the treatment of brain aneurysms.

Although no multi-centre randomized clinical trial comparing endovascular coiling and surgical treatment of unruptured aneurysms has yet been conducted, retrospective analyses have found that endovascular coiling is associated with less risk of bad outcomes, shorter hospital stays and shorter recovery times compared with surgery. 

(The author is Associate Consultant Neuroradiology at Sri Balaji Medical Institute, New Delhi)

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Health Ministry unveils plans for upgradation of nursing skills



Underscoring the importance of upgradation of skills of nurses across the country, the government of India is committed to providing accessible, affordable and quality training to them. The Union Health Ministry believes that the nursing staff occupies important position in healthcare delivery and without them the desired results cannot be achieved.

Says J P Nadda, Union Health Minister, “The role of the nursing staff can be compared equally to that of the doctors when we think of achieving the SDGs”. He was speaking at the inauguration of Indian Nursing Council Office Complex where Dr Kirit P Solanki, Member of Parliament, Ganesh Singh, Member of Parliament, and Dileep Kumar, President, Indian Nursing Council were also present. On this occasion, Nadda launched two new Nurse Practitioner Courses, one in Critical Care and the other in Primary Healthcare. He also launched a web-based ‘Live Register’ for Nurses.

While laying stress on importance of adequate skill enhancement through appropriate training, Nadda stated that the training course for the nurses should be contextualised, so that they are


imparted education and knowledge of the Indian healthcare landscape. He also underscored the importance of informal education in addition to formal education, as it shall provide a holistic and rounded understanding of the various issues the nurses are required to deal with in their profession.

The need for sensitisation towards laid down protocols in treatment should be made a part of the curriculum, the Minister added. Nadda termed the newly launched “Live Register” as path-breaking. Through the Live Register accurate data of active and registered nurses will be made available online. This will help the Government in better manpower planning and for making policy level decisions for the nursing professionals in India. Nadda stated that this will help in rationalisation and optimum utilisation of manpower. He further added that the government has given high priority for improving the Nursing and Midwifery cadre through skill development and continued professional development. He said that the Government has undertaken major expansion of nursing and technical education leading to a three-fold increase in the numbers of nursing institutions and in the number of

students passing out of these institutions.

The Health Minister informed that the Government has undertaken several initiatives for strengthening of nursing cadre are. Some of them are: establishment of ANM/GNM schools, upgradation of institutions from School of Nursing to College of Nursing, Training of Nurses, development of 11 one-year specialisation courses, revision of curriculum for all nursing programs, establishment of national Ph D consortium for Nursing Research.

The Nurse Practitioner in Critical Care Program will be a two-year residential M.Sc degree in Nurse Practitioner in Critical care. On completion of the program, nurses will be qualified to assume responsibility and accountability for the care of critically ill patients, whereas the Nurse Practitioner in Primary Healthcare Program will be a one-year residential Post Graduate diploma program.

The Health Minister further said that there is an urgent need to make training course contextual to country’s needs. The Health Minister also suggested that the Nursing courses can be blended with Skill India training courses for countering the shortage of nursing staff. 



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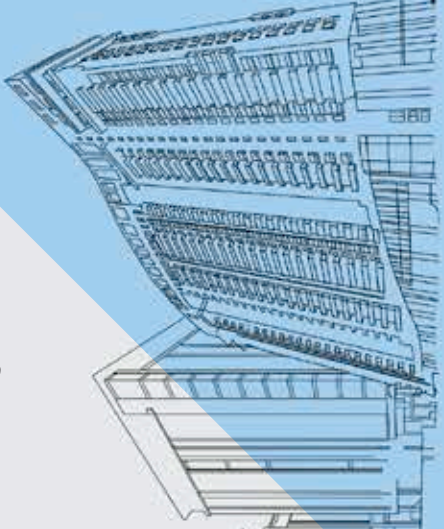
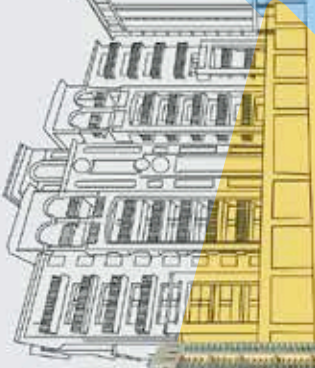
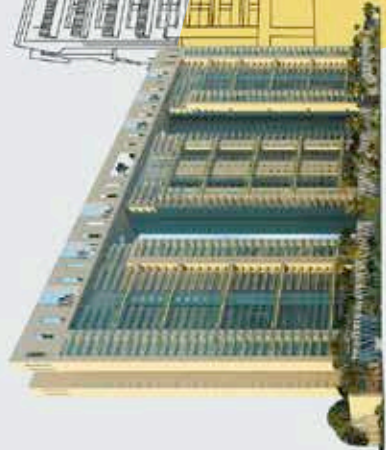
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