

A COMPLETE HEALTH JOURNAL



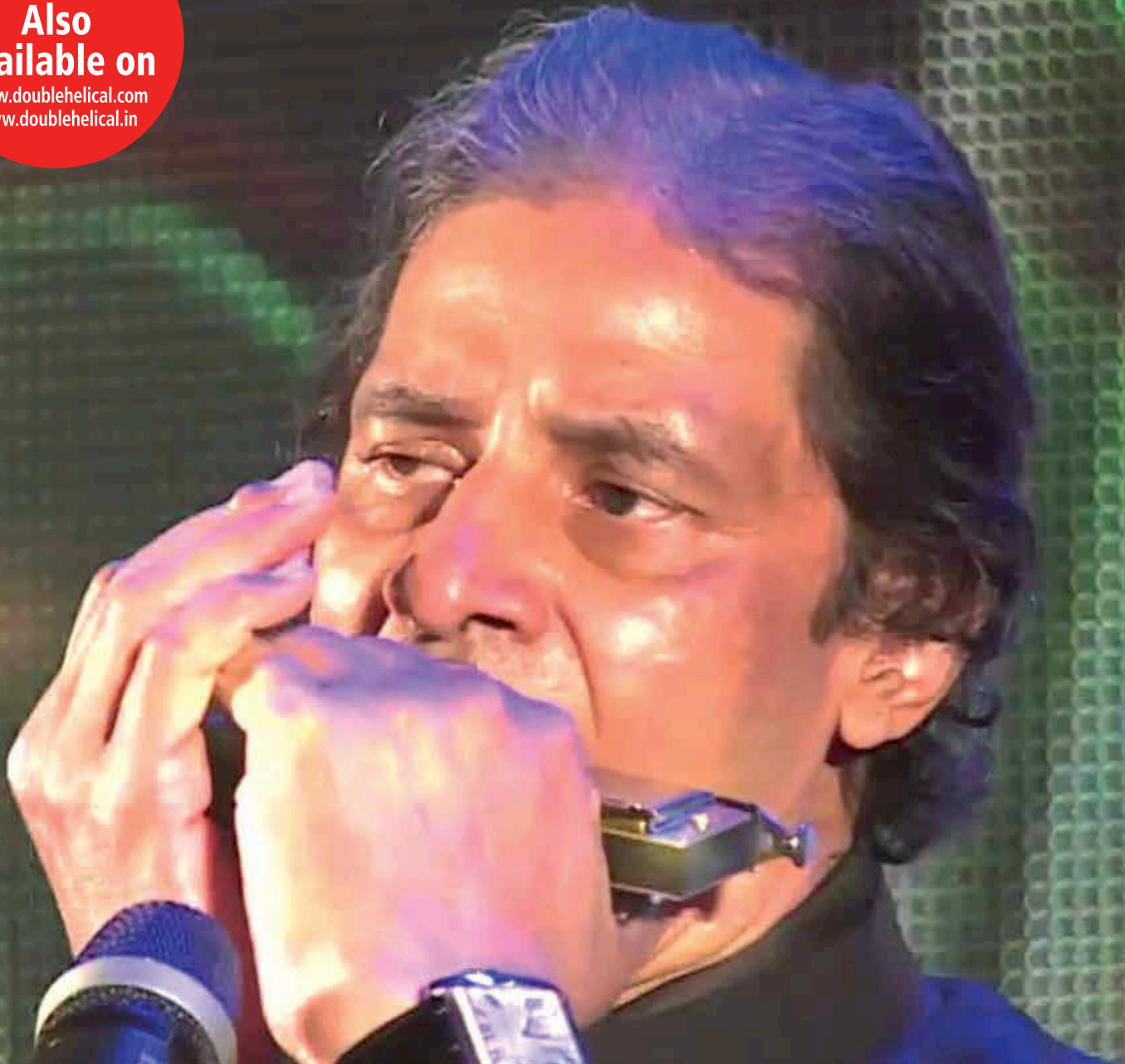
Double Helical

JUNE 2016

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Immobile Life

Ability to hear sounds is closely linked to mental development.
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COVER STORY

Immobile Life

Knee problems crop up after years of wear and tear of the joints that are pivotal to the body's movements and sometimes due to injuries or other causes. Double Helical takes a close look at all aspects of the disease, including treatment options



Achiever Dr Rajgopal



Risks and Benefits



Less Incision, More Precision



The Lurking Danger



Keep an eye on your eyes



Chew your way to health

Knee-Deep in Care

Dear readers, It has become the veritable raison d'être for us to faithfully record and interpret interesting and informative happenings and trends taking place at a fast pace in the medical field. While we try our level best to hold a mirror to relevant healthcare issues, we know that only you are our best judge. In the current issue, we turn our attention to several pertinent topics such as knee and joint replacement, the retirement age of doctors which has been raised to 65 years recently, efforts to retain India's status as polio-free, and many more.

According to some media reports, polio virus (P2 strain) has resurfaced in India for the first time in 5 years. However, it is not true as detected polio virus strain is vaccine derived polio virus (VDPV) in a sewage sample collected near the Secunderabad railway station. However, no children have been found to be affected by the detected VDPV isolate in the nearby areas. Last case of wild polio virus type 2 in the country was reported 17 years back in 1999.

The detection of VPDV does not change our polio-free status. It only indicates the robustness of the surveillance system and willingness of the country to detect any kind of polio virus even from the environment. Vaccine derived polio viruses are rare strains that have genetically mutated from the strain contained in the Oral Polio Vaccine (OPV).

Our cover story this month entitled 'Immobile Life' focusses

on knee problems which crop up after years of wear and tear of the joints that are pivotal to the body's movements and sometimes due to injuries or other causes. We take a close look at all aspects of the disease, including treatment options.

The knee has the responsibility of supporting the entire weight of the body which makes it particularly prone to stress and strain. People world-wide are affected by knee problems. This problem is commonly found among people over 50 years of age and those who are overweight. Other reasons of knee pain can be health issues like bursitis, arthritis, tears in the ligaments, osteoarthritis of the joints, or infections. Each year, millions of people undergo knee surgery and how quickly they recover depends on many factors such as their age, the severity, location of the injury and pre-existing conditions, such as arthritis.

The knee replacement surgeons in India have created a reputation for conducting ground-breaking surgeries. Patients from around the world visit India every year with various knee problems. The quality that sets Indian knee surgeons aside from others is that they are not only good in communicating with the patients but are also good listeners. They provide a beforehand guide about the details and requirements of the procedure, helping the patients to be ready for the surgery both mentally and physically. Our story profiles top Indian knee surgeons like Dr Ashok Rajgopal, Dr Vikram Shah, Dr Abhay D Narvekar and Dr

Sanjay Desai are highly educated and have extensive work experience both in India and abroad, giving them that extra edge over other surgeons in the world.

In another development, Prime Minister Narendra Modi recently approved the much-awaited proposal of the Ministry of Health and Family Welfare for enhancing the age of superannuation of all doctors belonging to the Central Health Service to 65 years with effect from May 31st 2016.

The experts believe this will enable the Government to retain experienced doctors for a longer period, and to provide better services in its public health facilities, particularly to the poorest. The medical fraternity believes that the government's decision to increase doctor's retirement age to 65 years goes hand in hand with the increasing human life expectancy.

We certainly believe that this will strengthen the medical sector by not only providing extra hands but also some experienced brains. Only thing that needs to be taken care of is that this decision should not increase the unemployment amongst the young medicos whose entry into the governmental healthcare sector is dependent upon the vacancies created due to the retirement of the senior members.

We hope you will enjoy reading such topical stories and encouraging us with your feedback.

Amresh K Tiwary,

Editor-in-Chief

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Rishabh Group is looking forward to deliver two more state of the art projects - Cloud 9 Indirapuram & Vaishali soon, where construction is in full swing.

Jarwal

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Less Incision, more Precision



In the blade-free new Femtosecond laser technology for cataract surgery, the incisions heal faster and the risk of infection is minimum

BY DR MAHIPAL S SACHDEV

The clear and transparent human crystalline lens is a part of the focusing mechanism of the eye. With increasing age, the lens becomes cloudy and opaque thereby hampering normal vision. Any opacity in the crystalline lens which leads to decreased vision is called cataract or “Safed Motia”.

About half the population by the age of 60 will get cataract, while around 80 per cent people will have cataract in at least one eye by the age of 70 years. Approximately 8 million people in India have hazy vision due to cataract.

SYMPTOMS OF CATARACT

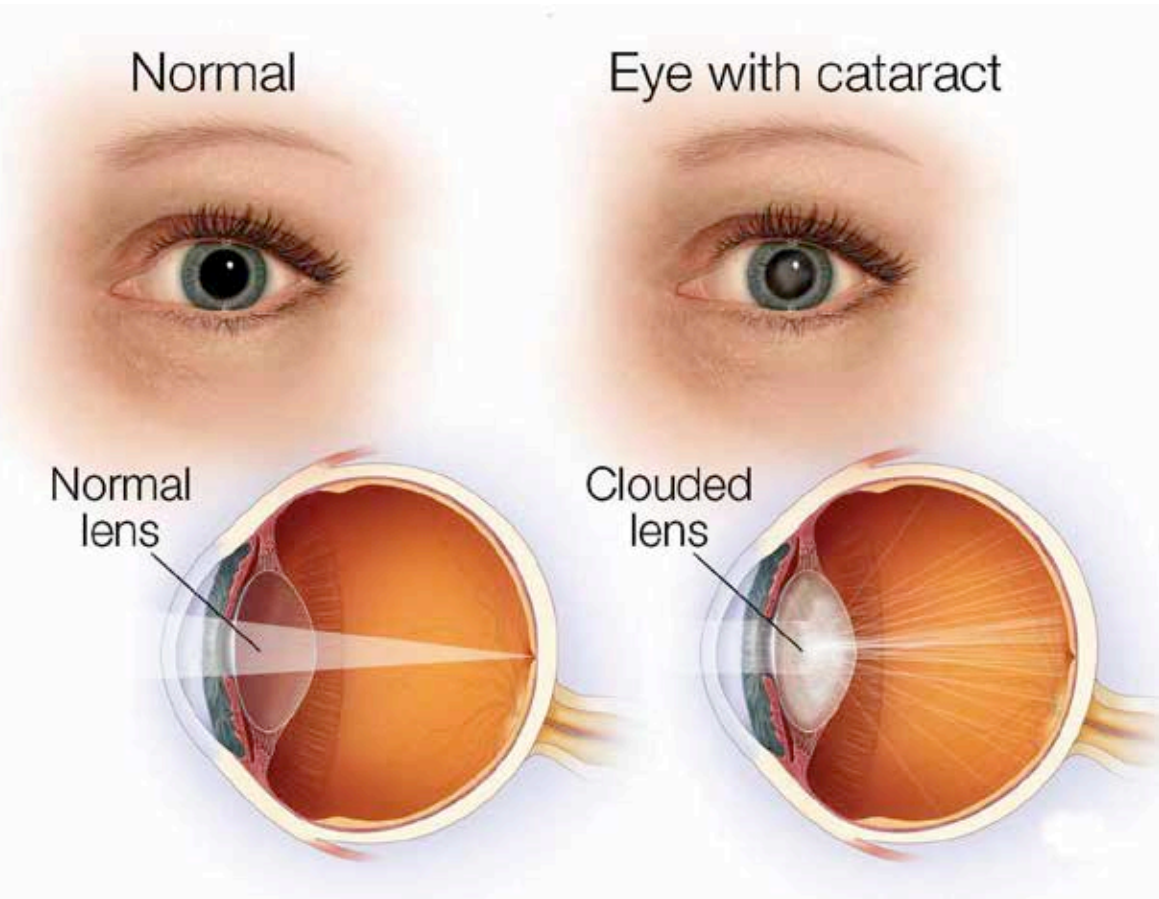
- Hazy, fuzzy and blurred vision

- Increased sensitivity to light resulting in glare & difficulty in night driving
- Poor night vision, poor depth perception, e.g. difficulty in going downstairs
- Frequent need to change eyeglass & as cataract develops, even high power glasses would no longer improve the vision.

TREATMENT PLAN

Surgical correction is the only treatment for cataract.

Phacoemulsification with foldable intraocular lens (IOL) remains the standard surgery for cataract removal where using ultrasonic power, cataractous lens is broken down into



small pieces and sucked out using a vacuum based aspiration system. A new artificial lens is implanted in its place which allows seeing clearly.

ROBOTIC LASER CATARACT SURGERY

Femtosecond laser technology or robotic blade-free laser cataract surgery is a leap ahead of the traditional Phacoemulsification cataract surgery (which is a manual technique, where the surgeon makes cuts in the cornea using a hand-held blade). Through these incisions the surgeon then inserts surgical instruments inside the eye to make a manual round opening (capsulorrhexis) around the cataract. An ultrasound probe breaks the old, cloudy lens into pieces. After removing those pieces through the incision, the surgeon inserts an intraocular lens (IOL) inside the eye to replace the natural lens.

In contrast to conventional cataract

surgery, the innovative Femtosecond laser technology allows for the creation of corneal incisions and capsulorrhexis with computer- guided, laser-controlled precision. The laser also fragments the cataract into tiny pieces which can then be safely removed by the surgeon. The critical high resolution eye image mapping and measurements that are used to plan and perform the Femtosecond laser cataract surgery to

In contrast to conventional cataract surgery, the innovative Femtosecond laser technology allows for the creation of corneal incisions and capsulorrhexis with computer- guided, laser-controlled precision

exact specifications are not attainable with traditional surgery. With the use of Femtosecond laser, each aspect of this advanced blade-free cataract surgery is automatically programmed and monitored by the computer.

While cataract surgeons are doing a good job now, Femtosecond laser technology introduces the ability for even the best cataract surgeons to be more consistent. It has the potential to, in the simplest of terms, help automate many of the crucial steps of cataract surgery resulting in a quicker and safer operation and improved surgical outcome.

FEMTOSECOND LASER ADVANTAGE

- **Blade-free, laser-created incisions: deliver precise cuts and is more accurate than manual blade incision**
The wound architecture in traditional surgery is limited by



FACTS ABOUT FEMTOSECOND LASER CATARACT SURGERY:

1. **Blade-free laser cataract surgery**
2. **The actual working of the laser takes less than 1 minute**
3. **Greater safety, precision & accuracy**
4. **Capsular opening, laser fragmentation & corneal incision is fully automated**
5. **Better visual outcome with quicker recovery**



hand-held instruments and manual incisions. In contrast, the Femtosecond laser allows for computerized programming of corneal incisions. The precisely structured self-sealing incisions heal faster and minimize the risk of post-operative infections.

- **Consistent circular laser-created capsulorrhexis enhances final visual outcome**

The first step in Femtosecond laser assisted cataract surgery is the creation of the capsular opening (capsulorrhexis) around the cataract with the help of laser. The opening in the capsule through the use of this technology is twice as strong and 5 times more accurate in size and shape as compared to the manual opening. The laser then breaks down the cataract into smaller fragments. Then corneal incisions are made with robotic precision. All these steps are performed without using any blade or needle.

- **Enables astigmatism correction at the time of cataract surgery**


In people suffering from astigmatism, the front surface of the eye (cornea) is not curved properly. The curve is irregular resulting in blurred vision. Laser-assisted cataract surgery allows for correction of astigmatism at the time of surgery.

- **Improved safety for the patient**

Femtosecond laser aims to convert the

In Femtosecond laser-assisted cataract surgery, every aspect of cataract surgery is automatically programmed and monitored by the computer resulting in a safer operation and improved surgical outcome

manual, multi-step, multi-tool Phaco procedure to one with laser-created, and computer-controlled precision. The critical high resolution eye image mapping and measurements that are used to plan & perform the surgery to exact specifications are not attainable with traditional surgery. In Femtosecond laser-assisted cataract surgery, every aspect of cataract surgery is automatically programmed and monitored by the computer resulting in a safer operation and improved surgical outcome.

If you need to undergo cataract surgery, opt for a centre which offers the latest technology combined with the expertise of a qualified cataract surgeon. Robotic laser cataract surgery technology is available at Centre for Sight's New Delhi, Meerut, Agra, Jaipur, Indore and Hyderabad branches. 

(The author is Eye Surgeon and Director, Save Sight Centre, New Delhi)



Keep an eye on your eyes

Frequent changes in glass power may be a serious outcome of an underlying ocular or systemic disease

BY DR RAJEEV JAIN

Eye sight turning weak and wearing spectacles is a pretty common thing today. It is generally no cause for alarm. However if the same number changes every six months or even earlier, then this definitely calls for some investigation.

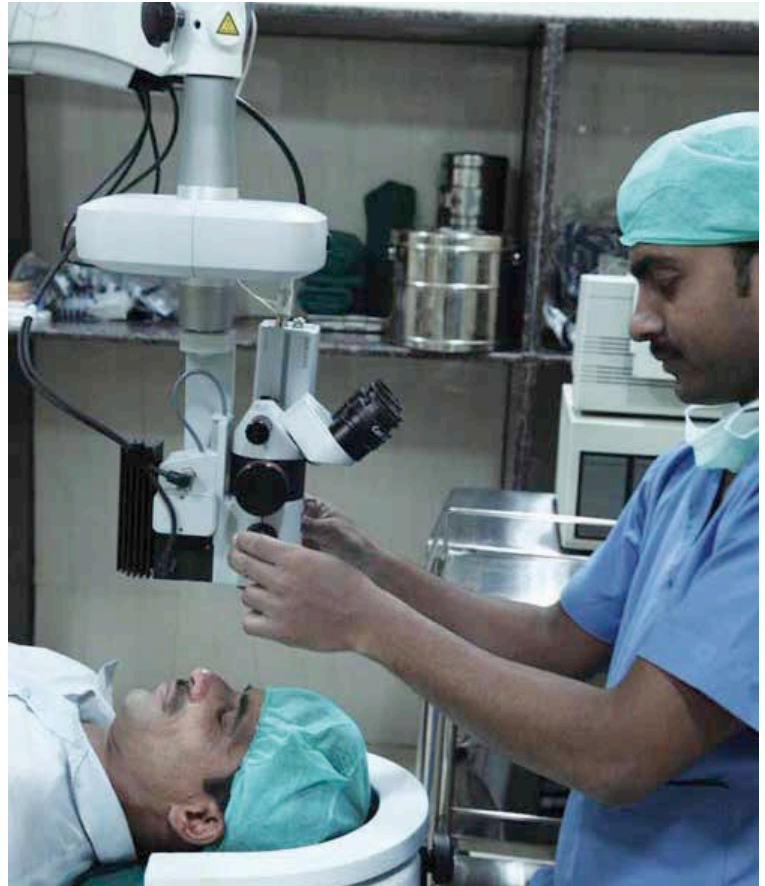
A clear and stable vision is a much-

needed requirement for every individual. However patients generally don't give this issue the attention it deserves, where it may be an indication of something more serious.

At all ages, it is advised to keep a regular check on your eye number. The constant change in the power of your glasses can be a serious outcome of an

underlying ocular or systemic disease. Frequent change in eye power after 40 years may indicate development of cataract and needs to be addressed. Corneal diseases like keratoconus, corneal scarring can lead to frequent change of glass power as well.

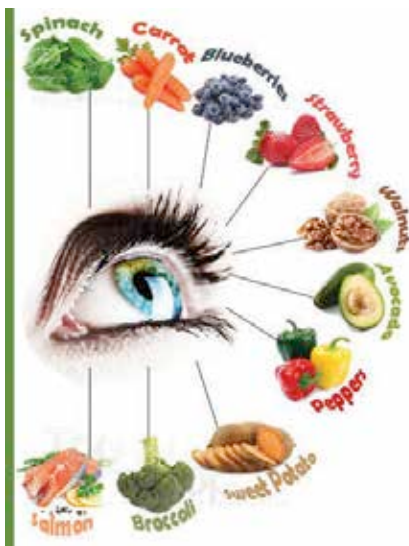
Dwindling eye sight may be the effect but the underlying cause might be



diabetes, hypertension, or other hereditary problems. It is seen that individuals with diabetes have a higher tendency to develop cataract as well as glaucoma at a younger age. The primary problem caused by diabetes in the eyes is Diabetic Retinopathy, which, if not treated in time can lead to permanent blindness. The symptoms to diagnose Diabetic Retinopathy are blurred or cloudy vision, irregular patches of vision or black spots. All these can lead to constant change in eye number.

Hypertension is another big reason for the constant decline in vision. Some people suffering from hypertension don't realize it, but it shows up in the form of regular decline in the vision or change in power of glasses. This causes Hypertensive Retinopathy and several other retinal diseases. Keeping a tab on your blood pressure can save you from the risk of developing such retinal diseases.

Swelling in retina due to blockage of retinal blood vessels because of various causes like anemia, cardiac




thromboembolism, carotid artery embolism etc are other major causes of changing eye power. Additionally, constant change in the eye number can be an outcome of hereditary problems too.

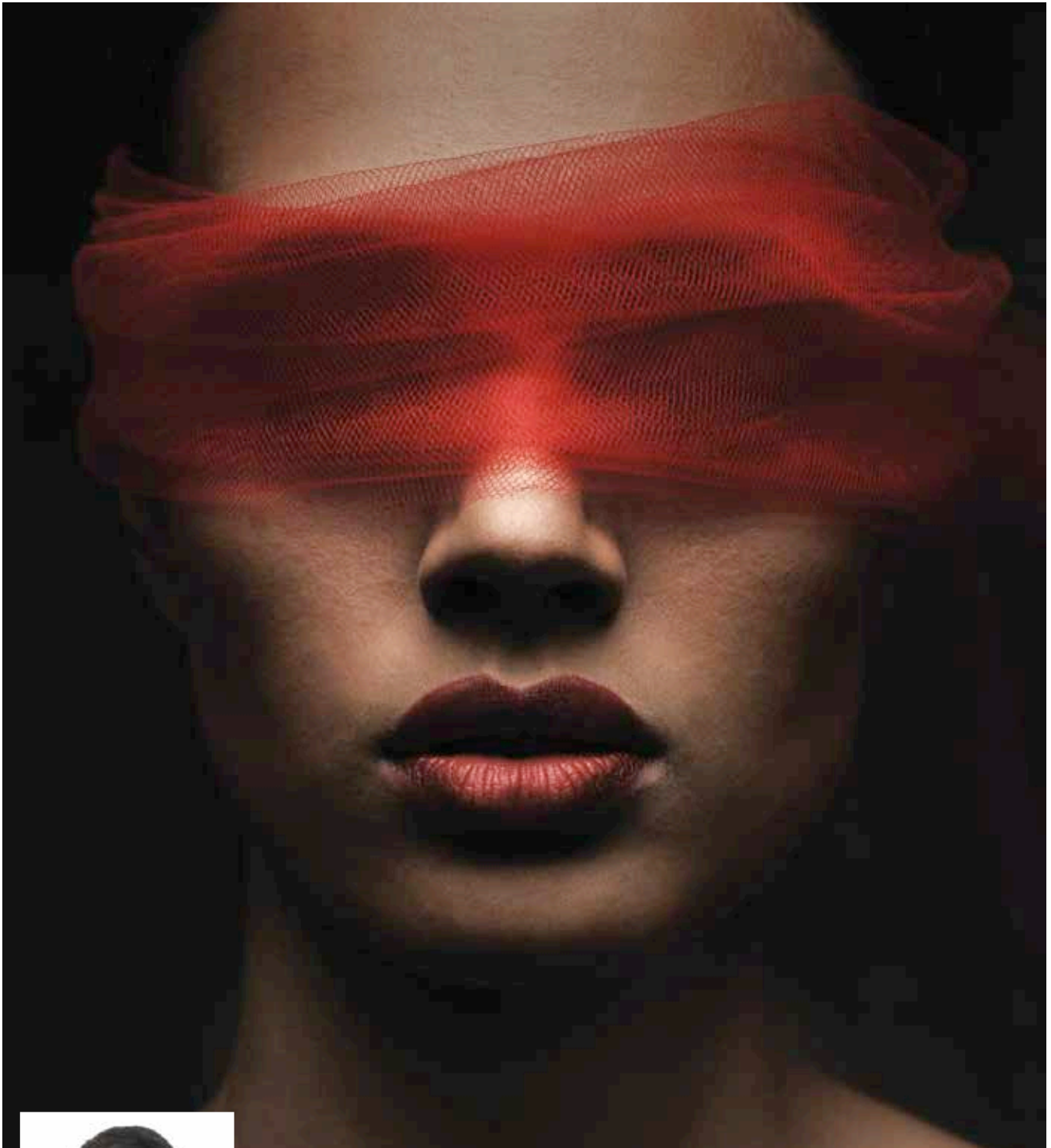
Precautions and preventive measures which can be taken to avoid such situation are; get your eyes tested once in every 6

Dwindling eye sight may be the effect but the underlying cause might be diabetes, hypertension, or other hereditary problems. These may cause Hypertensive Retinopathy and several other retinal diseases

months, try to avoid spending too much time on computers and if you have to, it would be better to consult an eye specialist.

Your diet should include fruits and vegetables, rich in vitamin A and vitamin K to ensure a healthy eye sight. Regular intake of vitamin and mineral enriched diet is very helpful for maintaining a good eye sight. 

(The author is Eye Surgeon and Director, Save Sight Centre, New Delhi)



Guard your Vision

Numerous ophthalmic manifestations of HIV infection may involve the anterior or posterior segment of the eye. Only proper diagnosis and treatment may help to maintain vision and prolong life

BY DR GEETIKA KHURANA

Acquired Immune Deficiency Syndrome (AIDS) is a deadly disease caused by blood borne and sexually transmitted infection called the Human Immunodeficiency Virus (HIV). HIV infection can manifest in a variety of ways in and around the eyes, and these manifestations vary according to HIV severity, specifically, CD4+ T lymphocyte counts. Up to 70% of patients infected with HIV develop some form of ocular involvement.

SPECTRUM OF HIV DISEASE

Acute infection with HIV causes nonspecific symptoms of viral infection and lymphadenopathy, followed by a minimally symptomatic phase during which CD4+ T lymphocyte counts decline from the normal values of 600 to 1500 cells/mm³. Below 200 cells/mm³, symptoms occur frequently from opportunistic infections, malignancies, and generalized malaise. Ocular manifestations attributable to HIV infection vary according to CD4+ T lymphocyte counts.

HIV RELATED OCULAR LESIONS

These can be categorised into four main groups:

- 1: Non-infectious retinopathy
- 2: Opportunistic infections caused by viruses, bacteria, fungi, and protozoa.
- 3: Unusual neoplasms, such as Kaposi's sarcoma and Burkitt's lymphoma.
- 4: Neuro-ophthalmic lesions.

ANATOMICAL DIVISION OF OPHTHALMIC MANIFESTATIONS OF HIV

• AROUND THE EYE

- Molluscum Contagiosum
- Herpes Zoster Ophthalmicus
- Kaposi's Sarcoma
- Conjunctival Squamous Cell Carcinoma
- Trichomegaly

• FRONT OF THE EYE

- Dry Eye
- Anterior Uveitis

• BACK OF THE EYE

- Retinal Microvasculopathy
- CMV Retinitis
- Acute Retinal Necrosis



- Progressive Outer Retinal Necrosis
- Toxoplasmosis Retinochoroiditis
- Syphilis Retinitis
- Candida albicans endophthalmitis

• NEURO - OPHTHALMIC

- Cranial nerve palsies
- Papilloedema

Few common manifestations are discussed in detail:

1. Molluscum contagiosum

- Viral infection of the skin
- Affects 20% of symptomatic HIV patients
- Presents as small, painless papules 1-3 mm in size with a central depression. The lesions are more likely to be numerous and bilateral in HIV infection.

HIV infection can manifest in a variety of ways in and around the eyes, and these manifestations vary according to HIV severity, specifically, CD4+ T lymphocyte counts

2. Herpes Zoster Ophthalmicus

- Due to the reactivation of a latent infection by Varicella Zoster Virus in the dorsal root of trigeminal nerve ganglion.
- It manifests with a maculo-papulo-vesicular rash which often is preceded by pain. Usually involves the upper lid and does not cross the midline.

3. Kaposi sarcoma

- Kaposi's sarcoma is a vascular neoplasm which is almost exclusively seen in patients with AIDS.
- KS is the commonest anterior segment lesion seen in AIDS
- Appears as a violaceous non-tender nodule on the eyelid or conjunctiva.

4. Anterior Uveitis

- Can be direct manifestation of HIV infection, associated with other opportunistic infections or drug induced (Rifabutin).

5. Retinal microvasculitis

- It is seen as transient cotton wool spots (CWS), intra-retinal haemorrhages and microaneurysm, which occurs in 50-70% of patients.
- It is usually asymptomatic.



- It has an unclear pathogenesis, but it is thought to be HIV infection of retinal vascular cells

6. Cytomegalovirus (CMV) Retinitis

- Commonest intraocular opportunistic infection seen in patients with AIDS.
- Patients may complain of minor visual symptoms such as floaters, flashing lights or mild blurred vision, or be totally asymptomatic.
- It presents with a wide range of clinical appearances- From cotton wool spots which may look like HIV Retinopathy to confluent areas of

full thickness retinal necrosis and vasculitis.

- CMVR can progress in a “brushfire” pattern from the active edge of an active lesion. The retinal vessels in an affected area show attenuation, becoming ghost vessels eventually.


7. Acute retinal necrosis

- A RN is a confluent peripheral whitening of the retina with marked vitritis and blood vessel closure.
- Optic neuritis and retinal detachment are frequent complications.

8. Progressive outer retinal necrosis (Varicella zoster retinitis)

- The main symptom is rapid loss of vision.
- The retina shows typically a white lesion with no haemorrhages or exudates.
- Retinal detachment common

CONCLUSION

The HIV infection has spread worldwide, with various adverse health and economic implications, particularly in the developing world. Numerous ophthalmic manifestations of HIV infection may involve the anterior or posterior segment of the eye. The use of highly active antiretroviral therapy (HAART), which consists of a combination of nucleoside reverse transcriptase inhibitors, HIV protease inhibitors and non nucleoside reverse transcriptase inhibitors, decreases plasma levels of HIV RNA and increases CD4+ T lymphocytes counts, improving the immune function of patients with HIV infection. All HIV patients should undergo routine ophthalmologic examinations, since proper diagnosis and treatment may help to maintain vision and prolong life. 

(The author is Senior Resident, Army College of Medical Sciences & Base Hospital, Delhi Cantt)

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Enemy of Eyes

Age Related Macular Degeneration (AMRD) may lead to loss or weakening of vision. Timely identification and treatment can help preventing vision loss or further progression of the disease

BY DR RAJEEV JAIN

Weakening of eyesight or loss of vision is a factor synonymous with aging. As one crosses the age of 50, problems like blurred vision, weakening of eyesight etc. becomes a common phenomenon. Though, there can be a lot of reasons behind this, but one of the common causes of vision loss while aging is Age Related Macular

Degeneration (ARMD).

ARMD is a disease that can cause irreparable loss of vision. This problem occurs when the central part of the retina, known as Macula degenerates. The macula is responsible for central vision of the eye and when it deteriorates, the affected person starts facing problems while reading, driving or recognising faces, as these activities involves central vision. Although, a

person suffering from this disease doesn't completely loses his/her vision in the early stage itself, but the damage caused is quite significant.

Loss or weakening of vision is the primary symptom of ARMD. But, as the disease progresses the patient starts having blurred or wavy vision. In addition to this, problems like distorted vision, partial loss of vision, spotty vision, visual distortion (straight lines



appearing wavy), need for brighter light while reading, difficulty in adapting to low lighting, difficulty recognizing faces, difficulty in reading printed words, reduced intensity or brightness of colors; are the other symptoms one should never ignore. This if not treated timely, can worsen the condition.

Medically speaking, Macular Degeneration is majorly of two types: Dry Macular Degeneration and Wet Macular Degeneration. Dry Macular Degeneration is characterised by formation of yellow deposits (drusen) in the macula. These yellow deposits are actually the debris of the deteriorated tissue inside the eye. This may lead to distorted or dim vision while reading. As the problem progresses, a person starts seeing blind spots or dark spots in their central vision.


The cases of Wet Macular Degeneration are found to be less as compared to Dry Macular Degeneration. It is distinguished by the growth of abnormal blood vessels

in the macula, under the retina. When these blood vessels start to ooze blood and fluid to the retina, it leads to distortion of vision which can make a person see straight lines as wavy. The bleeding can eventually lead to scarring which results in blind spots in vision which may lead to permanent loss of central vision.

ARMD is a disease that can cause irreparable loss of vision. This problem occurs when the central part of the retina, known as Macula degenerates. The macula is responsible for central vision of the eye and when it deteriorates, the affected person starts facing problems while reading, driving or recognising faces,

Besides aging, Macular Degeneration can also be caused as a result of hereditary or environmental factors. Those who smoke or drink are at a greater risk of developing this disease at an early age. As compared to a non smoker, an active smoker has chances of developing age related macular degeneration 5-10 years before. That's not all; a person who smokes has a greater probability (about 2-3 times more) of developing this disease. Smoking causes adverse effect on antioxidant metabolism, which is necessary for a healthy eye film and the macula, causing degeneration. Other factors like obesity and vascular diseases also increase the chances of developing this disease.

Although, ARMD cannot be completely cured, but timely identification and treatment can help preventing vision loss or further progression of the disease. It is advised to have regular eye examinations, especially if you have a family history of vision loss. Also, if you are noticing changes in your central vision or losing the ability to fine details, don't ignore. These are the primary indicators of this disease; a detailed eye examination can help in early diagnosis and better treatment. Various treatment options are available for treatment of wet ARMD which consists primarily of injections in to the eye. These injections reduce the swelling and blood at the macula thereby improving the quality of vision and eye sight.

Pursuing a healthier lifestyle can help in preventing as well as delaying the occurrence of Macular Degeneration. Exercising along with a good and healthy diet which is rich in antioxidants and multivitamins especially lutein content should be included. Also, avoid smoking as it increases the chances of developing of ARMD. In addition to this, whenever going out in the sun, wear sunglasses which help in preventing eyes from the harmful UV radiation of the sun. 

(The author is Eye Surgeon and Director, Save Sight Centre, New Delhi)



More years to Serve the Country

The retirement age of doctors has been raised to 65 years. Stakeholders of Indian healthcare sector articulate their responses...

BY TEAM DOUBLE HELICAL


Recently, Prime Minister Narendra Modi approved the much-awaited proposal of the Ministry of Health and Family Welfare, Govt of India, for enhancing the age of superannuation of all doctors belonging to the Central Health Service to 65 years with effect from May 31st 2016.

The experts believe this will enable

the Government to retain experienced doctors for a longer period, and to provide better services in its public health facilities, particularly to the poorest.

Union Minister of Health and Family Welfare J P Nadda stated that this step will empower the Government to strengthen the healthcare sector in the country. It will help in providing

additional doctors in the health pool of the country, he added. This will strengthen the efforts of the ministry in conceptualising and rolling out various people-oriented schemes which need the services of doctors in implementing them, Nadda added.

Double Helical spoke to eminent doctors to know their views on the implication of increase in the retirement age of doctors. Excerpts ... 



Dr A K Agarwal, Professor of Excellence, Ex-President, Delhi Medical Council and Presently Medical Advisor, Apollo Groups of Hospitals

“This is really a wonderful job done by our Prime Minister. Keeping huge shortage of doctors in mind, the decision is really appreciable. We welcome this move. I think the decision will cover all government doctors whether serving under states or the central dispensation. If adequate number of medical institutes were there, then we would have more doctors and would not feel the shortage. It is difficult to make doctors in two years but poor families cannot be forced to live without doctors.”



Dr Vinay Aggarwal, Ex-President, Indian Medical Association and Founder Chairman of Max Superspeciality Hospital, Vaishali

“It certainly will allow doctors to serve patients and provide education for a longer period. The NDA government is also working fast to have more medical colleges to have more doctors in the field. The Prime Minister’s announcement came after he appealed to doctors to serve poor pregnant women for free on each ninth day of every month, saying it will contribute to his government’s efforts to deal with illness among the poor.”



Dr Suneela Garg, HOD, Department of Community Medicine, Maulana Azad Medical College, New Delhi

“Of course, keeping in mind the shortage of doctors, the decision to increase the retirement age of doctors from 62 years to 65 years is a welcome move. The move would help in improving patient care, academic activities and effective implementation of National Health Programme.”



Dr. Arvind Vaid, Infertility & IVF Expert, Indra IVF Delhi

“In my opinion, it’s a welcome move. It is going to be beneficial both for nation and for individuals. As such even now there is scarcity of doctors which will have to be met. Same way people will make use of their experiences. As life expectancy has increased, doctors would enjoy more working years but it should not be applied forcefully”



Dr Manisha Yadav, Medical Practitioner

“As per reports, there are approximately 9.50 lakh doctors in India. From these, about 4,000 doctors are working under Central Health Service. The Central Government has decided to increase the superannuation age of all doctors in Central Health Service to 65 years with effect from May 31, 2016. In view of the shortage of doctors, the decision to raise the retirement age is certainly a good step.”



Dr. Kanav Anand, Paediatric Nephrologist, Sir Gangaram Hospital, New Delhi

“The government’s decision to increase doctor’s retirement age to 65 years goes hand in hand with the increasing human life expectancy. This will strengthen the medical sector by not only providing extra hands but also some experienced brains. Only thing that needs to be taken care of is that this decision should not increase the unemployment amongst the young medics whose entry into the governmental healthcare sector is dependent upon the vacancies created due to the retirement of the senior members.”

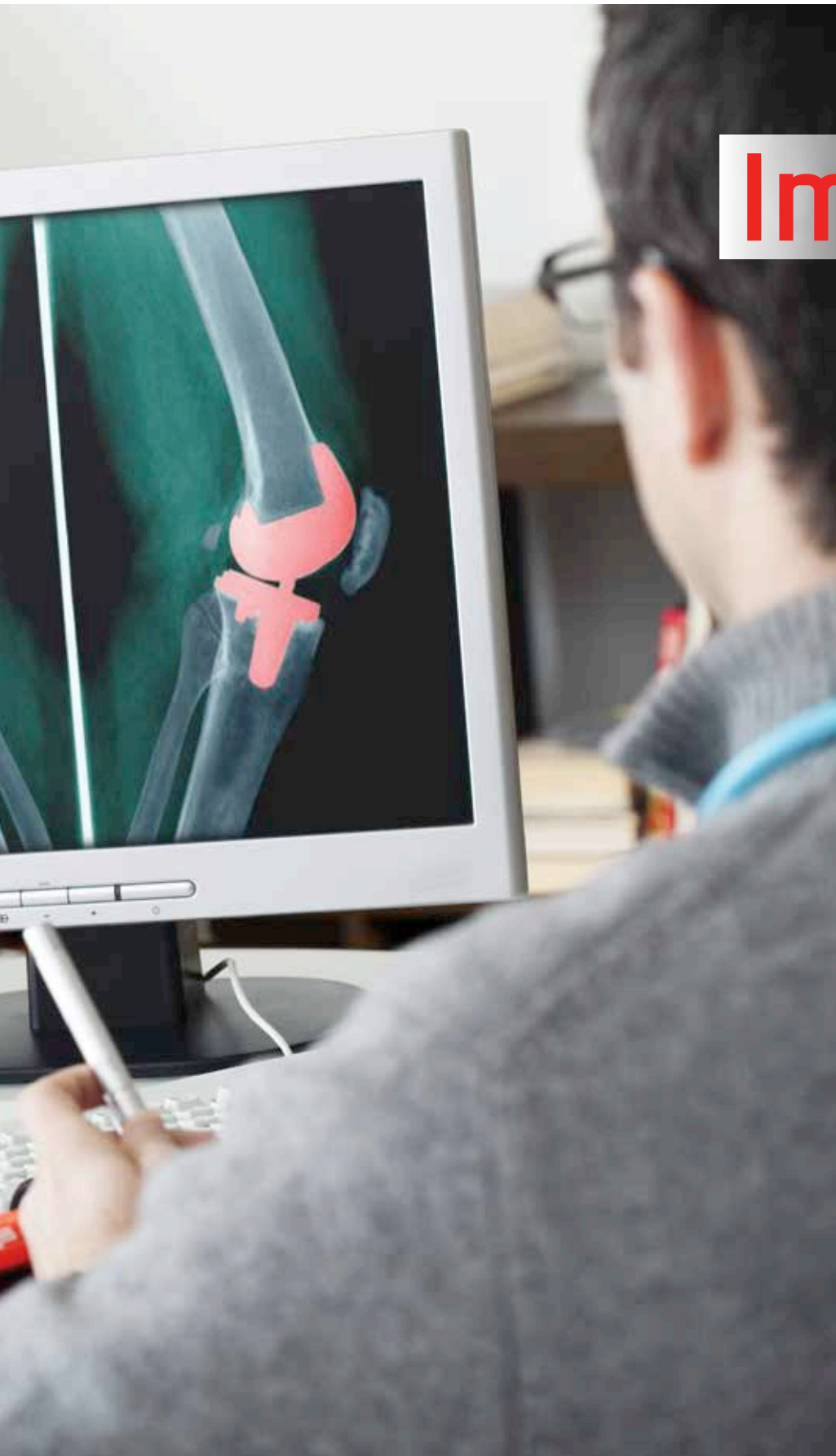


Dr Subodh - MPT Neurology, SHAMA FOUNDATION REHABILITATION CENTRE

“As a general rule early or late retirement will give doctors the same total security benefits over their life time.

If you retire late you will get benefit for a period of time but the monthly amount will be larger to make up for the months when you didn’t receive anything. The advantage is that you collect benefit for a longer period of time.”





Immobile Life

Knee problems crop up after years of wear and tear of the joints that are pivotal to the body's movements and sometimes due to injuries or other causes. Double Helical takes a close look at all aspects of the disease, including treatment options

BY AMRESH KUMAR TIWARY

The knee has the responsibility of supporting the entire weight of the body which makes it particularly prone to stress and strain. People world-wide are affected by knee problems. This problem is commonly found among people over 50 years of age and those who are overweight. Other reasons of knee pain can be health issues like bursitis, arthritis, tears in the ligaments, osteoarthritis of the joints, or infections. Each year, millions of people undergo knee surgery and how quickly they recover depends on many factors such as their age, the severity, location of the injury and pre-existing conditions, such as arthritis.

Knee surgery typically refers to total knee replacement, or knee arthroplasty.

When to go for Knee Replacement

1. **Your pain persists or recurs over time**
2. **Your knee aches during and after exercise**
3. **You're no longer as mobile as you'd like to be**
4. **Medication and using a cane aren't delivering enough relief**
5. **Your knee stiffens up from sitting in a car or a movie theatre**
6. **You feel pain in rainy weather**
7. **The pain prevents you from sleeping**
8. **You feel a decrease in knee motion or the degree to which you're able to bend your knee**
9. **Your knees are stiff or swollen**
10. **You have difficulty walking or climbing stairs**
11. **You have difficulty getting in and out of chairs and bathtubs**
12. **You experience morning stiffness that typically lasts less than 30 minutes (as opposed to stiffness lasting longer than 45 minutes, a sign of an inflammatory condition called rheumatoid arthritis)**
13. **You feel a "grating" of your joint**
14. **You've had a previous injury to the anterior cruciate ligament (ACL) of your knee**





Knee surgery can be performed arthroscopically or in an open fashion. Special techniques and latest implants ensure restoration of natural movements. It covers major surgeries like total and partial knee replacement surgery and less invasive procedures like knee arthroscopy. The main aim of knee surgery is to increase the mobility and to reduce the pain associated with knee injuries and diseases.

Knee replacement is today one of the most successful operations in medicine and has improved the lives of millions of patients. Patients often ask about the

In simple terms, knee replacement is a surgical procedure most often performed to relieve the pain and disability and restricted mobility arising out of degenerative arthritis

correct time to have a knee replacement. One of the most effective means of treatment is physical therapy. The most effective therapy is called closed-chain quadriceps strengthening. With this therapy, the foot is planted on the floor to strengthen the large thigh muscles. This often improves the way the kneecap moves through the knee joint, decreasing pain and increasing ability to function.

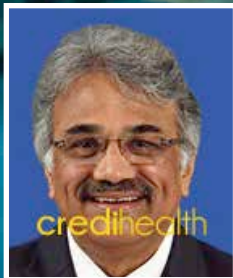
Weight loss is also a very effective means of dealing with knee arthritis. When we speak about weight, we usually speak about the body mass index (BMI), which is a ratio of weight to height that can be calculated using online calculators. People with a body mass index above 30 should consider weight loss to see whether that improves symptoms before embarking on any kind of joint replacement.

In simple terms, knee replacement is a surgical procedure most often performed to relieve the pain and disability and restricted mobility arising

TOP KNEE SURGEONS IN INDIA

The knee replacement surgeons in India have created a reputation for conducting groundbreaking surgeries. Medical travelers from around the world visit India every year with various knee problems. The quality that sets Indian knee surgeons aside from others is that they are not only good in communicating with the patients but are also good listeners. They provide a beforehand guide about the details and requirements of the procedure, helping the patients to be ready for the surgery both mentally and physically.

Top Indian knee surgeons like Dr Ashok Rajgopal, Dr Vikram Shah, Dr Abhay D Narvekar and Dr Sanjay Desai are highly educated and have huge work experience both in India and abroad, giving them that extra edge over other surgeons in the world.



Dr Abhay D Narvekar

Practicing as an exclusive arthroscopic surgeon for over 20 years, **Dr Abhay D Narvekar, MS (Ortho), D. Ortho, Hinduja Hospital, Mumbai**, has performed over 8,000 arthroscopic surgeries of the knee, shoulder, ankle and the elbow. He also runs the arthroscopic services for all the municipal hospitals in Mumbai. He has extensive experience in managing ligament injuries of the knee. With over 1,200 arthroscopic ACL reconstructions, he is vastly experienced in PCL reconstructions and articular cartilage transplants using the mosaicplasty technique as well. He has pioneered cadaveric training for arthroscopy in various training workshops.



Dr Sanjay Desai

Dr Sanjay Desai is a founder-member of the Shoulder Society of India and also Consultant, Lilavati and Breach Candy hospitals, Mumbai. He is a pioneer super-specialist in shoulder and knee surgery. Dr Desai operated on Bollywood's superstar Shah Rukh Khan and treated actor Hrithik Roshan. Practicing in the highly specialized field of

shoulder and knee surgery since the last 10 years, to him goes the credit of bringing world class arthroscopic shoulder surgery to India. Shoulder surgery is a relatively young speciality. Patients, including our sportsmen and cricketers, have had to travel abroad to undergo advanced shoulder surgery. Thanks to his expertise, this revolutionary surgical treatment is now affordable and available at our doorsteps.



Dr Vikram Shah

Ahmedabad-based Dr Vikram Shah has the experience of carrying out over 16,000 knee replacement surgeries and may be rightly termed as "The Knee Guru". Dr Shah, who performed 3,000 knee surgeries in 2008, has given no leg to stand on to his closest peer in the world, a UK surgeon who carried out 1,000 surgeries in the same year.

A visionary and founder of quality health services establishments like Shalby, Dr Vikram Shah's name is synonymous with knee replacement surgery. Inventor of OS needle used by orthopedic surgeons worldwide, Dr Shah along with his team has performed over 40,000 joint replacements. Presently they perform more than 300 primary joint replacement and 7-8 revision joint replacement surgeries every month. Dr Shah brought laminar air flow and body exhaust systems in the OT to perform joint replacement surgery in India and established the first Indian hospital with a Class 100 operation theatre making knee replacement surgeries much more safe and successful.

Dr Desai has had a brilliant academic record studded with Gold medals throughout his orthopaedic career, including one from the University of Liverpool, while in the United Kingdom. He is still active academically, presenting his work at international conferences such as the World Shoulder Congress at Cape Town, South Africa, in April 2001. The "Young achievers

Award - 2002" conferred by the Indo-American Society is a formal recognition of his contribution. Dr Desai has been invited as a faculty to Barcelona, Spain.

He is acclaimed among the medical fraternity across the globe for developing the 'OS Needle', a breakthrough technology which greatly reduces the time required in joint replacement.

out of degenerative arthritis. Major causes of debilitating pain include meniscus tears, osteoarthritis, rheumatoid arthritis, post trauma, ligament tears, and cartilage defects.


Knee replacement may be an option when non-surgical interventions such as medication, physical therapy, and the use of a cane or other walking aids no longer help alleviate the pain. Other possible signs include aching in the joint, followed by periods of relative relief; pain after extensive use; loss of mobility; joint stiffness after periods of inactivity or rest; and/or pain that seems to increase in humid weather.

An orthopedic surgeon helps to determine which type of knee surgery is most appropriate. He may decide that knee replacement surgery is not appropriate if you have an infection, do not have enough bone, or the bone is not strong enough to support an artificial knee.

The doctors generally try to delay total knee replacement for as long as possible in favour of less invasive treatments. With that being said, if you have advanced joint disease, knee replacement may offer the chance for relief from pain and a return to normal activities.

Knee replacement is a routine surgery performed on more than 600,000 people worldwide each year. More than 90% of people who have had total knee replacement experience an improvement in knee pain and function.

Deciding whether or not to get knee replacement surgery is difficult. Discussing your treatment options with your doctor is essential to help you choose whether this is the right option for you.

Top knee surgeons in India are not only highly qualified but also have huge experience of performing thousands of successful knee surgeries. The operations and treatments that knee specialists offer include total and partial knee replacement, arthroscopic knee surgery, and knee ligament reconstruction (including anterior cruciate ligament reconstruction). 





An Exemplary Surgeon

Dr Ashok Rajgopal's name is synonymous with knee replacement surgery. A close look at his long and distinguished career

Dr Ashok Rajgopal knows no introduction today but it has been a long and arduous journey. A journey spanning more than 30 years of hard work, sleepless nights and never-ending dedication.

A graduate from the Armed Forces Medical College in Pune in 1974, he did his internship from the Central Railways Hospital in New Delhi. He went on to do his junior registrarship from AIIMS and subsequently earned his master's degree also from AIIMS, New Delhi in 1979. After doing senior residency in Safdarjung Hospital he

went to Liverpool, UK to do his M.Ch in Orthopaedics which he completed in 1983. In the UK he was mentored by Dr Graham Hayes, a well-known name in the field of orthopaedics.

Dr Ashok Rajgopal returned to India in 1985. He started his career with Moolchand hospital, Lajpat Nagar and Sehgal's Nursing Home, Kailash Colony, New Delhi. In Moolchand, he worked under the able guidance of Dr MG Abbott who has been a constant source of inspiration to him.

His drive to excel in his field led him to move to Sitaram Bhartia

hospital in 1996 where he continued as Head of Department Orthopaedics till 2004. In 1997 he was appointed honorary orthopaedic surgeon to the then President of India Shri K R Narayanan.

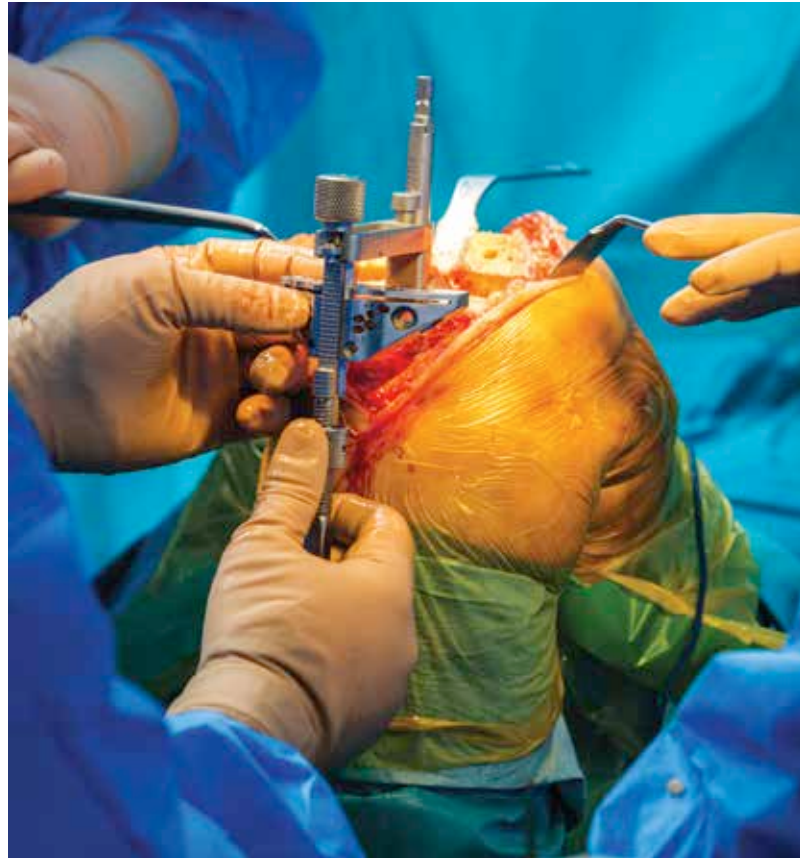
In 2004, he moved to the Fortis group of hospitals as Director Orthopaedics. Here he created a department which catered to every joint in the body in addition to trauma, a dedicated anaesthesia, pain management, and rehabilitation team.

In 2009, Dr Rajgopal and his team of surgeons, anaesthetists and physiotherapists moved to Medanta hospital in Gurgaon. His dream had taken shape by now - the dream of having dedicated surgeons capable of replacing joints. The Medanta Bone & Joint Institute was born under the able chairmanship of Dr Ashok Rajgopal. In 2011, he was awarded honorary FRCS by the Royal College of Surgeons, Edinburgh.

Dr Rajgopal's dedication to the field of orthopaedics and joint replacement surgery was recognized by the government of India in 2014 when he was awarded the Padmashri in 2014.

In a career spanning more than 30 years, he has to his credit more than 25,000 total knee replacement surgeries and 20,000 arthroscopic and reconstructive surgeries of the knee joint.

Early in his career he was associated with the Sports Authority of India and performed almost free of cost surgeries for sports people who could not afford treatment. He accompanied the Indian contingent to the Seoul Asian Games in 1986 as the team doctor. Dr Rajgopal has to his credit the treatment of star sports people like Pullela Gopichand, Madhumita Bisht, Baichung Bhutia, Karnam Malleswari, N Kunjarani Devi, to name a few. P. Gopichand went on to win the All England Badminton Championship after undergoing surgery by Dr Rajgopal and to quote him "He is like a father figure, a mentor to me. He stood by me and believed in my abilities



long after everyone else had given up hope. I owe Dr Rajgopal a lot".

Not only is he a very successful sports surgeon his name is actually synonymous with joint replacement surgery in India. His journey as a knee replacement surgeon has been dotted with many firsts. He was the first joint replacement surgeon in India to perform a bilateral total knee replacement surgery. Which means that he operated on both the knees of the patient in one session of anaesthesia. This was in the year 1987. The pioneer of bilateral total knee replacement surgery in India, he also pioneered the concept of minimally invasive unicompartment replacement surgery in 2002. This means that now

A prolific surgeon whose desire to excel in his field knows no boundaries, Dr Rajgopal has also been a part of an international group of surgeons who design knee implants

depending upon the need of the patient he could replace only that part of the knee which was damaged as against the entire knee joint.

He also designed the instrumentation for minimally invasive surgery which was patented by the Zimmer Institute. These instruments are now used by surgeons worldwide for ease in performing minimally invasive knee replacement surgery

Dr Rajgopal was the first surgeon in India to use the gender knee implant, designed especially for the female patient.

He was also the first in India to use Patient specific instrumentation (PSI) a concept where before surgery the patient underwent a MRI of the knee joint and had instrumentation developed especially for him/her.

A prolific surgeon whose desire to excel in his field knows no boundaries, Dr Rajgopal has also been a part of an international group of surgeons who design knee implants. He along with 20 other surgeons from all over the world



Dr Rajgopal has to his credit the treatment of star sports people like Pullela Gopichand, Madhumita Bisht, Baichung Bhutia, Karnam Malleswari, N Kunjarani Devi, to name a few. P. Gopichand went on to win the All England Badminton Championship after undergoing surgery by Dr Rajgopal

designed a new knee implant called the PERSONA knee system which is almost like a personalized knee implant. This implant has been in use for the past 30 months in India and has been very successfully received by patients and surgeons alike.

Apart from being an exceptional surgeon, Dr Ashok Rajgopal is a very keen academician. He is a reviewer for several international journals on orthopaedic surgery.

Dr Rajgopal has to his credit a book called "Knee Surgery" which is like a bible for young surgeons aspiring to excel in the field of knee surgery.

He has written several chapters in books dedicated to surgery of the knee joint. His constant endeavours to excel in his field have led him to do a lot of research resulting in several articles and research papers which have been published in international journals dedicated to orthopaedic surgery.

Ever ready to share his knowledge and experience with the younger generation of knee surgeons, Dr Rajgopal is a much

sought after speaker at both national and international conferences and seminars. His department also supports fellowships for training of young orthopaedic surgeons.

He himself conducts a conference called the JRSOA on knee and hip replacement surgery once every 18 months in association with the Zimmer Institute. The JRSOA is a much awaited meeting and sees widespread participation of surgeons from all over the country and abroad.


Not only is he a dedicated orthopaedic surgeon, Dr Rajgopal is one individual who has always believed in giving back to society. He launched the "Rajgopal Foundation - Dedicated to The Joy of Walking" on August 24, 2015. It is a nationwide NGO dedicated to providing treatment of arthritis and sports injuries at a subsidized cost to people who cannot afford it. In essence, he has given a formal name to something that he has been doing ever since he started practice in India.

Not only does the foundation provide

subsidized care to patients it also has a branch that helps in higher education of the girl child. Female children from the lower socio economic strata can get help to pursue higher education and become self-sufficient. The foundation, in its short span of existence, has already funded the treatment and post-operative care of several individuals unable to afford joint replacement surgery. He conducts satellite clinics in remote parts of the country so as to reach people and help them.

Dr Rajgopal is unflinching in his drive to help spread awareness about arthritis of the knee joint and its treatment. He has given several public awareness talks on the subject in Delhi.

Dr Rajgopal is also a very keen sportsman and athlete. A cricketer in his younger days, he participated in the Delhi Airtel Half Marathon in 2015.

He is very fond of all genres of music. A talented harmonica player, he has cut a CD of his music. Rajgopal Foundation also mentors budding artistes in the field of fine arts. 



Replacing Pain with Smile

You need not feel depressed due to stiff, swollen or painful knees. Heed the advice of our panel of doctors for all possible remedies

BY AMRESH KUMAR TIWARY

We all need some quality time for ourselves, some quality moments to spend with our families. We love to play around with our kids, go trekking with friends or enjoy long walks with our partners. We enjoy running around like never to be stopped. But have you ever thought that what happens if something stops us from doing all these things. Yes, there are people who are missing these small joys of life not because they don't want to enjoy them but because they can't. They suffer pain, not only of joints but also of missing special moment that life offers.

Joint stiffness & pains is one such ailment which is becoming very common amongst people. More and more cases of osteoarthritis are reported today; affecting knees and hips the most. Knees are primarily weight-bearing joints while hips not only support the weight of the body but also enable movement of your lower body; and therefore more commonly affected.

With time the severity grows leading to need for surgery for joint replacements. Such surgeries help patients lead a normal life as before. Apart from osteoarthritis, natural wearing out, rheumatoid arthritis, tumors involving or around joints and trauma with joint destructions due to road accidents, sports injury and injury of other forms leads to such processes.

With knee or hip surgery, a patient





probably needs to stay in the hospital for a few days. If the person is elderly or has additional disabilities, he or she may then need to spend several weeks in an intermediate-care facility before going home.

According to **Dr. Ashok Rajgopal, Chairman - Medanta Bone & Joint Institute, Gurgaon**, “Knee pain usually occurs due to activities which are done often. It can also occur regardless of activity level, and is part of aging process. On the other hand, problem related to hip are usually caused due to irregular activities. Severity becomes



manifests because of unusual posture or sitting in one single position for long in office. There are several medicinal management processes available for joints related problems. One has to take these pills regularly to subside pain and to support movements.”

Says **Dr S K S Marya, Chairman, Max Institute of Musculoskeletal Sciences, New Delhi**, “Once the joint is damaged and the cartilage is lost the only way to recreate a painless situation is a joint replacement surgery. Medicines, physiotherapy, intra articular injections and arthroscopic debridement can be of limited assistance.”



Dr Ramneek Mahajan, Director Orthopedic and Replacement Surgery, Saket City Hospital, New Delhi, observes, “Joint replacement surgery is removing a damaged joint and putting in a new one. The doctor usually suggests a joint replacement to improve how you live as replacing a joint can relieve pain and help you move and feel better. Hips and knees are replaced most often while

other joints that can be replaced include the shoulders, fingers, ankles, and elbows. These replacements are performed in different formats usually known as partial and total replacement,



depending on the condition of the patient.”

The baby boomer generation is

getting older and heavier which means that over the coming decades a lot of person in the young age are developing knee and hip problem.

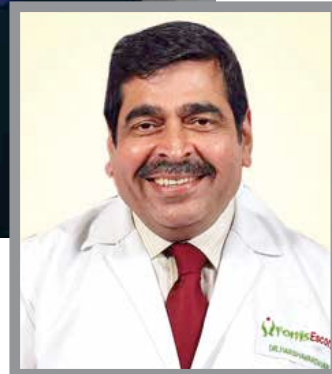
Dr. Ashok Goel, Sr. Consultant, Sri Balaji Action Medical Institute, New Delhi, informs, “A huge number of young people are either obese or overweight, which causes more wear and tear (than normal weighing people) of bones making them osteoporotic. This can be attributed largely to today’s sedentary lifestyle. Another big reason behind bone and joint disorders largely seen in India is indoor lifestyle. A large number of Indians are vegetarians which limit their Vitamin D intake, less exposure to sunlight further reduces Vitamin D in the body hindering proper calcium deposition and making us

Indian more vulnerable to bone related ailments.”

In today’s mechanical world, we tend to put ourselves in tremendous mental and physical pressure. Our ambitions make us see every possible extremity; we want to achieve everything and nothing can stop us. Long working hours, extended travels, quick or skipped meals and extreme mental pressure are part of our daily routine. While we walk on sword edge with such things, falling for sedentary lifestyle makes it more dangerous and our body starts wearing out.

Dr. Harshavardhan Hegde

In simple terms, knee replacement is a surgical procedure most often performed to relieve the pain and disability and restricted mobility arising out of degenerative arthritis



Executive Director, Bone and Spine Institute, Fortis Escorts Heart Institute & Research Centre, New Delhi, states, “We recommend joint replacement only when the architecture of the joint gets distorted and pain becomes constant; this may be the sequel to degenerative changes that are commonly seen secondary to aging, usage, lack of exercises, osteoporosis, deficiency in Vit D3, smoking etc. or to joint related diseases”.

One is mobilised with support after surgery within 24 hours. A walker or crutches are used for two to three weeks. Following this a cane is advised for a month. There may be some temporary pain in the new joint as muscles are weak from not being used and also as the body is healing. The pain can be helped with medicines and should end in a few weeks.

Dr. Ashok Rajgopal, adds, “In most knee cases, good amount of bending is



seen on the first day itself and patients are able to walk with support within a day or two; with an approximate period of recovery being 4-6 weeks.”

“Conventionally the joint replacement is carried out in the elderly. Earlier it was preferred only in patients past sixty years of age because the average life span of the prosthesis was ten to fifteen years. With more people wanting to live for the present rather than suffer with the hope for a better tomorrow younger age groups are now opting for joint replacement surgeries” Dr. Marya., said.

Replacements are possible for both knee as well as hips; technology has also taken away the age constraints, now it can be done for the patients in their eighties also.

Dr. Hegde adds, “It depends on the extent of suffering and disability of the patient. However, as there is a limit to the survival of an artificial joint a young patient undergoing joint replacement


may have to undergo a revision surgery again.”

Technology today has provided us with multiple options enhancing both quality as well as life of the implants. “Implants are sturdy and flexible. Recent advancement has increased the life of implant up to three times. The earlier implants used to last up to ten years. Now there are implants available which last for around thirty years.” Dr. Mahajan explains.

People usually are scared of such surgeries and it makes sense as joint replacement is counted amongst the major surgeries. Elaborating on the seriousness of the surgery, Dr. Goel says, “Any shortcoming can lead to serious problems like joint infection. It is therefore suggested that these surgeries should be performed by experts with a lot of experience. Patients have all the right to check the details like experience, training, education of

any doctor they are getting treated with. Hospitals environment, upkeep and equipments also play a major role in such surgeries”.

Dr Mahajan, adds, “People usually ask me, how successful these surgeries are? It’s a doubt I have seen in every patient and nothing is better to address such doubts than live examples. Rakesh, chauffeur by profession, lost his job and happiness because of severe arthritis. He was very depressed when he came to me. With God’s grace, I was able to give him back both his happiness and job. We performed total knee replacement for his both knees and he is perfectly fit to do anything he wants. He now drives me to work every day. Similarly, we came across a cycling enthusiast couple, they loved the sport but as wife was suffering from severe joint disorder, they were unable to pursue their interest. We operated her for knee replacement and since then they have been breaking many records and setting new milestones riding their cycles.”

Most of these surgeries are available in India now, along with the international quality implants and that too at a reasonable cost. “India is a hub of such surgeries now, we are in the age of internet and technology is not confined to any boundaries anymore. All the technology and implants are now available in India and such surgeries are performed with high standard here”, Dr. Mahajan, concludes. 

Blowing Hot and Cold

Hot and cold therapies, or a combination of both, work wonders in reducing muscles and joint pain. **BY TEAM DOUBLE HELICAL**

Heat and cold are the two most common types of non-invasive and non-addictive therapies for muscles and joint pain but it depends upon the pain whether it is acute or chronic.

Inflammation has four signs – swelling, redness, pain, and heat. When we apply ice to the injured part, ice initially decreases the blood flow to the injury then after increases blood flow with decrease inflammation & swelling to that area. By this process it blocks the inflammatory process.

According to Dr. Amit Saraswat, an expert in physiotherapy and founder in Physioveda India, when we apply ice to injured area vasoconstriction occurs first to reduce heat & then after approximately 5 to 10 minutes, the blood vessels will vasodilate.

Ice can be applied in towel as a pack or slightly wet towel dipped in ice and water mixture or containing crushed ice for not more than 5-10 minutes at a time.

Any cold treatment should be used for 24-72 hours after an injury. Cry therapy is useful after replacement operation like TKR & THR to reduce inflammation.

When there is an injury or discomfort, a good rule to follow for first aid is the P R I C E. Here P stands for Protect the injury part, R for Rest the injury, I for Ice

the injury, C for Compress injury and E for Elevate the injury above heart.

Ice pack will also serve as a local anesthetic, numbing the pain; reduce muscular spasm, swelling & heat. Don't apply ice directly to the skin.

Role of heat is to opens up blood vessels, which increase blood flow i.e. Vasodilatation & supplies oxygen & nutrients to reduce pain in joints, relaxed sore muscles, ligament and tendon. There are two types of heat application – dry heat & wet heat or moist heat. Mostly we use moist heat i.e. heat that has moisture content, it may be applied as hot packs, towel soaked in hot water. Moist heat improves the flexibility of muscle and increases ROM because it penetrates better & goes deeper to the skin. Dry heat does not penetrate through skin so you can get burn by that. Apply heat if you have joint stiffness, and chronic pain.


“Do not apply hot pack directly to skin, use moist towel in between the skin and hot pack. Do not keep hot pack for more than 10 minutes. Do not use heat if swelling is there, it can make inflammation worse. Do not use heat in case of severe or diabetic neuropathy,

circulatory or sensory problem. Do consult your doctor or physical therapist which heat source would be best for you.

It is a beneficial immersion of a part of a limb in warm water and immediate immersion of limb in cold water. Role of contrast bath, is that warm water causes vasodilatation (Widening of blood vessels) in the limb or body followed by the cold water which causes vasoconstriction (narrowing of blood vessel). It increases local blood circulation,” says Dr. Amit Saraswat.

This method is useful in injuries that cause pain & swelling around soft tissue & joints of the body.

For contrast bath we take two buckets – one filled with warm water, the other filled with ice water. Immerse the area in warm water for 3 minutes and then switch immediately to the cold water & soak for one minutes, Repeat these 5 times, always start with warm water and end with ice water.

Don't use this therapy if you have if you high blood pressure, any circulatory problem, any area of broken or sore skin, and reduced sensation in the affected area. 

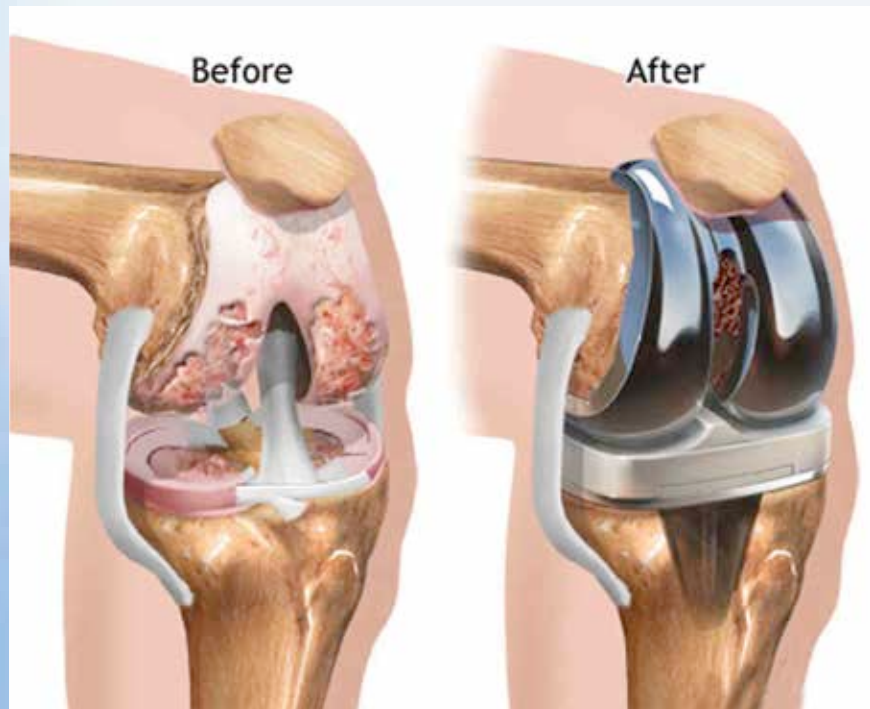


A detailed 3D anatomical illustration of a human knee joint. The femur (thigh bone) is at the top, and the tibia (shin bone) is at the bottom. The patella (kneecap) is visible in the center. The joint is rendered in a color gradient from blue to red, with the red areas highlighting the articular surfaces and the meniscus. The background is a dark blue with light blue, ethereal light patterns.

Risks and Benefits

Carefully weigh the pros and cons of available remedies of knee osteoarthritis before taking the final decision about the best course for you

BY DR ABHISHEK BANSAL



It's no secret that good knees are an essential part of a healthy and active lifestyle. However, when injury or arthritis occurs, particularly osteoarthritis, one's ability to bend and flex the knees can become restricted due to damage, inflammation and pain. Over time, the damage progresses and life becomes more difficult...and painful.

Deterioration of joint and surrounding tissue can make it difficult to perform basic daily activities, even while sitting or lying down. As cartilage wears and bone rubs against bone, pain and reduced mobility follow.

While age is a major risk factor for osteoarthritis of the knee, young people can get it, too. For some individuals, it may be hereditary. For others, osteoarthritis of the knee can result from injury or infection or even from being overweight. Here are answers to the questions about knee osteoarthritis,

including how it's treated and what can be done at home to ease the pain.

What Is Osteoarthritis?

Osteoarthritis, commonly known as wear-and-tear arthritis, is a condition in which the natural cushioning between joints – cartilage – wears away. When this happens, the bones of the joints rub more closely against one another with less of the shock-absorbing benefits of cartilage. The rubbing results in pain, swelling, stiffness, decreased ability to move and, sometimes, the formation of bone spurs.

Total knee replacement (TKR), also called total knee arthroplasty (TKA), is considered one of the safest and most effective procedures in orthopedics.

Who Gets Osteoarthritis of the Knee?

Osteoarthritis is the most common type of arthritis. While it can occur even in young people, the chance of developing osteoarthritis rises after age 45. According to the Arthritis Foundation, more than 60 million people in India have osteoarthritis, with the knee being one of the most commonly affected areas. Women are more likely to have osteoarthritis than men.

What Causes Knee Osteoarthritis?

The most common cause of osteoarthritis of the knee is age. Almost everyone will eventually develop some degree of osteoarthritis. However, several factors increase the risk of developing significant arthritis at an earlier age.

- Age. The ability of cartilage to heal

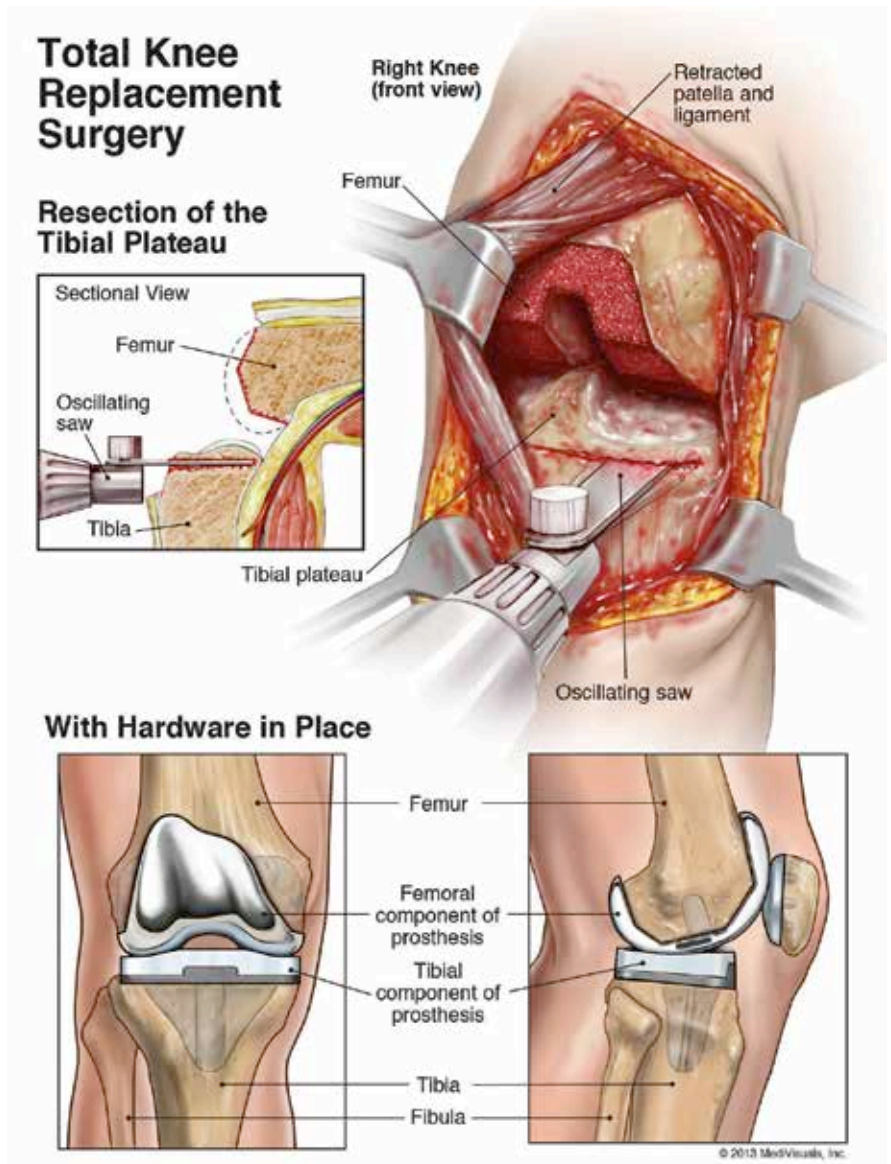
decreases as a person gets older.

- **Weight.** Weight increases pressure on all the joints, especially the knees. Every kilo of weight one gains adds 3 to 4 kilos of extra weight on his knees.
- **Heredity.** This includes genetic mutations that might make a person more likely to develop osteoarthritis of the knee. It may also be due to inherited abnormalities in the shape of the bones that surround the knee joint.
- **Gender.** Women aged 55 and older are more likely than men to develop osteoarthritis of the knee.
- **Repetitive stress injuries.** These are usually a result of the type of job a person has. People with certain occupations that include a lot of activity that can stress the joint, such as kneeling, squatting, or lifting heavy weights (25 kg or more), are more likely to develop osteoarthritis of the knee because of the constant pressure on the joint.
- **Athletics.** Athletes involved in soccer, tennis, or long-distance running may be at higher risk for developing osteoarthritis of the knee. That means athletes should take precautions to avoid injury. However, it's important to note that regular moderate exercise strengthens joints and can decrease the risk of osteoarthritis. In fact, weak muscles around the knee can lead to osteoarthritis.
- **Other illnesses.** People with rheumatoid arthritis, the second most common type of arthritis, are also more likely to develop osteoarthritis. People with certain metabolic disorders, such as iron overload or excess growth hormone, also run a higher risk of osteoarthritis.

What Are the Symptoms of Knee Osteoarthritis?

Symptoms of arthritis of the knee may include:

- Pain that increases when one is active, but gets a little better with



- rest
- Swelling
- Feeling of warmth in the joint
- Stiffness in the knee, especially in the morning or when sitting for a while
- Decrease in mobility of the knee, making it difficult to get in and out of chairs or cars, use the stairs, or walk
- Creaking, crackly sound that is heard when the knee moves

How Is Osteoarthritis of the Knee Diagnosed?

The diagnosis of knee osteoarthritis will begin with a physical exam by a

specialist doctor. The doctor takes a detailed medical history and notes any symptoms. Note is made of the factors that make the pain worse or better to help determine if osteoarthritis, or something else, may be causing knee pain. A family history of arthritis is also found out if anyone. Additional testing may be ordered, including:

- X-rays, which can show bone and cartilage damage as well as the presence of bone spurs
- Magnetic resonance imaging (MRI) scans
- MRI scans may be ordered when X-rays do not give a clear reason for joint pain or when the X-rays



suggest that other types of joint tissue could be damaged. Doctors may use blood tests to rule out other conditions that could be causing the pain, such as rheumatoid arthritis, a different type of arthritis caused by a disorder in the immune system.

How Is Osteoarthritis of the Knee Treated?

The primary goals of treating osteoarthritis of the knee are to relieve the pain and return mobility. The treatment plan will typically include a combination of the following:

- Weight loss. Losing even a small

amount of weight, if needed, can significantly decrease knee pain from osteoarthritis.

- Exercise. Strengthening the muscles around the knee makes the joint more stable and decreases pain. Stretching exercises help keep the knee joint mobile and flexible.
- Pain relievers and anti-inflammatory drugs. This includes over-the-counter choices such as paracetamol and ibuprofen. These over-the-counter medications should not be used for more than 10 days without checking with doctor. Taking them for longer increases the chance of side effects.

- Injections of corticosteroids or hyaluronic acid into the knee. Steroids are powerful anti-inflammatory drugs. Hyaluronic acid is normally present in joints as a type of lubricating fluid.
- Alternative therapies. Some alternative therapies that may be effective include topical creams with capsaicin, acupuncture, or supplements, including glucosamine and chondroitin.
- Using devices such as braces. There are two types of braces: “un-loader” braces, which take the weight away from the side of the knee affected by arthritis; and “support” braces, which provide support for the entire knee.
- Physical and occupational therapy. In case of having trouble with daily activities, physical or occupational therapy can help. Physical therapists teach ways to strengthen muscles and increase flexibility in joint. Occupational therapists teach ways to perform regular, daily activities, such as housework, with less pain.
- Surgery. When other treatments don't work, surgery is a good option.

Is Surgery Used to Treat Knee Osteoarthritis?

In treating the osteoarthritis in the knee with surgery, the options are arthroscopy, osteotomy, and arthroplasty.

- Arthroscopy (Key Hole Surgery) uses a small telescope (arthroscope) and other small instruments. The surgery is performed through small incisions. The surgeon uses the arthroscope to see into the joint space. Once there, the surgeon can remove damaged cartilage or loose particles, clean the bone surface, and repair other types of tissue if those damages are discovered. The procedure is often used on younger patients (aged 55 and younger) in order to delay more serious surgery.
- Osteotomy is a procedure that aims

to make the knee alignment better by changing the shape of the bones. This type of surgery may be recommended if the patient has damage primarily in one area of the knee. It might also be recommended if one has a broken knee and it has not healed well. An osteotomy is not permanent, and further surgery may be necessary later on.

- Joint replacement surgery (arthroplasty) is a surgical procedure in which joints are replaced with artificial parts made from metals or plastic. The replacement could involve one side of the knee or the entire knee. Joint replacement surgery is usually reserved for people over 50 years of age with severe osteoarthritis. The surgery may need to be repeated later if the joint wears out again after several years, but with today's modern advancements most new joints will last over 20 years. The surgery has risks, but the results are generally very good.

Knee replacement surgery is a common solution that provides dramatic pain relief for more than 90 percent of patients. The vast majority of knee replacement procedures are used to treat osteoarthritis. The procedure—introduced in 1968—relies on a mechanical implant to replace severely arthritic or damaged knee joints. According to the Agency for Healthcare Research and Quality, more than 600,000 knee replacements took place in the U.S. last year, and that number is expected to grow into the millions within the next twenty years. Total knee replacement (TKR), also called total knee arthroplasty (TKA), is considered one of the safest and most effective procedures in orthopedics.

Two different types of knee replacement exist: total and partial.

Total Knee Replacement

Total Knee Replacement makes up about 90 percent of all knee replacement procedures. During TKR, a surgeon repairs knee joint by covering the thigh



bone with a metal covering and encasing the shinbone with metal & plastic. The prosthesis replaces the rough and irregular surfaces of the worn bone with smooth surfaces. In many cases, the surgeon also replaces the undersurface of kneecap with a plastic surface, in order to further reduce pain and provide a smoother functioning joint. The procedure involves some removal of bone and cartilage.

After a TKR, one should expect to spend three to five days at the hospital. Weight-bearing therapy is started early following the operation. In addition, some combination of physical and occupational therapy is started at the hospital. In most cases, the patient is likely be able to stand and walk, at least with the assistance of a cane or walker, before he leaves the hospital. Usually before exiting the operating room, the knee may be cradled in a knee brace and medical staff will monitor the flexion

(bending in) and extension (extending out) limits of the knee. After discharge, the patient is likely to go home for recovery and rehabilitation. Some patients require home health care or assistance. The treating doctor will most likely prescribe physical therapy at a local clinic for continued rehabilitation, and the physical therapist there will then suggest exercises one can do at home. Most patients conclude rehabilitation within eight weeks—at which point he should be able to move around without assistance and resume his daily activities.

Partial Knee Replacement

If one receives a partial knee replacement, the surgeon will replace only the part of the knee that's damaged or arthritic. The advantage to this approach is that it requires a smaller incision, involves less bone and blood loss and consequently, produces less



pain. Patients undergoing partial knee replacement tend to experience a faster recovery time than those who have TKR. However, there are disadvantages, including the possibility that he will have to eventually undergo further surgery if arthritis develops in the parts of the knee that are not replaced.


Risks, Complications, and Considerations in TKR

Today, knee replacements are safe. Very few patients experience complications. The most common surgical complication is infection, which has been documented to occur in fewer than 2 percent of patients. When complications do occur, they may include: infection, blood clots, a problem with the implant, or persistent pain and damage to the blood vessels surrounding the knee as a result of the surgery. Thoroughly discuss the benefits and risks of TKR with the surgeon before making any decision about a procedure.

Two different types of knee replacement exist: total and partial.

Patients undergoing partial knee replacement tend to experience a faster recovery time than those who have TKR. However, there are disadvantages, including the possibility that he will have to eventually undergo further surgery if arthritis develops in the parts of the knee that are not replaced

One may also want to evaluate other considerations, such as: financial issues (the cost of surgery, follow-up care, and time off from work), hospital quality, and what to expect from your new knee.

TKR is an increasingly attractive and viable option if one is dealing with chronic knee pain or unable to participate in common activities. Approximately 90 percent of the replacement joints last 10 years, and about 80 percent function for 20 years. There's a high probability that you will once again participate in activities such as walking, bicycling, golf, tennis and swimming. As the pain subsides and the ability to use the knee returns, the quality of life will most likely improve dramatically. 

(The author is Consultant, Orthopaedics and Joint Replacement, Pushpanjali Crosslay Hospital, Vaishali)

The Lurking Danger



There is a need to build adequate awareness about Juvenile Rheumatoid Arthritis, an autoimmune disease that poses threat to kids between 6 months and 16 years old

BY DR. RAMNEEK MAHAJAN



Juvenile Rheumatoid Arthritis (JRA) is the most common cause of chronic (lasts more than 6 weeks) arthritis in children. In India out of every 1000 children, 1 child is affected by JRA. It is more frequent among young girls than boys in India. As this disease is not widely known, many cases go unreported.

It is of different types depending on the clinical signs and symptoms. In JRA, child has joint pain associated with swelling and along with this may have fever, skin rash, lymph node enlargement, backache, red eye, or pain in sole or heel.

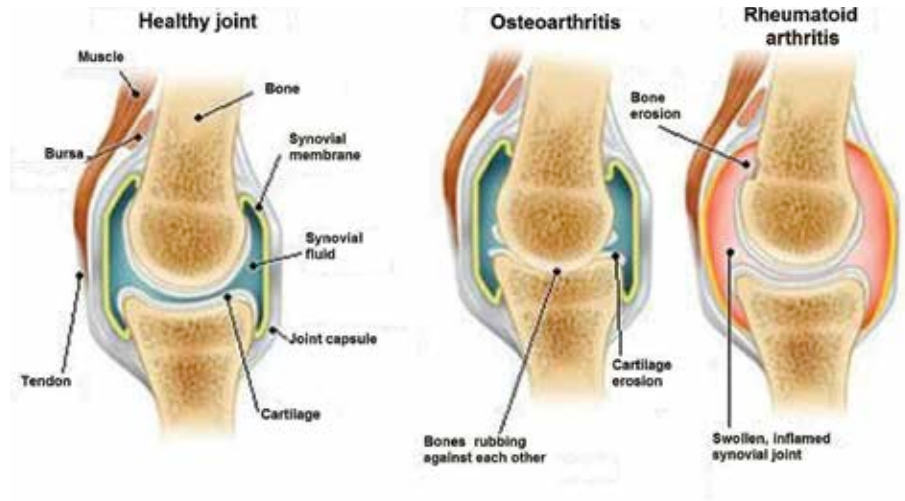
According to research, JRA is an autoimmune disease. In autoimmune diseases, white blood cells cannot tell the difference between the body's own healthy cells and germs like bacteria and viruses. The immune system, which is supposed to protect the body from these harmful invaders, instead releases chemicals that can damage healthy tissues and cause



inflammation and pain. To effectively minimize the effects of arthritis, an early diagnosis is essential. It is important to understand the symptoms and characteristics of different types of JRA, so that you can help your child maintain an active and healthy lifestyle.

JRA usually appears in kids between 6 months and 16 years old. The first signs are joint pain and swelling and reddened or warm joints. There are seven major types of JRA.

- Systemic JRA: It affects the whole body. Its symptoms include high fever that often increases in the evenings and then may suddenly drop to normal. During the onset of fever, the child may feel very ill, appear pale, or develop a rash. The rash may suddenly disappear and then quickly appear again.
- Oligoarthritis: Affects four or fewer joints. Symptoms include pain, stiffness, or swelling in the joints. The knee and wrist joints are the most commonly affected.
- Polyarticular arthritis, rheumatoid factor negative: Affects more girls than boys. Symptoms include swelling or pain in five or more joints. The small joints of the hands are affected as well as the weight-bearing joints like the knees, hips, ankles, feet, and neck.
- Polyarticular arthritis, rheumatoid factor positive: Affects about 15% of kids with polyarticular arthritis or about 3% of all children with JRA.
- Psoriatic arthritis: Kids with this also have the psoriasis rash themselves or a close relative with psoriasis. Their fingernails and or toenails might be affected by the condition.
- Entesitis-related arthritis: Most commonly affects the lower extremities and the spine. Kids



Normal & arthritic joints




also might have inflammation where tendons join bones.

- **Undifferentiated arthritis:** Arthritis that doesn't fit into any of the above categories or fits into more than one of the categories.

It is important to take dietary precautions. Foods like potatoes and pulses do not increase joint pains. A proper balanced diet is a must for maintenance of muscle mass, bone strength and adequate hemoglobin in blood. From a young age, a child should avoid food rich in fat and salt. It is important to maintain a regular exercise program. Children with JRA

To effectively minimize the effects of arthritis, an early diagnosis is essential. It is important to understand the symptoms and characteristics of different types of JRA, so that you can help your child maintain an active and healthy lifestyle

should attend school, participate in extra-curricular and family activities, and live life as normally as possible. The muscles should be strong and healthy so that they can support and protect the joints. Be sure that your child warms up the muscles through stretching before exercising. Make exercise a family activity to build fun and enthusiasm. The child must eat a balanced diet which includes plenty of calcium to promote bone health. 

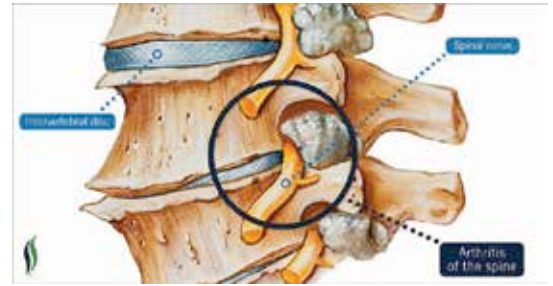
(The author is Consultant, Orthopaedics and Joint Replacement, Pushpanjali Crosslay Hospital, Vaishali)



Stress and Spine

The incidence of spinal arthritis, of late, has been going up among the youngsters alarmingly, due to changes in lifestyle and bad posture

BY DR SUDEEP JAIN



Whenever we talk or think about age related degenerative arthritis or osteoarthritis, the very first thing that comes to our mind is of an old, short stature, fat female in her sixties with painful, swollen, inflamed and deformed knee joints; with multiple medical problems like diabetes, hypothyroidism (thyroid hormone deficiency), hyperuricemia (increased uric acid levels) etc.

But, little do we know that the age related degenerative arthritis or osteoarthritis and other forms of inflammatory and autoimmune arthritis involve our spine the most and in a much more complicated way than any other joint in the body. And it is a myth that it does not affect the young.

It has been observed that today the process of ageing or degeneration is seen at a much younger age and is affecting the backbone more in comparison to any other joint in the body, including the knee joint. In fact, the incidence of spinal


arthritis of late has been going up among the youngsters alarmingly, due to changes in lifestyle and bad posture, making it the most common lifestyle disease.

Structurally, our backbone and neck are not designed to sit for long hours. The human spine is essentially meant for erect posture, but owing to sedentary lifestyle a majority of our time is spent sitting. What add to the existing woes are faulty design of chairs, tables and workstations as well as wrong placement of laptops and computers which can put a lot of stress on our back and neck. In fact, wrong postures adopted while reading, watching television or working

Structurally, our backbone and neck are not designed to sit for long hours. The human spine is essentially meant for erect posture, but owing to sedentary lifestyle a majority of our time is spent sitting

on laptops in sofas and beds can also affect the spine. IT professionals, call centre executives, accountants, people involved in a clerical job, dentists, scientists, doctors, etc all are predisposed to developing osteoarthritis or spondylitis of the spine at a young age, thanks to their long sitting jobs.

In addition to sedentary lifestyle and bad postures, there are other contributing factors too that can affect the spine. Stress, lack of physical exercise, poor lifestyle, overweight, wrong food habits, hormonal changes, smoking, alcohol, diabetes, thyroid hormone, deficiency of calcium and vitamin D, increased uric acid and cholesterol levels, heart and respiratory problems, environmental pollution and radiation from computers, mobiles etc. are all among them.

A new minimally invasive Endoscopic Debridement surgery offers a ray of hope for people suffering from incurable spinal arthritis. 

(The author is Spine Surgeon and Director, Spine Solutions India, New Delhi)



Magical Herbs


Looking to protect your skin in the scorching summers? Go back to Nature that has given us wonderful herbs endowed with therapeutic and rejuvenating properties

BY DR PARTAP CHAUHAN

Want to have that perfectly glowing skin but not sure what to do about it? Well, the answer lies in your own surroundings! We often fail to realize the

importance of the things that are easily available to us - the biggest example being 'nature' itself. Just look around and you will find that there are numerous valuable herbs and plants that have endless therapeutic and rejuvenating properties

that could be a boon to your skin in the scorching heat.

Here are three useful, easily available herbs that will pacify your doshas and keep your skin healthy and glowing in summers: 

TURMERIC (HALDI)

Turmeric purifies blood, nourishes the skin and gives it a healthy natural glow and radiance. It has anti-inflammatory, anti-aging and anti-bacterial properties that help reduce inflammation of skin, acne, pimples, blemishes, pigmentation, and prevent many skin ailments. It also helps heal and prevent dry skin, and slows down the skin aging process.

Ayurvedic Properties:

- Quality (Guna): Rough, Light
- Taste (Rasa): Pungent, Bitter
- Post-digestive Effect (Vipaka): Bitter
- Potency (Virya): Warm
- Effect on Doshas: Pacifies Vata, Pitta and Kapha

How to Use:

To treat pimples, make a paste of one



teaspoon of sandalwood powder mixed with one teaspoon of turmeric. Add one teaspoon of water to make the paste, and apply to pimples before bed.

For itchy skin, apply the mixture of one teaspoon of sandalwood with one teaspoon of turmeric and one teaspoon of lime juice. Leave on for 20 to 30 minutes and rinse with cool water.

Sandalwood oil can be used as a

moisturizer on the face and body and is also great for massaging.

Mix five tablespoons of coconut oil with two teaspoons of almond oil. Add four teaspoons of sandalwood powder, and apply the mixture to the overexposed areas of your skin. You will notice a considerable improvement in your tan.

ALOE VERA (GHRITKUMARI)

Aloe Vera has been well known for centuries for its anti-inflammatory, anti-fungal, healing and cooling properties. It facilitates healing of any kind - be it a skin wound, acne, burn, scald, blisters, insect bites, rashes, urticaria, vaginal infections, allergic reactions or dry skin. The gel of this plant helps to protect the outer layers of the skin, keeps the skin cool and reduces inflammation.

Ayurvedic Properties:

- Quality: Heavy, Oily
- Taste: Bitter
- Post-digestive Effect: Pungent
- Potency: Cold
- Effect on Doshas: Pacifies Pitta and Kapha

How to use:

Applying Aloe Vera gel on the skin prior to application of make-up can prevent the skin from drying.

Blend the pulp of some fresh fruits with Aloe Vera gel in a blender and use it as a pack to keep the skin cool.

Mix Aloe Vera with wheat germ oil or almond oil to use it as a moisturizing pack.



To treat pigmentation, get a fresh leaf of Aloe Vera and split it to remove the gel. Apply this on clean skin and leave for about 20 minutes.

In case of sunburn, the application of Aloe Vera-based cream acts as a protective layer on the skin and helps replenish its moisture.

(The author is Ayurvedacharya
Director, Jiva Ayurveda)





Healthy teeth, Healthy life

New findings show that poor dental health is strongly linked to numerous disorders including heart attack, stroke, diabetes and systemic inflammation

BY DR SURESH AHLAWAT

The oral health disease especially gum disease is characterized by red, swollen and bleeding gums (gingivitis) in its mildest form and chronic inflammation, infection and bone loss in its advanced stages. The plaque build-up along the gum line causes gingivitis, but when plaque formation is significant, bacteria is allowed to thrive, breeding chronic inflammation and infection.

Some of the symptoms like irritation and inflammation lead to breaking down of gum tissue, which gradually increases the pocket depth allowing more bacteria to get nestled into the widening gap and passing into the bloodstream where it can contribute to systemic disease. The theory has it that bacteria bred in the oral cavity and related chronic gingival inflammation, once in the bloodstream, can activate immune responses (i.e. white blood cells) capable of provoking systemic inflammation, arterial blockages and infection.

A healthy smile means a lot more today than simply having white, straight teeth. About 75 percent of bad breath comes or halitosis under oral health disease is caused by the mouth itself. Other causes include gastric problems, sinus infections or severe gum disease. One of the key successes in treating bad breath is determining the cause. Once your dental professional determines what the cause is then treatment for it can begin.

The bad breath can be caused by factors like foods such as onions and garlic, beverages like coffee and alcohol, and smoking and poor oral hygiene where plaque and food debris is left on the teeth. The plaque and food debris can form on dentures, which need to be cleaned daily. The cryptic areas (crevices) in the tonsils can allow food debris to become lodged in the tonsil area. Dry mouth (Xerostomia) can be caused by salivary gland problems, medication, mouth breathing, radiation therapy and chemotherapy.

The results from a five-year study of more than 800 pregnant women, which was presented at the 80th General Session of the International Association for Dental Research, showed that women with moderate to severe periodontal (gum) disease during pregnancy are at increased risk of having pre-term babies and babies with low birth weight. The investigators believe that the connection may stem from oral disease triggering increased levels of biological fluids that induce labour.

The history also suspected that periodontal disease may cause respiratory disease, particularly lung infections such as pneumonia, or exacerbate existing respiratory conditions (i.e. chronic obstructive pulmonary disease or COPD). That is because oral bacteria can be breathed into lungs, particularly in people with periodontal disease.





Steps for Good Oral Hygiene

The recent research suggests a relationship between oral disease and systemic diseases (diabetes, cardiovascular disease, stroke, respiratory infections and Alzheimer disease) and other medical conditions. When the gum tissue becomes inflamed causing gingivitis to occur, inflammatory mediators called cytokines that are in the gum tissue can enter your saliva and can also become aspirated into the lungs. Bacteria that are responsible for periodontal disease can also enter the circulatory system around the teeth and travel to other parts of the body. Oral bacteria may cause secondary infections or inflammation of other tissues or organ systems in the body. Oral hygiene, as well as genetics, exercise, nutrition, and personal habits all contribute to maintaining overall well-being and health. The mouth-body connection theory is based on many links to serious diseases due to poor oral hygiene like gum disease, heart & cardiovascular diseases, pancreatic cancer, dementia, obstructive pulmonary disease, pneumonia and arthritis. These all may motivate you to keep brushing your teeth regularly.



While much research to date, though, has been tinged with some skepticism regarding whether dental-disease links are just coincidental or if gum disease actually causes or exacerbates certain diseases, evidence is certainly mounting to explain just how a cause-and-effect connection might exist.

According to report that gum disease, anywhere from mild to severe, seems to affect half of people over the age of 18, and three out of four adults aged 35 and over. If gum disease is, in fact, a contributing factor to various diseases, is it any wonder that heart disease, stroke and diabetes are problems of epidemic proportions?

The oral care is a very important subject, since it can impact immensely on the overall health of an individual. The reason for this is that the oral cavity is the chief portal into the body. For example, in breathing through our mouths and noses particulate matters like smoke, pollens, bacteria and viruses come to rest on surfaces in the oral cavity.

Likewise, via nutritional intake, the mouth interacts with sugars, bacteria, fungi, acids and numerous other components of foods that can spur on gum disease, if they are not promptly

removed. The oral apparatus is very reliable but over time, the constant assault of the food and its contaminants take their toll. The bacteria are the chief culprits, which attack and coat the teeth with plaque and tartar, causing gingivitis. Should the solids or liquids we eat have a high sugar content, the bacteria become more active and these problems worsen.

In our arsenal are a growing number of weird and wonderful toothbrush designs and toothpaste formulas now available. However, some toothpaste formulas are more complete than others and have not just whitening and breath freshening properties, but health prevention too. Many effective ingredients and useful nutrients for oral health are lacking in commercial toothpastes.

If you believe your diet is causing bad breath, then consult with a dietician or nutritionist who can work with you to modify your diet. If you have poor oral hygiene and are suffering from gingivitis (inflammation of the gum tissue in your mouth) or have periodontal disease (bone loss around the teeth sometimes referred to as "pyorrhea"), consult your dentist and periodontist and work with your dental hygienist to improve gingivitis and thorough oral hygiene



Steps for Good Oral Hygiene

1. **Brushing your teeth for two to three minutes twice a day (in the morning and at night), preferably with an electric toothbrush**
2. **Using toothpaste that contains fluoride (fluoride is a natural mineral that helps protect against tooth decay)**
3. **Flossing your teeth regularly (preferably daily)**
4. **Not smoking**
5. **Regularly visiting your dentist (at least once every one to two years, but more frequently if necessary).**

instruction at home.

The tonsils and respiratory infections will need to be followed by your physician or a specialist such as an ear, nose and throat physician or pulmonologist. A large majority of people in the United States are suffering from dry mouth due to medications they may be taking, salivary gland dysfunction and those who may be going through radiation and chemotherapy treatment for cancer therapy. Please consult your oral maxillofacial surgeon, your physician or oncologist for their professional recommendations for prescription or over-the-counter products that can alleviate dry mouth symptoms. The patients who are diabetics, have liver or kidney conditions, and gastrointestinal disorders should see their physician, urologist or gastroenterologist for their insights on how bad breath can be reduced regarding these systemic diseases. Contact your dentist office for a recommendation of which dental or medical professional you should see for your bad breath condition.

Treatment

The best way to treat gum disease is to practise good oral hygiene, although

additional dental and medical treatments are sometimes necessary.

There are some dental treatments which may also be recommended if you have gum disease. To remove plaque and tartar (hardened plaque) that can build up on your teeth, your dentist may suggest that you have your teeth scaled and polished. This is a “professional clean” usually carried out at your dental surgery by a dental hygienist.


The dental hygienist will scrape away plaque and tartar from your teeth using special instruments, then polish your teeth to remove marks or stains. If a lot of plaque or tartar has built up, you may need to have more than one scale and polish. The price of a scale and polish can vary depending on what needs to be carried out, so ask your dental hygienist how much it will cost beforehand.

In some cases of gum disease, root planning (debridement) may be required. This is a deep clean under the gums that gets rid of bacteria from the roots of your teeth. Before having the treatment, you may need to have a local anaesthetic (painkilling medication) to numb the area. You may experience some pain and discomfort for up to 48 hours after having root planning.

Acute necrotizing ulcerative gingivitis

(ANUG) should always be treated by a dentist. However, if you see your GP before visiting a dentist, they may provide you with some treatment while you wait to see your dentist. Apart from the oral hygiene advice and dental treatments mentioned above, treatments for ANUG may also include antibiotics, painkillers and different types of mouthwash.

Metronidazole can react with alcohol, causing you to feel very unwell. You should, therefore, not drink alcohol while you are taking metronidazole and for 48 hours after you finish the course of treatment. Other side effects of metronidazole and amoxicillin can include nausea (feeling sick), vomiting and diarrhoea.

The painkillers like Paracetamol and Ibuprofen are the most commonly prescribed painkillers. They are also available over the counter from pharmacies. They may help reduce pain and discomfort caused by ulcers. However, paracetamol and ibuprofen are not suitable for everyone, so read the manufacturer’s instructions before taking them. 

(The author is senior dentist, Muskaan Dental Care, DLF, Gurgaon)

Chew your way to health



Follow the ageless wisdom of Ayurveda to maintain the strength of your teeth

**BY DR PARTAP
CHAUHAN**

Teeth are the most important asset of our body. When food is eaten, it is shredded by the teeth into small pieces. So, if the teeth work properly, the function of intestines in digesting the food becomes easier.

Teeth are necessary for enjoying the real taste of different delicious foods. In addition, teeth are also necessary for facial beauty. However, despite taking the utmost care of our teeth, we are unable to avoid common teeth problems.

Most of the people develop one teeth-related problem or the other at an early age. One of the very prominent reasons

for this is our improper dietary habits. Excessive use of sugars and carbohydrates; eating very hot or very cold (chilled) food items; eating frozen, fried, and spicy foods are some of the causes of teeth-related problems.

Therefore, avoiding an excess of these types of food and maintaining proper cleansing and hygiene of the teeth is necessary to avoid various diseases related to the teeth.

Ayurveda prescribes a very famous health tip, which says, "Eat your liquids and drink your solids" to stay healthy. It also explains some simple and wonderful practices and remedies, to help maintain strong and healthy teeth, as following:

- Brushing the teeth twice a day is most necessary to maintain proper hygiene.
- Ayurveda advises use of various herbs to clean the teeth. Special formulas of tooth powders are prescribed for general use. Although you might feel a bit uncomfortable to rub those herbal tooth powders on your teeth, you will see remarkable results within a few weeks. And if

Ayurveda prescribes a very famous health tip, which says, "Eat your liquids and drink your solids" to stay healthy. It also explains some simple and wonderful practices and remedies, to help maintain strong and healthy teeth



you really live in natural surroundings and love to live naturally, fresh small stick-like branches of trees like the neem or local trees (bitter taste is good) can be used for brushing or cleansing the teeth. Chew the stick at one end to make it brush-like. Rub your teeth with the brush.

- Many people are in the habit of drinking tea or coffee early in the morning. Some people even drink tea without properly brushing and cleaning their teeth. This is a very prominent cause of dental problems, as this not only increases pitta dosha, it also causes acidity and constipation. So, never drink your early morning tea or coffee without properly brushing and cleaning your teeth. It would be best to eat some solid food before drinking tea or coffee.
- Drinking a glass of water (250ml.) mixed with a tablespoon of honey is very beneficial for the teeth. You can even replace your morning tea with this drink. It acts both in prevention of and in curing dental problems.
- After each meal fresh water gargles

must be done at least 4-5 times. It is very important to clean the teeth each time after eating something. It may not be practical to brush your teeth each time, but just cleaning with fresh water or warm water is sufficient. Fill the mouth with water, circulate this water 2-3 times around the teeth, and then spit it out. In case some food particles are sticking to the teeth, use the index finger of your right hand to clean them.

- Take a cup of water (warm water in winter) and mix a pinch of common salt in it. Gargle with water 3-4 times. Also fill your mouth with this water and circulate it around the

Some people even drink tea without properly brushing and cleaning their teeth. This is a very prominent cause of dental problems, as this not only increases pitta dosha, it also causes acidity and constipation

teeth. This is good for the teeth, gums, and throat. It should be done every day before going to bed.

- Take one gram of finely powdered rock salt (common salt if rock salt is not available) and mix half to one teaspoonful of mustard oil in it to make a paste. Apply this paste on the gums and massage gently. Do not rub very hard and if there is a little bleeding from the gums while massaging, do not worry. Rinse the mouth with warm water. This is a very good treatment for pyorrhea, swollen gums, toothache, and bleeding gums. It strengthens the gums and kills the germs. This massage can be done at any time of the day.
- Fine turmeric powder can be used in place of salt (same quantity) in the above recipe. This should be used before going to bed. It is very beneficial for toothache, dental caries, and pain in teeth while eating chilled or hot food items, and also for bleeding gums.
- Drinking half a glass of water mixed with two teaspoonful of fresh lemon juice may be taken twice a day. It is good for strengthening both gums and teeth.
- Chewing a clove after meals acts as a mouth freshener and also maintains strong teeth and gums. Keep the clove in the mouth and chew slowly.
- Do not mix very hot and chilled items together, like eating an ice cream immediately after a cup of hot coffee or vice-versa.
- Avoid excessive sweets and foods containing sugar and rinse the mouth immediately after eating such items.
- In case of pain in the gums avoid hot, spicy, sour and fried foods.

Try to follow these simple practices and remedies, and continue enjoying delicious food to stay healthy. 🍵

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



India Remains Polio-Free

Media reports that polio virus (P2 strain) has resurfaced in India are not true as detected polio virus strain is vaccine derived poliovirus (VDPV) in a sewage sample

BY ABHIGYAN

India continues to be polio free as the country has eradicated wild polio virus and the last case was seen on 13th January, 2011. It is more than 5 years that no wild polio virus has been detected.

There have been some media reports that polio virus (P2 strain) has resurfaced in India for the first time in 5 years. However, it is not true as detected polio virus strain is vaccine derived poliovirus (VDPV) in a sewage

sample collected near the Secunderabad railway station. However, no children have been found to be affected by the detected VDPV isolate in the nearby areas. Last case of Wild Polio Virus Type 2 in country was reported 17 years back in 1999.

The detection of vaccine derived polio virus (VDPV) does not change the polio free status. It only indicates the robustness of the surveillance system and willingness of the country to detect

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any kind of polio virus even from the environment (sewage). Vaccine derived polioviruses are rare strain of the polioviruses that have genetically mutated from the strain contained in the Oral Polio Vaccine (OPV)

A rapid surveillance review of the area revealed that the population immunity against polio type 2 is high as trivalent oral polio vaccine (tOPV) was in use in the state until 24th April, 2016 and two mass vaccination campaign were conducted in January and February, 2016. As per recent sample survey in the area, 94% children were found to have received at least 3 doses of OPV. Therefore, chances of its transmission in concerned area is unlikely.

However, as a precautionary measure against polio, a special immunization drive is being held, covering high-risk areas of Hyderabad and Rangareddy districts, starting from 20th June, where an estimated 300,000 children will be protected against polio using Inactivated Polio Vaccine (IPV). The special immunisation campaign will ensure all vulnerable children living in high-risk areas are given protection against polio.

As part of the special campaign being organised now, children between the age group of six weeks to three years will be given an additional dose of the

injectable polio vaccine (IPV). Vaccination booths will be set up in the areas being covered in these campaigns. However, there will be no door-to-door vaccination campaign. Parents of children living in these areas will be encouraged to ensure that their children get the IPV dose from the nearest vaccination booth which will provide additional protection against all types of polio.

The special campaign covering Hyderabad and Rangareddy districts is yet another evidence of India's strong commitment to remain polio-free. The last case due to wild poliovirus in India was detected on 13 January 2011 and the country was certified polio-free by WHO in March 2014. The polio-free

India continues to maintain a highly sensitive surveillance system for polio. All cases of paralysis with sudden onset in children up to 15 years (which is called Acute Flaccid Paralysis or AFP) are picked up by the polio surveillance network

certification pertains to the absence of wild poliovirus and thus country remains polio-free.

India continues to maintain a highly sensitive surveillance system for polio. All cases of paralysis with sudden onset in children up to 15 years (which is called Acute Flaccid Paralysis or AFP) are picked up by the polio surveillance network. Each of these cases is followed up and their stool samples tested for poliovirus in WHO accredited laboratories. In addition, sewage samples are collected from over 30 sites spread across the country for poliovirus detection at regular intervals.

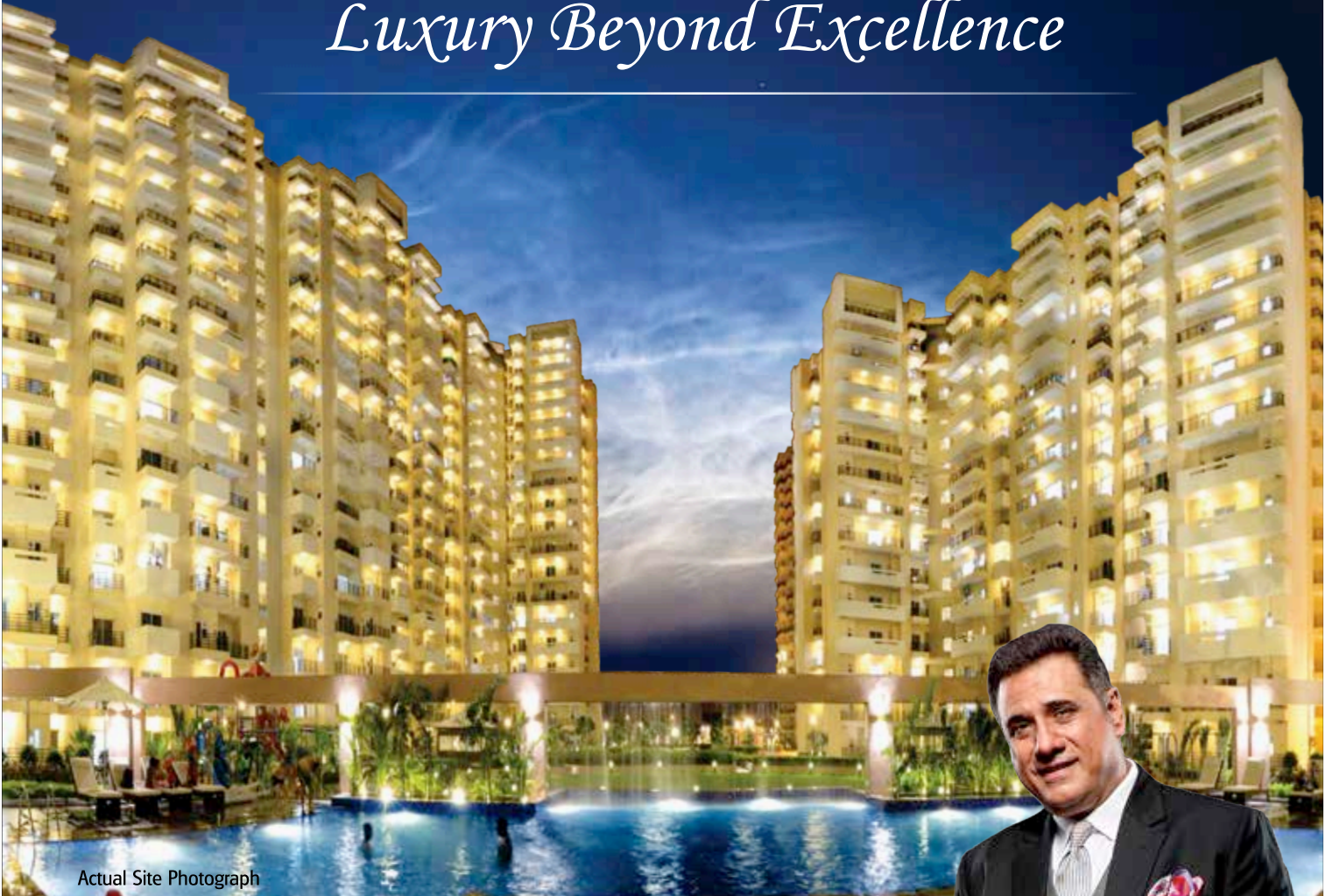
Between Jan 2015 and May 2016, a total of 14 sewage samples collected from different parts of the country tested positive for VDPVs. All of these have been responded to urgently and appropriately with polio vaccination campaigns. None of these VDPVs detected in the sewage infected any children, so far.

The response by the health authorities to the VDPV in Hyderabad is in accordance with World Health Organization protocols to mitigate any risk of spreading of the virus. WHO, UNICEF and Rotary are supporting Ministry of Health and Family Welfare in rolling out the polio campaign.

Strong measures have been put in place in India to mitigate the risk of an importation and spread of poliovirus from countries with continued circulation of poliovirus. The country has done two nationwide polio campaigns this year. Polio vaccination is being carried out at international borders and is a must for people travelling to polio affected countries.

The polio eradication programme in India continues to protect children from the crippling disease by conducting two nationwide mass polio vaccination campaigns and two to three sub-national campaigns each year. Intensive efforts are also being undertaken in India to improve routine immunization coverage that involves administering polio vaccines, in addition to other vaccines, to infants under the Universal Immunization Programme (UIP).

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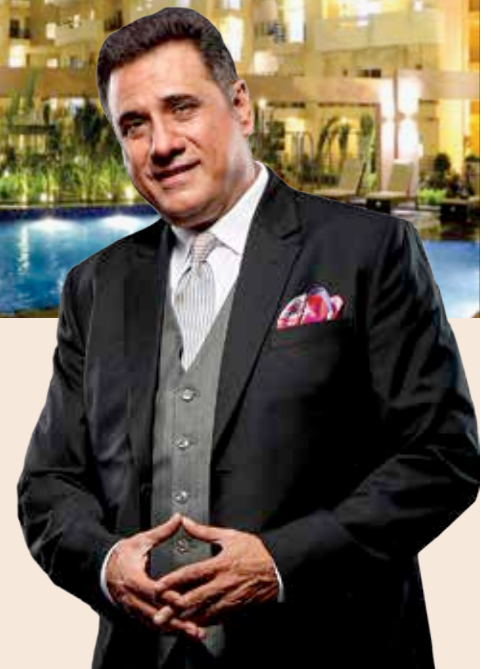
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