10 ANNIVERSARY

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# INDIANA HOSPITAL & HEART INSTITUTE LTD.

*A commemorative souvenir 2022*

# brought out on the occasion of completion of ten years of service


Published by Marketing Department, Indiana Hospital & Heart Institute Ltd.,
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# FROM THE MANAGING DIRECTOR'S DESK

**DR. YUSUF A KUMBLE**
MANAGING DIRECTOR - INDIANA HOSPITAL

***Greetings from Indiana Hospital & Heart Institute, Mangaluru***

It was our long-standing vision to establish a hospital that would serve the people-of coastal and Malnad Karnataka and northern Kerala with a dose of compassion. And we achieved it a decade ago. We feel great pride and contentment in saying that Indiana Hospital has crossed the 10-year milestone.

It all began with a humble thought by a team of doctors within family and friends, and today Indiana is among the top-notch hospitals of Karnataka. (Read the story of Indiana's beginnings on the following pages).

Within a decade, we have been able to deliver what we promised – a hospital with state-of-the-art facilities, expert consultants available 24x7 and affordable fees.

We have left no stone unturned to offer the best services to our patients and take care of the poor. Our experts keep themselves up to date with the latest advances in the medical field and we fully leverage the latest medical technology. Our CSR activities include creating health awareness and free health check-up camps and have greatly benefited society.

The completion of 10 years calls for celebrations. Indiana's precincts were filled with joy and happiness as we conducted various events over 45 days to celebrate the milestone. Through these events, Indiana proved that its staff is one family. The bonhomie experienced through these celebratory events was one of satisfaction.

This commemorative souvenir will be a document of historical importance for future generations. We assure you that Indiana will continue to serve patients with the same zeal and commitment and provide the best healthcare services.

Happy reading!

***Dr. Yusuf Kumble***

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# FROM THE CHAIRMAN'S DESK

**Prof. DR. ALI KUMBLE**
CHAIRMAN - INDIANA HOSPITAL

It gives me immense joy and pleasure to greet you on the tenth anniversary of Indiana Hospital.

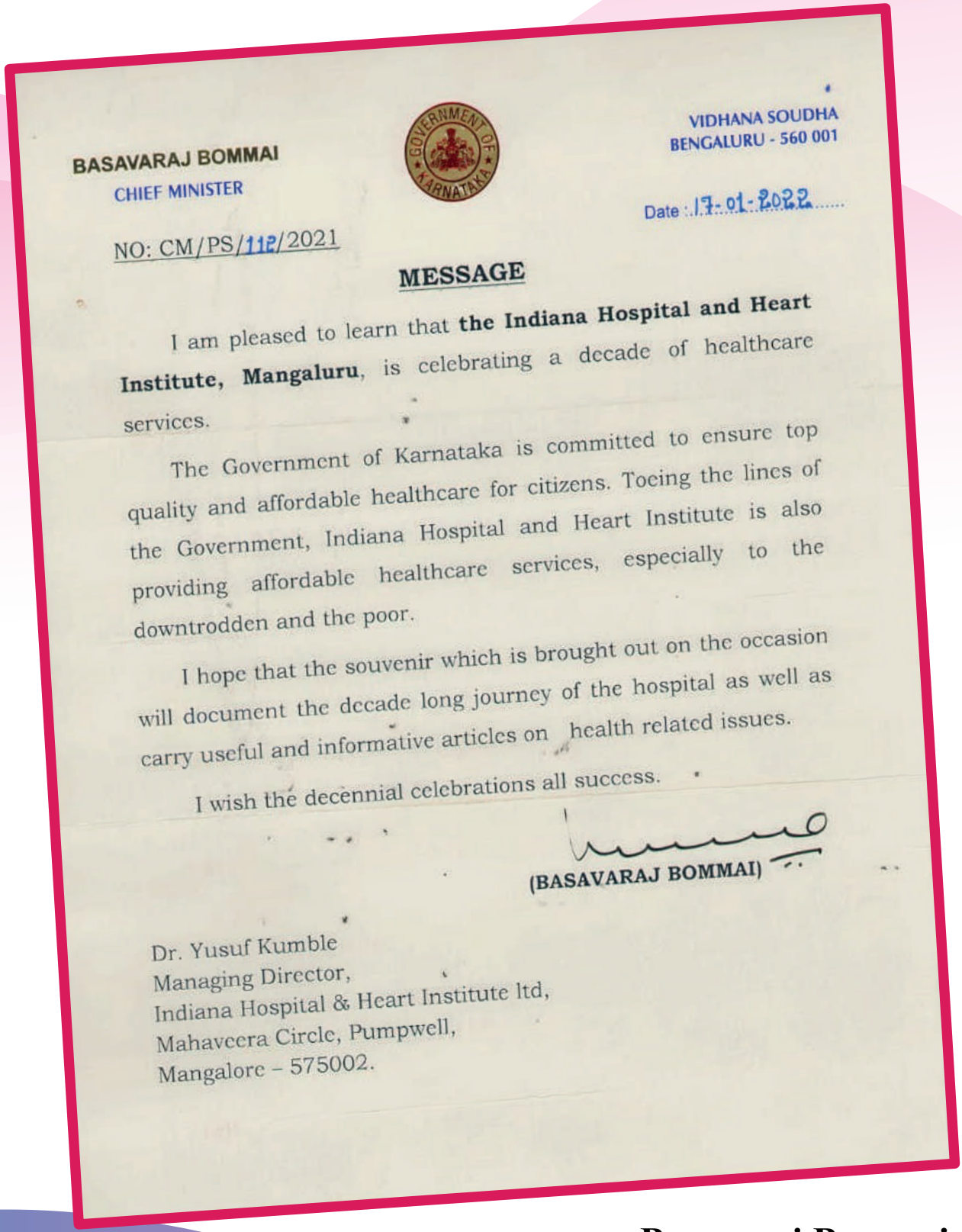
A polyclinic that I and my brother Dr Yusuf Kumble conceptualised and started in the 2000's has now grown into a corporate hospital. This was made possible only by God's grace, unflinching patronage by investors and unwavering support from well-wishers and patients. The last ten years have seen the hospital position itself as a pioneering, quality and affordable healthcare provider in the state. Indiana is the first corporate hospital to receive NABH as well as nursing excellence accreditation. Not only that, we have also succeeded in introducing DNB and fellowship programmes in several medical specialities.

In the last two years, we all had to go through a difficult patch due to Covid-19. It gives me immense pride to say that Indiana played its part in serving an overwhelmingly large number of Covid-19 patients with satisfaction.

Although ten years is a long time, there lies ahead a much longer journey. We are in the process of enhancing our facilities and further improving our services. There are challenges but we will overcome them with determination and zeal. Also, in the pipeline are the establishment of new centres wherever required.

Through this message, we offer our heartfelt thanks to all those who played their part in making this hospital an institution par excellence. We look ahead with a renewed endeavour to offer better services and facilities so that people get high-class treatment at an affordable cost.

***Dr. Ali Kumble***
Chairman



BASAVARAJ BOMMAI
CHIEF MINISTER

VIDHANA SOUDHA
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Date : 17-01-2022

NO: CM/PS/112/2021

**MESSAGE**

I am pleased to learn that **the Indiana Hospital and Heart Institute, Mangaluru**, is celebrating a decade of healthcare services.

The Government of Karnataka is committed to ensure top quality and affordable healthcare for citizens. Toeing the lines of the Government, Indiana Hospital and Heart Institute is also providing affordable healthcare services, especially to the downtrodden and the poor.

I hope that the souvenir which is brought out on the occasion will document the decade long journey of the hospital as well as carry useful and informative articles on health related issues.

I wish the decennial celebrations all success.

(BASAVARAJ BOMMAI)

Dr. Yusuf Kumble
Managing Director,
Indiana Hospital & Heart Institute ltd,
Mahaveera Circle, Pumpwell,
Mangalore – 575002.

**Basavaraj Bommai**
CHIEF MINISTER OF KARNATAKA


**Nalin Kumar Kateel**
MEMBER OF PARLIAMENT, DAKSHINA KANNADA
2nd Floor, D. C. Office Complex
Mangaluru - 575 001,
Dakshina Kannada, Karnataka

सत्यमेव जयते

ನಳನ್ ಕುಮಾರ್ ಕಟೀಲು
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## Message

Indian Hospital & Heart Institute, Mangaluru has started in the year 2012. I am happy to learn that this institute has completed its 10 successful years of service. I hasten to send my hearty congratulations and best wishes of the occasion to the institute, its supporters and the management. Indian Hospital & Heart Institute aims affordable and quality healthcare services to the people of Costal and Malnad Karnataka.

On this Special occasion I wish the Institute a great success and all the very best for the future.

Nalin Kumar Kateel

Phone : 0824-2448888 (O), Delhi Phone No: 011 23355383, Mobile : + 91-94485 49445, e-mail : mpdkannada@gmail.com, web:nalinkateel.com

**Nalin Kumar Kateel**
MEMBER OF PARLIAMENT, DAKSHINA KANNADA

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ದಿನಾಂಕ : 12.01.2022

ಸಂಖ್ಯೆ: ಶಾಕಮಂ/ 2/2022

## ಶುಭ ಸಂದೇಶ

ಇಂಡಿಯಾನ ಹಾಸ್ಪಿಟಲ್ & ಹಾರ್ಟ್ ಇನ್‌ಸ್ಟಿಟ್ಯೂಟ್ ಮಂಗಳೂರಿನಲ್ಲಿ ಸ್ಥಾಪನೆಗೊಂಡು ಹತ್ತು ವರ್ಷಗಳನ್ನು ಪೂರೈಸಿರುವ ವಿಚಾರ ತಿಳಿದು ಸಂತೋಷವಾಯಿತು. ಈ ಭಾಗದಲ್ಲಿ ಉತ್ತಮ ವೈದ್ಯಕೀಯ ಸೇವೆ ನೀಡುತ್ತಿರುವ ತಮ್ಮ ಸಂಸ್ಥೆಯು ದಶಮಾನೋತ್ಸವವನ್ನು ಸ್ಮರಣೀಯವಾಗಿಸಲು ಸ್ಮರಣ ಸಂಚಿಕೆಯೊಂದನ್ನು ಹೊರತರಲು ಉದ್ದೇಶಿಸಿರುವುದು ಅರ್ಥಪೂರ್ಣವಾಗಿದೆ. ತಮ್ಮ ಸಂಸ್ಥೆಯು ಕ್ರಮಿಸಿದ ಹಾದಿ ಹಾಗೂ ಮುಂದಿನ ಯೋಜನೆಗಳ ಕುರಿತು ಈ ಸಂಚಿಕೆಯಲ್ಲಿ ಮೌಲಿಕ ಲೇಖನಗಳು ಪ್ರಕಟಗೊಳ್ಳುವುದರ ಮೂಲಕ ಈ ಸಂಚಿಕೆಯು ಇತರರಿಗೂ ಪ್ರೇರಣೆ ನೀಡುವಂತಾಗಲಿ ಎಂದು ಹಾರೈಸುತ್ತೇನೆ.

(ಯು.ಟಿ.ಖಾದರ್)


ಕಚೇರಿ: ತಾಲೂಕು ಪಂಚಾಯತ್ ಕಚೇರಿ ಕಟ್ಟಡ, ಒಂದನೆಯ ಮಹಡಿ, ಮಂಗಳೂರು - 575 001
ಬೆಂಗಳೂರು ಕಚೇರಿ: ಕೊಠಡಿ ಸಂಖ್ಯೆ 199ಎಫ್, ನಾಲ್ಕನೆಯ ಹಂತ, ಶಾಸಕರ ಭವನ, ಬೆಂಗಳೂರು - 576 001
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**U. T. Khader**
MEMBER OF THE KARNATAKA LEGISLATIVE ASSEMBLY

# INDIAN MEDICAL ASSOCIATION
## KARNATAKA STATE BRANCH

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Honorary State Secretary
Dr. S.M. Prasad
M: 9845105122 | E: smprasad63@gmail.com

**Ref: IMA/KSB/President/696 /2022** **Date: 18th January 2022**

MESSAGE.

**Dear Dr.Ali Kumble & Dr.Yusuf Kumble,**

**Greetings from President, IMA Karnataka State Branch**

**I am happy to know that Indiana Hospital & Heart Institute, Mangalore is celebrating decennial year celebrations. It is undisputed fact that you have been rendering yeomen service in the field of health care in coastal Karnataka, Malnad and upper Kerala with many firsts to your credit. Your exemplary service in the medical field has recognised you as one of the best referral centers in field of your service. Expecting your institution to grow further rendering humanitarian services and institute of par excellence with dedicated team of Doctors.**

**Thanking you,**
**With warm regards,**

**Dr.Kateel Suresh Kudva**
**President**

**To:**
**Dr.Ali Kumble & Dr.Yusuf Kumble,**
**Chairman, Managing Director,**
**Indiana Hospital & Heart Institute Ltd.,**
**Mahaveera Circle, Pumpwell, Mangaluru – 575002,**
**Ph: 0824-2880880 / 247777**
**marketing@indianahospital.in, branding@indianahospital.in,**

**Dr. Kateel Suresh Kudva**
PRESIDENT, IMA KARNATAKA STATE BRANCH

# INDIANA HOSPITAL: FROM BLESSED START TO RAPID STRIDES

**Here's a look at the origins, progress and goals of the institution which is at the forefront of quality healthcare delivery in coastal and Malnad Karnataka and northern Kerala.**

Set amidst verdant environs, Indiana Hospital & Heart Institute, Mangalore, is a state-of-the-art 300-bed multidisciplinary, super-specialty hospital that has been providing tertiary healthcare to domestic and overseas patients since 2011.

Located at the confluence of three National Highways - the Bengaluru Highway, the Kerala Highway and the Mumbai Highway - the hospital follows process-driven quality systems that adhere to international standards of clinical care in a safe, infection-free environment that respects patients' rights and privacy. Little wonder then that Indiana Hospital is a name to reckon with in Karnataka.

## How it all began

The real thought germinated when Dr. Yusuf Kumble and Dr. Ali Kumble were at the Grand Mosque in Makkah for Hajj in 2005 that a hospital should be set up in Mangalore. At that time, Dr. Yusuf and Dr Ali, along with their relatives Dr. Misri, Dr. Jalal and four other doctors, had formed a group and were practising at Medicity, Mangalore.

The head of the Kumble family, late Haji Badavan Kunhi, with four sons as doctors, had a vision to open a hospital in Kumble, their native village on the Karnataka-Kerala border.

Dr. Yusuf Kumble, the founding chairman and present managing director of Indiana Hospital, recalls: "We wanted to fulfil the desire of our father but we thought we should have a hospital in a bigger place, and since Mangalore was close-by and had the potential of emerging as a medical hub, I strongly suggested that we establish a hospital in Mangalore where we can serve a bigger population. It was also my dream since when I was in senior school.

## *From blessed start...*


My father and my elder brother Dr. Zakeria reinforced this dream and were the real inspiration for us pursuing medical education and also setting up Indiana Hospital."

For Dr. Ali Kumble, the founder managing director and current chairman of Indiana Hospital, "private practice and teaching and visiting different hospitals every now and then was not that practical and so the concept of having our own hospital was the best option."

It was then decided that Dr. Yusuf and Dr Ali would fund the hospital with the base amount beside providing one and a half acres of land that they had already purchased. The remaining funds were raised from the public under an initiative taken up by a friend named Hamid Ali. The foundation stone for Indiana Hospital, where it currently stands at Pumpwell Circle, was laid with a du'a ceremony by Mangalore Kazi Shaikuna C M Abdulla Musliar Chembarika on February 14, 2009. A company called Indiana Hospital and Heart Institute Ltd. was formed to pursue the hospital project. The name 'Indiana' was selected based on India and the Indiana University School of Medicine, one of the leading medical schools in the US. While the former symbolizes national pride, the latter gives the name a global outlook. The hospital's tagline, 'Indian at heart, global in healthcare' sums up the concept.

Dr. Yusuf and Dr Ali, while pursuing their practice and teaching at KMC, supervised the hospital construction with dedication and it was at 11 am on Nov 11, 2011,

**A formal inauguration was held on May 12, 2012, with the participation of Veerappa Moily, the then Minister of Corporate Affairs, Govt. of India, and D.V. Sadananda Gowda, then chief minister of Karnataka and a host of other dignitaries.**

# Crossing a milestone ....

*Cont'd from page 15*

when Indiana Hospital and Heart Institute, was inaugurated with du'a by Kazi Shaikuna C M Abdulla Musliar Chembarika, who happened to be Indiana's first patient.

All important departments like cardiology, general medicine, paediatrics, neurosciences, gynaecology, orthopaedics, psychiatry, etc started working from the first day. A formal inauguration was held on May 12, 2012, with the participation of Veerappa Moily, the then Minister of Corporate Affairs, Govt. of India, and D.V. Sadananda Gowda, then chief minister of Karnataka and a host of other dignitaries.

Dr Yusuf Kumble was appointed the founder chairman of the hospital while Dr. Ali Kumble was made the founder managing director, along with Dr. Misri, and others as directors of the board. Dr. Yusuf and Dr Ali together contributed 60% of the funds, other directors 20% and the public the remaining 20%. The public funding was envisaged to ensure public participation and patient footfall.

Many challenges came as deterrents but were faced with farsightedness in decision-making and support from shareholders. As the hospital progressed and patients from far and wide flocked to it, more departments and facilities were added or upgraded and more money was pumped in. Departments like oncology, gastroenterology and hepatology, intensive care, nephrology and organ transplantation were added. And for the first time in Mangalore, a full-fledged Emergency Medicine Department manned by qualified ER consultants was added. These upgrades were well-received and the hospital progressed with patients getting quality treatment. The intensive care unit, established in 2015 under Dr. Adithya Bharadwaj, a qualified intensivist and physician, has been a boon to patients requiring specialised intensive care.

The addition of the nephrology department under Dr. Pradeep KJ, consultant nephrologist, within five years, was well received and for the first time in Dakshina Kannada and Udupi districts, Indiana Hospital successfully performed a kidney transplant on an international patient in . This further gave the hospital a good name.

Committed to excellence and superior outcomes, Indiana has been a regional leader in cardiothoracic surgery and heart care. The cardiology department became the pride of Indiana as procedures like TAVI were performed for the first time in Mangalore. It was the first hospital to be equipped with a state-of-the-art OCT machine, and facilities for rotabulation procedure were introduced in the initial years. The department of neurosciences with high-quality MRI and CT scan facilities and the neonatal unit also came into being within five years of establishment. The three centres of excellence – Indiana Institute of Cardiac Sciences, Indiana Children's Institute and Indiana Institute of Emergency Medicine – have carved a niche for themselves in their respective fields. Over the years, Indiana was accredited as a NABH hospital. As a testimony to its high nursing standards, Indiana Hospital was awarded NABH Nursing Excellence Accreditation.

Carving a niche in academics

To its credit, Indiana Hospital also serves as a training centre for DNB speciality and super-speciality courses and offers an academic course and an NNF fellowship in neonatology for doctors and nurses. It also offers a DNB program in cardiology and a fellowship in emergency medicine.

Health centres outside Mangalore

Indiana has established three health centres outside Mangalore: Janapriya Indiana Heart Lifeline in Hassan; Indiana SJM Heart Centre in Chitradurga; and Aramana Fathima Hospital in Karandakkad (Kasargod, Kerala).

# A treasure trove of memories

***Here we present treasured memories of the past ten years of Indiana Hospital. A story in each frame.***

# *Treasured memories*



# *Treasured memories*


# *Treasured memories*



# A regional leader in cardiology

The Indiana Hospital & Heart Institute, Mangaluru is a multi-specialty, state-of-the-art, one-stop centre for all medical disorders. The Department of Cardiology and Cardiothoracic Surgery at Indiana remains committed to providing the highest quality cardiology services with skill and compassion using advanced medical technologies. Its capability in handling all kinds of cardiac-related emergencies is well known throughout south India. The department has a large reservoir of top interventional cardiologists and cardiac surgeons available 24x7. Committed to excellence and superior service, Indiana has been a regional leader in cardiology that ensures services in Interventional Cardiology, Cardiac Surgery, Cardiac Emergencies, Paediatric Cardiology, Preventive Cardiology and Electro-physiology of the heart.

The department is headed by Dr. Yusuf A. Kumble, who is a pioneer in complex coronary interventions, including image-guided (OCT-guided) LMCA stenting, bifurcation and multi-vessel PCI.

The hospital became the first hospital in Karnataka to perform Mitral valve replacement percutaneously (valve in, valve intervention). Also, coastal Karnataka witnessed the first TAVI procedure (aortic valve replacement without surgery) at the Indiana Hospital.

Dr. Yusuf Kumble and his team have also performed various complicated hybrid procedures to replace the aortic arch for aortic dissection and aneurysm (a combined procedure by the intervention cardiologist and the cardiac surgeon for aortic arch disease), adding to Indiana's fame.

Very recently, for the first time in Mangalore an OCT-guided Intravascular Lithotripsy (IVL) to get the blocks in the coronary blood vessels cleared on a 70-year-old lady patient from Kerala was performed.

**Indiana - at the heart of health**

The hospital's latest catheterisation laboratory is equipped with a sophisticated Cath lab, diagnostic imaging equipment like OCT (optical coherence tomography), rotablator, FFR (Fractional Flow Reserve), electro-physiology lab and neuro-interventional equipment.

**The tech edge to healthcare**

Indiana is the first hospital in south Karnataka to possess the advanced Optical Coherence Tomography (OCT) system for cardiac imaging that is fully integrated with the hospital's Cath lab. A perfect guide to coronary angioplasty with high resolution, OCT, the most advanced coronary imaging modality, can be trusted to give accurate results.

# A regional leader in cardiology

*from page 21*


The hospital has a comprehensive cardiac care program, which is an amalgamation of the services of eminent cardiologists, the finest technology and evidence-based practices in Non-invasive Cardiology, Interventional Cardiology, Cardiac Electro Physiology and CTVS procedures. At the hospital, we take complete care of your heart – from diagnosis, prevention, treatment, surgical care to cardiac rehabilitation and wellness services. Our ultra-modern cardiac-related medical facilities, handled by renowned cardiologists, cardiothoracic surgeons and anaesthetists, offer heart care services across the spectrum of congenital heart care, electrophysiology, non-coronary and peripheral vascular diseases and device therapies.

Our heart failure clinic offers various services for chronic heart-failure patients such as monthly heart failure clinic, heart failure device therapies such as CRT-P (to prevent progression of heart failure), CRT-D (to reduce mortality during heart failure) and AICD implantation (to prevent sudden cardiac death), and various other pacemakers.

Our electro-physiology lab performs various electro-physiology study of the heart, radio-frequency ablation (RFA) and 3D mapping. We also provide emergency neuro-interventional procedures such as DSA, mechanical thrombectomy, mechanical aspiration, neuro-stent placement and aneurysm coiling for stroke patients.

Advanced Cardiac Surgery & Heart Transplant Centre

For the first time in Mangalore, an Advanced Cardiac Surgery and Heart Transplant Centre, an Indiana Hospital & Heart Institute initiative was opened in 2021. Headed by Dr. M.K. Moosa Kunhi, an eminent heart surgeon and a pioneer in modern artificial heart technology, bileaflet heart valve and Octopus Stabilizer System in beating heart surgery, the centre offers heart patients a wide spectrum of treatment options with assured clinical outcome. With state-of-the-art infrastructure, technology and clinical expertise, it aims to make Mangalore one of the best heart surgery destinations in South India.

## MILESTONES

**•The hospital became the first hospital in Karnataka to perform Mitral valve replacement percutaneously (valve in, valve intervention).**

**•Coastal Karnataka witnessed the first TAVI procedure (aortic valve replacement without surgery) at the Indiana Hospital.**

**•Dr. Yusuf Kumble and his team have performed various complicated hybrid procedures to replace the aortic arch for aortic dissection and aneurysm.**

**•Very recently, for the first time in Mangalore an OCT-guided Intravascular Lithotripsy (IVL) to get the blocks in the coronary blood vessels cleared on a 70-year-old lady patient from Kerala was performed.**

**•For the first time in Mangalore, an Advanced Cardiac Surgery and Heart Transplant Centre, an Indiana Hospital & Heart Institute initiative was opened in 2021. It is headed by Dr. M.K. Moosa Kunhi, an eminent heart surgeon**

# CME and Indiana

Maintaining lifelong knowledge and skills are essential for safe clinical practice. Continuing Medical Education (CME) is an established method that can facilitate lifelong learning. It's considered a core component of Continuous Professional Development (CPD). Indiana Hospital & Heart Institute, Mangalore, has over the years organised CME programmes on different medical subjects and new trends at different places. It organises two CMEs every month through the local chapters of the Indian Medical Association (IMA).




# Indiana hospital and COVID-19 management

The Covid management team of Indiana Hospital rose admirably well to the challenges posed by Covid-19. The key to its success was the way it prepared itself to face the pandemic.

Covid 19 brought catastrophic for all Indians. Our region was not spared either. The sudden surge in the number of cases in all the three waves, and the critical nature of those who had fallen sick and required isolation and high quantity of oxygen and ventilators or NIV services, presented a big challenge to healthcare providers.

Indiana Hospital rose to the occasion, and dealt admirably well with the situation. The hospital received great appreciation from various quarters for effective COVID-19 management by the hospital.

Considering the anxiety of the patients, the Indiana hospital had drawn up clear-cut guidelines and arrangement to be followed and all geared up to receive all patients as per government guidelines and health protocols like thermal screening, restricting visitors, use of PPP and N95mask, social distancing protocols, use of sanitisers at the entrance and common areas, isolation facilities, etc.

**Well-coordinated and concerted efforts paid off**

Says Dr. Yusuf Kumble, managing director, Indiana, who

led the team from the front, “Our ICU strength was only 20, but we took up the challenge of serving Covid patients and upgraded our ICU bed strength to 44. We re-organised the set-up by hiring more NIVs, and preparing additional ICUs equipped with high concentration of oxygen beds. A special team was constituted to keep a tab on patients whose saturation level was of concern, and made arrangements with the authorities or private agencies to refill oxygen cylinders. We had oxygen reserves for 24 hours. We showed maximum concern for poor patients who could ill afford Covid hospitalisation with oxygen beds by assisting them in getting financial sanctions for government schemes, or by helping them through hospital’s Fathima Trust. Since we were managing around 45 patients in the ICU alone at that time, a Covid team comprising specialist physicians, pulmonologists, emergency doctors, nurses, and super-specialists from other fields such as cardiologists, nephrologists, neurologists, gastroenterologists, and paediatricians, was constituted. The team put in great efforts to treat Covid patients, and the results are there for everyone to see. Our immaculate planning and execution of strategies paid good dividend.”

He added, “It is of immense satisfaction that around 50% of the patients on ventilators could be discharged after successful treatment; and almost all non-ventilator patients were discharged in good health. Our team was well-prepared, and handled everything well, and the result was gratifying. The major issue was curing those on ventilators, and our ICU team under Dr. Adhitya Bharadwaj, our consultant physician and intensivist, did an exceptional job on this front. He was honoured for

•*From Page 24*

his Dakshina Kannada district on March 19, 2021. Inaugurating the program, Dr. K.V. Rajendra, Deputy Commissioner, Dakshina Kannada district, said, "Indiana's humane and magnanimous approach in ensuring free vaccination for the public against Covid-19 is a laudable move." He asserted that Indiana Hospital had always extended full support to the district administration in ensuring better healthcare facilities for the people of the district. Indiana Hospital administered vaccines to about 2000 people, aged over 45, free of cost. It was the only private hospital to do so in Dakshina district. This was highly appreciated by the district administration and the people of the district.

Indiana Hospital has been at the forefront in creating awareness among people on the need to get inoculated against Covid-19, and following it up by arranging vaccination facilities at the hospital. The hospital has circulated a series of creatively-crafted social media messages in this regard. As people began realising the need to get the jab, and began crowding government hospitals and centres, Indiana Hospital procured 12,000 doses of Covishield vaccine and administered them at its premises.

selfless services during covid by the district administration. " While treating Covid cases was the priority, other patients too were given equal importance.

Says Dr. Ali Kumble, chairman, Indiana Hospital, "Though the third wave made covid spread fast but because of measures taken hospitalization was limited.

But we had prepared ourselves adequately well to deal with it. Thank God, the third wave did not pose grave concerns."

**At the forefront in providing vaccination**

In line with its social responsibility commitments, Indiana Hospital and Heart Institute, had rolled out a free Covid-19 vaccination drive for the residents of

**Recognition**

The frontline warriors who have been serving corona virus-infected patients were felicitated on the occasion of the Doctor's Day, which was celebrated at Indiana Hospital on July 1, 2021. The Sunni Yuvajana Sangha (SYS) praised the medical fraternity of Indiana hospital who epitomised selfless service beyond the call of duty during the pandemic.

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# Caring for accident victims, the Indiana way


***Staffed with well-trained qualified emergency physicians, nurses and paramedics, the Emergency Medicine department in Indiana Hospital has carved a niche in the management of traumatic injuries***

Trauma continues to be the leading cause of mortality among people. Every year in India, on an average, 1.4 lakh lives are lost due to road accidents. This figure clearly underlines how valuable a trauma care centre facility is to local residents. The first hour of such an emergency, often called the 'golden hour', is widely regarded as the most critical for saving lives. A big percentage of fatalities can be averted if victims are admitted to a hospital within the first one hour. Emergency is defined as any condition perceived by a prudent layperson, or someone on his or her behalf, as requiring immediate medical or surgical evaluation and treatment. It is in this backdrop that the Department of Emergency Medicine at Indiana


Hospital comes as a godsend to victims.Emergency medicine provides a better care within a period of time. In trauma, there is a golden hour and a platinum hour. The platinum 10 minutes immediately after a mishap are very crucial. The first hour of such an emergency, often called the 'golden hour' is widely regarded as the most critical for saving lives.

An Emergency medicine specialist at Indiana says, "If patients are brought to the emergency unit on time, the outcome will be good. If the victims are brought to the hospital early enough, their subsequent stay will be less, drugs will act fast, may require minimal investigations, cost will be less and the need for hospitalisation would be minimal. And thus, the treatment would be better. So, time is important in an emergency."

•From Page 27

He prescribes: "For any trauma injury, safety is important. So, shifting of the victim to a vehicle is important. We should know the proper method to follow. Secure the head, chest, stabilise the leg and pelvis and hold the patient in a neutral position. We are training volunteers in these aspects."


Staffed with well-trained qualified emergency physicians, nurses and paramedics, the Emergency Medicine department in Indiana Hospital has carved a niche in the management of traumatic injuries. Aimed at ensuring emergency care with compassion and human touch, the department can be accessed 24x7. It is equipped to handle a range of crisis, from minor and major to polytrauma, and has access to imaging and diagnostics services, operation theatres and 24-hour pharmacy. The Full Trauma Team includes Emergency doctors, Orthopaedicians, Neuro surgeons, Vascular surgeons, Plastic surgeons, Intensivist, Radiologists. Indiana's comprehensive trauma care and management offers a gamut of facilities including TRIAGE facility; Resuscitation beds with advanced monitoring and defibrillation; Acute care beds with advanced monitoring; Trauma Care area; Dedicated Paediatric Care areas; Short stay facilities on an OP basis; 24x7 outpatient consultation with the doctor; 24x7 access to minor OT within the department; 24x7 Ambulatory care for minor injuries and complaints; 24x7 ECG & Point of Care Cardiac diagnostics; Access to Radiology/Lab facilities; Bedside Ultrasonography; Ventilators and Point-of-care testing facility. The facility is integrated with a wide network of ambulance services.

**Mobile ICU – hospital on wheel**

The Indiana Trauma Care department has a Mobile ICU configured with medical equipment onboard. Staffed with a doctor and highly trained paramedics, the Mobile ICU is dispatched to emergency situations where patients require a higher level of care.

Indiana a saviour to victims of road accidents

For the last two years, the Emergency Medicine Team of Indiana Hospital have been providing laymen and staff of many organisations and companies in Mangalore and nearby areas, CPR and Basic Life Support (BLS) training to enable them to respond properly during disasters and provide emergency services to victims before they are shifted to hospital for proper treatment. Emergency team have visited the offices of various organisations to demonstrate CPR and method of basic life support. These training, as part of corporate social responsibility (CSR), is being continued this year well.

# Indiana hospital: an ideal abode for international patients

***A healthy combination of state-of-the-art facilities, highly trained doctors and affordable treatment have made India a popular Medical Value Travel (Medical Tourism) destination, attracting a large number of foreign patients every year.***


Mangaluru, strategically located on India's picturesque west coast in the state of Karnataka, has found a prominent place on the international medical tourism map with more and more patients from the GCC and African countries coming here for treatment. The city has an eminent history in healthcare, being the hub of medical education with six prominent medical colleges to boast of. The hospitals in the city have advanced facilities and skilled doctors, and are affordable; the city also has a vast range of accommodation options. Moreover, the Mangalore International Airport has easy and direct connectivity to all GCC countries and connected flights to other countries via Bangalore, Kannur, Mumbai, Chennai and New Delhi airports, making Mangaluru an ideal destination for medical value travellers.

Indiana Hospital advantage

On the vanguard in MVT in Mangaluru is Indiana Hospital which has been attracting a stream of patients, especially from the GCC countries, Kenya, Bangladesh, etc. The hospital has around 35 departments with top-notch facilities, and is now offering single-window clearance and assistance as per requests from international patients and their families.


For the first time in Dakshina Kannada and Udupi districts the Indiana Hospital and Heart Institute successfully performed a kidney transplant for an international patient about three years ago. Because of pandemic the arrival of foreign patients was affected and now with the easing of restrictions are in place patients have started being flown to Mangaluru for treatments.

Indiana offers personalized medical value travel packages for patients at affordable rates. Indiana MVT planner offers patients and their family members services like help in obtaining medical

# At the forefront of Medical Tourism

• *From Page 29*

visa, preparing documents, airport pick-up and drop, treatment by in-house specialists; making arrangements for accommodation, sightseeing, local transportation and shopping.

Mangalore, a vibrant city with excellent infrastructure, is easily accessible to all GCC countries with direct regular flights operated by Air Indian Express and other international carriers via Mumbai and Kannur.

Mangalore, strategically located on India's picturesque West coast in the federal state of Karnataka, is now on international medical tourism map as more and more patients from GCC and African countries are getting treatment here. Furthermore, patients on road to recovery and caretakers also get to go on sightseeing tours in Mangalore, known for surreal beaches, placid water bodies and relish amazing variety of sea food delicacies. A range of budget to star accommodation options are available. The city's role in healthcare is old, exalted and entrenched in its roots.

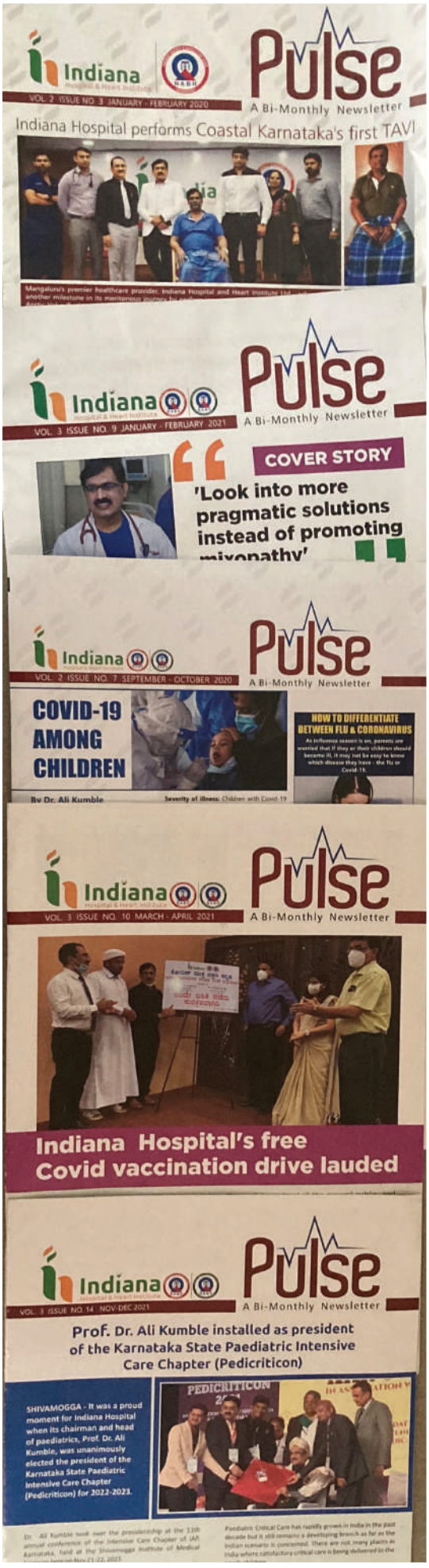
# *Indiana newsletter 'Pulse' is a resounding hit*

**REACHING OUT: The inaugural issue of PULSE, the bi-monthly newsletter of Indiana Hospital & Heart Institute, Mangalore, was released in September-October 2019.**

PULSE is an eight-page, all-colour bi-monthly newsletter from Indiana Hospital & Heart Institute, Mangalore. It keeps readers up to date on the happenings at the premier medical facility, shares its success stories and accomplishments, conveys new announcements, provides them with an interface with doctors in emerging specialities and informs them about upcoming events.

PULSE also gives experts a platform to share the latest research and trends in healthcare and medicine with the general public. Each issue of the newsletter also carries the latest details of doctors at Indiana Hospital & Heart Institute, covers a particular health issue and creates awareness about preventing and mitigating its causative factors.
The Pulse is edited by Aftab H. Kola, head of corporate communications at Indiana Hospital.

In short, the newsletter serves as the crucial link between medical practitioners, patients and the public at large. The first issue of PULSE was launched in September-October 2019 and became an instant hit. It's available in both print and digital formats.
Read all issues of PULSE at
**https://www.indianahospital.in/news-letter/**



# Indiana Decennial celebrations

*The completion of 10 years calls for celebrations. Indiana's precincts were filled with joy and happiness as we conducted various events over 45 days to celebrate the milestone. Through these events, Indiana proved that its staff is one family. The bonhomie experienced through these celebratory events was one of satisfaction.*



10 ANNIVERSARY

# *Indiana Decennial celebrations*





2D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# Abdul Latheef: The Man with the Midas Touch

Indiana has become synonymous with quality healthcare, a decade after the establishment of the eponymous 300-bed hospital in Mangalore. Abdul Latheef, the vice-chairman of the NABH-accredited multi-speciality Indiana Hospital, and his partners had the aim of setting up a world-class facility to provide quality and affordable healthcare to patients from Mangalore and the surrounding places in coastal, Malnad Karnataka and North Kerala, who otherwise had to travel long distances and spend a lot to get quality care. The group aims to set up at least 10 such hospitals in the next five years.

In the wake of advances in technology and the growing demand for quality healthcare, the sector looked to the future for a viable and sustainable transformation. Then Abdul Latheef, a pioneer of quality and widely accessible healthcare, set foot in the Sultanate of Oman.

An Indian entrepreneur expatriate, Latheef ventured into many businesses and steered them to success.

He was driven to transform the private healthcare sector into a benchmark for its peers in Oman. His belief and confidence made Badr Al Samaa Group of Hospitals one of the largest private healthcare groups in Oman.

He aimed to provide the finest affordable treatment to both Omanis and expatriates and revolutionize the private healthcare space. The confidence that patients reposed in the Badr Al Samaa Group of Hospitals was overwhelming and inspired him to expand beyond Oman. By now, he has established world-class facilities in Oman, Bahrain, Qatar, Kuwait, the UAE, Saudi Arabia and India.

Latheef believes his journey was to fulfil a dream: “Looking back, I feel everything has been worth it. Today, I derive satisfaction from the way the Badr Sama family has grown and become a part of the Omani healthcare system. But our journey has just begun."

After success in healthcare, he ventured into education, real estate, jewellery and precious metals, travel and tourism, electronics, retail, clean energy (solar power), and other sectors.

Besides Badr Al Samaa Group of Hospitals & Polyclinics LLC, he founded Badr Al Samaa Hospital International

**He was driven to transform the private healthcare sector into a benchmark for its peers in Oman. His belief and confidence made Badr Al Samaa Group of Hospitals one of the largest private healthcare groups in Oman.**

# Healthcare Pioneer

• *From page 36*

LLC, Al Nabeel International LLC (both in the Sultanate of Oman), Al Basma Electronics LLC, Badr Al Samaa Medical Centre, Kuwait, and many more.

He is also the managing director of Al Hilal Hospital Company BSC in Bahrain and Gulf Asian Medical Centre, Jubail, Kingdom of Saudi Arabia.

He is also the chairman of Wintouch Builders Private Limited, Kerala.

Latheef entered the education sector in Kerala, not to earn more but to develop institutions that can be pioneers in their respective fields. As his first venture,

he took over the College of Engineering & Technology in Kannur and later set up Wintouch School in Kasargod. In 2022, he was nominated to the Loka Kerala Sabha.

## Philanthropic activities

Aishal Foundation: The project dearest to him is Aishal Foundation, a charitable organization that he named after his mother Aisha. He spends a considerable portion of his earnings on charitable causes, which give him the greatest satisfaction.

He loves to be identified as the founder of the Aishal Foundation. He has funded thousands of marriages and paid for healthcare, education, welfare, and the upliftment of the poor.

He recently donated 12 dialysis machines for those who cannot afford the high cost of recurring treatment.

He is the chairman of the CH Centre Charitable Society and the Manjeshwaram Muslim Orphanage.

## Badr Al Samaa Group of Hospitals

Badr Al Samaa Group of Hospitals, Oman's and perhaps the region's most trusted private sector healthcare brand, has reached an enviable state thanks to its four underlying attributes: affordability, availability, accessibility and accreditation (AAAA).

Founded in 2002, Badr Al Samaa has now become a household name in Oman as it provides quality healthcare in more than 25 specialities at six hospitals and seven medical centres.

It has more than 2,000 staff members and caters to three million patients each year. All six hospitals are accredited by either JCI (USA) or ACHSI (Australia), the world's top-quality accreditation bodies for healthcare.

## Healthcare in India

Latheef is the vice-chairman of the 300-bed Indiana Hospital in Mangalore, which has planned 10 more state-of-the-art hospitals in the next five years.

He is also the chairman of the recently inaugurated facilities — Aishal Medicity, Kanjhagad, and Wintouch Hospital. Both are in Kasargod, Kerala.

## Al Hilal Healthcare

Latheef is the managing director of the JCI-accredited Al Hilal Hospital Company BSC, the largest and fastest-growing chain of private healthcare providers in the Kingdom of Bahrain. The first branch of Al Hilal was established in 2005 with the objective of providing quality healthcare at an affordable price in the Kingdom of Bahrain. The group is set to launch four more centres by early 2023.

A man who believes in giving back to society when people are in distress and ensure real happiness for everyone, Latheef has many more dreams to realize.

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# A Milestone Crossed

Some memories of the grand valedictory event of the decennial celebrations (2022) held at Surya Woods, Mangalore




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# Health
## *articles*

# Quality healthcare: How to make it accessible to all?

By **Dr. Yusuf Kumble**
Managing Director And Chief Interventional Cardiologist,
Indiana Hospital & Heart Institute

In India, 80 per cent of the people pay out of their own pockets for hospital visits. Hardly 20 per cent have health insurance. Of the 80 per cent, 50 per cent take loans or mortgage their assets.

Why is this disparity? How do we provide quality healthcare to people?

We all know that the public health system is neither extensive nor viable. India spends just about 2% of its GDP on public health.

Quality healthcare is expensive because it requires top talents as well as technology. Specialized doctors are highly skilled; only the rich can afford them. And most doctors like to work in cities because of the comfort and facilities available there and because of the financial returns they get. It's a no-brainer that if the returns are unattractive, the medical profession will lose its charm and we will lose highly qualified and skilled people.

All over the world, medical professionals are paid well so that the field attracts top talents. But governments, especially in places like India, can neither pay the doctors well nor invest adequately in medical technology, which is expensive.

As a result, the private sector has to provide high-quality healthcare. But there's a problem here too. As mentioned earlier, in a country like India, 80% of the people pay out of their own pockets for healthcare. And for the foreseeable future, it's unlikely that the common Indian will be able to afford quality healthcare without undergoing severe financial hardships.

India is home to 1.3 billion people who present an enormous diversity and, therefore, an enormous challenge to the healthcare delivery system.

What's the way out?

In these challenging times, especially with Covid-19 disrupting our lives, one of the crucial elements that has taken the spotlight is access to quality healthcare at affordable cost. I suggest a public-private partnership to promote quality healthcare in India. The government should provide land, electricity and water supplies and other facilities. In return, private healthcare providers should provide free treatment for 10-I5% of the population. The rest should be provided with private health insurance. When we say private health insurance, the government should pay the premium for people of three categories:

# Gaps in health delivery systems can be reduced

*(From Page 44)*

a) the poorest: the government should pay their premiums and private hospitals should provide treatment at subsidised rates;

b) the middle class: they should go for regular insurance (50% paid by the government, remaining borne by the common man);

c) the third category will cover high-end premiums for high-end treatments in high-end hospitals. The government should pay a bare minimum amount as a premium and the rest should be borne by the public. In this category, too, the government should mandate a deduction from the monthly salary of government employees and private-sector workers. To compensate for this, the government should provide the salaried class with income-tax concessions and other benefits. Private hospitals, too, can opt for three categories: Either allow high premium patients only, or allow low premium packages and get more patients so that there should be a healthy competition among the hospitals.

Hospitals can be categorised into A, B and C based on the availability of full time consultants, their qualifications, experience and credibility, NABH/ JCI accreditation, nursing accreditation, availability of biomedical equipment, availability of other services etc.

Here, they will have a choice and can go for any of these options. Suppose there are high-end hospitals that want to treat only A-list patients. People paying high premiums can go there. Middle-class people can go to intermediate hospitals. And so on. There is a lot of potential that remains to be harnessed.

This way, the government can provide quality healthcare to all sections of society


# RIGHT TO HEALTH FOR CHILDREN

By Dr. Ali Kumble

Indicators of health, disease and mortality in our country continue to remain alarmingly poor. Neonatal and infant mortality rates are high, and preventable diseases – infections, malnutrition and nutrient deficiency disorders–are very frequent. UNICEF annual reports mention that the health status of our children is worse than some of our neighbouring countries, and comparable to Sub-Saharan African nations. Although the Government has undertaken several very important measures to address the various health problems of children, their impact has been limited. The adoption of Right to Health for children will be crucial for obtaining adequate health care for children.

Priorities in Child Rights

The problems of children vary among affluent and low- and middle-income countries. Thus right to education and health must be assigned highest priority in developing countries. Among economically advanced countries, violence against children, sexual abuse and substance abuse are of greater concern. Realization of socioeconomic and cultural rights is particularly difficult.

Right to Health

Whereas the right to health can be regarded as part of human rights and applicable to all, children constitute the most neglected segment having been denied adequate health care. Moreover, children are totally dependent upon adults for all of their needs. They have no control over adverse health events, proper nutrition, sanitation and environment. In the absence or a lack of adequate parental care, the State must be responsible to meet their health needs by making child-centric policies and sufficient allocation of funds. Indian judiciary has addressed several issues that include work in hazardous situations, bonded labour, and employment of children below the age of 14 years. The Supreme Court of India has ruled that the health is the fundamental right of workers. However, health care of children has not received sufficient attention.

UNCRC and Child Health

The Committee on the Rights of the Child recognizes that a majority of mortality, morbidity, and disabilities among children could be prevented if there were political commitment and sufficient allocation of resources directed towards the application of available knowledge and technologies for prevention, treatment and care. Article 24 (1) of the UNCRC [5] mentions that: "States parties recognise the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. State parties shall strive to ensure that no child is deprived of his or her right to access to such health care services."

The Article 24 (2) mentions: "States parties shall pursue full implementation of this right and in particular, shall take appropriate measures: (a) to diminish infant and child mortality; (b) to ensure the provision of necessary medical assistance and health care to all children with emphasis on the development of primary health care; (c) to combat disease and malnutrition, including within the framework of primary health care, through inter alia, the application of readily available technology and through the provision of adequate nutritious foods and clean drinking water, taking into consideration the dangers and risks of environmental pollution; (d) to ensure appropriate pre-natal and post-natal health for mothers; (e) to ensure that all segments of society, in particular parents and children, have access to education and are supported in the use of basic knowledge of child health and nutrition, the advantages of breastfeeding, hygiene and environmental sanitation and the prevention of accidents; (f) to develop preventive health care, guidance for parents and family planning education and services.

# Raising a healthy kid

*Cont'd from page 46.*

## Problems and Health Needs of Children

Twenty-seven million babies are born in our country every year, a majority in the underprivileged rural and urban communities, where the parents are not always able to provide adequate care. Newborn and infant mortality rates are particularly high in such situations. The needs and care of children are very different at different ages. The important health needs at various ages can be considered as follows:

Newborn: Maternal nutrition and adequate antenatal care. Safe delivery, immediate care of the neonate and subsequent management during the first 1-3 months.

Infancy and pre-school period: Feeding and nutrition (supplements of iron, vitamins), immunization, proper management of common infections (diarrhoea, respiratory, skin, eye, ear, parasitic), and attention to development.

Older children: Adequate nutrition, treatment of acute and chronic diseases (e.g. tuberculosis, malaria, water borne diseases).

Adolescents: Physical and emotional health, treatment of acute and chronic diseases, family life counselling.

## Priorities in Child Health Requirements:

The difficulties in the health care delivery as well as institution of preventive measures are greatly compounded by illiteracy and poverty. Provision of safe water and measures to improve sanitation and vector control are very difficult to undertake in many parts of the country. Neonatal survival is greatly dependent upon antenatal care (particularly nutrition), safe delivery and immediate neonatal care. These are being tackled by encouraging institutional deliveries and establishing level II newborn care units. However, substantial reduction of early neonatal mortality requires early referral and proper transport of the neonate to tertiary units.

The preschool child in underprivileged communities (who mostly remains unsupervised as both parents are often working) suffers from very frequent common illnesses (gastrointestinal and upper respiratory infections and those of skin, eyes and ears), which are either ignored or poorly treated. Besides occasionally causing serious complications, these take a heavy toll on the wellbeing of the child and adversely impact the nutritional status and physical growth. Such illnesses need adequate management.

Government Programs Targeting Child Health and Development

The Integrated Child Development Services (ICDS) initiative was launched in 1975. The Government is committed to make it universal. Janani Suraksha Yojna was started in 2005, and

modified in 2011 to include the neonates (now termed Janani Shishu Suraksha Yojna), to provide free care to pregnant women and sick neonates.

# A child's right to health

*Cont'd from page 47.*

The National Rural Health Mission (NRHM) was launched in 2005 to address the health needs of underserved rural areas. It aims to establish fully functional, community owned, decentralized health delivery system with intersect oral coordination at all levels. The plans include having mobile medical units in unserved areas, mother and child health wings and free drugs and diagnostic services at district hospitals, and action on other health determinants such as sanitation, education and nutrition. In 2013, this mission has been expanded to include urban areas. Rashtriya Bal SwasthyaKaryakram was started in 2013 to screen diseases specific to childhood – developmental delay, disabilities, birth defects and deficiencies. This initiative was aimed at screening over 270 million children of 0-18 years of age. Children diagnosed with illnesses shall receive follow-up, including surgeries, free of cost under NRHM.

Functional Health Literacy:

A crucial measure is to provide functional health literacy to the illiterate communities. Information about sanitation and hygiene, feeding, benefits of vaccinations and the dangers if unvaccinated, management of common problems (e.g., oral rehydration for diarrhoea) can be provided using simple messages, photographs and modern methods. Traditional adverse practices inimical to children need to be removed. Primary health workers can be suitably trained to undertake this task.

Once successful, there will be a demand for services, and a better community participation in the implementation of various health measures.

The responsibility for proper health care of the child rests with the parents. If they are not capable (for whatever reasons) the proximate community, elected representatives (e.g., village panchayat officials, local health authorities) must be made responsible and accountable. They must oversee the implementation of various Government programs.

## Paediatricians and Right to Health

Paediatricians must be regarded as custodians of child health. The Indian Academy of Paediatrics (IAP), besides supporting the development of quality and specialty expertise, must encourage inclusion of child rights, equity and non- discrimination in clinical practice, and cooperate with other agencies (National and International) for wider advocacy. All healthcare workers, professional organisations and all others who care for children should strongly support this demand.

**Dr. Ali Kumble** is the chairman and HOD, paediatrics, **Indiana Hospital & Heart Institute Ltd.**

--Adapted from an article by Dr. R.N. Srivastava in 'Indian Paediatrics' journal.

# *Taking control of your* DIABETES

By **Dr. Adithya Bharadwaj**
Consultant Physician, Diabetologist and Intensivist
Indiana Hospital & Heart Institute, Mangalore

Blood sugar in a diabetic patient varies from hour to hour and day to day. Improper lifestyles and irregular medicines lead to fluctuating blood sugars – which is one of the most detrimental factors in our fight against diabetes.

Diabetes is increasingly becoming a common disease. And it goes hand in hand with an increase in obesity and inactivity — both major risk factors for developing type 2 diabetes.

I will briefly describe the ways to take control of diabetes:

1. Step 1: Learn about diabetes.
2. Step 2: Know the ABC of your diabetes.
3. Step 3: Learn how to live with diabetes.

**Step 1: Learn about diabetes**

Like in any battle, knowing more about your opponent helps you in handling the problem better. The same goes with diabetes.

There are three main types of diabetes:

•Type 1 diabetes – Your body does not make insulin. This is a problem because you need insulin to take the sugar (glucose) from the foods you eat and turn it into energy for your body. You need to take insulin every day to live.

•Type 2 diabetes – Your body does not make or use insulin well. You may need to take pills or insulin to help control your diabetes. Type 2 is the most common type of diabetes.

•Gestational diabetes – Some women get this kind of diabetes when they are pregnant. Most of the time, it goes away after the baby is born. But even if it goes away, these women and their children have a greater chance of getting diabetes later in life.

**Step 2: Know the ABC of your diabetes.**

Talk to your healthcare team about how to manage your A1C, Blood Pressure, and Cholesterol. This can help lower your chances of having a heart attack, stroke, or other diabetes problems.

A for the A1C (HbA1C – Glycosylated Haemoglobin) test.

**What is it?**

The A1C is a blood test that measures your average blood sugar level over the past three months. It is different from the blood sugar checks you do each day.

# A Guides to Manage
# DIABETES

•*From Page 49*

**Why is it important?**

You need to know your blood sugar levels over time. You don't want those numbers to get too high. High levels of blood sugar can harm your heart, blood vessels, kidneys, feet, and eyes.

What is the A1C goal?

The A1C goal for many people with diabetes is below 7.5. It may be different for you. Ask what your goal should be.

B for Blood Pressure

**What is it?**

Blood pressure is the force of your blood against the wall of your blood vessels.

Why is it important?

If your blood pressure gets too high, it makes your heart work too hard. It can cause a heart attack, stroke, and damage your kidneys and eyes.

**What is the blood pressure goal?**

The blood pressure goal for most people with diabetes is below 140/90. It may be different for you. Ask what your goal should be.

C for Cholesterol

**What is it?**

There are two kinds of cholesterol in your blood: LDL and HDL.

LDL or "bad" cholesterol can build up and clog your blood vessels. It can cause a heart attack or stroke.

HDL or "good" cholesterol helps remove the "bad" cholesterol from your blood vessels.

**Step 3: Learn how to live with diabetes**

It is common to feel overwhelmed, sad, or angry when you are living with diabetes. You may know the steps you should take to stay healthy, but have trouble sticking with your plan over time. This section has tips on how to cope with your diabetes, eat well, and be active.

**Cope with your diabetes**

Stress can raise your blood sugar. Learn of ways to lower your stress. Try deep breathing, gardening, taking a walk, meditating, working on your hobby, or listening to your favourite music.

**Lose extra weight**

Losing weight reduces the risk of diabetes.

The American Diabetes Association recommends that people with pre-diabetes lose

at least 7% to 10% of their body weight to prevent disease progression.

More weight loss will translate into even greater benefits. Set a weight-loss goal based on your current body weight.

Eat well

•Make a diabetes meal plan with help from your healthcare team.

•Choose foods that are low in calories, saturated fat, trans fat, sugar, and salt.

•Eat foods with more fibre, such as whole grain cereals, breads, crackers, rice, or pasta.

•Choose foods such as fruits, vegetables, whole grains, bread and cereals, and low-fat or skim milk and cheese.

•Drink water instead of juice and regular soda.

•When eating a meal, fill half of your plate with fruits and vegetables, one quarter with a lean protein, such as beans, or chicken or turkey without the skin, and one quarter with a whole grain, such as brown rice or whole wheat pasta.

Be active

•Set a goal to be more active most days of the week. Start slow by taking 10-minute walks 3 times a day.

•Twice a week, work to increase your muscle strength. Use stretch bands, do yoga, heavy gardening (digging and planting with tools), or try push-ups.

•Stay at or get to a healthy weight by using your meal plan and moving more.

Know what to do every day

•Take your medicines for diabetes and any other health problems even when you feel good.

•Keep track of your blood sugar. You may want to check it one or more times a day.

•Check your blood pressure if your doctor advises and keep a record of it.

# *Pediatric Dentistry:*

## *Gift the child a*

# SMILE!

By **Dr. Meghana S. Kumar**
Consultant Pediatric Dentist
Indiana Hospital and Heart Institute, Mangalore

***Children's oral healthcare needs are different from those of adults. They require special care from a dentist who has undergone additional training to meet the healthcare needs of the child from infancy all the way up to adolescence.***

Pediatric dentistry is an age-defined speciality that provides primary as well as comprehensive preventive and therapeutic oral healthcare to infants and children through adolescence, including those with special healthcare needs.

Children's oral healthcare needs are different from those of adults. They require special care from a dentist who has undergone additional training to meet the healthcare needs of the child from infancy all the way up to adolescence.

**Benefits of pediatric dentistry**

1. A friendlier, more comfortable and calmer environment for a child.
2. Specialised training in working with the jaws of children in a safer, comfortable and more efficient way.
3. Behaviour modification techniques will be followed to make the child more cooperative.
4. Adverse effects of oral habits, if present, will be dealt with as soon as possible.
5. Growth and development of the jaw of the child are monitored regularly and discrepancies, if any, are corrected with preventive or interceptive orthodontics.
6. Children with special healthcare care needs will be handled with utmost care.

## Importance of Primary Teeth

1. Aid in mastication (chewing)
2. Help in the proper development of the jaw.
3. Help in speech.
4. Healthy teeth help the child chew and maintain a balanced nutrition.

# Keep that Smile On...

•*From Page 51*

5. Primary teeth help maintain space for permanent teeth and aid the development of proper occlusion in permanent dentition.
6. Help create a beautiful smile in the child and build their self-confidence.
7. Maintain good general health.

**Preventive measures followed in pediatric dentistry**

1.Diet modification with necessary diet counselling is given to the child.
2.Proper tooth-brushing techniques are taught as a plaque-control measure.
3.Dental sealants are used as a measure against pit and fissure caries.
4.Importance of flouride with topical fluoride application.
5. Preventive orthodontics to reduce the severity of developing malocclusion.

**A lot of advances have taken place in the field of pediatric dentistry:**

A. In Pain management
•Vibrotactile devices
•Computer aided local anaesthesia
•Jet injections
•Safety dental syringes
•Comfort control syringes

**B. In radiographic techniques**

•Digital radiographic methods
•Diagnodent laser system
•Digital subtraction radiography
•Tuned aperture computer tomography
•Digital imaging fibro optic transillumination

**C. In Restorative dentistry**

•Smart glass ionomer cement
•Smart composites
•Self-healing composites
•Smart burs
•Silver Diamine Fluoride
•Amorphous calcium phosphate releasing pit and fissure sealants

**D. Nanotechnology**

a.Nano robotic dentrifices
b.Resin modified nano cements

**E. Pediatric dental crowns**

•Zirconia crowns
•Figaro crowns
•Biological crowns
•Luxa crowns

Good oral health is important for all ages. Pediatric dentistry not only gives children a good smile but also educates them about oral hygiene and instils positive dental vibes in them.

# DIGITAL EYE STRAIN

Post-pandemic we have spent little time outdoors and too much indoors on screens. Undoubtedly, there has been an unprecedented jump in the screen time that we have all engaged in ever since the pandemic has broken out affecting our eyes. **DR. SMRUTHI,** Consultant Opthalmologist at Indiana Hospital and Heart Institute, helps us lighten eye strain.

•*From Page 53*

The outbreak of novel coronavirus since MARCH 2020 has changed the traditional teaching method of using black boards to digital device-assisted online classes. Digital learning has become a daily necessity thereby leading to a marked increase in digital device use among children of school-going age.

Spending long hours in front of these devices can lead to many ocular problems in children. Digital eye strain (DES) is the most common eye problem associated with prolonged digital device use, characterized by symptoms such as dry eyes, itching, foreign body sensation, watering, blurring of vision, and headaches.

The prevalence of digital eye strain is estimated to range from 25% to 93%, as reported in various studies. The most common device used for online classes was the smartphone followed by desktop and laptops. In the COVID era, children were using digital devices for >5 hours compared to the pre-COVID era. This is probably the main reason for the increased prevalence of DES .

DES symptoms can be categorized into two groups: 1) symptoms related to accommodation (blurred vision for near objects, headache, and eyestrain) and 2) symptoms related to dryness (burning sensation, foreign body sensation, itching, watering, intolerance to light). The most common symptoms reported were itching and headache.

Few independent risk factors for DES in children are: age >14 years, male sex, smartphone preference over other digital devices, use of digital devices >5 h, and use of mobile games >1 h/day, shorter screen distance of <50 cm. Continuous smartphone use leads to a decrease in the blink rate, causing dry eye-related problems. Smartphones are also used with a short viewing distance because of their small screens, thus causing more asthenopic symptoms. This may be due to the disparity between the screen viewing distance and the individual's convergence.

During this COVID pandemic, there are restrictions on outdoor activities for children, which has led to an increase in the time spent by these children to play videogames on smartphones. Most children play videogames for long hours with maximum concentration and without any break; this can cause a newly described condition in children known as videogame vision syndrome. Prolonged activity on smartphones while playing videogames can lead to DES and accommodative problems in children.

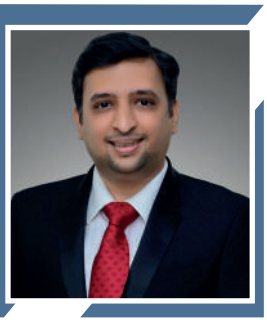
**Saving children from the glare of screens**

Shortening the duration of digital device use has a great effect on the symptoms of DES. The 20/20/20 rule has been suggested to minimize asthenopia symptoms during computer use. After every 20 minutes of digital device use, look at a distance of 20 feet for at least 20 seconds. Children should be encouraged to blink when reading text on screens. Avoid keeping the device close to the eyes, monitor screen time, and include a healthy diet rich in carotenoids and green leafy vegetables. Adequate sleep is necessary. Regular eye check-ups are strongly recommended.

# Born too soon: The Premature Baby

## One small step for baby, one giant leap for babykind!

In conversation with
**Dr. Abhishek K.Phadke,**
Consultant Neonatologist,
Indiana Hospital & Heart Institute,Mangaluru.



**What exactly do neonatologists mean when they say a baby is premature?**

According to the National Neonatology Forum-India, preterm birth is the delivery of an infant before the completion of 37 weeks of gestation. As per the latest data, preterm birth accounts for 10-15% of all births in India, which is alarming. We categorise preterm births into late preterm infants, born between 34 weeks and 36 weeks+6 days of gestation, moderate preterm, very preterm, extreme preterm (28 weeks & below), incredibly preterm, etc. Of late, quite many units are equipped in handling neonates born at the threshold of viability with reasonably good results in terms of long-term intact neuro-developmental outcomes.

**Are there any specific risk factors? Who is more likely to have a premature baby?**

There are multiple maternal risk factors associated with preterm births. These include maternal reproductive factors, such as a history of preterm birth and maternal age. In addition, mothers older than 35 years are at a high risk of delivering their babies prematurely. Multiple gestations, having more than one baby, are another risk factor for early delivery. Maternal health is also important. As we look at infection, anaemia, hypertension, preeclampsia, eclampsia, cardiovascular, pulmonary disorders and diabetes, all, if left untreated, can lead to an early delivery. Then there are maternal lifestyle issues, such as physical activity, smoking, diet, weight and stress. There are also specific issues, such as cervical, uterine and placental factors, including a short cervix, cervical surgery, uterine malformations, vaginal bleeding and placenta previa or abruption, which can result in preterm delivery. And finally, foetal factors, such as the presence of congenital anomalies, growth restriction, foetal infections and foetal distress, can play a role in delivering a baby too soon.

**What do you think is behind this rise in prematurity rates?**

I think it's multifactorial. The social determinants of health are beginning to play a major role, particularly access to healthcare. Access to healthcare is a big problem. Without prenatal care, we will not be able to address the many risk factors leading to more preterm births. We still see mothers today who have no prenatal care. Another reason why prematurity is on the rise is that we have an increase in mothers over the age of 35. Some of them utilise assisted reproductive technology, which can result in multiple gestations, another risk for premature births.

•*From Page 55*

**How has the care of premature babies changed during your career?**

The major challenge initially was survival, primarily from respiratory distress syndrome. Improvements in the NICUs with the advent of surfactant treatment and antenatal steroid therapy to prevent and treat neonatal respiratory distress resulted in decreased mortality rates of premature infants. Now, we focus on other conditions, using a more active management approach to sepsis, necrotizing enterocolitis, etc. With the emphasis on the benefits of breastmilk, survival has improved significantly.

Today, we not only want to improve the survival of infants but also want to focus on decreasing morbidity and improving long-term developmental outcomes.

**How are premature babies taken care of in the NICU?**

Newborn babies are a different species altogether. They require very gentle care and handling. The baby will be placed under a warmer which automatically adjusts the baby's body temperature to 37°C.

Babies with breathing difficulties are given respiratory support. Central lines and IV access would be inserted depending on the need and requirement. There would be doctors and nurses who would be monitoring the baby's health 24x7. Multiple organ life support systems would be used when indicated, so overall the level of care depends on the needs of the baby.

Parental interaction with the premature babies – more frequently including feeding babies with expressed breast milk "connects" them and makes them feel they are caring for the baby and bonding is better. Hence, most mothers are allowed 24x7 in most nurseries around the world and should be encouraged.

**How do you study the long-term outcomes for premature babies?**

It is crucial that we transition our premature NICU graduates to a NICU follow-up developmental program to monitor their medical and developmental milestones.

The challenge for neonatal follow-up programs is competing with clinical services needed by the premature infants with available resources needed for long term outcomes of these infants. We not only do need to follow them up but also need to follow them through.

Here at Indiana Hospital, Mangaluru, we have a full-fledged

structured Child Development Centre where all these babies undergo formal assessment and training. We have not just medical but social responsibility to these babies.

Why do most hospitals find it difficult to run an NICU?

It is important to understand that 'smaller the baby, bigger is the team that is required.' NICU requires well-trained nursing staff and paramedics who are willing to work round the clock.

Also, there is a bigger necessity to be empathetic, gentle and compassionate as compared to any other speciality. We need to spend time with the parents of the baby, too, to keep them calm and motivate them with positive thoughts. So overall it's teamwork.

Covid has changed the dynamics with lower footfall due to travel constraints and cost constraints for the public.

A good NICU in a hospital has many intangible benefits like more patient footfall into other departments, which are usually overseen.

# Born too soon.....

**What should parents with premature babies know?**

The one thing I want them to know is they have a team of doctors, nurses and allied health members, caring for their infant and that they, parents, are also part of that team. Once a premature baby is born, his/her parents enter a world they never knew existed. The whole team wants to give their baby the best possible medical care technologically available. Along with this, they also want the best possible outcome for the child. And that's what we work for day and night.

**Your job is probably one of the toughest in the world.**

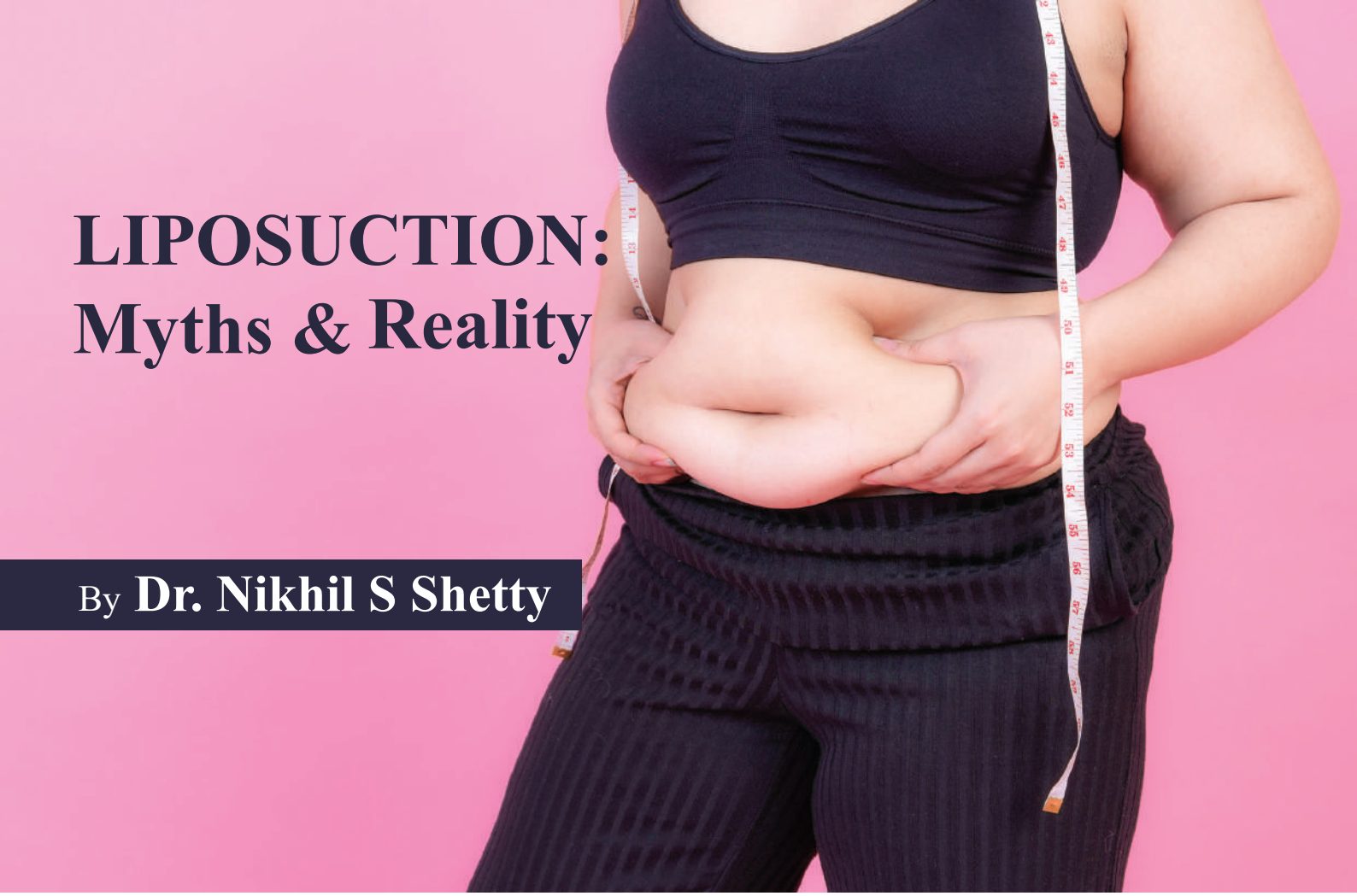
'Nimitta Maatram' (Smiles). I think it's just about having a strong faith, personally, to be able to do this on a daily basis. We have an excellent NICU at Indiana Hospital with a full team of doctors, nurses and allied health staff. It's a journey to have a premature baby that may be in the hospital for 2–3 months. We are going to have some really good and bad days, we are going to see smiles, we are going to see tears. We have to adjust to that and be ready no matter what the day may bring.

## *Life in an NICU*

* NICU babies are true fighters and survivors.

* A premature baby may look tiny and fragile to touch but don't underestimate the courage, strength and determination of a baby born too soon.

# LIPOSUCTION: Myths & Reality



By **Dr. Nikhil S Shetty**

Liposuction is a surgical procedure that uses a suction technique to remove fat from specific areas of the body, such as the abdomen, hips, thighs, buttocks, breasts, arms or neck. Liposuction also shapes (contours) these areas. Other names for liposuction include lipoplasty and body contouring.

Liposuction isn't typically considered an overall weight-loss method or a weight-loss alternative. If you're overweight, dieting and exercise, or bariatric procedures such as gastric bypass surgery, can help you lose more weight than liposuction. Liposuction, in fact, is used to remove fat from areas of the body that haven't responded to diet.

**Risks involved**

As with any major surgery, liposuction too has risks, such as bleeding, or reaction to anaesthesia. The possible complications specific to liposuction include:

•**Contour irregularities.** Your skin may appear bumpy, wavy or withered due to uneven removal of fat, poor skin elasticity and unusual healing.

•**Fluid accumulation.** Temporary pockets of fluid (seromas) can form under the skin. This fluid may need to be drained out with a needle.

•**Numbness.** You may feel a temporary or permanent numbness in the affected area. Temporary nerve irritation is also a probability.

•**Infection.** Skin infections are rare, but possible

•**Internal puncture.** A cannula that penetrates too deeply (in rare cases) may puncture an internal organ.

•**Fat embolism.** Pieces of loosened fat may break away and become trapped in a blood vessel.

•**Kidney and heart problems.**

•**Lidocaine toxicity.**

The risk of complications increases if the plastic surgeon is working on larger surfaces of your body or doing multiple procedures during the same operation.

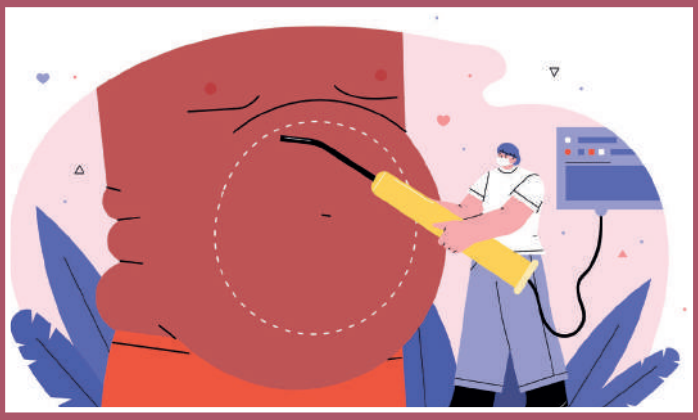
**How you prepare**

Before the procedure, discuss with your plastic surgeon what to expect from the surgery. Your plastic surgeon will recommend that you stop taking certain medications such as blood thinners or NSAIDs at least three weeks prior to the surgery. You may also need to get certain lab tests done before your procedure.

**Other precautions**

If your procedure requires the removal of only a small

# COSMETIC
## MAKEOVER



•*From Page 58*

amount of fat, the surgery may be carried out as a day care procedure. If a large amount of fat is to be removed — or if you plan to have other procedures done at the same time — the surgery may be done in a hospital followed by an overnight stay.

Before your liposuction procedure, the plastic surgeon may mark circles and lines on the areas of your body that have to be treated.

Photographs may also be taken in order to compare the 'before' and 'after' images. The procedure may last up to several hours, depending on the extent of fat removal.

**After the procedure**

Expect some pain, swelling and bruising after the procedure. Your plastic surgeon may prescribe medication to help control the pain, and antibiotics to reduce the risk of infection. After the procedure, the plastic surgeon may leave your incisions open and place temporary drains to promote fluid drainage.

You usually need to wear tight garments, which help reduce swelling, for a few weeks. You may need to wait a few days before returning to work and a few weeks before resuming your normal activities — including exercise.

During this period, expect some contour irregularities as the remaining fat settles into position.

**Liposuction, in fact, is used to remove fat from areas of the body that haven't responded to diet.**

**Results**

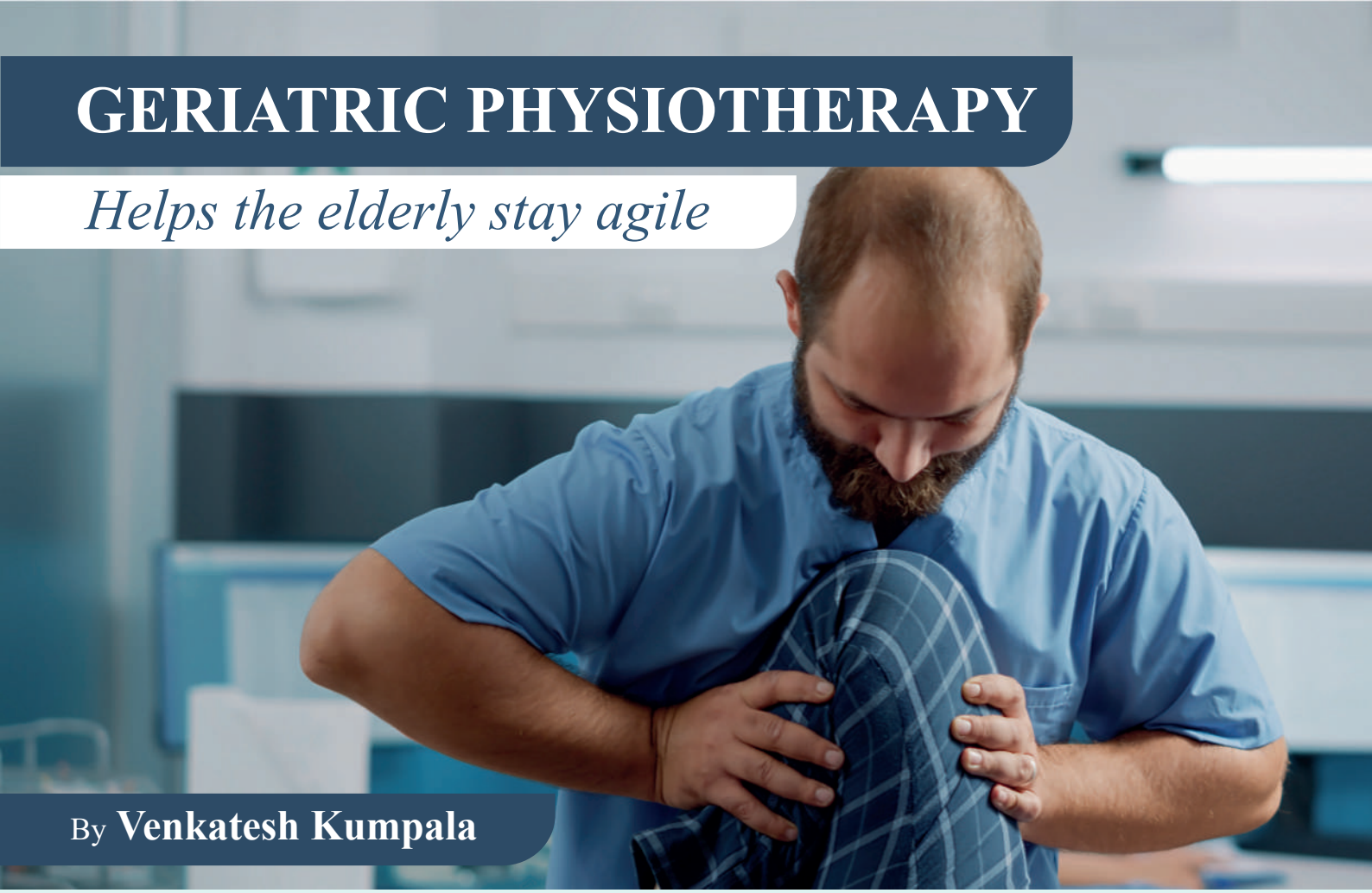
After liposuction, swelling typically subsides within a few weeks. By this time, the treated area should look less bulky. Within several months, expect the treated area to have a leaner appearance. It's natural for the skin to lose some firmness with aging, but the results of liposuction are generally long lasting as long as you maintain your weight.

If you gain weight after liposuction, your fat distribution pattern may change. For example, you may accumulate fat around your abdomen regardless of what areas had originally been treated.

**Dr. Nikhil S. Shetty,**
MBBS, MS (General Surgery), Mch (Plastic and Reconstructive Surgery),
is a visiting Consultant – Plastic & Reconstructive Surgery,
at **Indiana Hospital & Heart Institute, Mangaluru**

# GERIATRIC PHYSIOTHERAPY

## *Helps the elderly stay agile*



By **Venkatesh Kumpala**

As we humans grow older, we become susceptible to different age-related conditions. Arthritis, osteoporosis, Alzheimer's, cancer, fractures, joints that require replacement, stroke, decreased body balance, incontinence, and what not! The aged therefore requires special care and attention. That's where physical therapy comes in. Geriatric physical therapy isn't just the route to wellness, it also focuses on the treatment of the above mentioned conditions, thereby helping to improve the lifestyle of the adult population.

Orthopaedic physical therapy, for instance, focuses on damage and injuries to musculoskeletal variety, as well as assists in recovery after orthopaedic surgeries.

For the aged with cardiovascular conditions, cardio pulmonary physiotherapy plays an important role.

For those who have had a heart attack, or those with weak lungs, breathing issues, etc., physiotherapy will work wonders in improving their endurance,as also promote functional independence.

Finally, people with neurological conditions such as stroke, Parkinson's and Alzheimer's, physiotherapy will help improve their balance and mobility, thus enabling them to carry on their day to day activities. Today, when we're witnessing a pandemic, we know how susceptible elderly people are, and how physiotherapy is helping them with breathing exercises to enable them to enhance their endurance, mobility and physical functions.

Physiotherapy is hence an important and integral part of the treatment for Covid-19.

### Geriatrics and Physiotherapy

Geriatrics is the branch of medicine that focuses on health care of the elderly. It aims to promote health and prevent and treat diseases and disabilities in older adults.

Physiotherapy plays an important role in geriatrics rehabilitation. Geriatric physiotherapy became a speciality in the study of physical therapy in 1989. Since then, physiotherapist have worked to understand the problems facing the ageing population. There is a long list of problems geriatric physiotherapists deal with including

Alzheimer's, Arthritis, Balance disorder, Cancer, Cardio Vascular Diseases, Incontinence, Joint replacement, Pulmonary diseases, Stroke, etc.

### Three major areas

1) Deconditioning: A problemthat occurs because the patient simply doesn't use his limbs. This problem can be addressed by reconditioning the body through a range of movements and strengthening the exercise pattern.

2)Cardio Vascular Diseases: For conditions like heart disease and stroke, exercise, aqua therapy, electrical stimulations and more therapy can be used.

3) Musculoskeletal problemssuch as osteoporosis and osteoarthritis: Owing to osteoporosis, the aged suffer from issues like

# An adjunct to medicine ...

*•From Page 60*

lack of balance and steadiness in gait. Geriatrics physiothe rapy helps in restoring body balance and gait, thus preven ting people falling down.

## Benefits of geriatric physiotherapy

Geriatric physiotherapy aims to help the elderly to maintain functional independence and overall well-being. It also helps in:

1) Improving and managing the range of motions of various joints.
2) Maintaining the strength and endurance of the muscles.
3) Performing day to day activities without the need of a helping hand.
4) Building strength and stability required for independent living.

## Why it's important

As we age, our body undergoes multiple degenerative changes, leading to loss of strength in muscle tone which restricts mobility and flexibility. We experience changes in social and emotional functioning with the increase in age, affecting our quality of life and general wellbeing.Geriatric care is important as it involves a sequence of preventive and intervening measures that provide the elderly the care and support essential to improve and manage their functional independence and quality of life.

**Mr. Venkatesh Kumpala** is the Consultant Physiotherapist
at **Indiana Hospital & Heart Institute, Mangaluru**

# RHEUMATISM:

## *EARLY DIAGNOSIS IS THE KEY*

**RHEUMATOLOGY IS A SUPER-SPECIALTY BRANCH OF MEDICINE WHICH DEALS WITH THE CONNECTIVE TISSUES OF THE BODY LIKE BONES, JOINTS, MUSCLES, LIGAMENTS AND SO ON**

# DO YOUR JOINTS HURT?

*•From Page 62*

A Rheumatologist deals with ailments like joint pain and swelling, muscle pain, back pain at an young age, skin tightening, recurrent and undiagnosed headaches, chronic coughs and breathlessness, rashes on the skin, severe hair fall that does not respond to any treatment, recurrent oral or genital ulcers, skin conditions like psoriasis, skin ulcers and discolouration; bluish or white discoloration of fingers on exposure to cold environments, kidney dysfunction not due to any known chronic illness, ulcers at tips of fingers, recurrent miscarriages not due to any gynaecological problems, recurrent redness and pain in eyes, dryness of eyes and mouth.

The diseases that a Rheumatologist treats are Rheumatoid arthritis, Osteoarthritis, Spondyloarthropathies, Psoriatic arthritis, Systemic lupus erythematosus, i.e., lupus, Scleroderma, Sjogren's syndrome, Myopathies and Osteoporosis.

It is a relatively lesser known field, and hence there is the possibility of delay in diagnosis and effective treatment. Most of the patients who decide to consult a Rheumatologist would already have met several specialists, and by the time a patient reaches us, he or she might have already developed complications related to the disease.

Complications like deformities, major organ affliction, and severe skin damages can be treated, but it could be a long drawn out process.

Also, as these complications are severe, treatment may prove heavy on the pocket. However, with the availability of better investigation facilities and medications, there are more chances of a patient recovering completely and pretty fast if he or she consults a doctor in time.

These diseases need to be diagnosed early, and regular follow-up is a must. It also requires patience on the part of the doctor as well as the patient.

Treatment of a Rheumatological disease is a team effort. At Indiana Hospital, we have an up to date laboratory

equipped to handle all investigations; quality treatment modalities, a radiology team and a consultant who is available round the-clock to help in correctly diagnosing the disease. We also have a very helpful, caring and active Physiotherapy team.

Hence, we are confident that we can provide the best of treatment to our patients that would help them to lead a quality life once they leave the hospital.

If you have any of the above-mentioned symptoms or diseases, consult a Rheumatologist at the earliest.

**Dr. Arifa Haleema** is a Consultant Rheumatologist
at **Indiana Hospital and Heart Institute, Mangaluru.**

# MENTAL HEALTH ISSUES POST COVID-19

## By Dr. Siva Sivakantha

A question that lingers is, overall what will be the impact of the pandemic on our mental health? To physicians who have been treating those afflicted with Covid-19, it is clear that the virus will have short-term and long-term impacts, not just on a patient's physical health but on his/her mental health as well. Lungs being the primary organ that will be affected by this novel virus, any dysfunction to it will lead to impairment of the functioning of the brain. In general, the majority of the mental health issues we face today can be an immediate or long-term consequence/complication of this deadly pandemic. Here I will try and dwell on the immediate and long-term mental health issues that we have come across and treated till now.

Any person who is infected may go through various emotional difficulties--panic, anxiety, adjustment issues and grief being the common ailments, and in a few cases depression. These need to be diagnosed early (as in physical complications) in order to address it effectively. Not addressing these issues can impact a patient's overall treatment, hospital stay, comorbid system involvement, recovery period, ability to participate in rehabilitation, overall compliance with the treatment, etc.

In the acute phase, when lungs are markedly affected, patients develop Hypoxic Encephalopathy or Delirium (brain not getting adequate oxygen to function normally) leading to confusion, disorientation and inability to actively participate in treatment. This will need immediate care in order to prevent further escalation. Elderly patients with past history of stroke or other brain impairment, and patients who have comorbid medical issues (diabetes, kidney, liver problems, hypertension) are at a higher risk of developing Delirium. Similar condition which can mimic Delirium is ICU psychosis.

Many Covid-19 affected patients may also develop anxiety, panic, adjustment issues and grief.

The mere fact that it is novel and a pandemic can trigger such emotions. In addition to this, isolation, being away from one's or stress), or currently in treatment may experience recurrence or worsening of their symptoms during this period. Such patients are preoccupied and overly concerned with irrational and uncontrollable thoughts about their families being affected.

Though less common when compared to anxietyand family, believing in information that is fake or not fully true, or is devoid of facts, ICU stay, ventilation, seeing other serious patients, patients with prior history of anxiety/depression, patients who are currently undergoing treatment for such emotional problems, etc., are at high risk of developing such conditions.

A few patients may develop depression due to prolonged stay in hospital, multiple complications, losing hope, financial/family burden, death of family members/friends due to Covid-19, lack of support network, lack of coping skills, unemployment, uncertainty about the future, grief, etc. There are even a few cases where individuals have committed suicide mostly because of panic, ignorance, mass/social hysteria, stigma, fake news, etc.

# Tackling depression post Covid

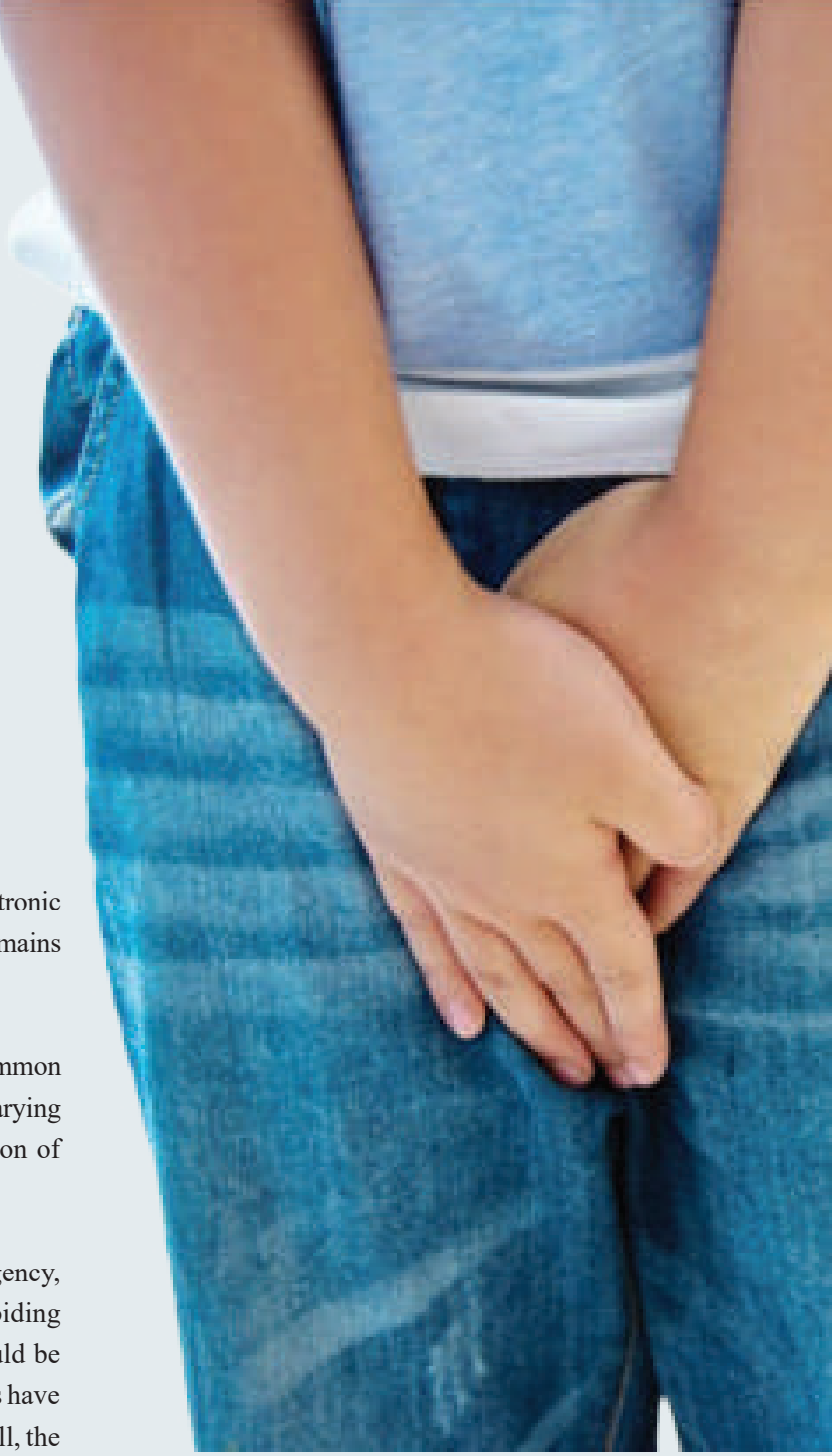
•*From Page 64*

We physicians have also come across people, who though not infected, complained about onset of anxiety/panic or even depression. Again, individuals with prior history or at risk (like having family history depression, it is possible for a few to develop patterns of obsessive/compulsive behaviour (fear of getting infected, excessive washing/cleaning), phobias (distorted information, lacking facts can worsen this) and such other issues. The longer this pandemic lasts, greater the chances of these risks increasing. Recall how people reacted hysterically when HIV struck, and how the frenzy died down as they gained more genuine information about the disease. There are many issues and impacts which are less thought of, or discussed, at this stage, which again may have long-term consequence. Being forced to stay at home for long durations (especially the elderly and children), lack of social exposure, losing support systems, displacement (migrants), lack of schooling/learning, prolonged exposure to digital/social media, increased substance use, impact on physical health, inactivity, long term economic impact, living with Covid-19, etc., are, as described by experts, all factors which can impact both physical and emotional wellbeing. Even compliance to medication may become poor during this period due to several restrictions, lack of access/availability. Our recommendations are that such cases be identified and treated as early as possible. It is pertinent that we achieve this through public education, awareness, close monitoring, timely management and holding discussions with the family, friends and other caregivers of those affected. Many such mental health issues secondary to this deadly pandemic can be effectively handled when diagnosed early and treated appropriately by the management team (coordinated treatment approach).

**Dr. Siva Sivakantha,**
MBBS, MD (Psychiatry), is the Senior Consultant Psychiatrist at **Indiana Hospital & Heart Institute, Mangalore.**

# Voiding Dysfunction :

## *What is it and how to help kids overcome* it ?



By **Dr. VijayMahantesh**

In the digital era when children are obsessed with electronic toys and television, a condition that occurs commonly but remains under-diagnosed is Voiding Dysfunction.

Children often complain of urgent or frequent urination. A common finding in almost all such children is the occurrence of varying degrees of constipation. It could be a general phenomenon of holding pattern or postponing the acts of evacuation.

At the milder spectrum, they might present as just an urgency, while at the extreme spectrum, they might have total voiding disturbance with incontinence and renal scarring and could be one of the causes of renal failure. Because most of the cases have some association with the disturbances of defecation as well, the recent terminology for these conditions is Bowel Bladder Dysfunction (BBD). These conditions account for nearly 40% of paediatric urology consultations in some centres.

**For the simplicity of the discussion, we would call these conditions voiding dysfunction.**

## Ways of presentation

1. Urgency: Hurry for the visit to toilet, failing which, there will be a leak in the undergarments.
2. Frequency: Increased visits to the toilet, more than the normal routine visits, often associated with urgency.
3. Dysuria: Pain or itching in the genitalia or lower abdomen while passing urine.
4. Vaginal voiding: Pooling or collection of urine in the vaginal cavity after the act of voiding. May present itself as wetting of the undergarments in the females after the act of passing urine.
5. Hesitancy: Undue delay in the commencement of urination & can often be associated with pain in the genitalia at the start of urination.
6. Straining while passing urine.
7. Night-time or day-time incontinence.

# Voiding Dysfunction

.Continued from Page 66.

In many children, there is an associated dysfunction with defecation. There is a history of constipation or passing hard stools in almost all of them. There could be a history of accidental soiling of the undergarments with faeces or of alternating constipation and passing loose stools. Anatomical and functional interactions between bladder and bowel are well-established. In general, increased rectal faecal load can affect the bladder function by: a) Mechanical compression – resulting in decreased bladder capacity, causing urgency and frequency or by b) changing the physiological neural stimuli of the bladder leading to a decreased urge to evacuate, causing bladder spasms and pain, insufficient urination and residual urine, leading to an increased risk of urinary infections and renal damage.

Postponement of toilet visits is increasingly observed when children tend to delay urination while they are distracted playing, using electronic toys or watching television. This behaviour often results in holding manoeuvres, low voiding frequency, urgency, and daytime incontinence. Constipation is frequently associated with voiding postponement, as the mechanism to delay defecation is similar. The social stigma of persistent wetting and bowel accidents is a common problem faced by these children and can lead to self-esteem issues, shame, isolation, poor school performance, aggressiveness, and other behavioural changes.

## Diagnostic work-up and management:

Diagnostic work-up includes a routine test of urine analysis, an X-ray of the abdomen to assess the amount of faecal loading and renal ultrasound to assess the kidneys, bladder and the amount of residual urine after urination.

**Management is primarily behavioural, but if intractable, then medications are advised. Constipation management is an integral part of the treatment. Children should be encouraged to:**

**1. Pass urine regularly** – timed every three hours. Children should be encouraged to pass urine in the school recess breaks. Holding the urine is the primary cause of most of the symptoms. School toilets must be maintained hygienically to encourage children to visit during breaks. A general practical recommendation is: “Every two hours try to pee, wash your hands, and have a cup of water.”

**2. Adequate hydration** – depends on the age of children and weight. On average, up to 8 cups per day should be encouraged.

Daytime adequate hydration is a must. Most of these children have a reversed pattern of hydration: with decreased adequate intake in the day to avoid toilet visits and compensate it with increased intake after school hours. This should be corrected.

**3. Constipation Management:** Children should be encouraged for a healthy and high fibre diet and should preferably pass stools in the morning completely before resuming schools. In persistent constipation, a course of laxatives or stools softeners are indicated.

**4. Educational resources:** Whenever possible, educational resources must be shared with families. They include the general tips about the proper toilet positioning and posture for passing urine and stools.

**5. Medications and Surgery:** Medication is considered in case of failure to improve after behavioural modifications and control of constipation and in some severe conditions requiring immediate relief. In severe intractable conditions or failure to comply, certain surgical interventions might be required.

In summary, voiding dysfunction is a common but yet under-recognised condition especially in toilet-trained school-going children. Early recognition and prompt therapy prevent these children from social embarrassment with urinary and faecal leaks, and in extreme cases, from severe damage to the renal system and long-term effects.

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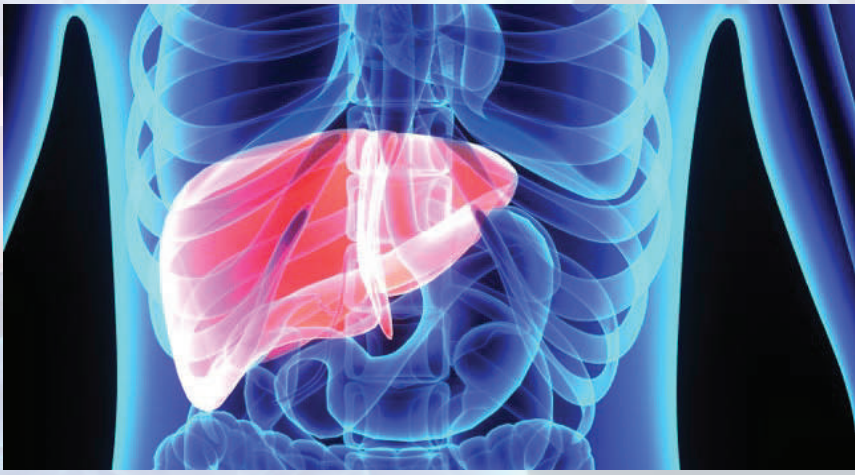
# *An overview of*
# CIRRHOSIS

By **Dr. Apoorva Srijayadeva**



## Cirrhosis is a type of liver damage where healthy cells are replaced by scar tissue.

Cirrhosis is a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases and conditions, such as hepatitis and chronic alcoholism.

Cirrhosis of the liver describes a condition where scar tissue gradually replaces healthy liver cells.

It is a progressive disease, developing slowly over many years. If it is allowed to continue, the buildup of scar tissue can eventually stop liver function

Each time your liver is injured - whether by disease, excessive alcohol consumption or another cause - it tries to repair itself. In the process, scar tissue forms. As cirrhosis progresses, more and more scar tissue forms, making it difficult for the liver to function (decompensated cirrhosis). Advanced cirrhosis is life-threatening.

The liver damage done by cirrhosis generally can't be undone. But if liver cirrhosis is diagnosed early and the cause is treated, further damage can be limited and, rarely, reversed.

Symptoms:

Cirrhosis often has no signs or symptoms until liver damage is extensive. When signs and symptoms do occur, they may include:

- Fatigue
- Easily bleeding or bruising
- Loss of appetite
- Nausea
- Swelling in your legs, feet or ankles (edema)
- Weight loss
- Itchy skin
- Yellow discoloration in the skin and eyes (jaundice)
- Fluid accumulation in your abdomen (ascites)
- Spiderlike blood vessels on your skin
- Redness in the palms of the hands
- For women, absent or loss of periods not related to menopause
- For men, loss of sex drive, breast enlargement (gynecomastia) or testicular atrophy
- Confusion, drowsiness and slurred speech (hepatic enceph alopathy)

### When to see a doctor

Make an appointment with your doctor if you have any of the signs or symptoms listed above.

### Causes

A wide range of diseases and conditions can damage the liver and lead to cirrhosis.

Some of the causes include:

- Chronic alcohol abuse
- Chronic viral hepatitis (hepatitis B, C and D)
- Fat accumulating in the liver (nonalcoholic fatty liver disease) Iron buildup in the body (hemochromatosis)
- Cystic fibrosis
- Copper accumulated in the liver (Wilson's disease)
- Poorly formed bile ducts (biliary atresia)
- Alpha-1 antitrypsin deficiency
- Inherited disorders of sugar metabolism (galactosemia or glycogen storage disease)
- Genetic digestive disorder (Alagille syndrome)
- Liver disease caused by your body's immune system (autoimmune hepatitis)
- Destruction of the bile ducts (primary biliary cirrhosis)
- Hardening and scarring of the bile ducts (primary sclerosing cholangitis)
- Infection, such as syphilis or brucellosis
- Medications, including methotrexate or isoniazid

# Early diagnosis key to managing cirrhosis

## Risk factors

•Drinking too much alcohol: Excessive alcohol consumption is a risk factor for cirrhosis.

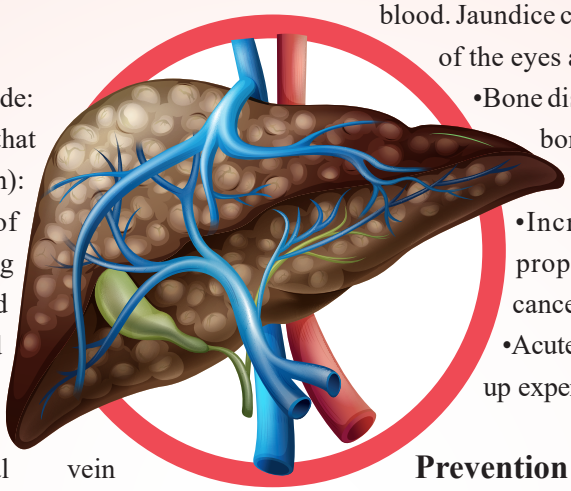
•Being overweight: Being obese increases your risk of conditions that may lead to cirrhosis, such as nonalcoholic fatty liver disease and nonalcoholic steatohepatitis.

•Having viral hepatitis: Not everyone with chronic hepatitis will develop cirrhosis, but it's one of the world's leading causes of liver disease.

## Complications

Complications of cirrhosis can include:

•High blood pressure in the veins that supply the liver (portal hypertension): Cirrhosis slows the normal flow of blood through the liver, thus increasing pressure in the vein that brings blood to the liver from the intestines and spleen.



•Swelling in the legs and abdomen: The increased pressure in the portal vein can cause fluid to accumulate in the legs (edema) and in the abdomen (ascites). Edema and ascites also may result from the inability of the liver to make enough of certain blood proteins, such as albumin.

•Enlargement of the spleen (splenomegaly): Portal hypertension can also cause changes to and swelling of the spleen, and trapping of white blood cells and platelets. Decreased white blood cells and platelets in your blood can be the first sign of cirrhosis.

•Bleeding: Portal hypertension can cause blood to be redirected to smaller veins. Strained by the extra pressure, these smaller veins can burst, causing serious bleeding. Portal hypertension may cause enlarged veins (varices) in the esophagus (esophageal varices) or the stomach (gastric varices) and lead to life-threatening bleeding. If the liver can't make enough clotting factors, this also can contribute to continued bleeding.

•Infections: If you have cirrhosis, your body may have difficulty fighting infections, Ascites can lead to bacterial peritonitis, a serious infection.

•Malnutrition: Cirrhosis may make it more difficult for your body to process nutrients, leading to weakness and weight loss.

•Buildup of toxins in the brain (hepatic encephalopathy): A liver damaged by cirrhosis isn't able to clear toxins from the blood as well as a healthy liver can. These toxins can then build up in the brain and cause mental confusion and difficulty concentrating. With time, hepatic encephalopathy can progress to unresponsiveness or coma.

•Jaundice: Jaundice occurs when the diseased liver doesn't remove enough bilirubin, a blood waste product, from your blood. Jaundice causes yellowing of the skin and whites of the eyes and darkening of urine.

•Bone disease: Some people with cirrhosis lose bone strength and are at greater risk of fractures.

•Increased risk of liver cancer: A large proportion of people who develop liver cancer have pre-existing cirrhosis.

•Acute-on-chronic cirrhosis: Some people end up experiencing multi-organ failure.

## Prevention

Reduce your risk of cirrhosis by taking these steps to care for your liver:

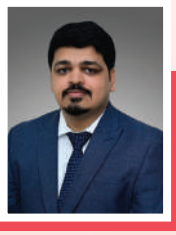
•Do not drink alcohol if you have cirrhosis: If you have liver disease, you should avoid alcohol.

•Eat a healthy diet: Choose a plant-based diet that's full of fruits and vegetables. Select whole grains and lean sources of protein. Reduce the amount of fatty and fried foods you eat.

•Maintain a healthy weight: An excess amount of body fat can damage your liver. Talk to your doctor about a weight-loss plan if you are obese or overweight.

•Reduce your risk of hepatitis: Sharing needles and having unprotected sex can increase your risk of hepatitis B and C. Ask your doctor about hepatitis vaccinations.

If you're concerned about your risk of liver cirrhosis, talk to your doctor about ways you can reduce your risk.



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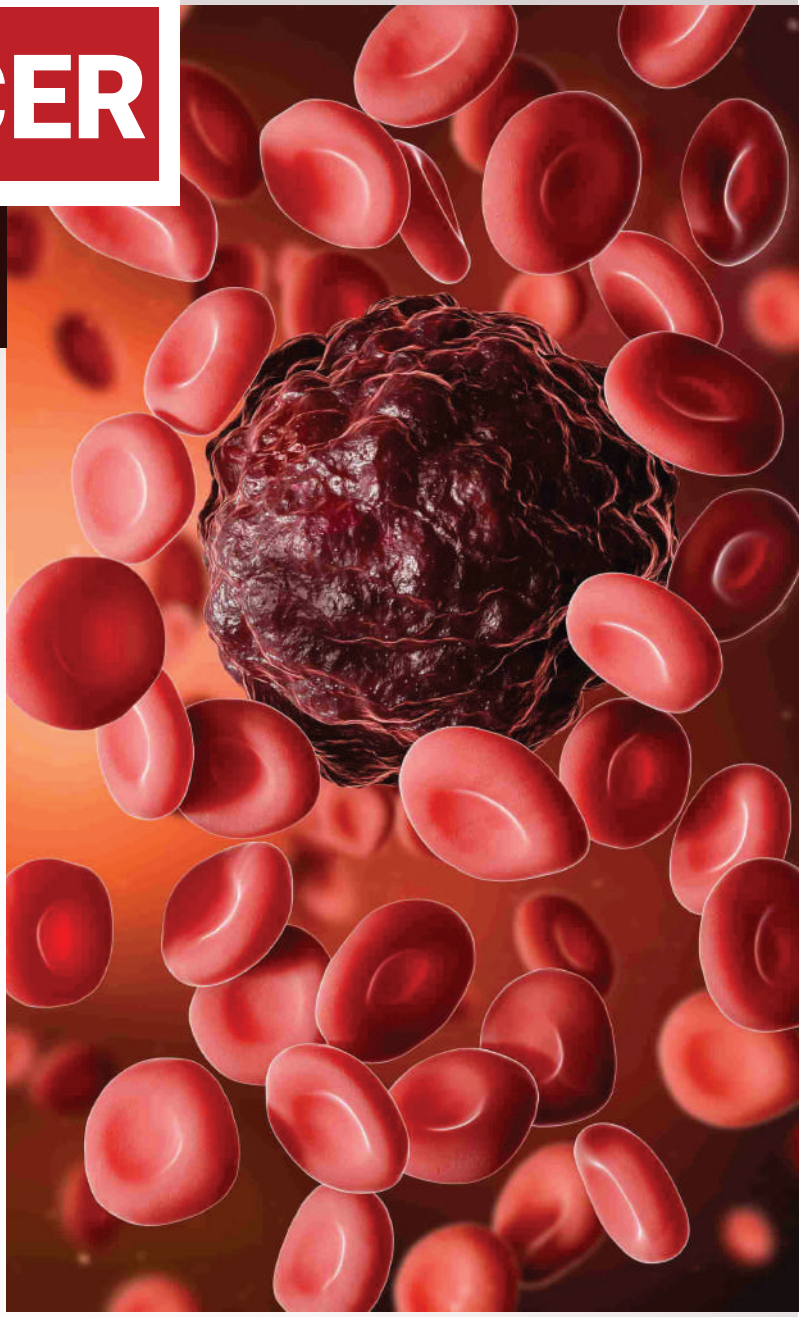
# BLOOD CANCER

## Know the types and treatments

By Dr. Ramnath Shenoy K.



Blood cancer accounts for eight per cent of all new cases of cancer diagnosed in India. Blood cancers occur when abnormal blood cells start growing out of control, interrupting the function of normal blood cells, which fight off infection and produce new blood cells. .However, misinformation and lack of awareness about blood cancer and its types are the biggest challenges observed today among the Indian population. What most people are unaware of is that blood cancer can be managed, and a patient can have a second chance at life with chemotherapy and other treatments.

**Broadly, blood cancer is divided into 3 categories.**

1.Leukemia is a type blood cancer which occurs when the body creates too many abnormal white blood cells and interferes with the bone marrow's ability to make red blood cells and platelets. Overall 5-year survival in adults – 30% -60%. Certain type of leukemia like acute promyelocytic leukemias has cure rate close to 90%

2.Lymphomas is a blood cancer that develops in the lymphatic system from cells called lymphocytes, a type of white blood cell that helps the body fight infections. There are divided into 2 subcategories Hodgkin's and Non-Hodgkin's lymphoma. Generally, both the types have very good outcome with overall 5-year survival rate of 60-90%.

3.Multiple myeloma is a blood cancer that begins in the blood's plasma cells, a type of white blood cell made in the bone marrow. Multiple myeloma cannot be cured however disease can be controlled for a longer time and generally survival is 5 to 7 years or more.

Lymphomas and leukemia affect adults and children both, but myeloma is a relatively common condition which affects adults. Every year, over one lakh people are diagnosed with blood cancer in India.

Common symptoms include: Fever with chills, persistent fatigue, weakness, loss of appetite, unexplained weight loss, night sweats, bone/joint pain, shortness of breath, frequent infections, swollen lymph nodes in the neck, underarms or groin.

Treatment for blood cancers: depends on the type of cancer, age, how fast the cancer is progressing, where the cancer has spread and other factors. Some common blood cancer treatments include:

Chemotherapy: Chemotherapy uses anticancer drugs to interfere with and stop the growth of cancer cells in the body. Chemotherapy for blood cancer sometimes involves giving several drugs together in a set regimen.

Bone marrow transplantation (BMT): A stem cell transplant infuses healthy blood-forming stem cells into the body. Stem cells may be collected from the bone marrow, circulating blood and umbilical cord blood. Bone marrow transplant can be autologous (one's own stem cells) or allogenic transplant (either matched sibling or unrelated donor). Bone marrow transplant has now become only treatment options in blood cancers in relapsed setting. A successful transplant may give them a second chance at life, depending on the disease condition and the donor type.

# Blood Cancer: Know the types and treatments

CAR-T cell therapy: Upcoming new modality in the field of blood cancer treatment in relapsed and refractory setting. Called Chimeric Antigen Receptor T-cell (CAR-T) therapy, this is considered breakthrough in cancer treatment, but is prohibitively expensive. Basically patients own T Cells are genetically modified in the lab to kill the cancer cells. Advantage of CAR-T cell therapy is that side effects of High dose chemotherapy and transplant related complications can be avoided. The biggest disadvantage is the cost factor, it is very expensive (cost around Rs 3-4 crores).

Radiation therapy: Radiation therapy may be used to destroy cancer cells or to relieve pain or discomfort.

**Called Chimeric Antigen Receptor T-cell (CAR-T) therapy, this is considered breakthrough in cancer treatment, but is prohibitively expensive.**

**Dr. Ramnath Shenoy K.**
Consultant Medical Oncologist at Indiana Hospital

# The role of a primary clinician in early diagnosis of cancer and making it curable

By **Dr. Ajay Kumar**

Every patient first consults his or her family physician, who is a general practitioner, for most ailments, be it common cold or a complex disease. This article will try to explain how physicians can systematically approach any swelling or lump in patients and not miss an early cancer that can be easily cured.

## Breast lump

One of the most common scenarios in the OPD is an opinion for a breast lump. A clinical examination can be the only way of assessing a freely mobile fibroadenoma - the mouse in the breast. For all other lumps, triple assessment (clinical examination, imaging and biopsy) is required. After clinical examination, further investigation can be carried out by an USG (ultrasonography) of the breasts for patients aged under 40 and a Mammogram for older patients. FNAC or TRU CUT biopsy is done for suspicious lesions on imaging. TRU CUT biopsy is generally preferred over FNAC. Unplanned excision biopsy of a breast lump should not be done as it can spoil the chances of a breast conservation surgery in cancer.

## Thyroid nodule

The initial evaluation for a thyroid nodule is a thyroid function test and an ultrasound imaging of the neck to characterise the nodule and rule out lymphadenopathy. A CT scan is needed only in very large goitres with retrosternal extensions. The FNAC of suspicious nodules to rule out cancer should always be USG-guided to be more representative.

The point to remember is that well-differentiated thyroid cancer is the only cancer which doesn't have a stage 3 or stage 4 in patients aged under 55. So surgery in the right hands gives a high chance of cure. High-risk patients would require an adjuvant radioiodine ablation.

## Oral ulcers

Patients presenting with ulcerations in the oral cavity (especially the tongue and buccal mucosa) need to undergo a biopsy if the lesion is not settling within two weeks of conservative measures. The imaging of choice would be CECT of the head and the neck with chest screening. Plain CT images are of no use in the head and the neck. Again, prompt referral to a dedicated oncology team can increase the cure rates in these malignancies.

## GI malignancies

The key to early diagnosis of GI malignancies is having a high index of suspicion. Again, any GI symptom not responding to conventional treatment in two weeks requires further evaluation in the form of scopies or imaging.

- An Upper GI endoscopy is sufficient to diagnose carcinoma of the esophagus and stomach. Imaging of choice for upper GI cancers is a CECT of the thorax, abdomen and pelvis.
- In case of pancreatic malignancies, the imaging of choice is a dedicated pancreatic protocol triple phase CECT abdomen. In cases of obstructive features, stenting should be done only after consulting the operating oncosurgeon.
- For colonic malignancies, a complete colonoscopy and CECT of the abdomen and pelvis are required.
- Every case of bleeding per rectum has to be evaluated with at least an initial per rectal examination in the OPD.

# Early detection of cancer is key

*.Cont'd from page no 72*

Many cases are missed with a wrong diagnosis of piles. The imaging of choice for carcinoma rectum is an MRI. Neoadjuvant chemoradiation is the standard care for carcinoma rectum. Upfront surgery for a carcinoma rectum is a crime that must be punished.

## Gynaecological malignancies

**a. Ovary**

Patients walking into the OPD with an incidentally detected ovarian cyst or mass is not an uncommon situation. The alarming features for a primary clinician are:

- If the cyst is of more than 10 cm in premenopausal women and more than 5 cm in postmenopausal women,
- Presence of solid elements,
- Thick cyst wall >4mm, presence of multiple septations,
- Bilaterality or presence of ascites.

In such cases, the imaging of choice would be a CECT of the abdomen and pelvis along with tumour markers CA125 and CEA. If germ cell tumours are suspected, AFP, beta HCG and LDH should be done. If any of the above is suspicious of ovarian malignancy, the patient requires a prompt referral to a surgical oncologist for a proper staging laparotomy. There is no role for laparoscopy in early ovarian cancer and it can be dangerous, too, as the disease will be upstaged. There is no role for prior biopsy in early ovarian malignancies, too. The standard care is to remove the ovarian mass without rupture via midline laparotomy, frozen section analysis and proceed to staging laparotomy. The chance of cure in early ovarian cancer falls drastically once it is messed up in the wrong hands.

**b. Endometrium**

Any menopausal woman with bleeding per vagina demands workup; 10-20% will have endometrial cancer, and the probability increases with age. Any woman aged above 35 with irregular or heavy bleeding needs endometrial sampling. Proceeding with routine hysterectomy without a prior endometrial biopsy reduces the chances of proper cure.

**c. Cervix**

The key is early detection. The only option is to recommend pap smear or liquid-based cytology every three years to all women aged 30 and above or combine it with an HPV testing (co-testing) every five years.

It's saddening to see patients coming after a routine hysterectomy with a pathology report of cancer endometrium and cancer cervix just because of improper evaluation preoperatively. This reduces the chances of cure in these patients.

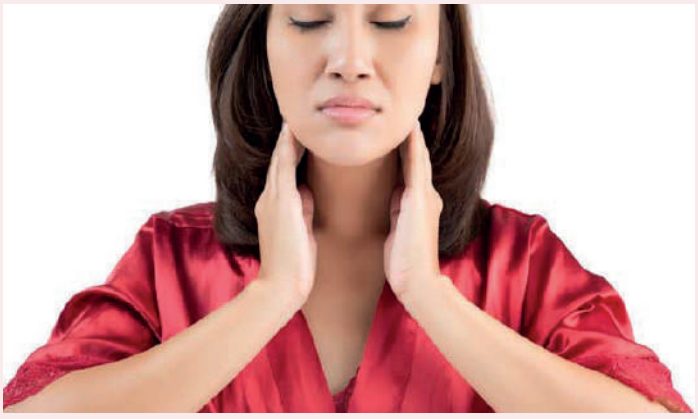
## Lung cancer

Carcinoma of the lung is one of the most abused cancers because it is diagnosed late in 90% of the cases. The majority of patients come to us only after a course of ATT has been started without any evidence. In case a physician is confident of his diagnosis of TB and starts ATT without proper evidence, it is mandatory to reassess the patient after four weeks to see if the condition has improved or else re-evaluation is needed. Please have a low threshold to do a CT chest in the evaluation of chest symptoms if they persist for more than two weeks. Lung cancers also have a high cure rate if diagnosed early.

I have just mentioned the most common scenarios that a general practitioner comes across in the OPD. The key to success in cancer treatment is early diagnosis and prompt referral to a dedicated oncology team (Surgical Oncologist, Medical Oncologist, Radiation Oncologist, Nuclear Medicine Consultant and Oncopathologist).

The basic thing to remember is that any symptom that's not relieved by two weeks with routine medication needs a detailed evaluation. The majority of cancers get incurable despite patients coming to the doctor early mainly because of referral to the wrong hands. I recommend that general practitioners discuss with the oncology team to know whether the correct guidelines are followed, e.g.) Neoadjuvant chemoradiation for carcinoma rectum and esophagus.

The battle against cancer can be won provided it's fought with the right weapons.



**Dr. Ajay Kumar** is the consultant surgical oncologist at **Indiana Hospital & Heart Hospital Mangaluru**

# Know your SUNSCREEN

Doctors have time and again harped on the importance of using a sunscreen to protect one's skin. **Dr. Shubha Dhanprakash**, Consultant Dermatologist, Indiana Hospital, explains sunscreens, their benefits and correct usage

Sunscreens protect the skin from damage by ultraviolet rays. The primary use of sunscreens is to protect the skin from the short-term and long-term effects of ultraviolet radiation. Various manifestations of photoaging such as sagging, wrinkling, and photocarcinogenesis which are caused by damage to cells, and DNA may be prevented with regular sunscreen usage. The use of sunscreens is enhanced by other photoprotective measures such as wearing a
wide-brimmed hat, carrying an umbrella, wearing protective clothing, or walking in the shade.

What is the difference between UVA and UVB (ultraviolet) light wavelengths and will a sunscreen protect me from both?

The biologically active components of ultraviolet (UV) radiation include UVA and UVB radiation and UVC. UVB affects the epidermis whereas UVA penetrates up to the dermis. Highest UVB intensities are found near the equator. In India, the population is exposed to higher degree of both UVA and UVB. UVB is filtered by glass, but UVA can pass through it.

Broad spectrum sunscreens helps to protect from both UVA and UVB.

## UVB (290-320 nm)

Acute exposure leads to sunburn. Responsible for the most severe damage and has a direct impact on cell DNA and protein synthesis. Long-term damage can lead to cancer. The highest UVB content occurs when the sun is directly overhead, with the shortest path (e.g., noon, at the equator, at high altitude).

## UVA (320-400 nm)

Responsible for the majority of the effects encountered in dermatological
practice such as photoaging, tanning, photodermatoses (including polymorphous light eruption), and photocarcinogenesis. Penetrates deeper than UVB. Affects connective tissue by producing reactive oxygen species; produces profound immunosuppression.

Fitzpatrick skin phototypes were developed by Thomas B. Fitzpatrick in 1975 based on a person's skin colour and responses to sun exposure in terms of degree of burning and tanning. Indian skin, which falls under Fitzpatrick types 4 and 5, does not burn and is more prone to tanning. Tanning, which is caused more by UVA than UVB radiation, may be prevented to an extent and provided a broad-spectrum sunscreen is used.

## Types of sunscreens

Sunscreens are divided into physical (inorganic) and chemical (organic)
sunscreens. Physical sunscreens, such as titanium dioxide, zinc oxide, calamine, iron oxide, kaolin, red petrolatum, icthammol and talc, work by physically blocking the UVR scattering or reflecting the rays. They are chemically stable and do not cause photo-allergic or contact dermatitis and do not break down over time and are far less liable to cause skin irritation. These are opaque, scatter and reflect or absorb both UVA and UVB. They are inert, non-irritating and non-sensitising. They are more likely to leave a white "residue" on the skin.

Chemical sunscreens (Oxybenzone, Sulisobenzone, Dioxybenzone) work by absorbing high-energy UVR and releasing them as low-energy rays, thus preventing them from reaching, and damaging the skin. Hence, on exposure to UV light, the sunscreen undergoes a photostable reaction, allowing it to retain the UV-absorbing potency without significant photodegradation.

## Systemic Photoprotective Agents /Oral sunscreens

In addition, there are several compounds that have a systemic photoprotective effect; these are sometimes referred to as "systemic sunscreens." β-carotene, antimalarials, ascorbic acid, α-tocopherols (i.e., vitamins A, C, and E), retinol, selenium, green tea polyphenols, PABA, aspirin, indomethacin, corticosteroids.

# Guide to choosing the Sunscreen

•From page 74

## What is an ideal sunscreen?

An ideal sunscreen should be a combination of physical and chemical agents, broad spectrum, cosmetically elegant, non irritant, hypoallergenic, non comedogenic and economical.

What are broad spectrum sunscreens?

Broad-spectrum sunscreens contain both UVA and UVB filters. These are Ecamsule (Mexoryl SX), Silatriazole (Mexoryl XL), Bemotrizinol (Tinosorb S), and Bisoctrizole (Tinosorb M).

## What is SPF or sun protective factor?

SPF is defined as the ratio of the time of UV exposure necessary to produce minimally

detectable erythema in sunscreen-protected skin to that time for unprotected skin. In simpler words, the number after SPF represents how many more times the skin is protected against UVR using sunscreen.

Grading system for SPF:

- Low: SPF 2 - 15
- Medium: SPF 15 - 30
- High: SPF 30 – 50
- Highest: SPF>50

## How to apply a sunscreen?

Sunscreen is to be applied over all sun-exposed areas in a concentration of 2 mg/cm 2 and be allowed to dry completely before sun exposure. It should be reapplied every 2 hours and after swimming, vigorous activity, excessive perspiration, or toweling. Sunscreen should be applied 30 minutes before going out. It should be applied even on cloudy days as 80% of ultraviolet radiation is still transmitted on cloudy days.

"Teaspoon rule" is an easy way to apply the recommended amount of sunscreen.

3 ml (slightly more than half a teaspoon)

- for each arm
- for the face and neck

6 ml (slightly more than a teaspoon)

- for each leg
- for the chest
- for the back

## What is the Rationale of Prescribing a Particular Sunscreen?

In children, physical sunscreens are preferred, such as micronized zinc or titanium dioxide, as they reflect most of the UVR and are poorly absorbed by the skin.

Skin under the age of 6 months may have different absorptive characteristics than that of adults and the biological systems that metabolize and excrete drugs absorbed through the skin may not be fully developed in children. Hence, no sunscreens should be used on children during the first 6 months of life.

In patients prone to acne, a chemical sunscreen is preferred. Caution must be exercised in checking the base of the sunscreen as well. A few times, the active ingredients may be noncomedogenic but the base may be greasy and therefore comedogenic. Sunscreens tend to be expensive, and thus, the amount used every day is far lesser than the recommended 2 mg/cm2, and thus, counselling is an integral part of such a prescription.

## Can sunscreen cause decrease in vitamin D synthesis?

UVB radiation is responsible for >90% of of Vitamin D production in the skin. A few minutes' exposure of the face, arms, and hands to noonday summer sunlight two or three times a week is sufficient for Vitamin D synthesis. There have been concerns that widespread use of sunscreens, particularly those with high SPF, may lead to a significant decrease in Vitamin D production. However, there is evidence that although sunscreens can significantly reduce the production of Vitamin D under very strictly controlled conditions, their normal usage does not generally result in Vitamin D insufficiency.

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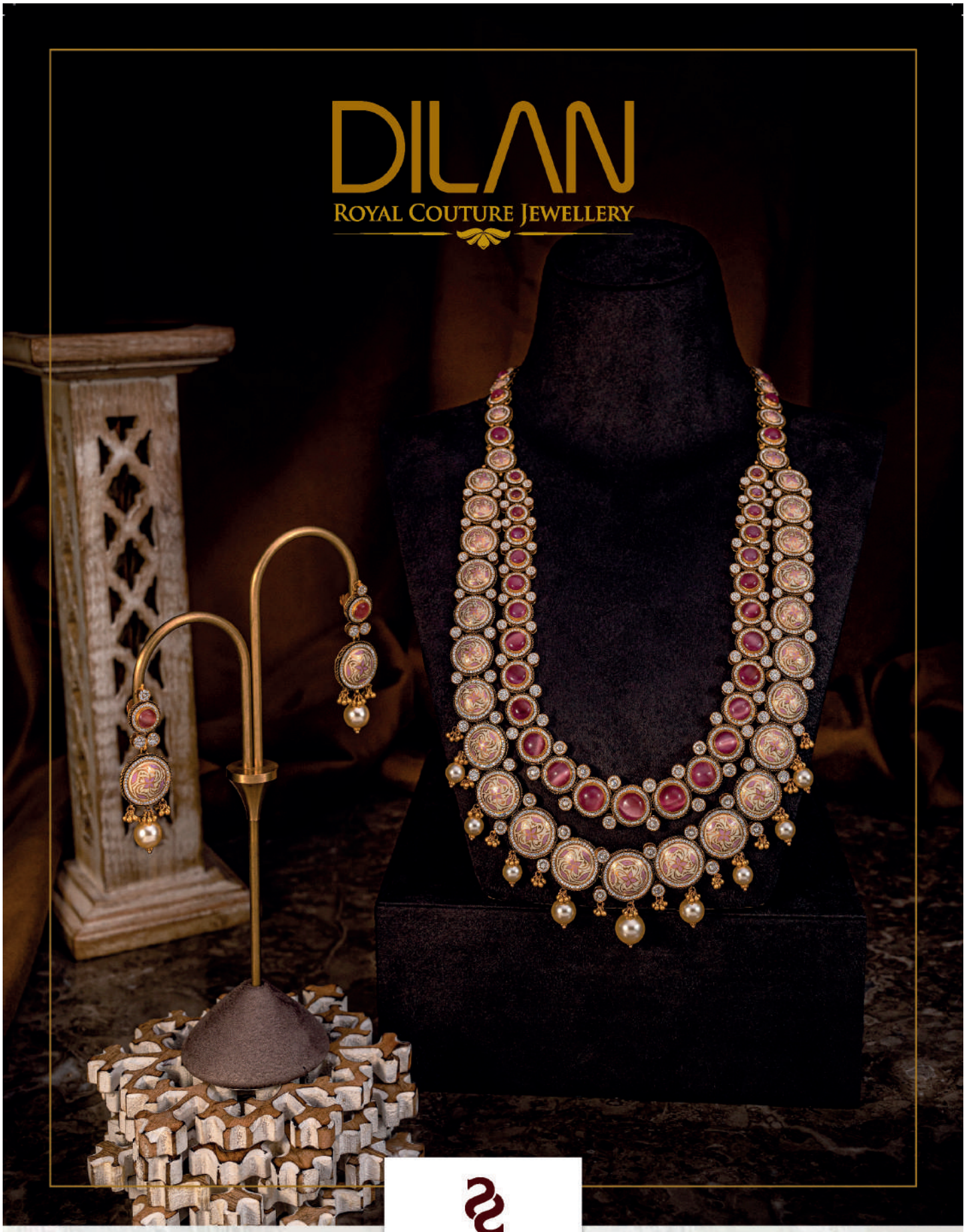


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**Services:** Primary care including minor surgery and procedures, health checkup and preventive services, Quality assured Laboratory services, etc.


## Facilities Available:

◆ Laboratory ◆ Radiology ◆ Pharmacy ◆ ECG ◆ ICU ◆ Emergency

**Upcoming facilities:**
Home care and other outreach services, Pharmacy with Home delivery facility, Teleconsultations with in-house specialists visit, patient pick and drop facility, etc

For Appointments Call
**04672 036050 / +91 90617 89179 / +91 81052 85654**

## Indiana Hospital Bekal
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