



Advancement in Cardiac Care



Concerns about heart health are growing, especially due to the increasing number of heart problems in young adults. Heart attacks are becoming more common across the world, which is a worrying trend. Heart disease is a significant cause of death worldwide and its prevalence has risen in India over the past five years. This rise in cardiac diseases and related issues are the results of our modern lifestyle and changes in habits. Heart attacks were previously believed to affect only older individuals, but now they are affecting every other young person between the age of 30 and 40.

Heart disease and heart attacks are complex health issues influenced by various factors such as lifestyle, diet, physical activity, genetics, and overall healthcare. Prevention and management strategies are the need of the hour to modify our lifestyle, and medical interventions.

Ramaiah Heart Centre has a highly skilled, experienced and dedicated team of cardiologists, cardio thoracic surgeons. They also have cardiac anesthetists work on some of the most complex cardiac procedures on both adults and children. They are aptly supported by the state-of-the-art Coronary Care and post-surgical critical care Unit, which also has a nursing and paramedical team to handle any type of cardiac emergency round the clock.

This Heart Centre offers a range of operations with success rates comparable to those across the globe. To provide complete cardiac treatment, all contemporary facilities, including bedside central monitoring, intra-aortic balloon pumps (IABP), and artificial ventilators, are accessible. The Centre continues to take the lead in implementing the newest technologies in heart rhythm management, such as contact force sensing-based ablation, and was the first in the state to install a sophisticated 3D Electro Anatomical Mapping System utilized in the treatment of heart rhythm disorders.



RAMAIAH

January 2024

RISING CONCERNS OVER GROWING HEART PROBLEMS

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Globally, there is a rising trend in cardiac diseases, contributing to increased morbidity and mortality. The spotlight is on the Ramaiah Cardiac Care Centre, a highly regarded specialized facility with skilled cardiologists and cardiothoracic surgeons, offering a diverse range of operations with success rates comparable to global standards. The newsletter delves into concerns about heart health, particularly in India, revealing a troubling surge in heart diseases and attacks, even among younger individuals. Lifestyle choices, genetics, and overall healthcare contribute to this upward trend, emphasizing the need for prevention and effective medical interventions.

The Cardiology Department aims to establish itself as a center of excellence in cardiac patient treatment, with plans to enhance care through advanced procedures, increased transplants, and support for advanced heart failure. The newsletter provides insights into nursing care for patients with central venous catheters, emphasizing monitoring, maintaining patency, positioning, infection control, and proper documentation. Patient and family education on the purpose and management of these catheters is stressed for improved healthcare outcomes.

Addressing acute ischemic stroke, the newsletter underscores the critical importance of immediate treatment within the first few hours of onset. Advances in clot removal techniques, particularly mechanical thrombectomy, are discussed for their promising results in improving treatment outcomes. The urgent need to raise awareness of stroke symptoms in the general population and establish comprehensive stroke treatment centers in India is highlighted.

The pages of "Jnana Vahini" reveal that Ramaiah Medical College Hospital and its dedicated departments lead in advancing cardiac care, focusing on heart health, prevention, and medical advancements. Healthcare professionals on campus provide hope and innovative solutions to patients in need. Research initiatives aim to leverage the multidisciplinary strengths of faculty and students, with a colloquium fostering collaboration among academia, innovators, and industry stakeholders. These efforts strengthen the collaborative and research ecosystem on campus.

NURSING CARE POINTS FOR PATIENT WITH CENTRAL VENOUS CATHETER



Central Venous Catheter (CVC) poses a greater risk of device related infections than any other types of medical devices. Maximum barrier precautions during catheter insertion, catheter site maintenance and hub handling are vital to prevent catheter-associated infection. Improper management of patients with CVC can give rise to various complications like line thrombosis, embolism, infection, sepsis, ischemia of involved limbs, cardiac perforation, pneumothorax, catheter displacement etc. As per the research report approximately 2,50,000 CVC catheter related infections occur annually worldwide. One of the Indian study has mentioned that, in India the overall incidence of catheter related infection was 27.77% and catheter associated blood stream infections were 47.31 per 1000 catheter insertions.

Care of a patient with a CVC involves several important considerations:

Monitoring: The frequency of monitoring CVC can vary based on several factors, including the patient's condition, the type of CVC, and the institution's protocols. Generally, routine monitoring of a CVC should be conducted as follows:

► **Daily assessment :**

- Check the insertion site for signs of infection such as redness, swelling, discharge oozing etc.
- Assess the dressing for integrity and cleanliness.

- Ensure that the catheter is well secured to prevent dislodgment or accidental removal.
- Observe for any signs of complications, like bleeding, bruising, or hematoma.

► **Monitoring Central Venous Pressure (CVP)**

- By using the phlebostatic point as a reference, healthcare providers can obtain more accurate CVP measurements. It is important to ensure that the transducer or manometer is always zeroed correctly and that the equipment is maintained properly to prevent errors in CVP readings.
- Before measuring CVP make sure that the patient is in the supine position to minimize the impact of gravity on CVP measurements.

Maintaining patency and CVC management: Prefilled heparin syringes or saline are commonly used for CVC line flushes to prevent clotting. Always follow protocols and dosage guidelines for safe administration. Adhere to standing orders for the maintenance of CVC line. Make sure that patient CVP range between 8 to 12 mmHg. Which is considered as normal range? The standing order should specify the target CVP range that indicates an adequate response to treatment in case of hypovolemia and hypervolemia. The orders should be tailored to the patient's condition and reviewed and adjusted as necessary to ensure appropriate and effective care. Be vigilant for complications; promptly address the issue if it arises.

Positioning: Ensure the CVC remains secure and well-taped. Avoid kinking or tension on the line and verify that the line's position is optimal. In case of 2-3 lumens, it has to be labelled properly with purpose, so that it can be used for particular purpose. Ensure that the patient is comfortable and that the CVC line does not cause discomfort or restrict their mobility.

Infection control: Gauze dressings should be changed every 48 hours and transparent semi-permeable dressings every 7 days or earlier if the integrity of the

dressings is compromised or there is blood. Make sure that CVC insertion site is clean and dry to prevent infection. Follow strict aseptic technique as per the standard protocol while handling the CVC line. Documentation: Maintain accurate records of CVC insertion, CVP readings, site assessments, interventions and any complications. Mention the date of changing dressing every time whenever the dressing is done.

Patient Education: Educate the patient and their family about the CVC line and its purpose. Encourage them to report any signs of infection or problems with the line in case if patient is discharged with CVC line.



Rajashree S. Siddeshwar

Assistant Professor,
Ramaiah Institute of Nursing Education and Research

CRUCIAL ASPECTS OF ACUTE ISCHEMIC STROKE: MANAGEMENT, PREVENTION, AND TREATMENT ADVANCES



Brain Attack

Stroke, simply put is a 'brain attack', reflexively drawing an analogy to its counterpart- heart attack. Ischemic stroke occurs when a region of the brain has been deprived of vital oxygen and nutrient supply-due to a clot in an artery supplying the brain. The adult human brain is made up of 130 billion neurons. Every 30 seconds of a sustained large artery block kills 1 million neurons and destroys 6 kilometres of carefully crafted nerve networks.

Instant Treatment Critical

The consequences of untreated stroke include varying degrees of hand and/or leg paralysis, speech impairment, affect memory, consciousness and behavioural disturbances. Strokes affecting the brainstem which regulates aspects like breathing and heart functions, could lead to coma and death.

The critical time to treat these strokes is within the first 6 hours of onset. Strokes reaching a hospital between 6 to 12 hours after, mandate advanced CT or MRI tests to help quantify the parts of the brain that can be salvaged by

Brain Stroke

Brain Stroke The brain is a wonderful and intricately designed organ with multitude of functions transcending to mindfulness and awareness. When this organ, nourished by an intricate blood vessel network supplying oxygenated blood, has a sudden blocked blood vessel- an acute ischemic stroke develops. Vast numbers of neurons, synapses, and nerve fibers are irretrievably lost every moment until treatment occurs.

treatment. In patients with strokes within 6 hours of onset of symptoms, the trial compared treatment outcomes of stent device to pull out the clot (mechanical thrombectomy) versus conventional injection of clot dissolving agent into a vein. There was an overwhelming 13.5 percentage positive difference in the functional outcome of patients treated by mechanical thrombectomy. This study confidently characterised 2 eras in stroke management in large arteries supplying the brain: one before and one after the study.

How The Clot Is Removed:

The technique for clot extraction involves performing a special dye study of the arteries of the brain called cerebral angiogram using an artery in the groin as access. The clot location identified, special tubes (catheters) are used to reach the clot region and then through these micro-catheters the clot remover-stent is deployed. The stent enmeshes the clot within it and is then pulled out of the body. However, there is a limit to how far these micro-catheters can be advanced into the brain blood vessels, dictated by the size of the smaller blood vessels- here clots are still treated by clot dissolving drugs.

Western Scenario:

Special teams are set up to manage strokes with multidisciplinary involvement of trained emergency doctors, stroke neurologists, neurosurgeons and radiologists. Hospitals brought down the time from patient arrival at hospital to initiation of treatment to 1 hour from the recommended 2 hours. From a mere 30-50% chance of clot dissolution with drugs, a rate of more than 80% of clot removal success has been accepted with mechanical thrombectomy. To spread awareness, American stroke association recruited celebrities who experienced stroke and were successfully treated as brand ambassadors, placed notices at important public locations to highlight stroke symptoms and contact numbers for treatment. The acronym- ELVO (Emergent large vessel occlusion) created awareness about a treatable neurological disease. There was an all-round cheer with treatment outcomes- patients and relatives saw dramatic improvement, the insurance companies benefited as it

reduced patient stay in hospital, cost of rehabilitation and ICU care.

Indian Scenario:

It was estimated that in 2015 there would have been 1.65 million new stroke cases, with 80% being ischemic strokes- one stroke case every 40 seconds. Unfortunately, only 0.5% of these patents receive the standard of care. It points to lack of awareness of symptoms of stroke among the general population, inadequate infrastructure in primary hospitals to evaluate and non-referral of such cases to comprehensive stroke treatment centres. Emergency ambulance systems for patient transfer is crucial. Chaotic traffic in our cities can be combated utilizing free source traffic apps on smartphones of ambulance personnel. Certification of hospitals as comprehensive stroke treatment centres is vital. The catheters and clot retrieval devices are not manufactured in India and are imported. A full clot retrieval system is expensive and medical device companies need to work out a pricing model in line with local affordability. Medical insurance does reimburse treatment costs – the cost benefit of an individual restored to baseline or close to it potentially outweighs the costs of nursing an untreated person for prolonged time with rehabilitation.

An increased life expectancy in India and a growing middle class has ushered in lifestyle and age-related risk factors like heart disease, diabetes, hypertension, high cholesterol and smoking. Strokes can occur in anyone and at any time. Acute ischemic stroke is a highly treatable neuro-emergency.



Dr. Sunil Furtado

Prof. & HoD, Dept. of Neurosurgery

Additionally, the Centre provides sophisticated percutaneous procedures with coronary imaging guidance, such as intravascular lithotripsy and intravascular ultrasonography (IVUS) and optical coherence tomography (OCT). These procedures include Rotablation. Ramaiah University of Applied Sciences offers the esteemed DM super speciality academic course.

The two cath laboratories at the Centre features 3D integration and image reconstruction support for cutting-edge procedures including TAVI and LAAC. At this unit, approximately 20 cardiac procedures are carried out daily on average.

Cardiothoracic Surgery

The Ramaiah Heart Centre's Cardiothoracic and Vascular Surgery Department has an outstanding track record of high safety and success rates for complicated heart procedures and heart transplants. The team consists of the most accomplished cardiothoracic surgeons, who are well- supported by committed nurses, cardiac anaesthetists, and percussionists.

In addition to standard adult and paediatric cardiac surgery, cutting-edge and novel techniques such as Total Arterial Revascularization, Beating Heart Surgery, and Extra Corporeal Membrane Oxygenation are performed frequently to stay up to date with the most recent advancements in the field of cardiac surgery. The department has successfully performed over fifty heart transplants so far.



Dr. Vinay Kumar Bahl
 Director
 Department, Cardiac Sciences

Ramaiah Institute of Cardiac Sciences, is state of the art Facility having Departments of Cardiology, Cardio-Vascular and Thoracic Surgery and separate Vascular Department. The department of cardiology has developed excellent facilities for clinical care and is a well-known name in teaching and research. Non-invasive diagnostic services include treadmill testing, Holter recording, echocardiography (including transthoracic, transesophageal, 3-D and fetal echocardiography and Intra cardiac echo), Tilt testing, CT Angiography. It has fully developed services for coronary and structural heart disease interventions with state of the art Cath Labs. It has facilities for

cutting edge technologies like FFR, IVUS, OCT, Rota ablation, IVL, TAVI, Mitral and Tricuspid percutaneous interventions, LA appendage closure and support failing heart with Impella and ECMO. We aim to keep introducing the latest techniques and technologies available anywhere in the world. It has one of the best electrophysiology services in this part of the country (radiofrequency ablation including CARTO system mapping, pacemakers, bi-ventricular pacemaker (CRTD) cardioverter defibrillators (ICD) and leadless pacemakers). We want to provide holistic heart health care from prevention to end stage of cardiac diseases in a cost effective manner to all socioeconomic strata of the society and extend it to our neighbouring countries and other countries where cost of health care is very high and unaffordable to many. Our endeavour is to make available even the complex interventional and surgical procedure like CHIP, LVAD and cardiac transplant for advanced heart failure patients and have already done over 55 cardiac transplants in our centre. Besides adult cardiology care, also have facilities for paediatric cardiology both diagnostic and interventional.

Our honourable chairman has a vision of taking it beyond boundaries of our country with collaboration with well renowned overseas centres and making Ramaiah Institute of Cardiac Sciences a truly Centre of Excellence. We have five experienced faculty Members and twelve Fellows and each year we impart DM (Cardiology) degree to 4 Fellows. With our constant up gradation in manpower, technology and International collaboration we hope to take cardiac care to the next level.



Dr. V S Prakash
Prof. & HOD,
Department Cardiology

The Department of Cardiology is currently focused on establishing a centre of excellence. Positioned at the forefront of cardiac patient treatment, we are actively implementing recent advances in cardiac care. Our aim is to progress further by enhancing care through high-end and complex procedures, increasing the number of transplants, and providing additional support for advanced heart failure, including LVADs.

We plan to undertake complex interventions such as percutaneous aortic valve replacement, mitral valve corrections, and tricuspid valve corrections all of which represent the current state-of-the-art in the field.

This vision is credited to our esteemed Chairman, and we anticipate a bright future where we will excel and potentially emerge as a recognized center of excellence in the country.

By our constant efforts, we are committed to improve our numbers, procedures, patient care, and outcomes in the future. The collaboration with the organization of Ramaiah is integral to our plans. Having accomplished over 55 cardiac transplants in the past few years, we are optimistic about a brighter future. With the support of technology and resources from Ramaiah and the management, we plan to double or even triple the number of cardiac transplants. Additionally, with the increased availability of staffs and faculty, we are confident in advancing our capabilities in caring for heart failure patients and performing more advanced cardiac procedures.



Dr. Ravi Shankar Shetty
Senior & Chief Consultant
Cardiothoracic Surgeon

We can now proudly say it as our Ramaiah Heart Centre. Our longstanding staff has consistently provided solid support to the cardiology and cardiac surgery departments. In terms of cardiac surgery, we cover a comprehensive range of procedures, including recent successes in high-risk cases. This month, we accomplished a post-myocardial infarction (MI) Ventricular Septal Defect (VSD) repair with Coronary Artery Bypass Grafting (CABG) and completed IoT care aneurysm repair extending from thoracic to abdominal IOTA.

Our achievements extend in conducting the highest number of heart transplants in Karnataka, totalling more than 55 successful procedures. Additionally, our capabilities encompass heart-lung transplants and the utilization of assist devices such as ECMO CentriMag. This advanced technology is instrumental in saving patients facing acute heart or lung failure due to various reasons, including conditions like dengue, H1N1, or COVID. We employ ECMO or Ventricular Assist Devices (VAD) to provide support until they recover from critical conditions.

Equipped with state-of-the-art technology, our center stands as a beacon of hope for the community. We encourage people to make the most of our facilities at Ramaiah, especially with the on-going upgrades, including a hybrid catheterization laboratory. Notably, we have a central bank machine, a temporary medical support device, and an ECMO machine. Our facility boasts two catheterization labs and two operation theaters, ensuring readiness to handle emergencies effectively.



Dr. Anupama V Hegde

Associate Professor
Department of Cardiology

I embarked on my journey in the field of cardiology approximately 11 years ago, initially working under Narayana Heart Center, which was formerly affiliated with Ramaiah. In the last six months, we have been working as Ramaiah Centre of Cardiology, which is a different and enriching experience.

Now, with our own center affiliated with RUAS, we are poised for further growth in the department. Through collaborations with international organizations, we are in the process of establishing the Center of Excellence in Cardiac Sciences, encompassing cardiology, cardiac, vascular, and vascular departments. This initiative opens up numerous opportunities for exchange programs with international faculty, facilitating the development of skills we may lack and fostering the sharing of experiences. As an academic institute, this partnership with international organisation will provide a significant boost, allowing us to expose to global advancements in this field.

Congratulations

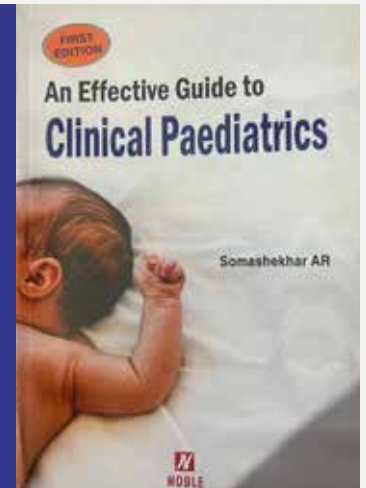
Dr. Sampangi Ramaiah S, Dept. of Radiology has taken charge as President IRIA Karnataka state chapter.



Dr. Somashekar A R, Prof. & HoD, Dept. of Paediatrics took over as the President of IAP Bengaluru 2024.



Dr. Somashekar A R, Prof. & HoD, Dept. of Paediatrics released his book titled – 'An effective guide to clinical paediatrics' at Kochi Pedicon 2024.



The department of Cardiology inaugurated Non-Invasive Department at Ramaiah Medical College Hospital on 3rd January, 2024. Prof. O P Kharbanda, Pro-Vice Chancellor (RUAS), & President, Ramaiah Memorial Hospital, Dr. Shalini C Nooyi, Principal and Dean, Ramaiah Medical College Hospital, Dr. Ramesh D, Associate Dean, Ramaiah Medical College Hospital, Dr. V S Prakash, Prof. & HoD, Department Cardiology, Dr. Vinay Kumar Bahl, Director, Department, Cardiac Sciences, Dr. Anupama V Hegde, Associate Professor, Department of Cardiology and others were part at the inauguration.



Dr. Jyothi GS, Professor, department of OBG, was an invited Faculty for the All India Congress of Obstetrics and Gynaecology at Hyderabad. She was a Panellist for the session on "Role of Progesterone's in Obstetrics ' and Judge for the Oral Paper Presentations. She also represented as Karnataka Coordinator for the Food, Drugs, Medico Surgical and Equipment Committee of FOGSI, and also a master trainer for the program of Dheera- Violence against Women and KSOGA Program.



The department of Emergency Medicine organized a Basic Emergency Response Training (BERT) programme for the 1st batch of 13 faculties of the Ramaiah University of Applied Sciences (RUAS) on 11th, January, 2024. Dr. Keshava Murthy was the coordinator for the program.



The Department of Community Medicine organized an expert talk on 'Sustaining the Elimination of Iodine Deficiency Disorders' in India by Padma Shri Dr. Chandrakant Sambhaji Pandav on 11th January, 2024 at Ramaiah Medical College. M R Sreenivasa Murthy, Chief Executive, Gokula Education Foundation (Medical), Prof. O P Kharbanda, Pro-Vice Chancellor (RUAS), & President, Ramaiah Memorial Hospital, Dr. Shalini C Nooyi, Principal and Dean, Ramaiah Medical College Hospital, Dr. Nandakumar B S, Deputy Director Research, Dr. Razdan, Advisor, Gokula Education Foundation (Medical), and others were present.





The department of Radio Diagnosis organised a talk with Dr. Subramonium Rangaswamy - Author of "I Gaze, Therefore I am" on 12th January, 2024 at Ramaiah Medical College.



Interdisciplinary Orthodontics Symposium was organised by the Indian Orthodontic Society Bangalore, at Ramaiah University of Applied Sciences, Dr. M R Jayaram, Chairman, Gokula Education Foundation and Chancellor, RUAS, M R Sreenivasa Murthy, Chief Executive, Gokula Education Foundation (Medical), Prof. Kuldeep K Raina, Vice Chancellor, RUAS, Prof. O P Kharbanda, Pro-Vice Chancellor (RUAS), & President, Ramaiah Memorial Hospital, Dr. Silju Mathew, Prof. & Dean, Faculty of Dental Sciences and others were present, on 25th January, 2024.



Dr. Nandini, Professor, department of OBG participated in national conference at Hyderabad on "Anaemia Mukht Bharat program".



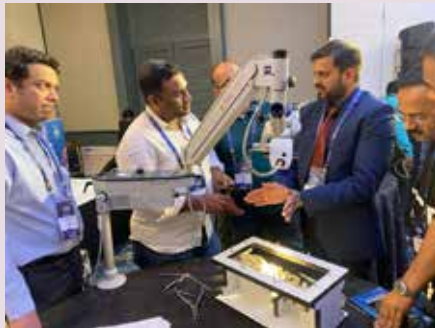
The department of anatomy organised a scientific presentation society meeting. Dr. Sandeep, Infectious disease consultant, General medicine, Dr. Srikantaiah, Prof. Dept. of General Surgery and others were present.

Dr. Ajoy S M, Associate, Professor, Department of Orthopedics, was a faculty member at the first ever Indo Asian Foot and Ankle Congress.



An MoU was signed between The University of Albany, State University of New York, USA and Ramaiah University of Applied Sciences on 17th January, 2024. Dr. M R Jayaram, Chairman, Gokula Education Foundation & Chancellor, RUAS, Prof. Kuldeep K Raina, Vice Chancellor, RUAS, and others were present.

Dr. Rakshith Srinivasa, Associate Prof. Dept. of Neurosurgery, was invited as a National faculty at ASSICON 2024 Mumbai (Association of Spine Surgeons of India) on 21st January, 2024 as a speaker and also as a faculty for 'Saw Bone Model Demonstration of Minimal Invasive Spine Surgery Procedures'.



The Department of Vascular Surgery inaugurated national level CME- '17th Annual Conference of Venous Association of India and Conference' (VAICON) at Mysore. Prof. Sanjay Desai, HOD & Consultant, dept. of Vascular and Endovascular Surgery was the organizing chairman and Prof. Chandrasekhar was the organizing Secretary.



Ramaiah University of Applied Sciences celebrated Republic Day Celebrations on 26th January, 2024. Prof. Kuldeep K Raina, Vice Chancellor, RUAS, Prof. O P Kharbanda, Pro-Vice Chancellor (RUAS), & President, Ramaiah Memorial Hospital, Dr. Venkatesh G S, Registrar, RUAS and others were present.



Dr. D Pragati Rao, Prof. & HOD, Department of Respiratory medicine was a Moderator at National level Hybrid CME on Diffuse Lung Disease.



Dr. Sampangi Ramaiah, Dept. of Radiology was awarded IRIA President appreciation award 2023 for exemplary contribution to IRIA during 76th Annual National Conference on 26th January, 2024.



Presentation by Ghent University Students was organised on 4th January 2024.



Ramaiah Medical College organised 1980 Batch Alumni meet on 27th January, 2024.

STAR YOU ARE

BE a star that shine and shimmer, and not fade away.

An intense glow within, to glitter without a break,
Doesn't have a mirror- mirror on the wall to confirm the
twinkle.

No poet or an astro sang a sonnet you could hear.
Nor could you see the romantic couple call your name to
their beloved.

Some of your kith and kin shine brighter nor did it make
you jealous.

You keep your distance and mind your own light - night
after night.

A full moon or a shooting stars can make an admirer
ecstatic for a while,

But you don't give a glimmer, you are the same- night
after night.

Materialistic world compare you to diamonds in the sky.
Least they know you are priceless.

Movie maker's created 'star wars' to instigate a big bang,
but you are always at peace - night after night.

Coffee makers created 'Starbucks' for lesser mortals,
you need no caffeine to stay awake -night after night.

You distract my inner sorrow just by making me count
endlessly in a clear night sky.

You do not need air or water to twinkle in the dark

I am star stuck, when I star gaze

FOR

You are my loyal star - night after night.



Dr . S. Ananth Bhandary
Prof. & HoD, Dept. of Ophthalmology

WELCOME



Dr. Swathe P
Senior Resident,
Community Medicine



Hemavathi R
Junior Laboratory Technician,
Pharmacology



Ramya Hariharan
HR Assistant,
HR Section, RMC



Dr. Indusekhara S
Professor & HOD,
Interventional Radiology

SEPARATED



Dr. Tharanath S
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Dr. Deepika K.C.
Senior Resident,
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Dr. Sandeep T
Associate Professor,
Microbiology



Dr. Angel Beula P.R
Senior Scientist,
Central Research Laboratory



Amir Shaan N
HR Assistant,
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