



**MGM**  
Mahatma Gandhi Mission

**MGM Institute of Health Sciences**

MGM Campus, Sector 1, Kamothe  
Navi Mumbai - 410 209. Maharashtra, India  
Website : <http://www.mgmuhs.com/>  
Email : [pvc@mgmuhs.com](mailto:pvc@mgmuhs.com)  
Telephone : +91 22 27432471 OR 27431091  
Facsimile : +91 22 27431094

*How do you know if the next act you are about to do is right or wrong ? Consider the face of the poorest and most vulnerable human being, that you have ever chanced upon. Ask yourself if the act that you contemplate, will be of benefit to that person; and if it will be, it's the right thing to do, and if not, rethink it. - MAHATMA GANDHI.*

# MGM NEWS

*Celebrating MGM's 25 SILVER YEARS Glorious Journey*

## Good Clinical Practices Workshop

### INSIDE THIS ISSUE

Good Clinical Practices Workshop...	1
New Research Facilities Inaugural...	3
Promoting Research – An Oration...	4
MGM Trust.....	5
Vice Chancellor’s Voice.....	6
No Ragging in Campus.....	7
Editorial.....	8
Stem Cells Symposium.....	9
Diabetes Symposium.....	10
Open Source Drug Discovery.....	12
Stream Light - Nursing is Caring.....	13
Managing Musculoskeletal Pain.....	14
Poor and Needy Served.....	15
Labs NABL Accredited.....	16
Medical News.....	17
Research News.....	19
Laughter Medicine.....	20
MGM ‘Parivarik’.....	20

### ADVISORY BOARD

**Visionary**

Dr. K. G. Narayankhedkar  
Dr. Sudhir N. Kadam  
Dr. P. M. Jadhav

**Advisors**

Dr. (Lt. Gen.) S. K. Kaul  
Dr. Nitin N. Kadam

**Resource Persons**

Ms. Ashwini Arte	Dr. Z.G. Badade
Dr. Padma Chavan	Dr. Prabha Dasila
Dr. Ram P. Dixit	Dr. Prakash P. Doke
Dr. M.M. Khan	Dr. Mary Mathews
Dr. N.C. Mohanty	Dr. R. Mullerpatan
Dr. S.K. Narayankhedkar	Dr. G.S. Narshetty
Dr. Sabita M. Ram	Dr. Ajit Shroff
Dr. P.R. Suryawanshi	Dr. S.H. Talib
	Dr. Raman Yadav

**Chief Editor**

Dr. Chander P. Puri

In our quest for excellence and to commemorate the Silver Jubilee of Medical Colleges of MGM Institute of Health Sciences (MGMIHS), Prof. Ipseeta Ray and Prof. Arya Deepak of MGM Medical College, Navi Mumbai had organized a two-day workshop on Good Clinical Practices (GCP) from 26th to 27th August 2013.

Dr. Vishwa Mohan Katoch, Secretary, Government of India, Department of Health Research had inaugurated the Workshop and delivered inaugural address. Dr. Rajiv Sarin, Director, Advanced Centre for Treatment, Research and Education in Cancer had presided over the function in which Dr. Sudhir Kadam, Vice Chancellor of the MGMIHS and Dr. Avinash Supe, Dean of the Lokmanya Tilak Municipal Medical College were the Guests of Honour.



*Dr. V.M. Katoch inaugurating the Workshop on Good Clinical Practices. Also seen in the picture are Dr. (Lt. Gen.) Shibban K. Kaul, Pro Vice Chancellor, MGMIHS; Dr. K.G. Narayankhedkar, Chancellor, MGMIHS; Dr. Rajiv Sarin, Director, ACTREC; Dr. Avinash Supe, Dean, LTMMC; and Dr. Sudhir Kadam, Vice Chancellor, MGMIHS.*

Although planned to start in a modest manner, the rich scientific content had attracted overwhelming response from delegates from far and wide. About 185 registered delegates included private practitioners, researchers, medical faculty, and members of the clinical ethics committees of various institutes and hospitals and postgraduate students.

## GCP Explained

GCP is an internationally accepted quality standard to ensure that the clinical trials are conducted following ethical guidelines and high scientific standards so that the data generated from the study is credible and would allow decision making. The guidelines not only assure the public but also the volunteers that their rights, safety and well being are not being compromised. It also provides assurance of the safety and efficacy of newly developed compounds. GCP is the standard guideline to which all research should be conducted.

## GCP Workshop

The uniqueness of GCP workshop program was that it was structured following need assessment of potential participants. A questionnaire was developed and sent to delegates who were looking forward to participating in the workshop. Most of the delegates had wished to learn all aspects of GCP in general and about ethical issues, pharmaco-vigilance, protocol development, key responsibilities of investigator and study closure in particular. Such categorical needs of the delegates were communicated to the esteemed faculties in advance and the program was accordingly structured.

## GCP Workshop Happenings

Eminent faculty from various institutions and from regulatory bodies were invited to address the related issues and guidelines while undertaking clinical research. It also included standards on how clinical trials are to be conducted, defining roles and responsibilities of sponsors, investigators and monitors. The program included plenary lectures delivered by Prof. Y.K. Gupta, All India Institute of Medical Sciences, New Delhi; Dr. Arun Bhatt, President, Clinivent Research Private Ltd, Mumbai and Prof. P.T. Pandit, B.J. Medical College, Pune. In addition, 25 highly accomplished scientists had shared their rich experiences on various key issues. Issues such as reporting of serious adverse event, compensation to trial subjects, non-compliance of regulatory and ethical guidelines, video recording of informed consent process and registration of ethics committee with the Office of the Drug Controller General of India were discussed. The workshop proved immensely useful for the attendees.

Dr. Katoch in his inaugural address stressed on need for following ethical guidelines and high scientific standards so that the data generated from the study was credible and allowed decision making. He emphasized that the volunteers, their rights, safety and well being must be protected. The outcome of clinical trials should provide factual position with respect to the safety and efficacy of newly developed compounds.

Dr. Katoch encouraged the participants and particularly the medical students and faculty to consistently, persistently pursue research and shared with them information on major funding agencies in the area of biomedical research.

The dignitaries Dr. Avinash Supe and Dr. Rajiv Sarin mentioned that proper understanding and implementation of GCP guidelines was imperative with the increasing number of clinical trials being performed in the country. It was imperative that the members of Institutional Ethics Committee and the investigators are fully aware of GCP Guidelines and ensure that the clinical trials were implemented strictly in accordance of those guidelines.

The workshop reiterated the importance of interwoven laws, frameworks and guidelines which govern the set up and conduct of clinical research, the roles and responsibilities of key stakeholders and organizations in clinical research, regulatory applications required before clinical research can be started in India, range of essential documents that need to be maintained, process of receiving informed consent and roles and responsibilities of those involved in this process.

The workshop created awareness of correct safety reporting requirements that ensure patient safety both in the academic and Industry set up. The ethical challenges that need to be addressed to safeguard the rights, safety and well being of all trial subjects were adequately addressed. Special attention was paid to trials that included vulnerable patients and emerging modalities like ethical issues in use of stem cell therapy in human disease.

The workshop reinforced and consolidated our previous learning, provided an opportunity to reflect on our practices and raise our awareness of recent and relevant developments in GCP and related areas of research governance. GCP workshop re-emphasized the importance of keeping up-to-date with developments and continuously evaluating the research practice and making improvements, if required. The program culminated in a panel discussion to cover 'Non-Compliance, Scientific Misconduct in Clinical Trials'. The delegates had ample opportunities to interact and clarify issues relevant to their field of interest.

Dr. Narayankhedkar, Chancellor of MGMIHS, congratulated the faculty, staff and students for the glorious performance of the medical colleges since inception and wished them greater successes in the years to come.

# New Research Facilities Inaugurated

## Central Research Facilities

Giving thrust to the research programs, MGMIHS has established centralized research facilities as well as strengthened the research support to various research programs. The thrust areas of research identified at MGMIHS include: Identification and development of affordable diagnostic methods; Drug discovery; Realizing the therapeutic potential of stem cells; and Prevention and treatment of infectious diseases. The Vice Chancellor Dr. Kadam has introduced several incentives for the staff to pursue research more actively. About 96 students are enrolled for Ph.D. degree programs in various disciplines. The faculty at MGMIHS is encouraged to advance their education by enrolling for Ph.D. Degree.



*Dr. V. M. Katoch interacting with the scientists at MGMIHS, keenly reviewing their research programs.*

Dr. Kadam thanked the Secretary Dr. Katoch for inaugurating the Central Research Laboratory, as well as for appreciating the research endeavours of the scientists. He mentioned that MGMIHS and its constituent medical colleges have the necessary facilities as well as its own hospitals established in rural sector to pursue research. He suggested that MGMIHS would like to work as an ICMR Center for Research and Training and pursue research on the national research priorities as identified by the ICMR. Dr. Kadam also suggested that MGMIHS and ICMR should jointly establish a research institute with multidisciplinary expertise to identify strategies to reduce the disease burden in the country and offer quality healthcare services.

## Central Research Laboratories Inaugurated

Dr. V.M. Katoch, Secretary, Department of Health Research, Government of India inaugurated the Central Research Laboratory established by MGMIHS. This facility is an innovation centre for pursuing quality research in different disciplines, and is accessible to all the faculty members and students of the University. The focus of research has been to develop rapid diagnostics for tuberculosis, drug discovery and nano-biotechnology including biological synthesis of nanoparticles, and biosensor applications.



*Dr. V.M. Katoch inaugurating the Central Research Laboratory at MGMIHS. Also seen in the picture are Dr. Sudhir Kadam, Dr. Raman Yadav and colleagues.*

Dr. Katoch was briefed about the progress of various projects including BRNS funded project on “Development of micro-biosensor for rapid diagnosis of tuberculosis”. Dr. Katoch lauded the efforts of scientists for according high priority to pursue research on nationally relevant research areas as well as for identifying very relevant thrust areas of research. He appreciated the work to develop RT-PCR based rapid and sensitive methods for detection of tuberculosis and multidrug resistant tuberculosis at the institute. This was extremely encouraging for the scientists.

Dr Katoch was also taken round the newly established Zebra Fish facility, which serves as a useful vertebrate model for studies on human diseases. Using this animal model, it is proposed to develop *M. marinum* induced granulomas which can be used to develop anti-tuberculosis drug delivery system. Dr Katoch suggested possible use of aptamers for immunoguidance of nano-drug particles for precision targeting. There is a concerted effort to apply nanotechnology for medical research at MGMIHS. Various types of nanoparticles are being synthesized and characterized for drug delivery system. Dr Katoch was also briefed about RT-PCR based diagnosis and genotyping approach to pursue clinical research on viral gastroenteritis-induced diarrhea, and anti fungal sensitivity studies on dematophytes. Dr Katoch encouraged the scientists to take advantage of the research grants from ICMR and other agencies by submitting award winning projects.

# Promoting Research: An Oration

## Research at MGMIHS

MGMIHS is committed to promoting research programs of national relevance, ably guided by Dr. Sudhir Kadam, Vice Chancellor and Dr. Chander P. Puri, Pro Vice Chancellor (Research).

Here is a valuation status report of peer reviewed papers published in various health science journals during 2006 to 2013:

Sr. No.	1	2	Total
Year of Publication	2006 - 2009	2010 - 2013	
No. of Peer Reviewed Papers	73	251	324
Indexed in Pub-Med/MEDLINE	73	162	235
Impact Factor	110.1 (34)	136.6 (84)	246.7 (118)
Index Copernicus Value	314.6	701.2	1015.7
Indexed in Other Secondary Sources	-	31	31
No. of Papers still under Computing for IF	17	54	71

## Notes

Figures in parenthesis show the number of papers whose Impact Factor has been determined.

There are 71 papers whose Impact Factor is still under computing.

## How to Promote Research in Medical Schools

Padma Bhushan Prof. Nirmal K. Ganguly, Advisor, Translational Health Science and Technology Institute, and President, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry; while delivering an Oration on 27th August 2013 at MGMIHS, emphasized the need for promoting research in all medical colleges in the country.



*Prof. N.K. Ganguly, Former Director General of the Indian Council of Medical Research, and Advisor, Translational Health Science and Technology Institute delivering an Oration at the MGMIHS.*

Prof. Ganguly mentioned that the pioneers who had set up institutes like All India Institute of Medical Sciences and Postgraduate Institute of Medical Education and Research had research in their hearts. No doubt, those visionaries had provided excellent healthcare services and were excellent teachers, but what had made them unique and highly distinguished was that they had put research as a very high priority area in their work ethics and in their work culture. Today, this is essentially the international ethos in the medical institutes and medical colleges. It starts from undergraduate level, even before one enters the medical school, and one should start pursuing small projects and learn how to conduct research. Research methodology should be taught in the medical colleges right from the beginning with ethics as the main architecture of research.

Prof. Ganguly had emphasized on the need to develop research programs around national health problems. If required, public private partnership should be encouraged. Prof. Ganguly further opined that the faculty and the students in medical colleges should feel excited for pursuing research and they should understand that this could be achieved. He urged the delegates to take advantage of tremendous amount of funding available, create structures which will help to access that and you at MGMIHS have, what I understood, enough freedom to explore and everything which is required for research.

# MGM Trust

## The First Humble Steps - Beginning of Mahatma Gandhi Mission Trust Journey



**Mr. Kamal Kishore Kadam**  
Chairman  
MGM Trust

### Health of our Nation – Hard Facts to Ponder and Act!

Here are some health indicators of our country which need to be improved, rather urgently:

3,00,000 babies die on the day of their birth.

1,70,00,000 children are unlikely to make it to their fifth birth day.

5,84,000 women die during pregnancy and child birth every year.

India's population of 1,28,16,17,759 (as on 29th November 2013) is likely to grow by 1,51,14,008 this year.

72.2% of the population lives in 6,38,000 villages.

India has the largest illiterate population in the world.

Poverty, illiteracy, high fertility rate and decline in death rate or mortality rate are the reasons for our country's growing population, and consequently of the slow improvement in our quality of life.

***We all have a responsibility and role to play. Let us come forward and Act on these Facts!***

The Mahatma Gandhi Mission (MGM) Trust is the parent body of MGMIHS which was established in 1982 by Shri Kamal Kishore Kadam with a futuristic vision to provide qualitative education by applying innovative and dynamic pedagogical techniques. Since inception, the Trust has focused on providing health care services, school education and higher education with dedication and commitment. The MGM Trust was established in Nanded, Maharashtra and in the course of time it extended its services to Aurangabad, Navi Mumbai and Parbhani in Maharashtra and Noida in Uttar Pradesh.

A chain of Schools, Engineering, Architecture, Medical, Nursing, Management, Computer Science & Information Technology, Bioinformatics and Biotechnology, Fine Arts and Journalism stand testimony to the endeavors of the Trust.

All these Institutions are run under the able guidance of Shri. Kamal Kishore Kadam, M.Tech. (IIT, Mumbai), Chairman of the Trust; and a dynamic team of trustees namely Shri Ankushrao N. Kadam, B.E.; Dr. P.M. Jadhav, FRCS (U.K.); Dr. S.N. Kadam, FRCP (Edin.); Dr. Nitin N. Kadam; MD, DCH and Shri U.N. Kadam, B.E. The Institutions under MGM Trust have achieved a mark of excellence in their respective areas over the years.

The Government of India, Ministry of Human Resource Development, Department of Higher Education, New Delhi had conferred the status of Deemed to be University to MGM Institute of Health Sciences during August 2006, with its two constituent medical colleges, one in Navi Mumbai and the other in Aurangabad.

Thousands of medical doctors and paramedical staff having graduated from these prestigious institutions are providing the finest healthcare services to millions of people, both in our own as well as in other countries, and we are proud of them.



# Vice Chancellor 's Voice

## Vice Chancellor's Message



**Dr. Sudhir Kadam**  
Vice Chancellor

Dear Reader,

Greetings and wishes for your healthy and prosperous 2014, our Silver Jubilee Year!

Undoubtedly the medical world takes new strides each year, making life healthier for people. And yet, newer challenges seem to be the only constant in our world! Malaria, tuberculosis, and many infectious diseases including HIV continue to horn across all strata in our society. Thousands of people fall ill due to these diseases, with some unfortunate fatalities too. It is our earnest responsibility to prevent such diseases and cure those who are already infected, realising our financial crunch.

As members of a noble profession, we must all remember to pause and think about serving the poor and the needy, through our every act. Indeed, our newsletter begins with a guiding message on these lines from Mahatma Gandhi. So let's move forward in action in 2014 and do the right thing, with our every act.



It is imperative that the medical education considers the social, cultural, economic and geographical aspects of the state and the nation. It should address to the health problems of each and every individual with diverse socio-economic status. It is also necessary to provide adequate learning opportunities to all the sections of the society.

In 1978, the Government of India had signed the Alma Ata Declaration emphasizing "Health for All", with emphasis on promoting the health of the poor and disadvantaged population. Around those years, the life expectancy at birth was just about 50 years, the infant mortality, under- five mortality, maternal mortality and crude death rates were alarmingly high. During early 1980's our country had only 10 hospitals for every one million population, and about 80 beds and 40 medical practitioners per hundred thousand population. One of the major reasons of high burden of disease, mortality and morbidity in our country was shortage of doctors in the country.

The Mahatma Gandhi Mission Trust, which is the parent body of the MGM Institute of Health Sciences, recognized the urgent need for promoting medical education in the country so that the quality of life for individuals and community could be improved by promoting health, preventing and curing diseases, advancing biomedical and clinical research and educational programs for tomorrow's physicians and scientists.

To accomplish its vision, the MGM Trust, which was established in 1982, started its two medical colleges in Maharashtra, one in Navi Mumbai during August 1989 and other in Aurangabad during January 1990. Instituted on the Gandhian philosophy, these colleges were envisaged to transform lives and serve the society by educating, creating knowledge and putting knowledge to work. Subsequently, the University Grants Commission, Government of India had accorded the status of Deemed to be University to MGMIHS with two of its constituent medical colleges.

I am proud to mention that today MGMIHS is among the preeminent universities of the country. Both the medical colleges have shown performance par excellence. These colleges are offering professional MBBS, MD, MS, M.Sc., DM, MCh and Ph.D. degree courses, which are recognized by the concerned statutory bodies. Clinical training is offered in the University's own hospitals including rural hospitals. The education system, including the curriculum and the practical training, is so designed that the tomorrow's doctors and medical scientists possess well- developed clinical skills and attitudes necessary to provide the best evidence-based patient care to each and every

## Curb the Menace of Ragging

MGM Medical Colleges and Hospitals, and the MGM Institute of Health Sciences fully endorse the Regulation 2009 of the Medical Council of India about Prevention and Prohibition of Ragging in its colleges. MGMIHS and its constituent colleges recognize ragging as a cognizable offence as per Act and prohibit ragging in all its forms in all institutions. MGMIHS will ensure that ragging is totally banned in the entire Medical College campus and its constituent units.



Deans of MGM Medical Colleges in Navi Mumbai and Aurangabad have advised the students to completely desist from indulging in ragging. They reiterated that any violation of this will invite action as per the stipulated Act.

MGM Medical Colleges have made awareness of the Anti-ragging Act and in case of violation of the associated punishment by displaying appropriate information in common areas such as lecture halls, hospital, hostel, common room, mess, corridor and notice boards. **A Hotline: AMAN 1800-180-5522** has been established for this purpose.

individual and particularly to those of lower socio-economic status following ethical practices.

About 350 graduates and post graduates are conferred doctorate degrees every year. Over 1800 committed outstanding medical and nonmedical faculty and consultants are engaged in teaching as well as in various research programs of national relevance. Increasing allocation of funds for research, numbers of research publications in peer reviewed journals, participation of faculty and students in national and international conferences, and organization of workshops to enhance technical human resource are testimony to this. The staff is inspired to pursue cutting-edge, interdisciplinary clinical research targeted to prevent and relieve human suffering. The goals of the University are nurtured and supported by the various authorities of the University.

I would like to reiterate that the University is committed to excellence in teaching, research and patient care. These three pillars of our medical institution are catalytic and not competitive. We believe that excellence in research is essential to infuse teaching with enthusiasm. A multidisciplinary collaborative approach is particularly encouraged to pursue quality research.

The University will continue to attract and retain accomplished scholars to enhance existing programs and to build new areas, while at the same time ensuring that their careers flourish in our campuses. Adequate resources will be allocated for the development of those areas that represent the traditional strengths, quality, reputation and uniqueness of the University and that continue to effectively respond to the needs of students and other constituents.

Thrust will be given to advancement in skill development, value-based education and new job-orientated courses based on needs of the local community. MGM Trust is committed to achieving progress in these areas and providing financial sustainability and security to its academic and research pursuits. I am sure that our University will be a national leader in providing education which is relevant and responsive to of the communities we serve and producing competent medical professionals.

I wish the dean, faculty, staff and students my compliments for the glorious performance during the previous years and wish them greater success during the coming years.

## Quality Health Care in Rural India



**Dr. Chander P. Puri**  
Pro Vice Chancellor (Research)

Rural India is defined as a habitat of less than 5000 people, with a density of less than 400 people per square kilometer and where 25% of the male working population is engaged in agricultural sector. If this is an eye opener to you, it will only enrich your understanding to know that about 65-70% of our citizens live in rural areas.

The Government of India with an aim to enhance the density of physicians from prevailing 0.60 per 1000 to 1 per 1000 population, has projected a shortfall of over 6,00,000 doctors over the next one decade. This is in spite of the fact that today, of the 381 medical colleges in the country, about 205 (~54%) are either private colleges or institutions run by trusts. Similarly, of the 50,068 seats in all the medical colleges, about 52% are in the private colleges.

It is a burgeoning task for any government to increase the medical schools to bridge the sheer number of additional medical doctors required to meet the projected shortfall within a decade. Strengthening of public-private partnership and empowering private institutions to address to the healthcare needs including enhancing the density of physicians is urgently required.

About 65-70% of our fellow citizens live in rural areas and it is generally expected that the freshly graduated medical doctors can provide them as comprehensive medical care as received by those who reside in the urban sector. Fresh MBBS degree holders are neither adequately qualified nor experienced enough to treat wide ranging diseases such as stroke, diabetes, neurological disorders, chronic respiratory diseases and many others which are quite rampant and require specialists as well as specialized diagnostic facilities.

The ever increasing burden of diseases, both communicable and non-communicable, coupled with increased expectancy of life, require more doctors including medical specialists to deal with. Our country, on an average, has one medical doctor for a population of 1500 to 1700, as compared to one for over 100,000 people in the rural sector. Very few specialists are available in the rural sector. People's health is indeed India's health and healthcare needs of our large segment of the population cannot be ignored just because they live in villages and far flung areas. They also deserve the best healthcare support from the medical specialists and our government has the responsibility of providing them the same.

Strengthening of the public-private partnership can expedite alleviating the shortfall of physician density. It will also eventually help in addressing the healthcare needs of our rural sector. Both the government and the private entrepreneurs should strive to open at least one medical college, whether public or private, in each district. The private institutions should be empowered to decide the curriculum, the teaching practices and other policies, while the regulatory bodies must enforce stringent guidelines to ensure quality medical education. A healthy competition between government and private institutions will bring in quality improvement in the medical education. Both should be subjected to robust accreditation systems.

It is equally essential to enhance the number of postgraduate seats in the medical colleges. Today, a PG degree is an absolute essential requirement to be a "good medical doctor" particularly on the background of pattern of emerging and re-emerging diseases. Moreover, about 40% of the eligible students cannot be deprived of realizing their dream of pursuing PG qualification which is so essential. Overall increase in the number of specialists will also impact the healthcare in the rural sector and reduce the urban-rural disparity in quality healthcare services. Mahatma Gandhi had said "The soul of India lives in its villages", it is high time that we take up this challenge with both our hands and truly save and serve our 'soul' that lives in rural India.



# Stem Cell Symposium

## Stem Cells for Regenerative Medicine



**Dr. (Lt. Gen.) S. K. Kaul**  
Pro Vice Chancellor

### Stem Cells to 'Stem' Diseases



### Symposium Invitees

The scientists invited to deliver plenary lectures and steer the discussion included Dr. (Maj. Gen.) Velu Nair, Dean, Armed Forces Medical College, Pune and Vice Chair of the Task Force on Stem Cell and Regenerative Medicine, Department of Biotechnology; Professor Oleksandr Kukharchuk, Research Director, EmProCell Clinical Research, and Prof., Department of Biotechnology, MGMIHS; and Prof. Deepa Bhartiya, Deputy Director and Head, Stem Cell Biology Department, National Institute for Research in Reproductive Health, Mumbai.

Stem cells offer a possible source of a renewable cells and tissues to treat various degenerative diseases. Recent researches suggest that the stem cells can be used for testing new drugs, and Alzheimer, spinal cord injury, stroke, burns, heart disease, diabetes, osteoarthritis, and rheumatoid arthritis, apart from yielding information about the complex events that occur during early embryonic development. The focus of research to exploit the therapeutic potential of stem cells is to understand how the undifferentiated stem cells get transformed into differentiated cells. More basic research is required before exploiting the clinical potential of stem cells and also to understand how they are implicated in various cancers and birth defects. With this aim in mind, Dr. (Lt. Gen.) Shibban Kaul, Pro Vice Chancellor at the MGMIHS had taken the initiative to organize a brainstorming session to "Understand the Biology and Potential Therapeutic Applications of Stem Cells" on 27th September 2013. Prof. Jaishree Ghanekar, along with her colleagues in the Department of Medicine had meticulously coordinated the event and handled the logistics.

Dr. Velu Nair spoke on the adult stem cells with a focus on bone marrow stem cells. He described basic concepts of stem cells biology and mentioned that use of bone marrow stem cells was a method of standard care during BMT for patients suffering from leukaemia, and for conditions like thalassemia. However use of autologous bone marrow cells for regenerative medicine, because of their possible transdifferentiation potential, remains questionable. He mentioned that several autologous adult stem cell trials had been undertaken in the country and results were being compiled for publication.



*Dr. Sudhir Kadam, Vice Chancellor, MGMIHS thanking and honoring Dr. Velu Nair for delivering the oration. Also seen in picture are Dr. Bhartiya, Dr. Kukharchuk and Dr. Kaul.*

Prof. Kukharchuk discussed the use of fetal cells in regenerative medicine. Fetal cells are not stem cells in the true sense but rather

## Symposium Happenings

The presentations by the invited dignitaries, followed by extensive discussion on various aspects of generating stem cells, their characterization and possible use was convincing that the stem cells are likely to become widely available for testing of new drugs and treatment of various diseases. However, it was also apparent that controlling cell proliferation and differentiation requires additional basic research on the molecular and genetic signals that regulate cell division and specialization. The audience was reminded of the need to carefully assess associated ethics and source of stem cells for regenerative medicine before proposing the use for clinical application.

Dr. Kaul in his concluding remarks mentioned that stem cell research has been identified as one of the thrust areas of research at the MGMIHS. He urged the staff to pursue this area more actively and assured enhanced funding for research to accomplish the goals.

progenitors implying that they are already committed to a particular lineage. Introduction of such cells into specific organs allows the progenitors to specifically differentiate into a particular lineage e.g. in case of liver cirrhosis fetal hepatoblasts may be used for therapy. Advantages of using fetal progenitors for regeneration include requirement of minimal manipulation, ability to expand in large numbers, no risk of cancer, and no risk of immune rejection. Since the focus of the Company is on progenitors, it is named "EmProCell". In 2006 the method of induction of immunological tolerance by fetal progenitor cells was patented, which is uniquely implemented in treatment of patients only at EmProCell.

Prof. Bhartiya focused her presentation on the identification of a novel pluripotent stem cell population in adult body organs. These are the very small embryonic-like stem cells (VSELs) which sit at the top of hierarchy of tissue committed stem cells in various adult body organs and serve as a backup pool to maintain homeostasis throughout life. VSELs are mobilized in case of any disease like myocardial infarcts, burn, stroke etc. and are considered to be the possible embryonic remnants that give rise to cancers. VSELs are pluripotent in nature, easily isolated from autologous source and being extremely quiescent in nature they do not form teratoma. Thus both the major limitations of embryonic stem cells of immune rejection and risk of teratoma formation do not exist with VSELs. She also shared with the audience about the two indigenous well characterized human embryonic stem cell lines developed in her laboratory and available to scientists for research.

# Diabetes Symposium

## MGM DIABECON'13 Highlights

Over 200 delegates from various institutions had participated in the event. About 24 internationally renowned speakers humbled the event with their presence and valedictories. The symposium focused from very basic concept of the diabetes to recent advances in its management and related complications. The event also hosted a research contest by organizing a Poster Presentation for both undergraduate and postgraduate students and the prize winners were felicitated by Dr. Sudhir Kadam, Vice Chancellor, MGMIHS and Dr. G.S. Narshetty, Dean, MGM Medical College, Navi Mumbai.

## MGM DIABECON 2013

To commemorate the Silver Jubilee of the two constituent medical colleges of the MGM Institute of Health Sciences, Dr. Sandeep Rai, Dr. Jaishree Ghanekar and staff and students of the Department of Medicine had organized a national symposium "MGM DIABECON-2013" on 11-12 October 2013.

Prior to the start of the event, Padma Shree Dr. V. Mohan, Chairman and Chief Diabetologist, Dr. Mohan's Diabetes Specialties Centre and Madras Diabetes Research Foundation, Chennai had inaugurated the "Advanced Clinic and Research Centre for Diabetes", at the MGM Medical College, Navi Mumbai. The Centre will provide state-of-the-art facilities for diagnosis, treatment and research in the area of diabetes.

## VC Views at DIABECON - 2013

Speaking during the inaugural function of the Symposium Dr. Sudhir Kadam mentioned that in our country almost 5.2% of the total population was diabetic, which is very high. Moreover, this number has been projected to go beyond hundred million mark, with almost 35% increase in death rate during the next one decade. Most of the heart diseases, stroke and renal failure are also linked to uncontrolled diabetes. Most worryingly the incidence is increasing among adolescents and the youth. The economic burden due to diabetes in our country is among the highest in the world and this is a matter of great concern both for healthcare providers and the public at large.

Dr. Kadam highlighted the need for enhancing funding for research as well as the need for multidisciplinary inter- and intra-institutional collaboration in the area of diabetes to curtail the burden of disease. While the country urgently needed more affordable indigenous methods for diagnosis as well as treatment of diabetes, it was also essential to create awareness that the disease was preventable and greatly reversible by adopting healthy life style including healthy nutrition and regular exercise, mentioned Dr. Kadam. We need to evolve a practical cure for diabetes which may include the use of adult stem cells that appear to be the precursors to islet cells or the embryonic stem cells that produce insulin. This national conference is a step in that direction. I am pleased that eminent scientists and clinicians from all over the country are participating in the event.



*Padma Shree Dr. V. Mohan and Dr. Sudhir Kadam inaugurating the "Advanced Clinic and Research Centre for Diabetes" at MGM Medical College, Navi Mumbai. Also seen in the picture are Dr. Sandeep Ray, Dr. Ashok Kalyanshetty, Dr. Deepak Jumani, Dr. G.S. Narshetty and colleagues.*

Dr. V. Mohan in his inaugural address congratulated the staff and students of the MGM Medical College for glorious performance and wished them greater heights during the years to come. He was particularly pleased with the initiatives to pursue research in the field of diabetes at MGMIHS.

Highlighting the burden of disease, Dr. Mohan expressed concern that while our country has over 60 million diabetics, it is likely that equally large numbers remain undiagnosed. Whether it is gestational, Type 1 or Type 2 diabetes, it needed to be diagnosed early and treated appropriately. Genetic, viruses and autoimmune problems may play a role in the contraction of diabetes however still the precise cause of the disease was not known, said Dr. Mohan. It continues to be a major challenge for researchers and diabetologists to have greater understanding of manifestation of the disease and also to develop more sensitive and affordable diagnostics as well as easy to administer therapeutics. Dr. Mohan said many a time physicians humble themselves with the patients so much, by calling diabetes borderline and little, that patients stop taking it seriously. Imbibing the magnitude of this disease is a need to avoid intense insulin and complications.



*Dr. Sudhir Kadam felicitating Padma Shree Dr. V. Mohan during the inaugural function of the Symposium. Also seen in picture are Dr. Nitin Kadam, Dr. Chander Puri, Dr. Sharad Pendsey, Dr. Shibban Kaul and Dr. G.S. Narshetty.*

# Open Source Drug Discovery



**Dr. Samir K. Brahmachari**  
Director General, CSIR

## Prof. Brahmachari in his address...

Highlighted the use of modern methods of information technology (e.g. web technology, Linux Operating System) in building a movement to take pharma drug discovery out and out of the closed door of the laboratories of pharma companies. He talked about how medical professionals, scientists, engineers and students along with professional researchers, who are actually making contribution in this most complicated process of drug discovery, can help in drug development, which had earlier been thought to be a pure domain of high end research laboratories followed by pharma companies.

Stressed that brilliance flourishes where knowledge is free and the mind unfettered to soar to the highest reaches of excellence. He emphasized that, in principle, technology areas can also benefit from the open source model. He invited for joining hands in the war for the right to health and affordable medicines for all which would ultimately make a difference.

## An Innovative Model for Affordable Healthcare for All

Prof. Samir K. Brahmachari, Director General, Council of Scientific & Industrial Research (CSIR) while delivering an oration on “Open Source Drug Discovery (OSDD)” on 20th September 2013 at MGMIHS expressed concern about the lack of new drugs for neglected diseases like tuberculosis and raised hope of innovative medical discoveries by involving young researchers in drug discovery. He elucidated that OSDD is a CSIR led team consortium in India with global partnership with a vision to provide affordable healthcare to the developing world by providing a global platform where the best minds can collaborate and collectively endeavor to solve the complex problems associated with discovering novel therapies for neglected tropical diseases like tuberculosis, malaria, leishmaniasis, etc.

Prof. Brahmachari delineated about OSDD for tuberculosis (TB) as a consortium functioning at CSIR with international partnership to promote a collaborative model for the search for novel anti-tuberculosis drugs. He further elaborated that OSDD-TB community follows a multi-pronged approach towards drug discovery and amalgamates *in-silico* discovery with wet-lab approaches to reduce the time and resource consumption for discovering and developing novel drugs for TB. The research involves identification and validation of new drug targets, design of novel chemical entities, systems level pharmacophore modeling, generation of anti-TB models using PubChem bioassays, management and filtration of high-throughput screening data, development and maintenance of appropriate *in vitro* screening systems, investigation of natural products identified from traditional knowledge for lead discovery and optimization of potential leads.

He further explained the functioning of OSDD for malaria as a consortium with international partnership to promote a collaborative model for the search for anti-malarials. The research community for infectious diseases is alive to the need for open access and OSDD for malaria offers a unified collaborative research platform to share existing resources and expertise geared towards drug discovery and development.

In the past five years, OSDD has grown into a global community with more than 7600 participants across 130 countries. OSDD has attracted the research focus of over 181 Principle Investigators leading 238 Open Projects towards discovery of novel diagnostics and therapeutics for TB. OSDD is also extensively collaborating with numerous national and international research organizations, academic institutions, universities and industries to accelerate drug discovery for Neglected Tropical Diseases.

He stressed that affordable healthcare is a right for all. Therefore it is the responsibility of public-funded institutions to participate in this area in an open collaborative mode. The open source model gives students in colleges and universities an opportunity to experience and share their scientific excellence.

# Stream Light

## Nursing is Caring: An Insight..



**Dr. (Mrs.) Prabha K. Dasila**  
Director and Principal  
MGM New Bombay College of Nursing

**“Although the image of nursing has evolved, the iconic image of nurse as angels of caring and service remains unchanged.”**

MGM New Bombay College of Nursing, a constituent unit of MGM Institute of Health Sciences had its inception in August 2008. The College is recognized by Indian Nursing Council, New Delhi and Maharashtra Nursing Council Mumbai, to offer undergraduate and Post Graduate degree programs in nursing.

The teaching faculty, appointed as per the norms laid down by Indian Nursing Council in terms of qualification and experience are the strongest pillars of the institute.

The students along with their professional studies are encouraged to participate in various extracurricular and co-curricular activities at local, state and national levels to foster all round development in them.

Nurse educators today are challenged to stay in step with the fast paced ever changing health care environment and prepare nurses capable of facing emerging challenges and technological advancements in the field of medicine, working at national and international levels.

Nursing has been practiced since the beginning of the human history in variety of forms throughout the ages. It has a proud heritage through its founder, Miss Florence Nightingale, whose devotion and skill gave birth to the image of the Lady with the Lamp - a slender figure gliding down the dark halls of a hospital, carrying a light to comfort the wounded and suffering individuals. Her contributions to nursing theory, research, statistics, public health, and health care reforms are invaluable and inspirational.

Nursing profession has undergone rapid changes in recent years. The revolutionary growth in healthcare system has made it more diversified and challenging than before. The global demand for nurses has made it imperative for nursing professionals to acquire best possible skills for working across the national and international boundaries.

Over the years the traditional image of a nurse has changed from physician's assistant to competent and independent care giver, administrator, counselor, policy maker, researcher and the scope of nursing practice has expanded in many specialties. The culture of nursing has also changed from patient-centered to a techno-fast environment with hurried tasks and on-going demands of being business-driven, and limited resource health care systems.



***The tradition of lamp lighting ceremony serves as an icon in nursing from Florence Nightingale, symbolizing care and devotion in nursing.***

Nurses committed to high quality care base their practice on professional standards of ethical conducts. Some of the essential virtues of nurses are competence, compassion, and self interest to patient care, critical thinking, confidence, adaptability, stamina and commitment to professional development.

Nursing today is a dynamic field enriched by the traditions of past and challenged by profound changes in the society and health care. Nursing research has become an integral part of the scientific enterprise in improving the health of the nation. It is increasingly recognized as scholarly, with academic qualifications, research and publications specific to nursing and is accepted and respected widely.

# Managing Musculoskeletal Pain

## An International Multidisciplinary Debate

As a part of continuing professional development, MGM School of Physiotherapy had organized a symposium on “Clinical and Research Update in Musculoskeletal Pain” on 16th November 2013. The event included eminent speakers of national and international repute in which over 240 physiotherapists and scientists had participated.

Prof. Kathryn Refshauge, Chair of Physiotherapy and Dean of Faculty of Health Sciences at the University of Sydney, along with Dr. Sudhir N. Kadam, Vice Chancellor and Dr. Shibban Kaul, Pro Vice Chancellor of the MGMIHS graced the inaugural function. Dr. Kadam, in his opening address, emphasized the need to create awareness among doctors about the role of multidisciplinary management of commonly encountered musculoskeletal disorders. He also highlighted adopting healthy life style so as to reduce stress and scope of deformities. Dr. Kaul reiterated the need to address common musculoskeletal problems with scientific insight. Prof. Refshauge emphasized the importance of research in continuing update of clinical management of patients and presented outcome of related work at the University of Sydney.



**Dr. Rajani Mullerpatan**  
Director  
MGM School of Physiotherapy

### Symposium Objectives

Speaking about the event, Prof. Mullerpatan said “the major objective of organizing the meeting was to discuss integration of research in clinical management of musculoskeletal pain which affects a large segment of our population of all ages”. In addition, the challenges faced in the management of musculoskeletal pain of under-privileged sectors of the society such as Mathadi workers also needed to be addressed. The design of the symposium included exhaustive discussion on several controversial issues in clinical practice and research so as to arrive at some consensus to provide the best healthcare support to our patients.

### Some Eminent Speakers

Some of the eminent speakers included Dr. V.J. Laheri, Professor of Orthopaedics, MGM Hospital, Kamothe; Dr. R.P. Varma, Consultant Spine Surgeon; Prof. Bharati Bellare, Professor, MGM School of Physiotherapy; Dr. Suman Mukhopadhyay, Associate Professor, National Institute of Industrial Engineering; and Dr. Andrew Leaver, Dr. Niamh Moloney and Dr. Claire Hiller, Discipline of Physiotherapy at the University of Sydney.



*Brain storming session in progress: Seen here are Prof. B.V. Bellare, Dr. R.P. Varma, Dr. A. Leaver, Prof. K. Refshauge, and Prof. V.J. Lahari.*

The discussion had revolved around management of neck pain, spine disorders, low back pain, stress and coping strategies, neck pain and whiplash injuries, ergonomic application in industrial back pain, chronic pain evidence and lower limb sporting injuries. Comprehensive multidisciplinary approaches to address various types of musculoskeletal pains were discussed and use of low cost technology involving valid and sensitive tools for assessment and management of pain was emphasized by the speakers.

*The scientific day concluded with cultural performance of Indian classical dance by Ms. Shruti Kotian, final year student of MGM School of Physiotherapy, which was very relaxing and highly appreciated by all.*

# Poor and Needy Served by MGMIHS

## The Institute and People Involved



**Dr. Prakash Doke**  
Medical Superintendent  
MGM Hospital

The MGM Hospital had during early 2012 established an Operation Theatre Complex with state-of-the-art facilities for diagnosis and treatment of patients with varying disorders. The complex has 14 ultramodern operation theatres, including modular ones, in the new building. In fact, the year 2012 was very vibrant for the hospital for various reasons. The bed strength was increased, the Central Diagnostic Laboratory received NABL accreditation, the blood component separation unit was installed and the hospital had started surgeries such as Cardiothoracic Surgery requiring highly specialized facilities and skills. To further strengthen the healthcare in this area the Medical College started super speciality degree of MCh in Cardiothoracic Surgery, thanks to the vision, initiative and the efforts of Hon'ble Vice Chancellor Dr. Sudhir Kadam, Pro Vice Chancellor (also a renowned Cardiac Surgeon) Dr. Shibban Kaul and Medical Superintendent Dr. Prakash Doke.

*The faculty, medical doctors and staff of the hospital take pride that the MGM hospital offers the best possible healthcare support to the financially constraint population. The management remains committed to extend such services to cover many more needed people.*

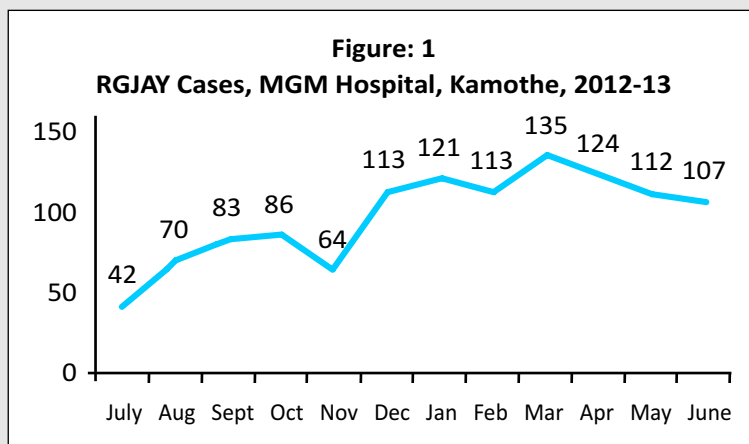
## Rajiv Gandhi Jeevandayee Arogya Yojana

MGM Medical College and Hospital, Kamothe had long back been recognized as a charitable hospital offering highly subsidized healthcare services to the vulnerable population all over the Maharashtra. The major beneficiaries have been those residing in slum areas, tribal population and those below the poverty line. The hospital provides transport service, almost on daily basis, to bring some of the patients to the hospital. In fact, MGM Hospital has always provided far excess charity than envisaged even by the scheme framed by the honorable High Court, Bombay in one of the writ petitions.

During 2012, the Government of Maharashtra had announced launching of the Rajiv Gandhi Jeevandayee Arogya Yojana and the scheme was introduced in eight districts. Forerunner to this scheme was 'Jeevandayee Arogya Yojana', under which only 'Below Poverty Line' families were covered and five groups of procedures requiring major surgical interventions were included. In this scheme the financial assistance is given directly by the Government to the concerned hospitals in the name of patient. MGM hospital had also been empanelled for Jeevandayee Arogya Yojana.

The new empanelment was awarded following a joint inspection from RGJAY Society of the Government, TPA and representatives of the insurance company. The team had in its report expressed great satisfaction about available facilities, support services including well-equipped laboratories, blood bank, information technology and above all very reasonable charges for various services. MGM hospital was approved to deal with all the categories of patients permissible to non-government institution. For the patients, it is a cashless and paperless scheme.

The number of patients admitted under the RGJAY has been rising continuously as shown here in Figure 1. In one year about 1170 patients were admitted in MGM hospital in various wards.



## Weekly Camps in Remote Areas

MGM hospital has also been conducting weekly multi-specialty camps in the remote areas of the district. The Government of Maharashtra has appreciated the regularity and MGM has been ranked as 'the most regular institution conducting camps'. While the patients having minor ailments are treated at the camp site and provided appropriate medicines, those requiring further investigations or treatment are referred to MGM hospital. MGM Hospital had organized 37 camps, exclusively under RGJAY, in small villages and 5,462 patients were examined and treated in those camps within one year of the initiative.

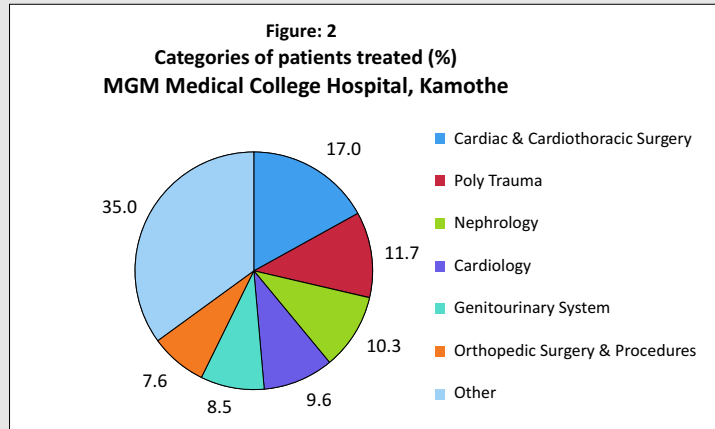
### MGM Diagnostic Facilities NABL Accredited

The diagnostic facilities in Clinical Biochemistry, Haematology, Serology and Bacteriology, offered for healthcare purposes at MGM Medical College and Hospital, have been accredited by the National Accreditation Board for Testing and Calibration Laboratories (ISO 15189). This is a reflection of the stringent quality controls and other laboratory operations including precise documentation followed in the laboratories at MGM Hospital. The reports generated by the accredited laboratories give greater confidence to the patients of the test results and are accepted worldwide.

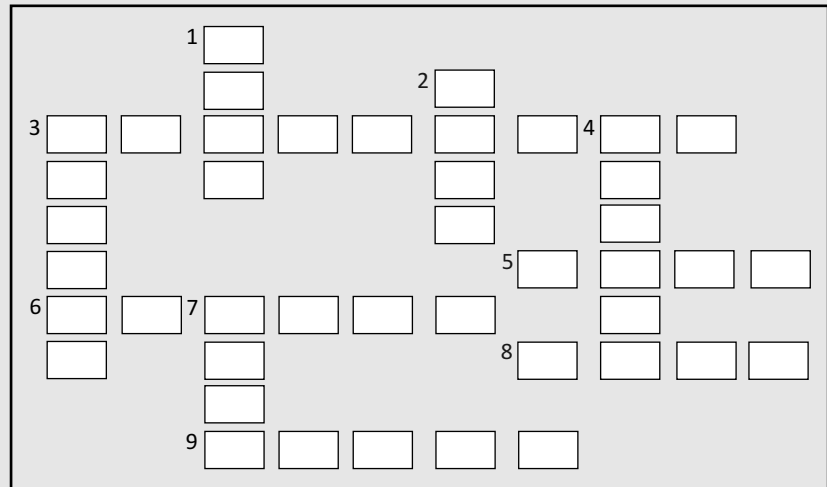
Thanks to the team efforts of Dr. Ujwala Maheshwari, Ms. Parineeta Samant, Dr. Sangeeta Sharma, Dr. Anahita Hodiwala, Dr. Sameer Panchpute and colleagues.

*Congratulations!*

In 2013, on an average about 120 patients have been treated every month. The number is expected to rise further as the scheme is being extended to cover entire Maharashtra State. The hospital had admitted patients in 24 out of 30 categories approved under the scheme. Maximum number of patients (17.0%) was admitted in cardiac and cardiothoracic surgery followed by poly trauma (11.7%) and nephrology (10.3%). The percentage is given in Figure 2.



## Medico Crossword



### Across

- Special bed used in hospitals to transport patients.
- Lie on your \_\_\_ if you want to look at the sky.
- The organ that filters the blood.
- You don't need to shout. I'm not \_\_\_.
- An ear has cartilage, not \_\_\_.

### Down

- Scientists are still searching for the \_\_\_ for cancer.
- An \_\_\_ is a dull continuous pain.
- It's a synonym for "cerebral accident".
- It's the opposite of inhale.
- Using the word "\_\_\_" which now usually means "not smart," is now considered offensive when talking about people who can't speak. "Mute" is a more polite word.



## About Aortapulmonary Window

Aortapulmonary window is a rare congenital heart defect resulting from a communication between the main pulmonary artery and the ascending aorta. Surgical closure is indicated in all patients with aortapulmonary window and should be performed at the time of diagnosis to prevent irreversible pulmonary vascular disease.

## Kudos Team MGM, Aurangabad

The rare surgery on the infant was performed by the highly skilled team of doctors of the MGM Medical College and Hospital. The team comprised of Dr. Manohar Kalbande, Dr. Yogesh Belapurkar, and Dr. Suhrid Annachhatre. They were assisted by highly skilled and experienced anaesthetists Dr. Balaji Asegaonkar, Dr. Pramod Apsingekar, Dr. Sujit Khade and Dr. Ajita Annachhatre, and neonatologists Dr. Sunil Gavhane, Dr. Pradeep Bisen, Dr. Vijay Vyawahare, and Dr. Zubair Khan along with nursing staff and resident doctors.

This was truly a team effort and a milestone accomplishment of the highly experienced, dedicated and committed professionals at MGM Medical College and Hospital at Aurangabad. We wish the baby a healthy and happy life.

***Hearty Congratulations to the MGMMCH Team from Aurangabad!***

## Nine Month Old Undergoes Rare Surgery

Doctors at MGM Medical College and Hospital at Aurangabad had performed a rare heart surgery on a nine month old child. Ms. Poornima Bhale, from Gangapur Taluka, was diagnosed with aortapulmonary window. The child had a large hole between the two main arteries which was 50% of the size of the aorta.

“The surgery is a very complex procedure and the global incidence recorded is as rare as 0.1%. One of the top hospitals in the world treating such cases is Children Hospital at Boston, where only four patients have been recorded during the past 20 years,” claimed the MGM Medical Hospital dean Dr. Ajit Shroff.

Such cardiac cases are different from by-pass surgeries in adults. In case of by-pass, 90% risk factor is over after the surgery, but in infants the safety zone is narrow. The 50% risk factor stays on in post-operative period. Close and critical monitoring is required for paediatric surgery.

Narrating about the surgery, the doctors said that the patient had suffered from two anomalies - hole in heart and abnormal origin of the right branch of the pulmonary artery. “The infant, weighing 5 kg, was referred to assess heart murmur. History of breathlessness, noisy breathing and not feeding well was present,” said Dr. Manohar Kalbande, Cardiac Surgeon.

“A hole existed between the two main arteries - the aorta supplying pure blood and the pulmonary artery. Moreover, the artery from the right lung, which normally originates from the pulmonary artery, originated from the aorta. Due to this anomaly, the lung was getting more pure blood creating extra pressure resulting in lung disease,” he said.

“In such cases it is better to diagnose and report early. But sometimes parents wait for the last moment,” said the Chief Executive Officer, MGM Medical College and Hospital, Dr. Pravin Suryawanshi.

Mr. Anil Bhale, father of the child said, “When my daughter’s weight was not increasing and she was not feeding well, we approached MGM Hospital, where she was quickly diagnosed. Being a daily wage labourer, it was difficult for me to raise the expenses required for the treatment. But, fortunately some social organization helped me,” he said, adding, “The hospital not only provided the best treatment but also made it free of charge. My personal thanks to the doctors of MGM Medical College.”

**Uncontrolled diabetes, alcohol or drug abuse, or exposure to industrial chemicals during pregnancy can increase the risk of congenital heart malformations. Some chromosome abnormalities, in which there is an extra or missing chromosome (or part of a chromosome) are associated with congenital heart disease. But most of the time, the specific cause of congenital heart disease is unknown. Let us follow healthy life style for yet to be born children.**

## Medical Fair India

Medical Fair India is one of the most professionally organized Medical Equipment and Medical Technology trade shows in India. The event reaches out to more than 6721 qualified attendees, who come to the show to get a clear picture of the latest market developments and rehabilitation techniques. Participants come in from as many as 17 different nations, underlining the international status that the show enjoys. Topical business conferences, held by distinguished speakers, are also scheduled at the show. Organized over a period of three days, the show manages to bring in over 322 exhibiting companies. A holistic range of advanced and high utility medical consumables, furniture items, components and biomedical devices are displayed here, together with many other associated products. Over 183 overseas exhibitors also come to present their products here. Nanotechnology solutions and other high end medical services are specially highlighted at the event as well. The show is held in association with several renowned medical institutions and business associations.

## Highlights

The main highlights of the Medical Fair India show are:

- Interactive business conferences
- Active support by many major medical associations and bodies
- Presence of foreign exhibitors from over 17 countries
- Display of medical tools and medical equipments

The Medical Fair India 2014 is scheduled between 14-16 March, 2014 in Mumbai at the Bombay Convention and Exhibition Centre, Goregaon (East).

## Yes! A Vaccine for Malaria

Malaria, a mosquito-borne parasitic disease, kills over 600,000 people annually, most of them children. It is caused by protozoan parasites (*Plasmodium vivax*, *P. falciparum*, *P. ovale* and *P. malariae*) that are transmitted by the bites of mosquito female *Anopheles*. To save people from this devastating disease requires an effective vaccine apart from complete eradication of malaria causing mosquito. Preparing such a vaccine has been a big challenge for the scientists because of the intracellular habitat of the parasite. An attempt to prepare malaria vaccine has been going on all over the world. Today, the malaria vaccine development field is a dynamic area of scientific endeavor. Increased funding and research is driving the discovery of new antigens and vaccine technologies, and many more malaria vaccine candidates are moving through the development pipeline.



World Health Organization published an update of the “Rainbow Tables,” which identified more than two dozen active malaria vaccine candidates in clinical development (human testing) and more than a dozen in preclinical development. In addition, GlaxoSmithKline Vaccines' RTS,S is currently in Phase 3 clinical development-making it the first malaria vaccine candidate to advance this far. The PfSPZ vaccine, developed by scientists at Sanaria Inc., is another approach which is composed of a live but weakened version of the parasites so that they can be given in an injected vaccine.

To evaluate the protection provided by the PfSPZ Vaccine, the scientists collaborated with the Walter Reed Army Institute of Research and the Naval Medical Research Center. Participants were exposed to 5 bites by *P. falciparum*-infected mosquitoes 3 weeks after vaccination. They were then monitored for 7 days and tested for infection. No severe side effects or malaria infections developed. Those who received higher total dosage of the vaccine had a greater immune response. The outcome of these and many other research endeavors suggest that the malaria vaccine development research is on track to meet the 2015 mark. This will truly be a breakthrough in science and save millions of lives annually.

**(Contributed by: Prof. A.D. Urhekar and Mr. Gurgeet Singh, Department of Microbiology, MGM Medical College, Navi Mumbai).**

# Research News

## Urine Test Diagnoses Eye Disease

A recent study conducted by scientists finds that a patient's urine can be linked to gene mutations that cause retinitis pigmentosa, or RP, an inherited, degenerative disease that result in severe vision impairment and often blindness. The findings appear online in the Journal of Lipid Research.



There are currently no treatments for RP, but researchers hope to shed light on potential drug design strategies for treating RP caused by DHDDS mutation. They are now researching ways to manipulate the dolichol synthesis pathway in RP patients with the DHDDS mutation so that the mutated enzyme can still produce enough dolichol-19, which they believe may be important for the rapid renewal of retinal tissue in a healthy individual.

### Disclaimer

The information contained in this newsletter is intended for general information only. The MGM Newsletter Advisory Board members specifically disclaim all responsibility for any liability, loss or risk, personal or otherwise, which is incurred as a consequence, directly or indirectly, of the use and application of any of the material in this newsletter.

## Infections in Newborns Linked to Later Behaviour Problems

Inflammation in the brain keeps cells from accessing iron that they need to perform a critical role in brain development, explain researchers exploring the link between newborn infections and later behaviour and movement problems.

Specific cells in the brain need iron to produce the white matter that ensures efficient communication among cells in the central nervous system. White matter refers to white colour bundles of myelin, a protective coating on the axons that project from the main body of a brain cell.

The scientists induced a mild E. coli infection in 3-day-old mice. This caused a transient inflammatory response in their brains that was resolved within 72 hours. This brain inflammation, though fleeting, interfered with storage and release of iron, temporarily resulting in reduced iron availability in the brain. When the iron was needed most, it was unavailable, researchers say.



"What's important is that the timing of the inflammation during brain development switches the brain's gears from development to trying to deal with inflammation," said Jonathan Godbout, associate professor of neuroscience at The Ohio State University and senior author of the study. "The consequence of that is this abnormal iron storage by neurons that limits access of iron to the rest of the brain."

*The research is published in the Oct. 9, 2013, issue of the Journal of Neuroscience.*

# Laughter Medicine

## Funny Facts

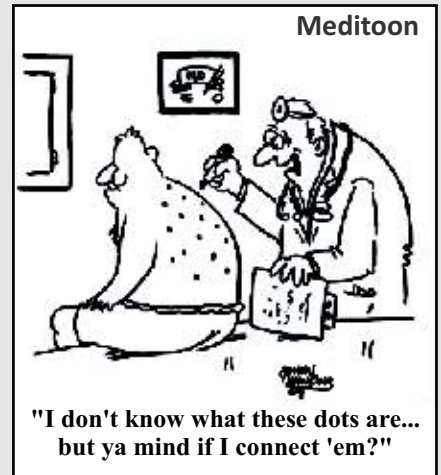
Humans can make do longer without food than sleep. While you might feel better prepared to stay up all night partying than to give up eating, that feeling will be relatively short lived.

Provided there is water, the average human could survive a month to two months without food depending on their body fat and other factors. Sleep deprived people, however, start experiencing radical personality and psychological changes after only a few sleepless days.

The longest recorded time anyone has ever gone without sleep is 11 days, at the end of which the experimenter was awake, but stumbled over words, hallucinated and frequently forgot what he was doing.

## Doc In Situ

A mechanic was removing a cylinder head from the motor of a Harley motorcycle when he spotted a well-known heart surgeon in his shop. The surgeon was there, waiting for the service manager to come and take a look at his bike. The mechanic shouted across the garage, "Hey, Doc, can I ask you a question?" The surgeon a bit surprised, walked over to the mechanic working on the motorcycle.



The mechanic straightened up, wiped his hands on a rag and asked, "So Doc, look at this engine. I open its heart, take valves out, fix 'em, put 'em back in, and when I finish, it works just like new. So how come I get such a small salary and you get the really big bucks, when you and I are doing basically the same work?"

The surgeon paused, smiled and leaned over, and whispered to the mechanic... **"Try doing it with the engine running!"**

# MGM 'Parivarik'

## A Doctor's recipe

The newsletter "MGM NEWS" is published quarterly. The staff and students of the MGM Institute of Health Sciences and its associated colleges and institutes are invited to send their contributions and/or suggestions for consideration of publication in the next issue.

I also take this opportunity to express gratitude to Mr. Sunil Tatkar, Founder and Managing Partner, Valurevolution™ for his valuable contribution, including creative thinking, editing and artwork, for the MGM NEWS. I also thank Mr. Percy A. Daruwalla, Proprietor, Varun Enterprises for the printing job.

**Chander P. Puri**  
Chief Editor  
[chander.puri@rediffmail.com](mailto:chander.puri@rediffmail.com)

The following recipe has been shared by Dr. Padma Chavan, Director, MGM School of Biomedical Sciences: A healthy sandwich

1. Select healthy bread such as a high-fiber whole wheat bread.
2. Find high quality protein such as in peanut butter or vegetable patties.
3. Consider harder cheeses that have low fat and enough calcium.
4. Add non fat salad dressings.
5. Slide in a lot of vegetables including tomatoes, cucumber, onions and lettuce.
6. Toast the bread slices; assemble your sandwich, cut in four diagonal sections or six cross sections.

