MGM
Mahatma Gandhi Mission

MGM Institute of Health Sciences
MGM Campus, Sector 1, Kamothe,
Navi Mumbai 410209, Maharashtra, India
Website : http://www.mgmuhs.com
Email : pvcr@mgmuhs.com
Telephone : +91 22 27432471 or 27431091
Facsimile : +91 22 27431094

"Your Health Is Your Real Wealth and not pieces of gold and silver". – Mahatma Gandhi

MGM NEWS

'Dhaan, Tan, Maan Ki Baat'!

INSIDE THIS ISSUE

At the local 'body' elections just announced, amidst the dozens of candidates in the fray, the contest was primarily between three strong contestants – Tan, Maan and Dhaan. Taan was born and brought up literally on the streets by adopted guardians – musclemen, who had tormented him into becoming a physically strong being that he was today – a street smart bully of sorts, irrational and noisy in his demeanours, yet popular amongst the masses due to his strength and resourcefulness. Maan on the other hand, was a relatively quite chap – a thinker of sorts, who had travelled a long journey of degrees and academic achievements, very well respected amongst the majority of educated middle class. And then there was Dhaan – born to rich parents, never had the opportunity to choose experiencing the world outside a protective cocoon, finding himself abruptly exposed to the clamour for survival outside – when the youth within him rebelled to break the golden shackles of wealth and aspired to breathe the fresh air around.

As the election day approached, each of them left no stone unturned in their efforts to win. While Tan seemed to be have conquered the streets, Maan, it seemed was slowly catching up, with his hidden popularity amidst the middle class swelling up into a wave. In stark contrast, Dhaan seemed to happy to be simply buying out his lead into the race, by cheekily conducting a grandiose campaign, delegated to popular public figures, who quite unabashedly screamed their support in return for favours unknown. The stage was all set on election day. As the day progressed, the hordes of people queuing up to vote kept curling longer than expected – adding to the excitement of the people and the reporters and analysts covering the event.

And then, all hell broke loose as the unexpected happened. In a hurriedly called press conference, Tan - Maan – Dhaan, together announced that irrespective of whoever amongst them won, they had made a pact that they would hence forth work together as a team and pool together their combined talent to help build their local body into one of the finest example, that people all over the world would want to emulate. Soon, the curls outside the voting booths all made way to the radio sets, or television screens or simply the live streaming data on their mobile handsets. What the heck? Wasn't this a self-serving betrayal of the highest order by these three candidates?

After all the noise died down and the emotions got under control, Tan-Maan and Dhaan, stood there, hands joined in unity and proclaimed – they had realized that the optimal growth and well being of our local body is not singly due to each of their talents and skills, but rather in their healthy synergic combination. We all had enough talent amongst us or within our supporters, what was required to be elected unanimously was a change in our attitude – and that's what we did – absolutely in self-serving interest –for the growth, well-being and prosperity of our own local body!

Vice Chancellor's Voice

Dr. Sudhir N. Kadam
Vice Chancellor

The roll out of the new year 2015 was quite an action packed one at MGMIHS.

It began with MGMIHS Kamothe playing host to an interactive workshop on "Global Perspectives On Medical Education and Its Relevance To India", immediately followed by MGMIHS, Aurangabad hosting the "International Convention on Challenges in Medical Education".

It was my privilege to be amidst the rainbow of perspectives that each of the participants, including a large number of dignitaries from across the world, shared at to these two events, leading to an enriching experience of shared views on these two important aspects. I do hope that the learning's and benefits of these two events will percolate down to everyone at MGMIHS.

I take this opportunity to extend my sincere appreciation to one and all who contributed in making these events memorably successful.

Sincerely,

Ek Kadam, Ek Saath - Ek Dream Education Ki Baat!

Doctors are also members of the society but with special obligations to all fellow human beings. Unlike any other profession, they, on the day of graduation, swear upon a number of healing Gods to apply their knowledge and experience for the benefit of the sick person. They have the enormous privilege of touching and changing lives. Their profession demands that they are intelligent, knowledgeable, experienced and most importantly compassionate and caring. They are able to absorb the pain and anxieties of the patients who come to them with hope of being relieved of the physical and emotional suffering. Communication skills are the most crucial component of their profession. Their integrity is without question. They are expected to work in a team and call in colleagues when their skills are needed for a patient's recovery. They are inspiring, always learning and imparting knowledge of the profession with those who are to follow. This is what a medical profession and being a good doctor is all about.

In my opinion, there are many qualities that shape a good doctor, the three basic qualities that are simple yet vital are:

***Observe*-ability:** A good doctor has to intrinsically possess this vital quality of observation, not just with his eyes, but also through listening attentively and feeling his patients discomfort and pain sensitively. Having this ability means that each little sign and symptom is observed, and not overlooked or missed by oversight, and recorded.

***Understand*-ability:** A good doctor has to understand not just the immediate symptoms but also be able to understand the entire history and background to his patient's discomfort and illness as well as the health history of his immediate family as well. Just as prevention is better than cure, a thorough understanding of the illness is vital for accurate diagnosis of its root cause(s). Further, in today's world a doctor is also required to understand the ethics and morals associated with the diagnosis as well as the financial and sometimes social implications of the same.

***Build*-ability:** A good doctor has to literally build his own mountain of knowledge bit-by-bit every single day of his educational and practicing career and stay on top of it as well. He should be actively engaged in research and be an advocate of evidence-based decision making. It is from this enriched mountain of knowledge that a long lasting permanent treatment plan can be built.

I am well aware that most amongst us 'know' this, but probably haven't fully comprehended their prowess, strangely owing to our hectic schedules that have got more busier since we ignore or short-circuit these very abilities in our rush. The difference between now and that good old lost doctor is perhaps in our attitude to habitually string these three vital ingredients together harmoniously, while delivering health care services.

I am sure that each one of you has a long list of characteristics you would want to be associated with 'shaping a good doctor'. I am equally sure that each one amongst you aspires to reinvent the good doctor in our society. What I would, however, like to encourage each one of you to do is to actually do it! That is, not put your list on your wall or closet, but dissolve its virtues into your blood stream and mindsets and practice it daily. The opportunity of being the change you wish to see is with you!

An International Convention

Dr. Ronald Harden
Post Graduate Dean & Director
Centre for Medical Education,
University of Dundee Scotland

What impressed me about the ESME Course was the great enthusiasm and commitment by the participants. There was a very energetic debate on some of the issues with participants taking different stances. What I found particularly impressive was that the MGM Vice Chancellor and senior professors stayed for the whole day of the workshop and actively took part in the discussions. This sends out an important message to staff.

My own presentation at the meeting was on the "Future of Medical Education". Having described various options, I asked the audience to vote with a simple coloured card system as to which development I mentioned should be given priority and which was most likely to be achieved in the next 10 years. When not presenting I was kept well fed in the front row with local fruits. There was huge interest in the AMEE stand at the meeting and the various papers and hand outs on display proved popular, including the "Updates" on a range of topics that highlight the sources available on MedEdWorld.

The leading oration by Dr. Hegde on the final day of the meeting was provocative and challenging. Standing at the front of the stage he engaged the audience for

Challenges In Medical Education

MGM Medical College, Aurangabad of the MGM Institute of Health Sciences organised an International Convention on Challenges in Medical Education from 9-11 January 2015. Over 600 delegates from all over India and abroad had participated in the convention. A rich scientific programme, participation of highly accomplished academicians and scientists and lively discussion during the meeting including interactive workshops made the event memorable and a scientific treat. Thanks to a team of highly committed faculty at MGM Medical College Aurangabad, including Doctors Shroff, Talib, Suryawanshi, and Khan, for their thoughtful planning and meticulous execution of the event. Dr. P.M. Jadhav was the driving force for the convention.

Prof. Ronald Harden, Postgraduate Dean, and Director, Centre for Medical Education, University of Dundee Scotland who has wide interest in undergraduate, postgraduate and continuing medical education and is committed to developing new approaches to curriculum planning and to teaching and learning, had inaugurated the Conference, conducted workshops on medical education and delivered a number of lectures during the meeting. On return Dr. Ronald Harden in his Blog - "India Adventures", discusses his trip to India for two events and his reaction of the student's participation from the new ESME Student Online course as follows:

Two things have particularly impressed me this month. The first was the huge enthusiasm for medical education we experienced earlier this month in India and secondly the enthusiasm of medical students who have joined our ESME Student Course this week.

We ran a workshop Global Perspectives in Medical Education at the MGM Institute of Health Sciences. Very impressive were the Vice Chancellor - Dr. Sudhir Kadam, and the Pro-Vice Chancellor - Dr. Chander Puri. About 200 participated in the workshop. We then moved on to Aurangabad to participate in the "International Convention of Challenges in Medical Education". This included more than 600 participants from different parts of India. Sixty participants took part in our ESME Course and John Dent, Pat Lilley, Madalena Patricio, and Nivritti Patil acted as facilitators. Niv also played a major role with the arrangements for our visit to India and is clearly well respected in the region. We are trying a hybrid model with much of the course delivered face-to-face in India and a final module to be delivered online in February. It will be interesting to see how this works in practice and how many choose to go on to complete the assignment for the AMEE-ESME Certificate in Medical Education. We were asked to run a repeat course at the end of the conference, but were unable to do so as our travel arrangements had already been made.

The meeting itself had a full programme with international and local speakers. A flame was lit on stage as in the photograph to mark the opening of the conference. International speakers included Robert Carrol

an hour without any notes and without any PowerPoint slides. A key message for me was that we should understand our limitations as a doctor. He cited a number of papers, including journal, volume, and page numbers to support his argument. Lawrence Sherman tracked down one of his references from Harvard Medical School in Science Daily, "Startling benefit of cardiology meetings: Outcomes better when cardiologists away?". It was reported that high risk patients with certain acute heart conditions are more likely to survive if they are admitted to the hospital during national cardiology meetings when many cardiologists are away from their regular practice.

It was great seeing and hearing from students from around the world talking about their experience and hearing how they were able to engage in different ways in teaching in their medical school. It is exciting to work with students in this way.

and Lawrence Sherman from the USA and Khalid Bin Abdulrahaman from Saudi Arabia, in addition to the AMEE team. Dr. Lele from Mumbai talked about the use of computers in education. He has been instrumental in much of the early work in relation to computers in medicine and has written extensively on the subject. He has also produced a book on clinical medicine based on the presenting problems and kindly presented me with a copy. I was interested to see how the 55 problems, which were the basis for the book, relate to the 104 clinical presentations we have as a basis for the curriculum in Dundee and the Calgary list of presentations. Some of his problems are more generic.

The floors in the institution were beautifully decorated with flour sand paintings. I had not seen this technique before and it was amazing to see the skills of those involved. In the evenings we were well entertained and the photograph is of myself with Vice Chancellor, Dr. Kadam at one dinner.

The level of engagement and interaction was tremendous and much more than we see normally with the ESME Courses. I can only hope that the enthusiasm is maintained, but I am tremendously optimistic!

A Good Omen For Abdomen

Dr. Ashok Kalyanshetti
Head, Department of Surgery
MGM Medical College and Hospital
Delivering his opening address..

CME On Acute Abdomen

Prof. Dr. Ashok Kalyanshetti, Head, Department of Surgery, MGM Medical College and Hospital organized a CME on Acute Abdomen on 2nd January, 2015 in which over 100 students and faculty members had participated. Highly distinguished faculty had delivered lectures covering various aspects of the theme of the meeting. The programme was inaugurated by Dr. Chander Puri, Pro Vice Chancellor. He gave a brief in depth introduction and importance of the subject.

The acute abdomen can be like opening Pandora's box. Careful physical exam, history taking, utilizing laboratory tests and radiographic imaging and having a high index of suspicion are key to accurate diagnosis and decreased mortality. The term acute abdomen represents the rapid onset of severe symptoms that may indicate potentially life-threatening intra-abdominal pathology that requires urgent surgical intervention.

Abdominal pain is a frequent emergency room complaint, accounting for up to ten percent off all ER visits. As common as it is, any delay or error in

"The acute abdomen can be like opening Pandora's box. This term (acute abdomen) represents the rapid onset of severe symptoms that may indicate potentially life-threatening intra-abdominal pathology that requires urgent surgical intervention."

Quoting Acute Abdomen in Rhyme..

'The abdomen is like a stage,
Enclosed within a fleshy cage,
The symptoms are the actors who,
Act often with consummate art,
The major or the minor part;
Nor do they usually say,
Who is the author of the play.
That is for you to try and guess,
A problem which, I must confess,
Is made less easy from the fact,
You seldom see the opening act,
And by the time that you arrive
The victim may be just alive.'

'The leading or principal symptoms are; Distension, rigidity, vomiting, pain.'

Diagnoses of an 'acute abdomen' in small children, elderly, immuno-compromised patients and pregnant women can be extremely challenging. This cohort of patients may have atypical presentations and may lack physiological responses that can easily mask life-threatening disease. Delayed diagnosis can increase mortality exponentially in this group of patients.

The differential diagnosis is vast and time is usually limited in true surgical emergencies. Having a high index of suspicion is key to managing a patient with an acute abdomen. Ruling out 'life threatening' conditions must be the first step (for example, ruptured aortic aneurysm, mesenteric ischemia or perforated bowel). Once a life threatening condition has been ruled out the physician should proceed with the most likely diagnosis and then finally with the zebras (or rare diseases).

It is not surprising that in some children reporting with abdominal pain may have acute pancreatitis rather than perforated appendicitis.

diagnosis can have catastrophic effects with increase in patient morbidity and mortality. It takes a thorough history, careful physical examination, broad differential diagnosis and the ability to recognize life threatening disease processes to differentiate a true surgical abdomen from abdominal pain that could be otherwise managed medically. Radiography using CT scans and ultrasound has greatly improved diagnosis and triage in the ER. Let's look at a few scenarios:

Scenario 1 - A 23-year-old lady presents to the emergency room with complaints of right lower quadrant abdominal pain, which started four hours ago. It started in the peri-umbilical area and is now localized to the right lower quadrant. This is accompanied by low grade fever, nausea and vomiting. On physical exam she is tender in the right lower quadrant. A typical scenario for most physicians, acute appendicitis being their first diagnosis. However a ruptured ovarian cyst or torsion of the ovary need to be in the differential diagnosis.

Scenario 2 –A six-year old boy is brought to the emergency room by his parents. He has been complaining of severe diffuse abdominal pain for about three hours. The pain started about twelve hours ago, associated with nausea and fever. He has stopped eating or drinking and is inconsolable. He points to the middle of his abdomen trying to describe his pain. He is distended, has a silent abdomen and is tender in all four quadrants on physical exam.

The differential diagnosis for this scenario needs to be robust and physical examination needs to be sound. I will let you all think about the differentials for a while.

Scenario 3 – An eighty-year old grandmother is brought to the ER by her kids. She has been vomiting incessantly for three days, with no oral intake. She appears confused and agitated. She was in her usual state of health four days back, however stopped passing flatus and has not had a bowel movement in over a week. On physical exam her abdomen is distended, diffusely tympanic and non-tender to palpation. She is tachycardia and hypertensive.

Going back to the six-year old boy with abdominal pain – he was taken to the operating room with a diagnosis of perforated appendicitis. His final diagnosis was acute pancreatitis. While the eighty-year old grandmother had massive free air on an abdominal x-ray, perforated colon cancer on exploration.

In young ladies a typical scenario of acute appendicitis could actually be ruptured ovarian cyst or torsion of the ovary. Similarly, massive free air on an abdominal x-ray, could actually be due to perforated colon cancer on exploration

In summary, the acute abdomen can be like opening Pandora's box. Careful physical exam, history taking, utilizing laboratory tests and radiographic imaging and having a high index of suspicion are key to accurate diagnosis and decreased mortality.

Editorial

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

Embracing Change – The Only Constant

In the last two decades, our society has undergone a sea-change. These years have been revolutionary in terms of information technology and also with regard to advancements in medical technologies for disease prevention, diagnosis and therapeutics. Patients, especially in urban areas, have several options in terms of health care providers and now they make informed choices.

Those years are almost gone-by when doctors were revered almost like "Gods". Patients are now more inquisitive and more aware. This requires the "new age doctors" to be more humane in their approach. This also requires them to have better communication and time-management skills.

Changing Course Of Medical Education

I strongly believe in the quote by John Dewey that "education is not preparation for life, education is life itself" and this applies probably more to clinicians than to those who are in other professional streams. Each patient is like a humanized book that can teach a lot to the treating doctor, including many nuances which never make their way in printed or digitalized form to a text book. Success in medical profession heavily relies on the receptivity to learn continuously. At the same time, medical education received in the formative years plays a very critical role in shaping up the clinical skills of young medical graduates. Quality of medical education can indirectly reveal a lot about the health care system of a nation. It has significant ramifications as it can positively or negatively affect the society at large.

Recognizing this, at MGM we are making stringent efforts to ensure that very sound training is imparted to our medical students. Our doctors are indeed world-class and have been contributing magnificently despite all the odds. However, now it is time we revisit the existing system for medical education.

We are revisiting whether our existing system of medical education in formative years is sufficient or its needs corrective measures or it requires total revamping, given that we are now living in a different era. A middle path can be that we retain those points which are relevant even today and simultaneously introduce new teaching and learning tools. We should debate on the appropriate strategies to equip fresh graduates with better clinical skills. We are debating whether the teaching in clinical context, OPD and ward postings, should be initiated from the first year itself. In addition, advantages of introducing a qualifying test to evaluate clinical skills before awarding the degree also deserve to be considered.

Now coming to the quality of medical education, should we have a separate cadre for medical teachers who are trained to teach and are ready to dedicate sufficient time to teach. While there is no denying the fact that active engagement in clinical settings will bring in wider and real life perfectives, it should also be kept in mind that teaching requires a distinct passion and aptitude. We should also find out ways to monitor the quality of teaching across different medical colleges. I also believe that teachers should also be continuously trained in various state of art teaching skills. Teachers should also be periodically evaluated by their students for their performances.

Since long it has been felt that we need to have not only good doctors but also clinical scientists with research aptitudes, those who not only treat but also understand the 'diseases'. This entails that the medical education is made more inclusive by introducing new disciplines like immunology, genetics, biotechnology, research methodologies, economics, communication and managerial skills.

Bio Signals – Acquisition & Processing

National Workshop

Bio-Medical Engineering Department (BME), MGM's College of Engineering & Technology (MGMCET) and Biomedical Engineering Society of India (BMESI), jointly organized National Workshop on Biosignals: Acquisition & Processing on 24th-25th January 2015.

Dr. K. G. Narayankhedkar, Chancellor, MGM Institute of Health Sciences & Director General, MGM's Group of Engineering Colleges, inaugurated the workshop with lighting of traditional lamp. A book entitled "Bio-signal: Acquisition and Processing" edited by Dr. Jindal, Dr. Warrier, Dr. Bhat and Dr. Patil and authored by several researchers was also released on this occasion.

Dr. S.K. Narayankhedkar – Principal MGMCET, releasing the book "Bio-signals: Acquisition& Processing"

Aside the keynote by Dr. Jindal, some other topics covered in the workshop were:

1. Application of wavelet transform for detection of various peaks in ECG signal and removal of respiratory artefacts using wavelet transform;

2. Adaptive noise cancellation for removing mains interference and motion artifacts during stress cardiography; and

3. Time and frequency domain processing of E.C.G. for deriving heart rate variability by Prof. U.R. Bagal and Prof. Abhishek Patil.

Further, two hands-on experience sessions were conducted and focused on ECG acquisition by the participants, detection of R-wave using Pan Tompkin's algorithm as well as wavelet decomposition and de-noising the signal using wavelet transform and adaptive noise cancellation.

The organizers of the workshop expressed gratitude to Mahatma Gandhi Mission Trust and Bio-Medical Engineering Society of India for supporting the event.

Keynote Highlights

In the keynote address, Dr. Jindal unfolded the history of Bio-electricity to 0046 AD, when the arthritis pain of an old patient got relieved by falsely stepping on a black torpedo, and that discovery is very much in use even today - in the form of Transcutaneous Electric Nerve Stimulator. He introduced resting potential, action potential and bio-signals generated by different parts of the body like electro-cardiogram (ECG), electro-myogram (EMG) and electro-encephalogram (EEG).

He then went on to describe the methods of acquisition of the electrocardiographic (ECG) signals. Skin-electrode interface, electrode potential including half cell potential, and mains interference were described in detail, which are main obstacles in acquiring the bio-signals. The invention of differential amplifier by a life science researcher and its indispensability in present day instrumentation was highlighted. Unique changes appearing in the ECG in the presence of various cardiac disorders were briefly touched upon to highlight the importance of signal processing.

He emphasized the importance of patient safety and described various standards and methods for the same.

Hands-On Experience Sessions

Focus of the workshop were two sessions on "hands-on experience" conducted by Prof. Preeti Athavale, Prof. Aarti Bokade, Prof. Mamta Rajput and Ms. Sadhana Mandlik (Scientist from BARC).

Hands-on sessions were fully exploited by more than 30 faculty members and PG students from various engineering colleges.

PICU – Born for a Critical Child..

Dr. Jeetendra Gavhane
PICU In charge
MGM Medical College & Hospital

We recognise that children are the backbone of healthy society. In fact future of sustainable development begins with safe-guarding the health of every child. Unfortunately in spite of this realisation nearly 1 million neonates die before completing the first 4 weeks of life , 1.8 million before reaching the first birthday and almost 2 million die before attaining the age of 5 yrs.

Under nutrition among children alone contributes to one third of the children death as they may enter vicious cycle of recurring illnesses and faltering growth and irreversible damage to their cognitive development. Acute respiratory infections , diarrhoea , measles and malaria are major infective diseases contributing to children mortality.

The root cause of this high mortality and morbidity in children are poverty , illiteracy ,and limited affordable health services available to children. MGMIHS and its associated hospitals are making great strides to make the critical services more available, and affordable to the needy child. Establishing paediatric intensive care unit at MGM Hospital ,

A New Beginning

A paediatric intensive care unit, usually abbreviated to PICU, is an area within a hospital specializing in the care of critically ill infants, children and adolescents. In past there were many centres taking care of the critically ill children in adult care unit. However , there were two specific issues in combining adults and children that , children come in all different sizes and shapes and are not just small adults but have different physiology too and potential of psychological trauma to a small child in a busy unit managing adults and children.

The first organised paediatric Intensive Care was established in 1991 at Kanchi Kamakoti Childs Trust Hospital, with 7 beds with separate team of doctors and nurses. The first Paediatric Advanced Life Support course recognised by the American Heart Association, American Academy of Paediatrics and the Indian Academy of Paediatrics was conducted at Chennai. Thereafter, the PALS course is being conducted regularly in India, which has created lot of awareness and enthusiasm among the paediatricians in the concept 'Critically Ill Children Can Be Saved'. In 1997 the intensive care chapter of Indian Academy of Paediatrics was formed.

Dr. S. N. Kadam, Vice Chancellor, MGMIHS Inaugurating the Peadiatirc Intensive Care Unit

Keeping this vision, PICU of MGM Medical college was set up in 2007 with the available amenities as “Journey of thousand miles starts with a single step”. Dr. N. N. Kadam, Director of MGM Trust helped very much in the development of PICU. With the success of small unit he thought of modernising this facility to make it more available, accessible, and affordable to the poorest of the poor child of society & helped in setting a new State OF Art PICU.

Kamothe is a step in that direction as it will improve the outcome of critically ill child.

However it's not the machine , it's the man behind the machine which makes the difference, in this PICU there is a dedicated team of intensivists and trained PICU Registrars and nursing staff who can manage all adversities effectively.

Every year PALS course and Basic paediatric intensive care course is conducted for the post graduates. Dr. Nitin Kadam, HOD Paediatrics was hopeful of starting a post doctoral Fellowship course in paediatric intensive care in near future.

On 17th March 2015, Honourable Vice Chancellor , MGMIHS, Dr. S. N. Kadam, in the propitious presence of Guest of Honour, Dr. Chander Puri, Dr. Kaul, Dr. Salgotra and Dr. Narshetty reinforced the high quality Standards of paediatric health care at MGM Hospital , by inaugurating PICU in hospital building.

Now MGM Medical College and Hospital has established an advanced paediatric intensive care unit which will dramatically improve the outcome and long term prognosis of critically ill children. Paediatric Intensive Care Unit is a state of art & is surely a blessing for the masses of Raigad district which is a rural district and majority of the population falls under poverty line. With scarcity of good health care services for children, this unit will be a boon to the society. It constitutes 8 beds, 5 ventilators and is equipped with all modern gadgets like cardiac monitors, infusion pumps, syringe pumps, portable in-house x-ray etc. This unit also boasts two bedded isolation sections, where patients having sepsis, tetanus or any other condition requiring isolation can be managed effectively.

Global Scare

Dr. Anahita Bhesania Hodiwala
Professor, Department of Microbiology
MGMMC, Navi Mumbai

Swine Flu

Swine influenza, also called pig influenza, swine flu, hog flu and pig flu, is an infection caused by any one of several types of swine influenza viruses. Swine flu is a respiratory disease caused by influenza viruses that infect the respiratory tract of pigs. Swine flu viruses may mutate (change) so that they are easily transmissible among humans.

Current Scenario in India

An outbreak of Swine flu (H1N1) was reported in India in 2009, and which is seen to be back in late 2014 and early 2015. The instances of Swine Flu substantially increased to five year highs with over 10,000 cases reported and 660 deaths in India. The states reporting the highest number of cases and deaths are Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Delhi, and Telengana. The circulating strain of influenza being the same, it was the un-mutant strain that caused a global pandemic in 2009. As of March 19th,2015 Swine flu has affected 31,151 people, claiming over 1,841 lives.

History of Swine Flu

Swine influenza was first proposed to be a disease related to human flu during the 1918 flu pandemic, when pigs became ill at the same time as humans. The first identification of an influenza virus as a cause of disease in pigs occurred about ten years later, in 1930. For the following 60 years, swine influenza strains were almost exclusively H1N1. Then, between 1997 and 2002, new strains of three different subtypes and five different genotypes emerged as causes of influenza among pigs in North America. In 1997–1998, H3N2 strains emerged. These strains, which include genes derived by re-assortment from human, swine and avian viruses, have become a major cause of swine influenza worldwide.

Why is Swine Flu virus now infecting Humans?

The influenza viruses (types A, B, C) are enveloped RNA viruses with a segmented genome; this means the viral RNA genetic code is not a single strand of RNA but exists as eight different RNA segments in the influenza viruses. A human (or bird) influenza virus can infect a pig respiratory cell at the same time as a swine influenza virus; some of the replicating RNA strands from the human virus can get mistakenly

enclosed inside the enveloped swine influenza virus. Various combinations of RNA segments can result in a new subtype of virus (this process is known as antigenic shift) that may have the ability to preferentially infect humans but still show characteristics unique to the swine influenza virus.

Symptoms of Swine Flu

Symptoms of swine flu are similar to most influenza infections: fever (100°F or greater), cough, nasal secretions, fatigue, and headache, with fatigue being reported in most infected individuals. Some patients may also get sore throat, rash, body aches, headaches, chills, nausea, vomiting, and diarrhoea. The incubation period from exposure to first symptoms is about one to four days, with an average of two days. The symptoms last about one to two weeks and may be longer if the person has a severe infection. Some patients develop severe respiratory symptoms and need respiratory support (such as a ventilator to breathe for the patient). Patients can get pneumonia (bacterial secondary infection) if the viral infection persists, and some can develop seizures. Death often occurs from secondary bacterial infection of the lungs; appropriate antibiotics need to be used in these patients.

Editor Requests and Credits

The newsletter, “MGM NEWS" will be 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 contributions, including creative thinking, editing and artwork, for the MGM NEWS.

Cause of Swine Flu

The cause of the 2009 swine flu was an influenza A virus type designated as H1N1. In 2011, a new swine flu virus was detected. The new strain was named influenza A (H3N2) v. Another virus termed H3N2 (note no "v" in its name) has been detected and caused flu, but this strain is different from H3N2v. In general, all the influenza A viruses have a structure similar to the H1N1 virus; each type has a somewhat different H and/or N structure.

Lab Diagnosis of Swine Flu

RT-PCR (Singleplex and Multiplex) molecular assay is the test of choice for diagnosis of novel H1N1 influenza virus. It is the most sensitive and specific Government approved test available. Government approved centre's for diagnosis in Maharashtra are: NIV (Pune), Haffkine Institute (Mumbai), Kasturba Institute (Mumbai),IGMC (Nagpur) and private laboratories like SRL Religare and Metropolis having various collection centres across the state.

Treatment and Management of Swine Flu cases

Treatment is largely supportive and consists of bed-rest, increased fluid consumption, cough suppressants, and antipyretics and analgesics for fever and myalgias. Severe cases may require intravenous hydration and other supportive measures. Antiviral agents like Oseltamivir and Zanamavir may also be considered for treatment or prophylaxis.

Prevention and Prophylaxis

Isolation of the suspected cases and following universal safety precautions go a long way in controlling the spread of infection. Two vaccines are available for current swine flu outbreak. Live attenuated vaccine (Nasal Spray) and Trivalent inactivated Vaccine (IM injection).The vaccine takes 2 weeks to work and gives protection for about 12 months. Low levels of protection may persist for another year after. For ongoing protection a new vaccine is required each year.

Department of Microbiology, MGM Medical College and Hospital, Navi Mumbai took an initiative to organize a CME on 2nd April, 2015 to update all the medical and paramedical staff of MGM Hospital on the current Swine Flu Pandemic.

The speakers invited to deliver plenary lectures and steer the discussion included eminent experts like Dr. Shamma Shetye, (Head of Microbiology and Molecular Biology and Dy. Chief of Lab services, Metropolis Laboratories) as the guest speaker, Dr. Seema Anjenaya (Head of Community Medicine MGMMC, Navi Mumbai) and Dr. U.N.Deshpande (Associate Professor, Department of Medicine, MGMMC, Navi Mumbai). The CME was attended by approximately 150 faculty members and resident doctors.

The Generic Drugs

Mr. Rajesh Kumar Suman
Ph D Scholar (Medical Pharmacology)
Department of Pharmacology
MGMMC, MGMIHS

"Generic drugs offer significant savings to consumers. The cost of generic drugs averages 40 to 60 per cent below the cost of the brand name drug."

An Overview

- Nowadays Health care expenses are increasing day by day. and more than half of health expenses are due to Drug cost.
- The generic drugs are less expensive as compared to branded drugs as generic manufacturers do not have the investment costs of the developing of a new drug.
- Generic drugs have the same quality, strength, purity and stability as brand name drugs.
- Generic drug could play important role in minimization of health care cost.
- In India, a significant majority of the population belongs to the poor socio-economic strata.
- They may be non-compliant to therapy on long term basis because of the high drug cost.
- The practice of generic drug prescription could reduce the health care burden for the patients and protects the poor people who are unable to buy costlier branded drugs & also reduce the monopoly of pharma companies.

A Cost Effective Alternative To Brand Drugs

Health care expenses are increasing day by day and more than half of health expenses are due to the cost of drug. A generic drug is identical, or bioequivalent, to a branded drug in dosage form, safety, strength, route of administration, quality, performance characteristics, and intended use. Generic simply means that the drug is not sold as the brand name. The use of generic drugs is now widely accepted. They are commonly prescribed by physicians and dispensed at hospitals. While manufacturing generic drugs, the drug manufacturers use the same active ingredients and are shown to work the same way in the body, they have the same risks and benefits as their brand name counterparts. Also, generic drugs have the same quality, purity and stability as brand name drugs.

The generic drugs are less expensive as compared to branded drugs as generic manufacturers do not have the investment costs of the developing of a new drug. New drugs are generally developed under patent protection. Both branded and generic drugs are manufactured by adhering to International standards. Brand name drugs are usually given patent protection for 20 years from the date of submission of the patent. This provides protection for the innovator of such drugs to make good the initial costs incurred by them, viz. in research, development and marketing expenses, to develop the new drug. When patents are nearing expiry, manufacturers usually approach the Government/Drug Control Department to sell generic versions. In the process, the consumers get generic drugs at substantially lower costs.

Patients should become assertive and insist upon the doctors to prescribe generic drugs if available, so that the patient would get the product at the best possible price. Thus the right medication could be given to the patients at the best possible price. Health care costs continue to rise. Therefore, consumers, providers and policymakers need to assess the best way to keep health care affordable without adversely affecting access to quality care. Generic drugs offer an important tool for reducing health expenditure. The Government may also impose compulsory licensing so as to make available the much needed generic drugs. It has been found that prices fall substantially once the drugs are off the patent, if there are generic producers. When more generic producers enter the market, prices drop further.

The physician plays a vital role to determine whether his patient needs a brand name drug or generic drug. The doctor must be knowledgeable about the efficacy, safety, and quality criteria of generic medicines so that they are confident while prescribing generic drugs. Assumptions about the decreased quality of generics could be eliminated by continuing medical education of physicians about drug discovery, development, and regulations. Particularly, the endeavour should be to educate the physicians early in their career about the relevance and advantages of prescribing generic drug. Moreover, generic medicine guidelines should be disseminated to the physicians so that they feel more assured about its usage, ultimately leading to an increase in prescribing generic medicine. It is expected that bestowing knowledge about generic medicine to the physician will expedite the transfer of awareness to the patients.

Smoking Kills Self And Others Too!

Mr. Sunil Tatkar
Founder & Managing Partner
Valurevolution™

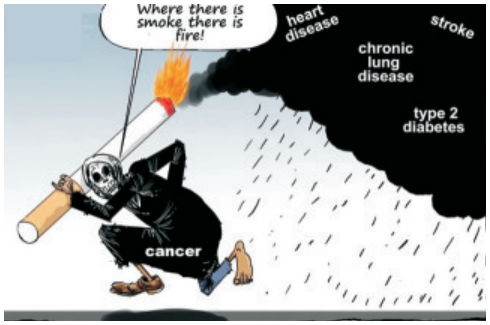
ENDS – Ends Life, perhaps!

ENDS (e-cigarettes) or Electronic Nicotine Delivery System too are catching up, with usage amongst teenagers doubling year on year and its market size expected to bloom to about $ 10 billion by 2017, eventually overtaking its traditional smoking cousin.

ENDS is a relatively recent phenomena and time will provide evidence. The differentiation of e-cigarettes being 'safer' than cigarettes is perhaps misleading just as there can simply not be good and bad terrorists! ENDS does use nicotine that poses a risk through inhalation, overdose by ingestion or through dermal contact.

The Nicotine – Tar – Carbon Monoxide Death Trap

Tobacco was the first crop to be grown for money in North America about 400 years ago. It's most popular usage grew primarily in two forms – chewable tobacco and cigarettes. Ironically, the new age 'smart' forms of cigarettes are aptly called ENDS – Electronic Nicotine Delivery System.



It is said that there is no smoke without fire. At the epicentre of the smoking epidemic is a death trap for the insatiable smokers. Here is a peek into some of the constituents of this dangerous trap, and their ill-effects across both forms of smoke sticks:

- Aside engulfing the smoker into a glamorized surreal vortex of self-infliction, smoking gradually injects toxicants - Carcinogen, Respiratory, Cardiovascular, Reproductive or Developmental and Addictive. Nicotine – a strong poisonous drug as well as an addictive agent, Tar – an oily material that blackens the lungs, and Carbon Monoxide – a poisonous gas. These are just a few amongst the literally thousands of chemicals in a cigarette smoke, 51 of which have been known to be carcinogenic.

  WHO research estimates that each year, tobacco ends lives of an estimated 6 million people globally –equivalent to half of Mumbai's population! Worse still - 10% of these lives end from passive indirect smoke. Closer home, 9-10% of our estimated 1.2 billion population are smokers. 30 million more Indians having embraced smoking with number of Indian women smokers doubling, in the last thirty years.

- Smoking has been identified as a major risk to all the top four preventable causes of death – Ischemic Heart Disease, Stroke, Chronic Obstructive Pulmonary Disease and Lower Respiratory Infections. These account for 36.1% of preventable deaths, and are projected to grow to about 37% by 2030. It is noteworthy that this excludes Trachea, Bronchus and Lung cancers, which take the percentage above 40%! For those seeking proof – proof enough?

- Don't these shocking facts and statistics qualify every smoker as a potential silent killer lurking amidst our society, risking the life of self and others? Some answers to why the tobacco epidemic continues to thrive globally and locally perhaps lies in:

- The attitude of the overwhelmingly silent non-smoking majority of humanity that overtly or covertly allows the world to continue to make a staggering

Short term effects have also been identified as eye and respiratory irritation due to exposure to propylene glycol. ENDS aerosol is not merely "water vapour' as advertisements claim, and can pose serious threats to adolescents and foetuses aside exposure of bystanders and non-smokers to nicotine and other toxicants.

Excellent health statistics - smokers are less likely to die of age related illnesses.'

6 trillion i.e. 6,000,000,000,000 cigarettes each year, a business that is growing strong year on year – no matter what!

- An underlying strong reluctance in our governance and populace originating from socio-economic reasons. India is the second largest producer of tobacco in the world and provides livelihood to over 25 million Indians. Aside contributing heftily to the government's exchequer by way of excise duty and taxes, it also brings in precious foreign exchange from India's export of tobacco to over 80 countries.

Is there any hope? Yes for sure!

A recent WHO report finds that in 2010, there were 3.9 billion non-smokers aged 15 years and over in WHO member states (or 78% of the 5.1 billion population aged 15+). This number is projected to rise to 5 billion (or 81% of the projected 6.1 billion population aged 15+) by 2025 if the current pace of tobacco cessation continues. Another report by the Institute of Health Metrics and Evaluation finds that smoking amongst India's men has come down from 33.8% of population to 23% of population – a significant 10%+ drop. This seems to be a golden opportunity to bell the smoking cat, by further increasing the spread of awareness and education of the masses, transforming the gullible adolescent and ambitious youth into positive change agents who will energetically and relentlessly increase the breath of fresh 'smoke-free' air. **"Be the change you wish to see in the world", said Mahatma Gandhi." - Quit Smoking!**

MGMCET - Mumbai University Award

Some of the ongoing programs at MGM's CET are:

- Design & Development of Manufacturing Technology for Low of Cost Indigenous Dental Implants;
- Development of Photonic Crystal Waveguide (PCW) Based Multiplexers for Optical Networks and Sensor Applications;
- Development of Micro-Biosensor for Rapid Diagnosis of Tuberculosis;
- Noninvasive Monitoring of Haemoglobin & Blood Sugar; and
- Analysis of ECG Parameters & Report Generation on Android Platform for Tele & Stress.
- Development of Web Based National Database & Portal for Data Acquisition/ Analysis of Physiological

The Bio-medical Engineering Department started Postgraduate course in Bio-Medical Engineering since 2000. Sixty projects in 24 research area have led to good number of publications. Faculty of the department is highly experienced with expertise in diverse areas.

Varsity Recognizes Research Potential of MGM's CET

The Mumbai University has awarded its valuable recognition to MGM's College of Engineering & Technology, Kamothe, Navi Mumbai to enrol students for Ph.D. (Technology) degree in the branch of Bio-Medical Engineering via their letter no. Th/ICD/2014-15/S719 dated 16th January 2015.

Bio-medical Engineering Department has been running Undergraduate courses since 1986. A total of 1395 students have graduated in past 25 years. Getting placement in Campus interview in reputed companies like PHILIPS, IGATE, GE-Healthcare, Infosys and Roche Diagnostics.

The Institution has been engaged in several research programs financially supported by :

1. Board of Research on Nuclear Sciences, Department of Atomic Energy, Government of India.
2. Department of Science & Technology, Government of India.
3. Department of Electronics & Information Technology, Government of India.
4. Department of Technical Education, Government of Maharashtra., and other agencies.

Many technologies developed by the faculty are currently commercialized by the Industries and are locally available.

Wave 2015 - A Report

Dr. S. K. Narayankhedkar, Principal, MGMCET in his address emphasized the importance of Research and Development by the students and faculty of professional colleges and informed R&D activities initiated by the faculty members registered for Ph. D. and through sponsored research projects and through B.E. and M. E. projects.

Dr. K.G. Narayankhedkar, Director General, MGMCET, highlighted the importance of interdisciplinary research and appreciated the efforts being carried out jointly by the MGMCET with Institute of Health Sciences and Dental College in the areas of rapid detection of TB, low cost dental Implants and optical sensors. He further emphasized that every academic institute must endeavour to provide environment for innovative research to highly enthusiastic young students pursuing graduation and post-graduation and opined that we must work on research areas of national importance. Research should deliver products for the masses at affordable cost. Further he stressed upon importance of the theme of the conference and opined that we must address these issues and also work on the solutions before it is too late and particularly in the interest of the generations to come.

Shri R.K Garg, former Chairman and Managing Director, Indian Rare Earths Ltd., and Chairman of Maharashtra Pollution Control Board in his inaugural address enlightened the audience about his 40-50 years of industrial experiences and explained about the role of chemical engineers in the field of Water, Energy and Environment.

He stressed on bringing synergy of various engineering disciplines towards the protection of the environment, while making growth of these two important utilities which are very important not only for human sustenance but also for growth of any country.

The inaugural session concluded with a vote of thanks.

National Conference on Water, Energy and Environment

Chemical Department of MGM's College of Engineering and Technology in association with Indian Institute of Chemical Engineer and Indian National Desalination Association organized WAVE-2015 on 28th March 2014 to nurture student's minds and equip them with skills to face challenges of the academic world and motivate them to pursue exciting path of research.

Mr. N.S.J. Rao, Executive Director, Mumbai Refinery, HPCL lighting the lamp during inaugural session

The national conference aimed to provide an opportunity to bring together innovative academics and industrial experts, engineers, researchers, students, and other professionals in order to address and discuss importance of water, energy and environment. The conference was well attended by eminent academicians, faculty members and students from reputed technical and educational institutions from different parts of the country and representatives from industry.

The program also included Panel Discussion on "THE OPTIONS FOR INDIA'S SUSTAINABLE GROWTH" moderated by Dr. B. Chakravorty, Director, Genesis Membrane Sepratech Pvt. Ltd. The panel concluded that harnessing of each form of energy is important for our country. Based on the location and population, KiloWatt to MegaWatt capacities power plant using solar, wind, fossil, nuclear and fusion forms of energies can be implemented. Geo-thermal and ocean-thermal forms of energies are also being looked into as future sources of energy as these are environmentally benign.

The protection of environment, conservation of water and energy will always be the important aspects while dealing on these subjects. Currently, it is equally important to have water audit like the energy audit in any industry and it is becoming the buzz word for saving these two important utilities and so also the environment. The three 'R' formula of REDUCE, RECYCLE and REUSE is the most important as far as water is concerned.

Souvenir Release At Wave 2015

A total of 27 full length papers on various topic RELATED TO WATER, ENERGY AND ENVIORNMENT received and presented in the poster session were examined by a jury of experts from academic and industry background.

Best presentation awards were conferred to: Harsh Pandya, Sananda Banerjee, Amlesh Kumar, Sukanya Gangopadhyay, Akansha Jadhav, Neeraj Kamble, Surve Prachi. V.D. Chitodkar and M.B. Mandake.

World Virus Timeline

Over the last century, prior to Ebola, humanity has been struck by various viruses. Here's a snapshot and our response to these deadly challenges.

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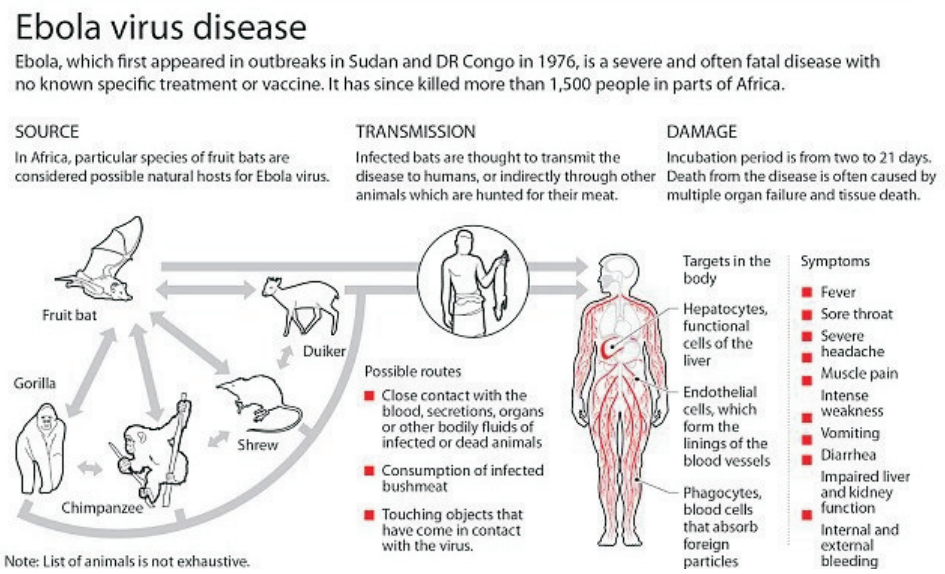
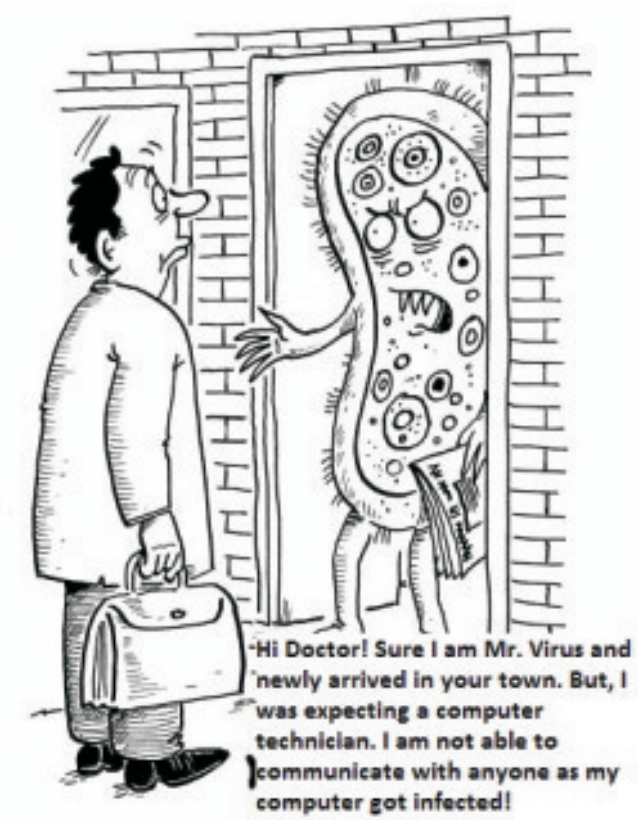
Ebola



Primarily Ebola Treatment relies on supportive measures such as managing infections and related complications, hydration, balancing electrolytes, preventing bleeding, restoring blood loss and maintaining oxygen levels.

Laughter Medicine



MGM INSTITUTE OF HEALTH SCIENCES

(Deemed University u/s 3 of UGC Act, 1956)
Grade 'A' Accredited by NAAC
Sector-1, Kamothe, Navi Mumbai - 410209
Tel. No. 022-27432471, 022-27432994, Fax No. 022 - 27431094
E-mail : registrar@mgmuhs.com ; Website : www.mgmuhs.com

ADMISSION ANNOUNCEMENT 2015-16

Department of Biomedical Sciences- Navi Mumbai & Aurangabad

B.Sc. (Para-Medical Sciences)

- Operation Theatre & Anesthesia Technology
- Cardiac Care Technology
- Perfusion Technology
- Medical Laboratory Technology
- Dialysis Technology
- Medical Imaging Technology
- Optometry
- Audiometry and Speech Therapy

Eligibility Criteria : 10+2 with Science (PCB) or Vocational course securing minimum 45% marks in PCB.

M.Sc.

- Medical Anatomy
- Medical Biochemistry
- Medical Microbiology
- Medical Biotechnology
- Clinical Nutrition
- Molecular Biology
- Medical Physiology
- Medical Pharmacology
- Medical Genetics
- Clinical Research
- Clinical Embryology
- Master of Public Health (MPH)

Eligibility Criteria : Candidates having passed either B.Sc. in Biological Sciences or Nursing, MBBS, BDS or equivalent degree from a recognised University

Department of Nursing (At Kamothe, Vashi and Aurangabad)

- **B.Sc. Nursing**

Eligibility Criteria

- 10+2 class passed with Science (PCB) & English with aggregate of 45% marks from recognized board under COBSE or equivalent Board.

- **Post Basic B.Sc. Nursing**

Eligibility Criteria

Passed 10+2 from a recognized board, RGNM and registration with State Nursing Council.

M.Sc. (Nursing)

- Medical Surgical
- Child Health
- Psychiatric Nursing
- Community Health
- Midwifery and Obstetrical

Eligibility Criteria

The Minimum education requirements shall be the passing of: B.Sc. Nursing/B.Sc. Hons. Nursing/Post Basic B.Sc. Nursing with minimum of 55% aggregate marks from an institution recognized by Indian Nursing Council.

Department of Physiotherapy - Navi Mumbai and Aurangabad

BPT

Eligibility Criteria

- Students must secure a minimum of aggregate 50% marks in Physics, Chemistry & Biology subjects in HSC/10+2 examination.
- Students have to appear for the CET conducted by MGM Institute of Health Sciences.

MPT

- Cardio Vascular & Pulmonary Physiotherapy & Fitness
- Musculoskeletal Physiotherapy
- Neuro Physiotherapy
- Preventive & Community Physiotherapy

Eligibility Criteria

- The candidates should hold a B.P.T.or equivalent degree from an IAP recognized Institute.
- The candidates have to appear for the CET conducted by MGM Institute of Health Sciences.

Ph.D. [Medical] Programmes

1. Anatomy
2. Physiology
3. Biochemistry
4. Microbiology
5. Pharmacology
6. Biotechnology
7. Medical Sciences (Pre. Para and Clinical Subjects)
8. Genetics
9. Nursing
10. Physiotherapy

Eligibility Criteria

- For Discipline No. 1 – 8: Recognized Post Graduate Medical Qualification (MD, MS or PG Diploma)
- For Discipline No. 1 - 8: MSc Medical in respective subjects or equivalent qualification with min. 55% or B+ grade.
- For Discipline No. 9 – 10: Master's Degree in respective subjects or equivalent qualification with min. 55% or B+ grade

Contact No. : 022 - 27437838 / 2994 Fax No. : 022 - 27431094

For further details of admission kindly refer our website : www.mgmuhs.com

WE DO NOT HAVE ANY EDUCATIONAL CONSULTANT / AGENT