UBIQUISCOPE

A LOOK INTO SCIENCE

NOVEMBER 2021 • VOLUME 2

WHAT'S INSIDE

EDITORIAL NOTE

We hope you liked our endeavour to tastefully present bite-sized knowledge via our first volume. Remembering the commitment we made to you and encouraged by the positive feedback that we have received, we are proud to present the second volume of Ubiquiscope, this time with even more exciting content! From a rarely seen case of Aortic Coarctation, right from our General Medicine ward, to an exclusive interview with Professor K. V. Somasundaram, Director of School of Public Health and Social Medicine at our University, about the behind the scenes of our Tribal Health Empowerment Project, we have also received valuable input from our esteemed Dean, in form of a question according to the NEXT pattern and data pertinent to NFHS-5 the latest volume is back to highlight select few achievements in the world of medical science.

Happy Reading!

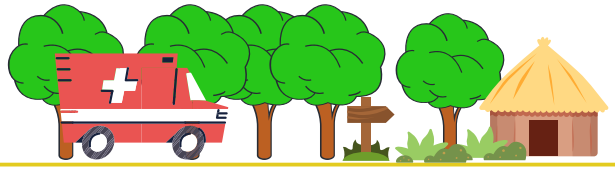
Sneak Peek

Female Health Volunteer during a health camp

Female Health Volunteen during a health camp

The Motorbike Ambulance along with the female health volunteer

Tribal Campus of PIMS-DU in Bhandardhara



FONTAN CIRCULATION

A normal mammalian cardiovascular system consists postnatally of a double—pulmonary and systemic—circuit, connected in series, powered by a double pump—the "right" and "left" heart.

But many complex cardiac malformations are characterised by the existence of only one functional ventricle. This "single" ventricle then has to maintain both the systemic and the pulmonary blood circulation, which are not connected in series but in parallel. Such a circuit has two major disadvantages: arterial desaturation, both at rest and increasing during exercise, and a chronic volume overload to the single ventricle.

In such cases a new approach to the operative treatment of these malformations is devised by "Francis Fontan", separating the systemic and pulmonary circulations. In a Fontan circulation the systemic and pulmonary circulation are connected in series. The vena cavae or the right atrium is connected to the pulmonary arteries without the interposition of an adequate ventricle, so that there is no longer a ventricular pump augmenting flow and lowering proximal venous pressures. In such a Fontan circuit the postcapillary energy is no longer "wasted" into the systemic veins, but collected and used to push the blood through the lungs. Advantages include near normalisation of the arterial saturation, and abolishment of the chronic volume overload; the cost for such a circulation includes chronic "hypertension" and congestion of the systemic veins, and decreased cardiac output both at rest and during exercise.

A univentricular Fontan repair can be considered in cardiac malformations with a single functional ventricle, usually because of the absence of an adequate atrioventricular valve or pumping chamber—for example, tricuspid atresia, pulmonary atresia with intact ventricular septum, double inlet ventricle, hypoplastic left heart syndrome. In other very complex malformations with high surgical risk morbidity, or need for "high maintenance" (frequent conduit replacement).

For the selection of patients, rules have been defined by many centres, but all reflect that after repair left atrial pressure must be low and that the trans-pulmonary gradient must be low (determined by good ventricular function and pulmonary vasculature respectively).

References:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1768934/
https://doi.org/10.1016/S0140-6736(18)30541-5

COCKTAIL ANTIBODY

Similar to the world of mixology, a Cocktail, in medical lingo, is defined as a mixture, not of alcohols, however, but of drugs. These mixtures are usually formulated in the form of solutions, which are administered together or sequentially. One such cocktail has been developed by the Regeneron Pharmaceutical Inc, a New York based institution. Casirivimab and Imdevimab, the two antibodies which were discovered after a meticulous evaluation of the antibodies produced by laboratory mice and humans who have recovered from COVID-19, together constitute the cocktail. The greatest benefit has been seen in patients who are more susceptible to poor outcomes, due to high viral load, ineffective immune response or pre-existing risk factors.

The two potent virus-neutralising antibodies that form the cocktail, bind non-competitively to the critical receptor binding domain of the spike protein. This diminishes the ability of the mutant viruses to escape treatment, and protection is achieved from the spike variants that have arisen in the population. During various clinical trials, it was found that a patient's risk of hospitalisation and mortality was reduced by 70 percent when treated with it. Duration of persistence of symptoms was also shortened by upto 4 days.

It was not administered to the patients hospitalized for COVID-19, since some monoclonal antibody treatments have been associated with worse outcomes when given to hospitalized patients in need of oxygen or mechanical ventilation. Some of the adverse effects of the cocktail antibody include pain at the injection site, and urticaria, problems which wane with time.

Several short clinical trials were also conducted in India, by institutions like Brihanmumbai Municipal Corporation (BMC), AIIMS Delhi and West Bengal hospital, in which positive responses were observed. Unfortunately, there are evidences to suggest that the Delta and Delta plus/AY.1 variants are resistant to this monoclonal antibody cocktail treatment.

The regime should be started as soon as the patient has tested positive for the COVID-19 and/or within 10 days of symptom onset. Casirivimab and Imdevimab should be administered in a dose of 600 mg IV, each, for better outcomes. Due to its benefits and minimal side effects, this drug combination is attracting attention of doctors in various countries including India, as an adjuvant for the treatment of non-hospitalised COVID-19 patients.

References: Regeneron HaryanaMan Immunome

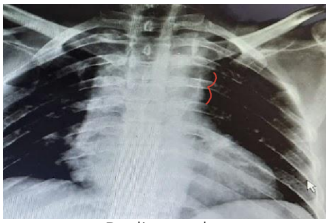
SPICING IT UP: THE CAPSAICIN RECEPTOR

Ever wondered how, by simply biting into those green chilies while having a vada-pav, your palate is instantly on fire, and you have to make a run for ice cold water?
Well, this year's Nobel Prize in Physiology/Medicine has given us a rather satisfying answer to it! David Julius used 'capsaicin' from chili peppers to identify "TRPV1", an ion channel activated by painful heat. Additional related ion channels have also been identified and we now understand how different temperatures can induce electrical signals in the nervous system, throwing light on the complex protective mechanisms our body has devised to help us sense painful stimuli.
Julius and his co-workers created a library of millions of DNA fragments corresponding to genes that are expressed in the sensory neurons which can react to pain, heat, and touch; hypothesising that the library would include a DNA fragment encoding the protein capable of of reacting to capsaicin. They expressed individual genes from this collection in cultured cells that normally do not react to capsaicin.
After a laborious search, a single gene was identified that was able to make the cells capsaicin-sensitive. Further experiments revealed that the gene coded a novel type of ion channel protein which they named TRPV1 (because of its resemblance to the vanillin type of TRP family of receptors). It has the unique property of getting activated when exposed to temperatures considered painful (>43 degrees), thus initiating an impulse via the pain pathway.
The identified ion channel is important not only in the elucidation of functions of various physiological processes, but also in developing treatment modalities for many disease conditions like inflammatory, neuropathic, visceral pain.

Reference: https://pubmed.ncbi.nlm.nih.gov/9349813/

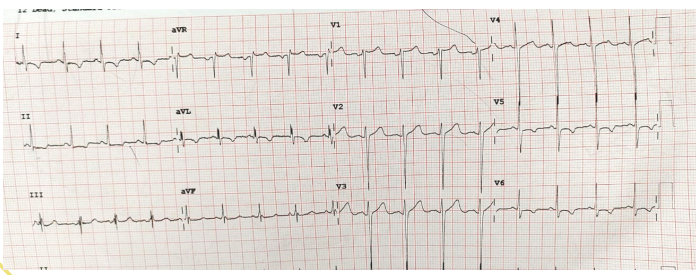
Clinical case

A 37 year old male known case of Type II Diabetes Mellitus, chronic alcoholic came to the casualty with complaints of left sided weakness which was progressive in nature. On examination, pulse was 80 bpm, normal in volume, character, no radio-radial delay was present, radio-femoral delay was noted, peripheral pulsations in the lower extremities were weak, interscapular pulsations were present. Blood Pressure was 160/100 mm of Hg in right upper limb, while 112/68 mm of Hg in right lower limb. On CNS examination, left sided hemiparesis with sparing of forehead was noted. MRI of the brain reported acute intra-parenchymal bleed in right capsulo-ganglionic region. The patient was a known case of Coarctation of Aorta since 16 years. Radiograph findings showed, left ventricular hypertrophy and the "figure 3" sign which is formed by pre-stenotic dilatation of the aortic arch and left subclavian artery.



Radiograph

ECG



Electrocardiogram revealed left axis deviation with increased QRS voltage and duration in leads V5 and V6 representing left ventricular hypertrophy. CT chest findings were focal segmental moderate aortic narrowing measuring 5 mm in length and 3 to 4 mm in diameter at level of isthmus, there were extensive collaterals seen to the descending thoracic aorta. The cerebrovascular accident may have been caused due to uncontrolled high blood pressure due to Coarctation of Aorta. The patient was managed symptomatically for the CVA and was advised Aortoplasty to prevent further complications such as dissection of aorta, left ventricular failure or cerebral haemorrhage. In conclusion, we would like to stress upon the importance of basic bedside skills like monitoring pulse, peripheral pulses, so that we don't miss the diagnosis of conditions like Coarctation of Aorta.

1.Which of the following pathologies mimic Coarctation of Aorta?
a. Kawasaki Disease b. Polyarteritis Nodosa
c. Takayasu Arteritis d. Cryoglobulinaemic Vasculitis
2. Interscapular pulsations are known as?
a. Suzman Sign b. Ewart's Sign
c. DeMusset's Sign d. Auenbrugger's Sign

Ans
1.c
2.a

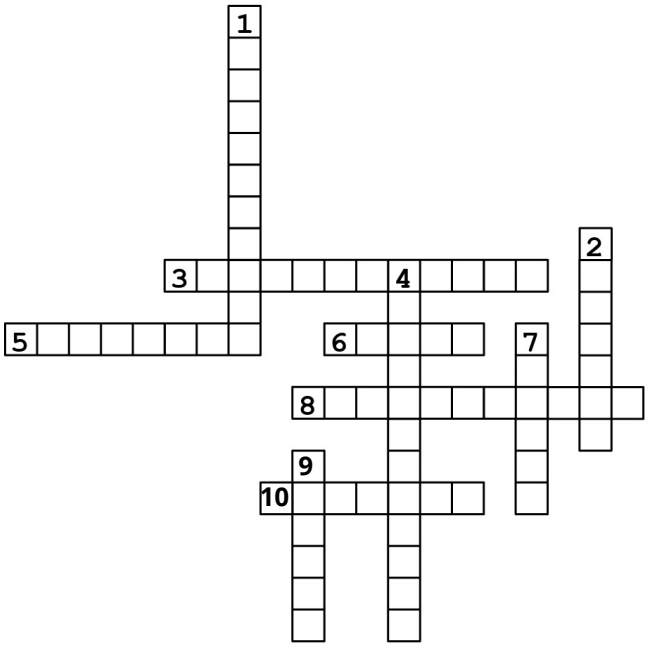
We would like to sincerely express our gratitude towards Dr. Sudhir Tungikar, Professor and HOD, Department of Medicine and Dr. V. Rasagna, JR3, Department of Medicine for their immense help in presenting this case

MIGRAINE AND GIT: A LOST CONNECTION

There exists what is called a 'brain-gut connection' in our body. This is supported by the fact that migraine as well as gastric disorders, like gastroparesis, functional dyspepsia, cyclic vomiting syndrome, etc. have common pathophysiology, (such as altered serotonergic signalling, autonomic dysfunction), and overlapping symptomatology. In migraine, there is activation of pain pathways, that is responsible for the release of Calcitonin Gene Related Peptide (CGRP), which also causes the release of abundance of pro-inflammatory cytokines and a decrease in acetylcholine, which is responsible for GI dysfunction. Also influencing the etiology of these two ailments is the altered serotonergic signalling, which accounts for the activation of the trigeminovascular system which, in turn , can set off a migraine attack and symptoms of gastric dysfunction which include the characteristic triad of nausea, vomiting and delayed gastric emptying. The overlap in certain pharmacological agents used for the treatment of migraine and gastric disorders is another strong evidence suggesting a common pathophysiology between them. Drugs like Metoclopramide and Domperidone, (dopamine receptor antagonists) used for treating gastric disorderare also found effective in the management of migraine, If started early in the course of treatment. Similarly, propranolol, used in the management of migraine has also shown to increase the gastric motility in the patients of IBD. Research shows that migraine, nausea and vomiting are also reported to affect the patient's willingness to take oral medication. It is now evident that there is a significant overlap between migraine and GI disorders, which is known to affect the timing of drug administration by the patients, due to the fear of nausea and vomiting. Therefore, there arises a need to explore non-oral routes of administration and formulate treatment strategies early in the management of migraine.

Reference: https://www.medscape.com/viewarticle/950145/text

CROSS-ANAT



Across

3. Bleeding between menstrual periods
5. Abnormal narrowing in a blood vessel or other tubular organ or structure
6. Macromolecule that does not dissolve in water
8. Drugs for effective treatment for patients with gonorrhea
10. Vaccine containdicated during pregnancy

body text

Down

1. Father of western medicine
2. Simplest amino acid
4. Center of temperature
7. Group of databases covering chemicals ,drugs and toxicology
9. Optical components in UV spectrometer are made up of

By Shresth Sharma

MICROSCOPIC ROBOTS DELIVER DRUGS TO THE BRAIN

Target drug delivery systems are currently trending, for cancer therapies and surgeries. Scientists have created magnetically controlled microbots (neutrophils) that deliver drugs to cancer cells in mice brains by penetrating the BBB.

A major obstacle in treating neurological diseases is getting the drug past the BBB. However, neutrophils are granted special access, to battle the infections and inflammation, making them a good ferry for transporting drugs past the BBB.

Scientists endowed these bots with magnetic materials to guide them from outside, with magnetic fields. They first made nanoparticles from a gel containing iron oxide and paclitaxel (a common cancer drug) and cloaked them in E.coli bacterial membrane. The nanoparticles disguised as harmful bacteria were engulfed by the mouse's neutrophils, in vitro. The bacteria also acted like a shield to prevent premature leakage of drugs .The scientists next injected glioma cells into the mice's brains.

After 10 days they resected a portion of the induced Glioma in order to initiate neutrophilic reaction. The neurobots were injected into the tails of all the mice and in a subset of them they used a rotating magnetic field to navigate the bots at a speed 50 times faster than that of a natural neutrophil. With the help of MRI they found that more neurobots accumulated around gliomas in mice treated with both surgery & magnetic field than in those that weren't exposed to the latter. All the neurobots treated mice survived longer than those injected with paclitaxel alone. There are still a number of challenges to overcome before microbots can be used in treating cancer, such as - improving the percentage of the bots that make it to the cancer foci, delivery of enough drugs, drug load per microbot, etc. It is a novel concept, and thus its path of progress in the treatment of cancer is naturally studded with some obstacles, but none that can't be surmounted.

Reference: New Delivery Systems

Brave, bright and ambitious - dedicated to all women who make this world a little more colourful

Akansha Sehgal
MBBS 17

Only 41% of infants under 6 months of age are exclusively breastfed. Over 820000 children could be saved yearly, if all children 0-23 months were optimally breastfed

Sonakshi Goyal
MBBS 19

Words that Matter

Professor K.V Somasundaram, Director-School of Public Health and Social Medicine (SPHSM)

Interview by Swatam Shetti

Social medicine encompasses multidisciplinary and multidimensional aspects that affect human health.

In order to address the health and developmental needs of the society in a holistic way, through education, research, and service delivery, Pravara Institute of Medical Sciences (PIMS) had founded the School of Public Health and Social Medicine (SPHSM), formerly known as Centre for Social Medicine (CSM) in 2001, explains Prof. K.V. Somasundaram, Director,School of Public Health and Social Medicine (SPHSM).

SPHSM aims to provide a community based education to the medical and other health sciences students of PIMS-DU through various activities such as

- Community Health and 'Outreach services',
- Collaborating with Regional, National and, International institutes, and
- Community and Social Health Research and Development.

We at SPHSM believe in a comprehensive rural health care model, which includes Preventive, Curative, and Rehabilitative measures. The SPHSM has taken up various projects such as training of local women for assisting in pregnancies and post-natal care, and assigning each village a Female Health Volunteer.

The School operates through three fully equipped mobile clinics and Six motorbike ambulance cum health clinic, providing Maternal and Child health care and General health care services to 235 underserved, remote villages of 9 blocks of Ahmednagar District. During the mobile clinics visits, the female health volunteers bring cases and are paid incentives in return, thus providing health care facilities to the grassroots of the Ahmednagar district.This project was primarily funded by the United States Agency for International Development (USAID) in 1990. Later, when the project duration ended, PMT took over the funding responsibility and the project is still active, 24 years since its inception.

Prof.Somasundaram, believes that 'Health should not be in isolation'. To overcome this barrier, there was a need to develop a "Multi-sectoral Approach Model for Sustainable Health". The project was initiated in collaboration with the Swedish International Development Co-operation Agency (SIDA) in 2006.

This model was implemented in 235 tribal and rural villages of the Ahmednagar district. It focused on the following 5 interventions: Improvement of access to Medical services, Socio-cultural aspect, gender equality, health and sanitation, Awareness generation and empowerment of the people, Nutrition, Developing 30 E-Health centres for the empowerment. Another historic milestone in PIMS' social responsibility, was the establishment of Tribal Campus of PIMS-DU at Bhandardhara, says Prof Somasundaram, which houses (1) the Centre for Research in Tribal Health and Services (CRTHS), to facilitate the faculty and students of PIMS to pursue their academic, skill development training, and research in tribal health and development. The CRTHS has been recognised as a "Center of Excellence" by Ministry of Tribal Affairs, Government of India. (2)The Tribal Health Centre (THC), to serve about 43,000 tribal people living in 36 villages of the tribal area with 24/7 medical care, neonatal intensive care unit, laboratory services, ambulance services, and general checkups.

There also took place, the launch of a novel community owned initiative, "Pravara Gram Arogya Bank", in 16 villages, of which 4 are in the Bhandardhara area,where distribution of first aid kits, digital diagnostic equipments like BP apparatus, glucometer, and weighing machine to the sarpanchs of the respective villages was undertaken. It was also marked by the conduct of technical training of local health volunteers,traditional healers etc.

In 2019, the SPHSM and the CRTHS successfully organised, "TRIBECON",a national conference on Tribal Health Research - Issues, Challenges and Opportunities. During the three days' conference which comprised of 6 plenary sessions, 17 expert researchers on tribal health, shed light on their plethora of areas of expertise. An exhibition of tribal culture, tribal lifestyles, tribal medicine, tribal ways of food security and wild/forest food items, and Innovative models of health care delivery, was orchestrated on all the three days of the conference, both in Loni and Bhandardhara.

The SPHSM offers value added Certificate Programs in Global Health, Tribal Health, Project Planning, Management and Fund Raising.

For further information please contact Prof. K.V Somasundaram, Director, School of Public Health and Social Medicine (SPHSM).
Phone: +91-2422-271391, 271478, Email: csm@pmtpims.org

NATIONAL FAMILY HEALTH SURVEY

The National Family Health Survey 2019-21 (NFHS-5), the fifth in the NFHS series, provides information on population, health, and nutrition for India and each state/union territory (UT). Here, we have selected some of the important, must know statistics for a medical student.

Indicaters	NFHS-5	NFHS-4
Sex ratio of the total population (females per 1,000 males)	1020	991
Total Fertility Rate (TFR)	2.0	2.2
Neonatal Mortality Rate (NMR)	24.9	29.5
Infant Mortality Rate (IMR)	35.2	40.7
Under 5 Mortality Rate	41.9	49.7
Use of Family Planning	66.7	53.5
Mother who had atleast 4 ANC visits	58.1	51.2
Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall1	76.4	62
Institutional births	88.6	78.9
Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level in Women	13.5	na
Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level in Men	15.6	na
Elevated blood pressure (Systolic ≥140 mm of Hg and/or Diastolic ≥90 mm of Hg) or taking medicine to control blood pressure in Women	21.3	na
Elevated blood pressure (Systolic ≥140 mm of Hg and/or Diastolic ≥90 mm of Hg) or taking medicine to control blood pressure in Men	24	na

From the results of NFHS-5 we can infer that the population of India has started to stabilize as shown by TFR of 2, although progress has been made towards reaching our Sustainable Development Goal Target of NMR of 12, U5MR of 25, the values indicate that a lot of work is yet to be done. Sex ratio of 1020 is a very welcome finding.

WHAT'S NEXT?

You are the Medical Officer in-charge of a Primary Health Centre. A 20-year-old lady, married for past 1 year, has come to you with history of 8 weeks amenorrhea. This is her first pregnancy. She or her husband have not been using any contraceptive measure. You have registered her, made her ANC card and undertaken her first ANC clinical check-up. Her weight is 55 kg, height 156 cm, pulse 76/min, BP 116/76 mm Hg, no pedal oedema, urine-albumin and sugar not detected, Hb 11g/dl, blood group: B+ve. Now answer questions given below. The answers should be as per guidelines given by Government of India in the RCH program, Indian Public Health Standards and other official guidelines of Government of India.

Q1) On how many more visits should she come for ANC check and when?

(a) 4 more visits, at 12 weeks of amenorrhea, 16 to 20 weeks, 24 to 32 weeks and between 36 weeks and term.

(b) 3 more visits, at 14 to 26 weeks, 28 to 34 weeks and between 36 weeks and term.

(c) 3 more visits, at 18-24 weeks, 28 to 34 weeks and 36 weeks till term.

(d)12 more visits, once a month during the next 4 months, then twice a month for the next 2 months, and then once a week for the next 1 month.

Q2) In the above situation, if you are transferred to the district hospital and get interested in improving the quality of intrapartum and postpartum services in the labor room and maternity OT of your district hospital, which program will you deal with this objective?

(a) Vande Matram

(b) Indra-Dhanush

(c) LaQshya

(d) Janani Shishu Suraksha Karyakram (JSSK)

This question has been taken from Textbook of Community Medicine 4/E by Dr.Rajvir Bhalwar, Pg 1186

We express our unalloyed gratitude to Dr. Rajvir Bhalwar, Dean Dr.BVPRMC for contributing to this endeavour. It's a privilege to be graced by his astuteness and it's a certitude that all of us get to learn from him.

Ans
1.b
2.c

TOBACCO RESEARCH AND CESSATION CENTRE

The Tobacco Research and Cessation Centre (TRCC), PMT, in collaboration with the Centre for Health and Research, UK, was inaugurated on 25th August 2021, under the esteemed guidance of Hon'ble Dr. Rajendra Vikhe Patil, Chairman, PMT, Loni and Hon'ble Sau.Suvarnatai Vikhe Patil, Trustee, PMT, Loni. The guests of honour were Dr.V.N. Magare, Hon'ble Vice Chancellor, PIMS-DU and AVM(Retd) Dr. Rajvir Bhalwar, Dean Dr BVP, RMC, PIMS-DU. Through the agency of the Tobacco Cessation Research Centre, our college has resolved to work towards Health Promotion and Tobacco Cessation. For this, behavioural counselling, pharmacotherapy and nicotine replacement therapy are being prescribed. Research on effectiveness and implementation is being undertaken by student fellows and faculty members. The Centre is also conducting multiple surveys in many districts to ascertain the prevailing attitudes and economics related to tobacco consumption. The committee comprising dynamic faculty members includes: Dr.Rahul Kunkulol, Director research PIMS-DU(Chairman), Dr.Anup Kharde, Associate Professor, Community Medicine(Member Secretary), Dr. Sandeep Narwane, Associate Professor, Pharmacology(Member), Dr.Mandar Baviskar, Assistant Professor, Community Medicine(Member), Dr.Motilal Tayade, Professor, Physiology(Member), Dr.Bindu Krishnan, Associate Professor, Physiology(Member), Mr.Kalpesh Game(Research Associate) and Mr.Ravi Ohol(Clerk).

Inauguration of the TRCC Clinic in Pravara Rural Hospital

The TRCC Team along with Dr. Sudhansho Pathwardhan, Director of CHRE, UK

INSTAGRAM MENTION

Welcome,
Champions for Tobacco Cessation.
Via this Instagram page, we'll deliver you bite sized info on tobacco, its use, control, different forms and everything relevant to help you become better as Tobacco Cessation Influencers.
With that information all of us will try our hand at creating Memes, Reels, Posts, etc and all the things that can be done on social media around tobacco control to help you navigate the broad landscape of tobacco control and its many nuances. There will also be some interactive exercises. Remember this is not just a page to make you quit tobacco, We are here to understand the process and feasibility of creating tobacco cessation influencers. Everything that you learn from Day 1 can be used to advocate cessation.

https://youtube.com/shorts/z3hj7n1nQ64?feature=share

CHAMPIONS_FOR_TOBACCOCESSATION

Shaurya Kumar Singh
Batch 2017

CAMPUS INSIGHTS

On the auspicious occasion of Foundation day, 29th September which was the Eighteenth anniversary of Pravara Institute of Medical Sciences(Deemed to be University), various accolades were given to meritorious individuals of our university.

Dr. V.B. Bangal, Professor and HOD, Dept. of Obstetrics and Gynaecology received the President PIMS Rolling Trophy for Best Outstanding Teacher of the Year 2020-21

Dr. Akshaya N. Shetti, Professor, Dept. of Anaesthesiology received Chancellor's Rolling Trophy for the Best Research Paper of the Year 2020-21

Shaurya Kumar Singh, III/IV M.B.B.S was awarded the Dr.Balasaheb Vikhe Patil Student of the Year (Male) Award 2020-21

Astha, III/IV M.B.B.S was awarded the Smt.Sindhutai Eknathrao Vikhe Patil Student of the Year (Female) Award 2020-21

Aditi Mukund, III/IV M.B.B.S was awarded the Young Budding Researcher Award 2020-21

Pravara Institute of Medical Sciences (PIMS-DU) added another feather in its cap, with the stone-laying ceremony for the Ayurveda college and inauguration of the Pravara Rural Ayurved Hospital, on Oct 27th, 2021. To make this day momentous, we had with us the Governor, Hon'ble Shri. Bhagat Singh Koshiyari as our chief guest, who graced the program with his benign presence.

Stone Laying Ceremony for the Ayurveda Hospital

With great pride, we inform that a new SICU has been inaugurated on the 2nd floor of Pravara Rural Hospital's Extension Building. The SICU has 14 beds with two beds with dialysis facility. The inauguration was done by Shri Dhruv Vikhe Patil, in the presence of Dr. Rajendra E. Vikhe Patil,Hon'ble President,PIMS(DU) on Thursday, 18th November 2021.

Inauguration of the New SICU

Dates to Remember

December 3rd World Persons with Disabilities Day

December 12th Universal Health Coverage Day

January 30th World Leprosy Day

February 4th World Cancer Day

February 10th National Deworming Day

We express our sincere gratitude to Mr. Mahesh B. Tambe, Head Admin, MIC and Electronics and Mr. Sunil Gavande, Junior. Computer Engineer for their immeasurable help in the launch and maintainence of this E-Newsletter