

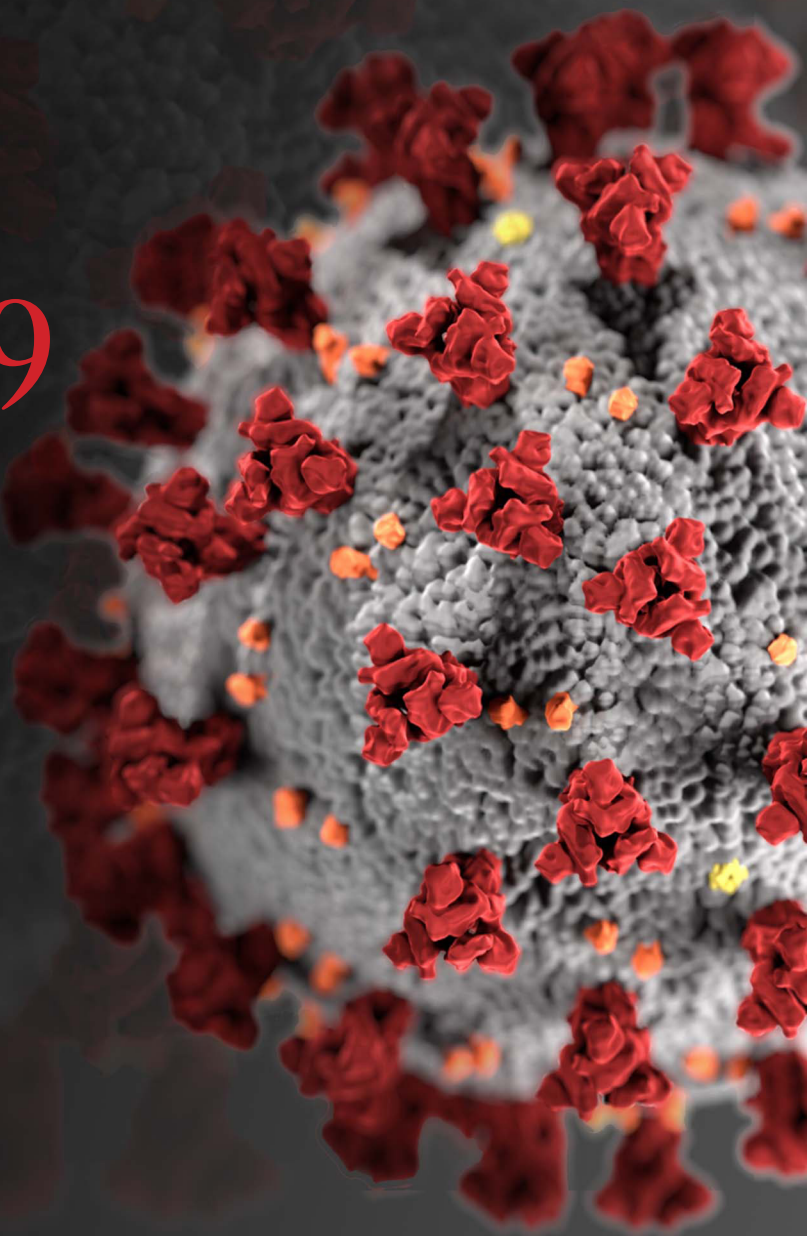
# RESONANCE

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UNIVERSITI  
KEBANGSAAN  
MALAYSIA  
*The National University  
of Malaysia*

## COVID-19 PANDEMIC





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## Editorial Team

2019 has been a wonderful year for UKM – filled with numerous achievements and successes. It has been an honour for us to be able to publish and document these remarkable accomplishments in Resonance. Thank you for sharing your stories with us. We hope it has touched or inspired our lovely readers. Here's to a great new year!



## Message from the Vice-Chancellor

PROF. DATO' IR. DR. MOHD HAMDI ABD SHUKOR

Greetings from Universiti Kebangsaan Malaysia.

As of now we are still under the Movement Control Order (MCO) to break the chain of the COVID-19 pandemic. Our battle continues and demands a tighter commitment from each and every one of us as Malaysian.

UKM has taken all the necessary measures in line with the instructions by the authorities. I call for all warga to stay home, work from home and take care of your family. This may not be easy, as business is not as usual. However, we have to keep calm, abide by the order and follow all the guidelines for the greater good to contain the virus from spreading.

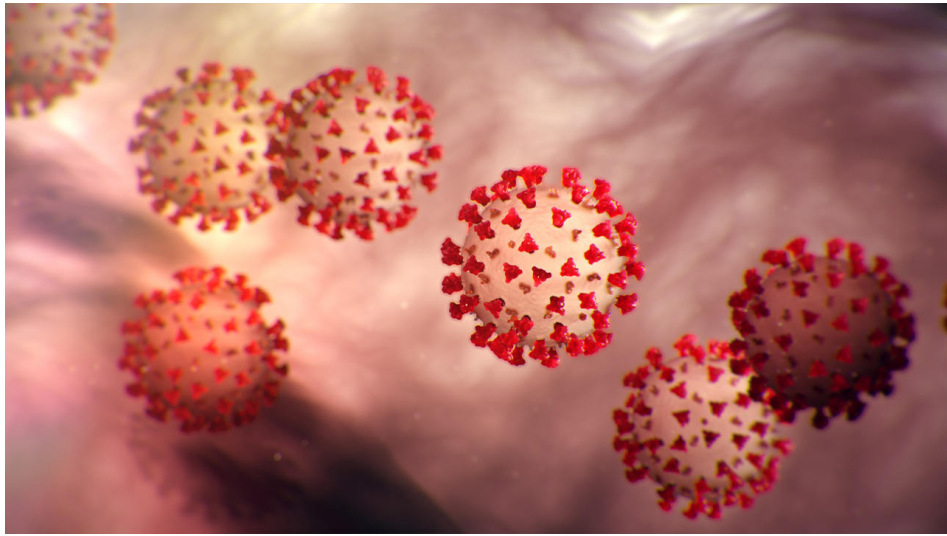
Special thanks to all our medical staff in HCTM who have been tirelessly working in helping the nation. Our appreciation goes to the UKM Crisis Committee on Infectious Disease chaired by the Registrar, University Health Centre, UKM Medical Centre, Centre for Corporate Communications, Security Department, Bursary Department, Student Affairs and all involved for their tireless effort during this period among others doing the screening, safeguarding the campus, managing finances and taking care of our remaining students.

Those at the frontline, are truly our unsung heroes.

Let us always remember them in our prayers. I would also like to extend our gratitude to the ministry, external NGOs and Alumni who have step forward to provide much needed assistance, donations and food for Bangi and KL Campuses.

For the Muslims, I would like to wish a blessed Ramadhan Al-Mubarak to all. Indeed, in this new normal we are having a totally different Ramadhan but the blessings that come remain the same. Take this time and opportunity to perform our ibadah and good deeds with our family at home. Insya Allah, we will get through this together soon.







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# COVID-19: Adapting to the New Norm in the Higher Education Institutions

Nobody had suspected that there would be a pandemic that cuts across the globe, although there was a new type of coronavirus blazed through China early of the year.

It was in a blink of an eye that the usual normal tight weekday schedule and hectic weekend lifestyle are changed with staying indoors. The slogan 'stay-at-home' has become a mantra chanted throughout social media to remind people how deadly the virus is.

The fatal adversary known as COVID-19 and has infected hundreds of thousands of people around the world by March 2020. While a possible vaccine is far from inception, scientists

suggest social distancing, washing hands frequently with soaps for 20 seconds, applying hand sanitizer, avoiding handshakes, observing coughing and sneezing etiquettes, and putting on a facemask to prevent the spread. But the biggest challenge is when the government imposed a Movement Control Order (MCO) to break the chain of the virus in support of flattening the curve.

This is not an option but a force to reckon with COVID-19 has seriously slammed Malaysian higher education sector as well. In concert with the government initiatives, universities and colleges are quick to deploy crisis strategy to safeguard their biggest stakeholders– the students. While some managed to flee home,

some must remain in the campus causing fear and worry among parents. Authorities quickly provide food and other necessities to the students who stay inside the campus and make sure everything is under control.

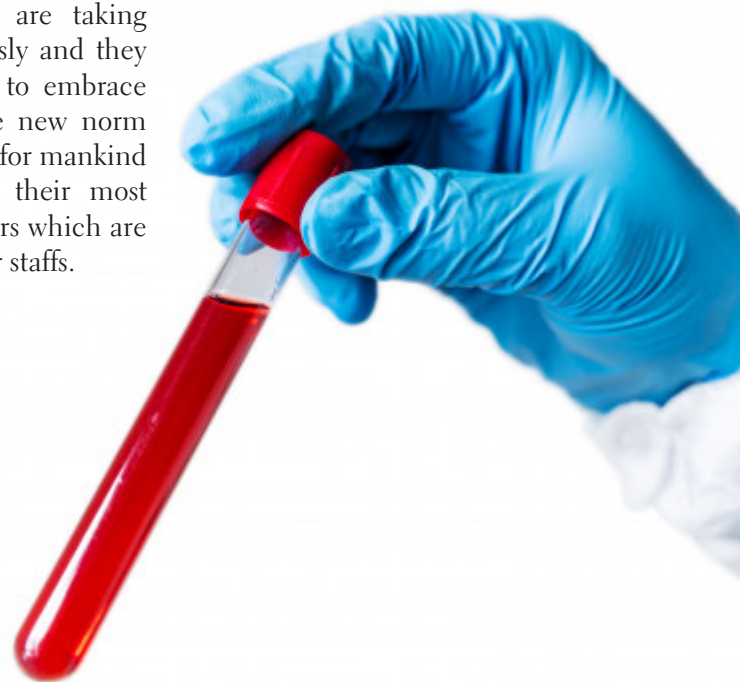
For the academic session to continue with the new norm of social distancing and MCO, the online learning has been implemented to ensure smooth process of teaching and learning. In the upcoming month, the two major upcoming events which is the new students registration and orientation; and convocation that are glamorously held in November, may have to change its usual procedure as these two major events involves big social gatherings and overseas travel.



The university needs to rethink on how these events can be conducted while complying to the new norm as there is no guarantee that the virus will disappear even when the lockdown is lifted.

It's a huge challenge for the universities indeed as there will be huge changes on how the usual operational work on student's registration, teaching, learning, research, seminars, conferences, meetings and convocation will change. Long gone the days where huge gatherings are allowed, a group of people working in the labs, huge attendees in seminars and conferences. The new norm practice that everyone at the higher learning institutions needs to embrace will now be social distancing and high hygiene practice. This will continue to be the daily practice of the mass public, especially in the higher learning institutions. The parents of the future and current students must be rest assured that the

higher learning institutions are taking all the necessary actions to curb the virus from spreading to the campus community. It is and important fact the the higher learning institutions are taking the pandemic seriously and they have no choice but to embrace the changes and the new norm of COVID-19 brings for mankind in order to protect their most important stakeholders which are the students and their staffs.





## UKM Produces Its Own Hand Sanitizer

It the midst of COVID-19 pandemic, there is a mad rush to buy hand sanitizers and face mask as everyone wants to protect themselves for the virus. Hence, there is the limitation to the hand sanitizers and face mask stocks in the market. Due to the difficulty in finding hand sanitizers from the market, UKM takes an initiative to produce its own brand for the campus use.

The Director of UKM Health Centre, Dr. Mohd Azman Abas said the mixture of hand sanitizer is 99% of alcohol then liquified to 70%. The raw materials are obtained from Hospital Canselor Tuanku Muhriz's (HCTM) pharmacy store.

"The solution is prepared at HCTM and bottled at our UKM Health Centre. The hand sanitizer can be regularly refilled and distributed for free to residential colleges, faculties and administrative departments. This helps to ensure that everyone in the campus has the access to the hand sanitizers to keep themselves protected," he said.



operation room at the Health Centre's Emergency Unit.

"This room is a one stop centre which monitors workflow and processes in relation to COVID-19. The operation room acts as the centre of reference and the collection of COVID-19

information such as statistics on students who stay in campus during the Movement Control Order (MCO).

"The room also provides face mask, hand sanitizer, gloves and other necessities to our security, residential college and healthcare



staffs,” he said.

Among the university’s efforts to comply with MCO directives are through the UKM’s COVID-19 website (<https://www.ukm.my/portal/covid-19/>) which features a variety of frequently asked questions (FAQs). In addition, social media sites such as Facebook, Instagram and Twitter also contain various information on this pandemic.

All this effort is to help the campus community is safe and when they are out from campus they are protected. The UKM’s COVID-19 web site can helps to educate and provide information to the campus community and people outside to be aware of what’s going on and helps people to be more alert and educated with all the information of the pandemic.

*“The room also provides face mask, hand sanitizer, gloves and other necessities to our security, residential college and healthcare staffs,”*



# HCTM UKM Uses Robot to Reduce Exposure to COVID-19





Robots are commonly seen in the manufacturing industry and also in the operating room where precisions are required in the actions of the procedures under taken. Who would have thought that the public will see robots roaming around serving the patients at the hospital ward. During the COVID-19 pandemic early this year the Hospital Canselor Tuanku Muhriz (HCTM), UKM, has taken the initiatives to use robots as the healthcare front liners to provide services to COVID-19 patients. It is due to the nature of the virus and its ability to infect others via the airborne that had cause steep measures to be taken. By using the robots, the public or patients around the hospital will not have to worry about their safety when coming to the hospital, as patients with COVID-19 are isolated and robots are assisting them in their daily needs.

The prototype robot is developed in collaboration with Universiti Teknologi Malaysia (UTM) and DF Automation and Robotics Sdn Bhd (DF). It is the First Malaysian Made Delivery Robot with the name Makcik Kiah 19 (MCK19) that stands for Key Innovations Assisting Healthcare (KIAH), inspired by the Prime Minister Tan Sri Muhyiddin Yassin during his pandemic budget measures speech aired to the Malaysians on the national media.

The initial task designed for the automation system is to replace the food distribution staff for quarantined patients for categories 1 and 2 (i.e. positively detected COVID-19 but healthy or mildly symptomatic).

The robotic project had obtained support from the Ministry of Science, Technology and Innovation (MOSTI), Ministry of International Trade and Industry (MITI), Malaysia Technology Development Cooperation (MTDC) and Ministry of Health (MOH).

The innovation has attracted the Secretary General MOSTI, Datuk Ir. Dr. Siti Hamisah Tapsir to visit HCTM on April 10, to see a demonstration session on the prototype of the robotic technology.

According to the Vice-Chancellor of UKM, Prof. Dato' Ir. Dr. Mohd Hamdi Abd Shukor, UKM welcomes the collaboration with UTM and DF. He also thanked MOSTI, MOH and MTDC for their strong support from especially for this trial phase.

Meanwhile, Director of HCTM, Prof. Dato' Dr. Hanafiah Harunarashid said the use of the robots and new innovations using Internet of Things (IoT) technology in combating and treating COVID-19 patients can reduce the risks to medical personnel and open the door to future innovations as well.

"In future, we have plans to produce robot that can take body temperature, blood pressure and conduct the sanitization process in the ward," he said.



# 12 Subjects Offered by UKM are Among the Top 200 in the World



The 12 subjects offered by UKM is recognized among the top 200 in the world by in all five broad subjects which are Arts & Humanities, Engineering and Technology, Life Sciences & Medicine, Natural Sciences and Social Sciences & Management in 2020 QS World University Rankings by Subject (2020 QS WURS) that announced recently.

The subjects are an Architecture/Built Environment, English Language & Literature in Arts & Humanities broad subject areas, Engineering-Chemical, Engineering-Civil & Structural, Engineering-Electrical & Electronic and Engineering-Mechanical, Aeronautical & Manufacture in Engineering & Technology broad subjects area. Besides that, Pharmacy & Pharmacology, Geography, Accounting & Finance, Communication & Media Studies, Education and Sociology in each broad subject area.

In addition, six subjects offered by UKM namely Linguistics, Modern Languages, Medicine, Communication & Media Studies, Education, Law and Sociology are ranked at position number 2 in Malaysia. The QS World University Rankings by subject also shown that UKM is positioned as the

top 3 local university amongst 22 local universities participated in the ranking exercise. Overall in all five broad subjects, UKM is positioned as the top 5 local university.

QS World University Rankings by Subject covers 1,369 institution and three of UKM broad subject areas are positioned in the top 250 in the world namely Arts & Humanities, Engineering & Technology and Social Sciences & Management. Being in the top 250 further shows that the academics from these areas are well known locally and globally with an impactful citation and H-index journal and for the employer side, it shows that UKM graduates receive high demand from employers which is more than 60 percent.

As a research university UKM adheres to its comprehensive university status by being ranked in all five broad subjects and being the strongest in the field of Engineering & Technologies further shows the focus given is in line with Malaysia Education Plan which emphasises on science, technology and 4th Industrial Revolution.

UKM was founded in 1971 and as the National University of Malaysia it has been awarded the status as a research university in 2006 by the Malaysia Government and ever since has grown into a household name in Higher Education Malaysia.

With a place amongst the top universities in the world and being in the top 5 universities locally, UKM will continue to deliver high quality education and pursuing excellence in the innovative research for the future.

# The University Impact Rankings 2020: UKM Rank At 101-200 In The World



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UKM, the national university which uphold the Malay language as the medium of instruction stands shoulder to shoulder with other top world ranking universities, as shown by the results of the recently released Times Higher Education (THE) University Global Impact Rankings. Although this is the first time UKM joined the THE University Global Impact Rankings, the university has performed well in the overall ranking, listed in the rank 101-200 worldwide.

From 17 Sustainable Development Goals (SDGs) in the THE University Global Impact Rankings, UKM had participated in 5 categories, which are Good Health and Wellbeing (SDG 3), Quality Education (SDG 4), Decent Work and Economic

Growth (SDG 8), Peace, Justice and Strong Institutions (SDG 16) and Partnership for the Goals (SDG 17).

Among the 5 SDGs, UKM was positioned in the Top 100 in the world for 3 SDGs; namely SDG 3, SDG 4, and SDG 17. For SDG 4, UKM is ranked at 46<sup>th</sup> place in the world. This reflects the contribution of the university towards lifelong learning initiatives, research on pedagogy and commitment towards inclusive education. For SDG 3 and 17, UKM was ranked in the 85<sup>th</sup> and 92<sup>th</sup> position, respectively. More than 800 institutions from 80 countries and six continents had participated in the rankings for this year edition



# UKM Received RM8.6 million from Petronas Research Sdn. Bhd. to Make Green Technology Sustainable

UKM received RM8.6 million from Petronas Research Sdn. Bhd. to develop sustainable hydrogen energy in several projects that will be implemented in stages relating to hydrogen production through electrolysis technology.

The funding will be given in two phases, RM3.6 million for the first phase and RM5 million for the second phase.

The Vice-Chancellor, Prof. Dato' Ir. Dr. Mohd Hamdi Abd Shukor said the cooperation made between





these two organisations is a proud achievement for both sides since the research that will be held will give long-term benefits, not only in renewable energy field, but also in other fields that include different faculties and institutes in UKM.

“This research is a public funding. So, we have to make sure every cent that we received is being used in a right way and gives something to our country,” said Prof. Ir. Dato’ Dr. Mohd Hamdi.

He said that the appointment of Prof. Dato’ Ir. Dr. Wan Ramli Wan Daud as the Chairholder (Sustainable Hydrogen Energy) is a good in this matter.

“InsyaAllah, Prof. Dato’ Ir. Dr. Wan Ramli and his team will give their best to make sure the success of this cooperation project,” he said.

Meanwhile, the Chief of Technology Officer, Research and Technology of Petronas Group, Dr. Nasir Darman said UKM was selected to run this research mainly because the credibility of the lecturers and researchers of UKM in this field can helped Petronas to reach their target to to producing research that will benefit to society.

He added, “As, we (Petronas) need a strategic partner that can be together with us in running this research regarding hydrogen to be commercialized to the society.”







# Collaboration UKM and KPJHB will Help Malaysia to Improve Medical Tourism



The unique medical tourism sector in Malaysia and the credibility of medical professionals as well as advanced medical technology is one of the attraction for people of other countries to seek medical treatment in Malaysia.

To help and ensure that Malaysia will always be the choice of patients from abroad to receive a treatment, UKM and KPJ Healthcare Berhad (KPJHB) decide to collaborate strategies to increase the business industry in health and medical field which includes health tourism for the development of the society and nation.

With the endowment worth RM1 million from KPJHB, both organisation will develop a joint-research project in six main fields that include quality management service, talent management, healthcare economy, health tourism, disruptive technology and operation.

The Deputy Vice-Chancellor Academic and International Affairs, Prof. Dato' Ir. Dr. Mohd Marzuki



Mustafa said UKM lecturers especially from UKM-Graduate School of Business (UKM-GSB) will give exposure and education to encourage the lecturers from KPJ University College (KPJUC) to be more innovative towards increasing the social welfare, that leads to more contributions in society and nation's development.

Meanwhile, the President of KPJHB, Dato' Amiruddin Abdul Satar said besides the endowment worth RM1 Million, KPJHB also contributed research grant worth RM150,000 to assist the research works between both institutions.

"UKM is making a big contribution to KPJ since the beginning of our establishment. We (KPJ) are indebted and are very grateful to UKM because this cooperation will produce more specialist doctors in Malaysia," he said.

With the collaboration, it will give a positive impact to the nation in order to produce medical specialist who are able to contribute to society as well as assisting the country economy through the medical business.

# Can Tocotrienols treat the Non-Alcoholic Fatty Liver Disease?

Tocotrienol is an anti-oxidant in the vitamin E family that potentially can be used to treat fatty liver. Tocotrienol (Natrieo) is an extracted from the “*elaeis guineensis*” palm fruit harvested exclusively from the plantations of Sime Darby Plantation Bhd, through the company’s molecular distillation process.

In view of its high potency as anti-oxidant, Faculty of Medicine, UKM and Sime Darby Oils (SDO) collaborated on the first comprehensive clinical trial to determine whether palm oil derived from Tocotrienols, could be used as a therapeutic agent for the treatment of non-alcoholic fatty liver disease (NAFLD).

The research project will be led by Prof. Dr. Raja Affendi Raja Ali, Consultant Physician in Gastroenterology & Hepatology at the Hospital Canselor Tuanku Muhriz along with his GUT research group team at the Faculty of Medicine. The research team will perform a randomised double-blind placebo controlled clinical trial using Tocotrienol (Natrieo) provided by the Sime Darby Oils in patients with fatty liver.

Prof. Dr. Raja Affendi said fatty liver or NAFLD is a major cause of chronic liver disease worldwide and its clinical and economic burden will continue to grow with parallel increases in rates of diabetes, obesity and the



metabolic diseases. Similarly, he said, in Malaysia the prevalence of NAFLD is up to 13% to 30% among adult population. This projection is based on the high prevalence of metabolic diseases among Malaysians that are commonly associated with NAFLD, such as diabetes, high blood pressure, high cholesterol and obesity. Evolving understanding of the natural history of fatty liver suggested that these individuals with NAFLD at high risk for disease progression to non-alcoholic steato-hepatitis (NASH) inflammation in the liver), fibrosis and cirrhosis (hardening of the liver) and also liver cancer.

“To date, there is no definitive therapy for NAFLD or except life style modifications; eat healthy diet, regular exercise, control diabetes, lower your cholesterol and avoid obesity. However, many researchers all over the world are studying many potential therapeutic agents that can treat fatty liver and we are going for Tocotrienols that produced locally to combat fatty liver disease,” he said.

Earlier studies had shown that Tocotrienols is a powerful antioxidant and is effective in reducing arterial blockage, lowering bad cholesterol and preventing a variety of ageing-related disorders due to reduced free radicals and DNA damage, among others.

“Tocotrienols is 40-60 times more potent in anti-oxidative properties than the commonly known tocopherol, which is usually extracted from other vegetable oils. And this is an advantage that Tocotrienols use for fatty liver disease because fatty liver has high oxidative states,” he said.

The public-private research partnership between SDO and UKM, which is expected to run for two years, will produce preliminary results within six months from the commencement of the clinical trial and expected publication in the high impact journal of the findings in 2021. It is hopeful that from the result of the study, it will give an important and positive impact to our community in tackling the rising cases of fatty liver in Malaysia and hence reduce the disease and economical burdens to our country.





# New Innovation Technologies to Help Diabetic Patients Walk and Move

MyB Ortho Shoes, MyB Air Walker dan MyB Muslim Prosthetic are three new products that will help diabetic patients to perform their normal work accordingly. The three products are designed and created by a renowned UKM Orthopedic Specialist, Prof. Madya Dr. Mohd Yazid Bajuri.

These products do not only assist the respective patients, but it is affordable especially to the low income group of people. Currently in the market, a prosthetic legs and special shoes are costly in which a prosthetic leg will cost the patients around RM8,000, a pair of ortho shoes will cost RM1,500 to RM2,000 and Air Walker RM1,000. However, with MyB Muslim Prosthetic, it will only cost around RM3,500 to RM4,000, Ortho Shoes for RM350 to RM500 and Air Walker RM400 to RM600. These are almost 50 percent reduction in cost from the market price.

MyB Ortho Shoes is a specially designed shoes that was custom based on the comfort of diabetic patients that prevent them from

any complications that were caused by Diabetes Mellitus disease while MyB Air Walker is a walk-in tool that has special sensors to detect patients excess weight. The technology was specially created for patients that undergo surgery for the bone fracture or ligaments injury for optimum recovery process.

Meanwhile, MyB Muslim Prosthetic is a prosthetic leg that were specially designed to ease

patient's movement that allow the leg to bend like a normal leg especially during performing the prayers for Muslims.

The innovation is made feasible via the RM273,400 fund given by Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC). The fund was used to create the products, which was given for free to selected 10 patients from the low group.

Based on the research conducted, the technology used helps to provide comfort to the patients in which each product is designed carefully by taking all aspects into consideration.

For those who wish to know more about this three products, kindly call the Department of Orthopedics and Trauma at 03-91456005.



# Shorter Treatment for Brain Cancer is Currently in UKMSC



Shorter treatment and more effective surgery for brain cancer patient is now available at UKMSC Gamma Knife Centre. The revolutionized technology uses a tested new technic known as Leksell Gamma Knife Icon to treat the patients, hence the patients that were diagnosed with brain cancer are no longer needed

to undergo normal surgery, but instead undergo the Gamma Knife radiation treatment.

The new treatment procedure at the UKMSC Gamma Knife Centre will help to reduce trauma risk on the brain and give detailed focus on problematic tissue or cell without affecting other healthy tissues or cells.

The Vice-Chancellor, Prof. Dato' Ir. Dr. Mohd Hamdi Abdul Shukor said treatment time will be shorter and the result will be more effective compared to the conventional surgery that takes time to heal. This make UKM as one of three hospitals in Malaysia that offers the treatment using Gamma Knife technology after two private hospitals.

Meanwhile, Deputy Director General of Health (Medical), Ministry of Health, Datuk Dr. Rohaizat Yon said that the Gamma Knife is still not available at any government hospital and UKM is the first learning hospital to have this centre.

He welcomed the involvement from the private sectors in helping the government to provide services and improve the health of the entire community such as offering treatment services using Gamma Knife technology at the UKMSC Gamma Knife Centre.

The construction of UKMSC Gamma Knife Centre started in 2017 with an expanse of 4,000 square feet that cost around RM30 million. People can seek treatment at the UKMSC Gamma Knife Centre by making an appointment with the relevant experts by calling 03-9174299 or search UKMSC at [www.ukmscgammaknife.com.my](http://www.ukmscgammaknife.com.my).



# HCTM Provides Medication via Postal Delivery and Drive Through Service



During the Movement Control Order (MCO), when everyone is required to stay home, it is difficult for patients to come to the hospital to get their medications. Even if the patient is able to come, most do not want to spend a long time queueing to get their medication as they fear for the virus spread. Taking this into consideration, for the safety of the patients Hospital Canselor Tuanku Muhriz (HCTM), UKM provides delivering medication to its patients via postal delivery and drive-through services to reduce the spread of COVID-19 virus whilst ensuring the supply of medication to patients remain unchanged under the MCO.

The service is only available on weekdays from 8.30 am to 4.30pm. Patients do only need to check on the remaining medications and send personal information such as the patient's name, registration number (RN) and address for eligibility





screening to the Pharmaceutical Department's via WhatsApp application at 018-9682218 (WhatsApp only).

Patients who are eligible for the service can fill up an online service form and the medication will be delivered to the registered address. The payment method is by cash on delivery and based on the weight of the packaging.

To patients who are not eligible for postal delivery, they may use the drive-through service at the hospital's reproductive centre's lobby following the date and time set by the pharmacy. Patients can also call the Department of Pharmacy at 03-91458241 or 03-91456990 (8.30am to 4.30pm on weekdays) a day before they can pick up the medicine. The pick-up time is between 10.30am to 12.30pm on weekdays.

In the wake of COVID-19, HCTM hopes this measure will not only reduce the number

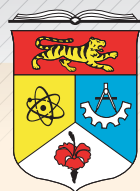
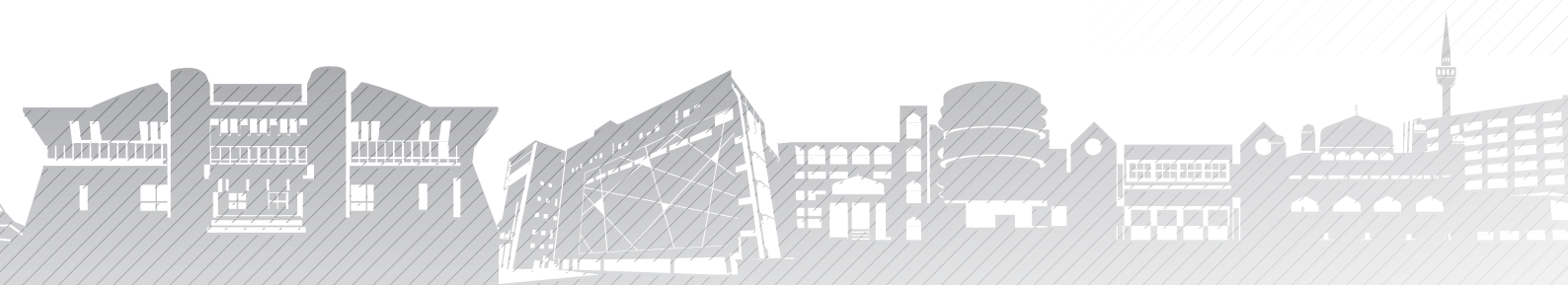
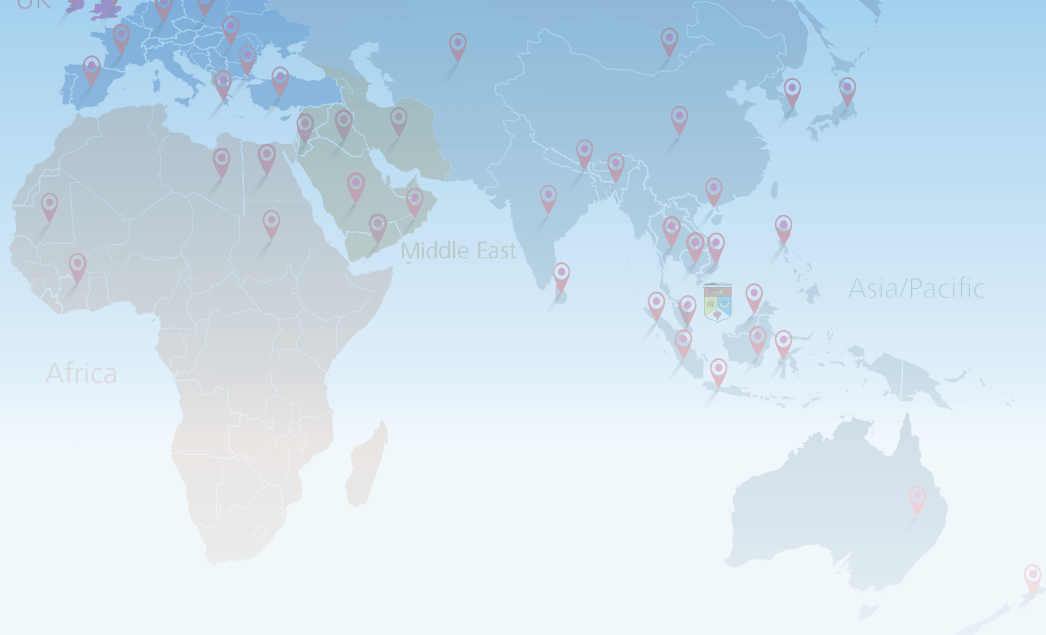
of patients and the public who come to the hospital for medication but also the risk of COVID-19 transmission. The safety and health of HCTM staff, patients and the public is a top priority for HCTM during this difficult time.

HCTM ensures that all SOPs related to prevention of COVID-19 and MCO are

constantly monitored to protect HCTM staff, patients and the public. The services given further shows that HCTM has always has the patients and public importance at heart.

If there are further improvements to suggest to HCTM or further information, please contact Main Outpatient Pharmacy at 03-91455424 or 03-91458241





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