

## Inside LKC Medicine – An Interview with Prof James Best

This year's Doctors in Training issue focuses on Singapore's newest medical school – the Lee Kong Chian School of Medicine (LKCMedicine). *SMA News* took the opportunity to interview Prof James Best, the School's dean, to have a closer look at what makes LKCMedicine special and the challenges the School faced to make it what it is today.

Prof Best is a distinguished medical leader, educator and researcher who has dedicated his career to improving treatments for diabetes and kidney disease. Prior to joining LKCMedicine, Prof Best was the Head of Medical School at the University of Melbourne in Australia – an institution he served for 25 years.

During this career, Prof Best has taught extensively, especially on the topic of diabetes and metabolism, as well as on the medical interview. His research has involved physiological and molecular studies of glucose disposal, as well as studies of lipid biochemistry and epidemiological and clinical studies of risk factors for cardiovascular disease in diabetes. His current research is predominantly in healthcare delivery for diabetes prevention and management.

The author of more than 200 publications, **Prof James Best (JB)** is a Fellow of the Royal Australasian College of Physicians, Royal College of Pathologists, Royal College of Physicians of Edinburgh and has an Honorary MD from St Andrews University. In June, he was appointed an Officer of the Order of Australia in the Queen's 2016 Birthday Honours.

### The medical school

**Was it challenging to take over a brand new school of medicine that has ambitiously incorporated some of the best learning practices from around the world?**

**JB:** Yes, it was, but I was excited to embark on this new challenge because there is a wealth of opportunities for new collaborations, partnerships and innovative academic approaches. I have joined a School that has a dedicated and talented team, which in turn is supported by hundreds from Nanyang Technological University (NTU) Singapore, Imperial College London (Imperial), National Healthcare Group and other healthcare organisations. I hope to leverage further on the strengths of these institutions as the School moves towards fulfilling its ambitious goals to redefine medicine and transform healthcare; in particular through our collaboration with Imperial in education and our joint medical research programme.

My immediate goal is to produce the first cohort of LKCMedicine graduates in 2018 who will be great doctors for Singapore and light the way for subsequent graduating classes. We have a huge responsibility towards these students and we will make sure that they graduate as highly competent and caring doctors for Singapore. In research, my goal is for the School to be recognised as a major contributor to medical research, both in Singapore and internationally, particularly by linking scientists and engineers with clinicians.

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**What are some teething problems you and/or the School encountered before accepting its first batch of students, and now, as the School prepares to welcome its fourth batch of students?**

**JB:** I joined the School in 2014, just in time to welcome our second cohort of students.

As a new medical school, we had the benefit of a blank slate when we started. This meant that we could address in advance the challenges many institutions encounter over the years, such as the planning of space or updating of teaching facilities. We have built teaching venues large enough to hold more than 200 students in one sitting, in addition to our smaller seminar rooms. Our custom-designed and built technology infrastructure is incorporated into the design of our learning facilities. Of course, we have to remain adaptable and open to innovation, so the challenge for us now is to stay at the forefront of innovation in medical education.

Having two of the world's finest universities as parent institutions – NTU and Imperial – has also given us access to a network of highly experienced and world-renowned scientists and clinical educators. Together with our excellent local faculty, we have come together across continents and time zones to create an innovative curriculum that is fit for the 21st century. At times, the scheduling was difficult and the School's progress is a tribute to those who led the curriculum development.

**Apart from ensuring that the School was ready for its students, what other challenges were there?**

**JB:** The other major task we faced was to develop a strong research strategy for the medical school. NTU is one of the leading universities in the world for engineering and computer science. Using the expertise in clinical research and health systems within our medical school and bringing in colleagues from NTU, we can collaborate with health services in Singapore to improve healthcare outcomes. Just a few examples of research areas that can benefit from this multi-disciplinary approach are infectious diseases, rehabilitation, aged care and diabetes. However, we have another very important link – our joint medical research programme with Imperial. It is the responsibility of any world-class medical school to advance medical knowledge and we have the advantage of two very accomplished research-intensive universities as our parents, plus a talented and experienced faculty.

We are taking an integrated approach to cover everything including lab-based discovery research, clinical research, health services research and population health research. If we can successfully link these different research elements and researchers with diverse backgrounds, we can transform how we treat diseases such as dengue, diabetes, heart disease and Parkinson's disease.

**What is unique about LKCMedicine's teaching and learning style?**

**JB:** One of the great advantages of starting a new medical school is that we were able to infuse best practices from around the world into our curriculum to produce medical graduates who will be prepared for medicine of the future. We hope that a future with personalised medicine will become a reality and that our students can be the agents of change in the way healthcare is delivered and medicine is defined.

In 1950, it was estimated that medical knowledge doubled every 50 years; by 1980, it doubled every seven years, by 2010 it doubled every three-and-a-half years and by 2020, it will be doubling every 73 days.

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This is why when we developed our teaching approach, we adopted a flipped classroom, Team-Based Learning (TBL) approach that teaches students how to access the facts they need, how to analyse that information and how to apply it appropriately in caring for patients.

To ensure that students master relevant basic medical science knowledge, we introduce them early on to the professional and clinical aspects of their future world. Students regularly spend time in a polyclinic where they practise their clinical and communication skills with the help of simulated patients. They also interact with their future colleagues and other healthcare professionals, who join them as content experts in TBL lessons and instructors for practical sessions. We also want our students to see and experience the healthcare system through the patients' eyes. That's why students spend one week each in a polyclinic and a hospital during the first two months of their studies. They also have a Long-Term Patient Project, during which they follow a patient over the course of two years to see how their condition affects their lives and their families.

To prepare our students for what might be a career of 50 years, we emphasise the importance of lifelong learning. Therefore, it is important that they are familiar and comfortable with research. To help instil an appreciation of the research process, we've introduced a six-week Scholarly Project module which all students undertake at the beginning of Year 4. I saw the impact of this approach at the Melbourne Medical School, where every student does a research project which helps them understand the research process and appreciate how new knowledge in medicine arises. Students need to be engaged in research through hands-on experience, so they can learn to evaluate new knowledge for themselves. Research also teaches them how to ask relevant questions, which is very important in the practice of evidence-based medicine.

These elements are combined in our curriculum and students are taught in a way that emphasises critical thinking and problem-solving over excessive memorising of facts. We also have a major emphasis on professional development with strong elements of ethics and the responsibilities that come with being a doctor.

**What are the strengths of LKCMedicine that would sway an undergrad student to apply for studies here?**

**JB:** We may be a young medical school, but we draw on a strong tradition and many exceptional medical educators. Our outstanding clinician educators come from Singapore's finest hospitals, including Tan Tock Seng Hospital (TTSH) and the primary care sector, particularly the polyclinics.

Complementing our experienced clinician educators, our students benefit from the world-class curriculum developed by Imperial, which has been customised for the Singapore context. They also benefit from other extensive links with Imperial, including student exchanges and research opportunities.

Given that all medical schools are highly regulated by the Ministry of Education and the Ministry of Health (MOH), our students are assured of a quality education. So the decision should be a personal one – where would I be happier and where would I learn best?

Let us not forget that our students graduate with a joint degree issued by NTU and Imperial, a qualification that will be highly regarded around the world.

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**There has been some controversy about the best ways of teaching of anatomy in recent years. How is LKCMedicine handling it?**

**JB:** Being a new medical school gave us a unique opportunity to review best practices and the latest technologies available to support our educational efforts. That's why when it came to our anatomy teaching, we developed a multidisciplinary, clinically-oriented teaching approach that incorporates clinical imaging technologies including X-ray, MRI and ultrasound as well as the use of donated bodies and body parts that have been specially preserved. These prepared anatomical specimens allow students to see, touch and interact with the human anatomy. To augment their experience, we have also introduced the Anatomage Table, which allows students to virtually dissect a life-sized human body. Our anatomy teaching is supported by clinicians from the fields of radiology and surgery so that the clinical relevance is emphasised.

**Preparing for the future**

**How does LKCMedicine's learning or teaching style integrate into Singapore's need to produce more local doctors and reduce reliance on foreign recruits?**

**JB:** LKCMedicine was set up to meet the expected rise in healthcare demands of an ageing Singapore population. We are augmenting Singapore's healthcare workforce by producing top-quality doctors and medical leaders who are attuned to the needs of patients and the community. We have also introduced innovations to medical education that prepare our graduates for lifelong learning and medicine of the future. At the same time, we are providing more opportunities for Singaporeans to pursue a high-quality medical degree here in Singapore.

**How do we integrate the LKCMedicine students with those from the other local medical schools?**

**JB:** During the clinical years, our students work at healthcare sites across Singapore alongside students from the National University of Singapore Yong Loo Lin School of Medicine (NUS Medicine) and Duke-NUS Medical School, and a great spirit of collegiality has already developed. For example, when our inaugural cohort started on their clinical years, the NUS Medicine students extended a helping hand, even sharing the much treasured MedBear notes!

They've also come together in friendly sporting competitions, such as the Med-Nurse Games, and the three medical societies are working on plans to create more opportunities for students to meet up and interact.

MOH is convening a series of meetings involving the three medical schools to ensure cooperation and coordination in clinical placements and in the core medical school curriculum.

**What type of doctors do you hope your graduates will become?**

**JB:** Our goal is to produce doctors equipped to advance the science and practice of medicine for the good of humanity. Through an innovative medical education of the highest international standards, we guide our students to become competent and confident doctors who put society and patients at the heart of what they do, while being at the forefront of medical advances in patient care.

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## **Student cohort**

### **What student initiatives have been started by your current students?**

**JB:** Our students have had the unique opportunity to co-create the student experience at LKCMedicine. The School gave them structures such as the House System, which acts as a mentoring and guidance system, as well as a vehicle that brings together students across the year groups. Our students have filled the House System with activities and life. Each House is developing its own identity, which is driven by the students; they have designed the House crests, mottos and defining features. One student from the inaugural cohort even drew portrait sketches of the medical luminaries after whom the Houses are named. Each year, the Houses compete in a championship that runs throughout the year.

Beyond this, students have been busy setting up new traditions, such as developing the medical society, designing freshmen orientation programmes, holding jamming sessions and initiating Overseas Community Involvement Projects – the first of which was to Batam, Indonesia. Students now go to Batam four times a year to provide health education to villagers. The students have also set up annual projects that are further afield in India, Nepal, the Philippines, Sri Lanka and Cambodia. Our faculty provides assistance and support where necessary, but we leave it to the students to develop the projects and they have been very resourceful!

### **How do you find the local students, compared to your Australian students? Some teachers have the perception that Singapore students need more spoon-feeding and that they are quieter (less likely to ask questions or participate actively in discussions) – is this accurate?**

**JB:** With TBL as our main instructional pedagogy, most of our students, no matter how quiet they are, soon open up and learn how to participate in discussions and defend their views to their peers and content experts. The active learning that's required of them at our School also makes them more independent and resourceful, and after a few weeks of TBL, there are few differences between students in Singapore and Australia.

I had the opportunity to interact with our students on a number of occasions during the year and I find them engaging and able to express their views well. Reports about our students during their first full year of clinical teaching are very positive in all aspects, particularly about their communication skills.

### **Is it difficult on the students to have to travel to different campuses (NTU, TTSH, Headquarters) for lessons?**

**JB:** With our dual campus, we aim to offer our students the best of both worlds – the academic and the clinical one. Embedding them in these two worlds from the beginning allows our students to become familiar with the dynamics of these two contrasting worlds. And of course, no matter where they study, once students enter their clinical years, travelling to different teaching sites is the norm.

That's when another benefit of the dual campus becomes apparent. With our Novena campus located near a number of teaching hospitals and its island wide connectivity, we hope that it will remain a strong base for students – somewhere they come back to even when posted further afield.

On a practical level to help them with the distances, we run a dedicated bus service that provides students with a guaranteed mode of transport from their halls to lessons – wherever they may be.

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**When interviewing applicants, what are the traits that you look for in potential students?**

**JB:** At LKCMedicine, we aim to nurture doctors you and I would like to have caring for us, so when we interview, those are the attributes that we look for – communication skills, compassion, integrity and empathy.

**How are your students currently unique, different or similar to other Singapore medical students?**

**JB:** Like their peers in the other medical schools, our students are among the brightest in Singapore. I think during our early years, we perhaps attracted students who are more pioneering and entrepreneurial, because it can be daunting going to a school where there are no seniors and no traditions. However, as we add cohorts to our student body and we become more established, this point of differentiation diminishes.

Another aspect that makes our students stand out – to me at least – is their dedication to the community, whether that’s here in Singapore or further afield. With more than 80% of our student body actively involved in one or more volunteering programme, I feel that we do truly attract students with a heart to serve.

**Personal**

**What are your thoughts on the residency programme?**

**JB:** The current residency programme was introduced quite recently and follows the US system. With the design of our curriculum, we aim to prepare our students for a seamless transition to the internship year and then to the residency programme. We are placing a strong emphasis on clinical competency and understanding of the health system and the practical skills required.

With our growing student numbers, we are extending our network of healthcare partners to range from TTSH and KK Women’s and Children’s Hospital in central Singapore to the Eastern Health Alliance in the east, Ng Teng Fong Hospital and National University Hospital in the west, Khoo Teck Puat Hospital in the north and Singapore General Hospital in the south, so that our students benefit from the rich expertise of the whole hospital community.

**What hobbies do you have?**

**JB:** I enjoy swimming and of course have come to the perfect country for this purpose. Once I get into the right freestyle (once known as the Australian crawl!) rhythm, I feel relaxed and some of my best ideas arise when I am swimming. I also enjoy reading novels or books by travel writers about places I visit and I do like listening to music, from opera to country music.

**Would you send your children to LKCMedicine?**

**JB:** Of course, but too late for that, as neither of my two sons studied medicine. It will have to be grandchildren and I am patiently waiting!

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