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The scope of sports medicine practice has expanded globally beyond management of injuries in athletes to include exercise intervention to manage common chronic diseases in non-athletes. In the Singapore context, this widening scope is driven by three factors: the projected increase in the number of Singaporeans taking up sports, the rising prevalence of chronic diseases in our fast-ageing society and the anticipated shortage of sports medicine specialists to cope with these demands. This has created an urgent need to offer sports medicine services in primary care settings.

Growing demand due to higher sports participation rate

A 2014 Sports Index Survey conducted by Sport Singapore showed that 38% of the respondents engaged in sporting activities at least three times a week, compared to just 16% in 2001. This two-fold increase in regular sport participation is expected to increase further as the Government continues to promote active lifestyles as part of its strategy in the war against diabetes and other chronic diseases. The corollary of having a more active population is an increase in the incidence of sport injuries and in demand for sport injury prevention and treatment services.

Most common sport injuries can be managed effectively at the primary care level by physicians with the essential sports medicine skills, which would free up capacity in the sports medicine specialist clinics to manage more complex cases. Even in current practice, musculoskeletal conditions form a significant proportion of cases seen by GPs. According to A/Prof Benedict Tan, Chief of Sports Medicine at Changi General Hospital (CGH), who is also an Asian Games gold medallist and Olympian in the sport of sailing, "Sports injuries see better outcomes when given prompt attention, and that is why primary care doctors need to be better equipped to manage these injuries."

Growing demand due to ageing demographics

Singapore's demographics are undergoing a major transformation, with the number of senior citizens aged 65 years and above projected to double from 430,000 in 2014 to 900,000 in 2030. This shift puts significant pressure on the healthcare system due to the projected increase in the prevalence of chronic diseases and musculoskeletal conditions that are associated with ageing. Besides being well-positioned to provide care for musculoskeletal injuries, the international





sports medicine community has been developing programmes to promote exercise prescription as an alternative or adjunct to drug prescription for the prevention and treatment of chronic diseases and falls for more than a decade.

Essential sports medicine skills are highly relevant as our system for care delivery shifts strategically from "healthcare" to "health" to better address the challenges posed by a fastageing society.

Demand outstrips capacity of sports medicine services

Sports medicine care is currently accessible at specialist clinics in a few public hospitals and private clinics that are supported by fewer than 30 registered sports medicine specialists. This small pool of specialists serves the general, military, police, performing arts and athlete populations, and provides medical support for major sporting events and international competitions. The mismatch in supply and demand for sports medicine services is likely to increase exponentially in the next ten to 20 years, as the training of sports physicians (a subspecialty) takes six years to complete. Besides increasing the pool of sports medicine specialists, increasing the complementary pool

of primary care practitioners with the relevant sports medicine skills and knowledge will also help to meet the anticipated increase in demand.

New certification in sports medicine

To fulfil these objectives, the Lee Kong Chian School of Medicine (LKCMedicine), Nanyang Technological University, Singapore, in partnership with the Singapore Sport & Exercise Medicine Centre @ CGH, has launched a Graduate Diploma in Sports Medicine (GDSM) for Singapore Medical Council (SMC)registered medical practitioners. This is the first postgraduate medical programme for sports medicine, not only in Singapore but in Asia, and its inaugural cohort of 20 students commenced their studies on 31 July 2018.

The programme, which is accredited by the SMC, equips physicians with the knowledge and skills to manage musculoskeletal injuries in the athlete, military and general populations, and to function as team physicians for sporting events. Physicians will also be trained to prescribe exercise as a tool for chronic disease prevention and management. The one-year parttime programme comprises six online modules, three workshops, 20 hours of clinical attachment and a three-day summary training.

Programme development and support

The GDSM curriculum was designed after extensive consultation with the sports medicine community in Singapore. It was also externally reviewed by Prof Peter Brukner, a highly respected sports medicine practitioner and academic. Prof Brukner is also a visiting professor at LKCMedicine and Professor of Sports Medicine at La Trobe University, Australia. The GDSM is supported by an advisory committee, which comprises senior sports medicine practitioners in Singapore and is chaired by A/Prof Benedict Tan. The faculty for the GDSM includes sports medicine and other medical specialists, as well as senior physiotherapists and exercise scientists from public and private institutions.

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Making sports medicine accessible to all

Bringing sports medicine into the heartlands and making services readily accessible is an essential component to achieving the Government's vision of delivering health to all Singaporeans. Singaporeans are living longer; yet at the same time, we live more years of our lives with illness. Sports medicine can play a significant role in extending the healthspan of Singaporeans.

Application for the 2019 intake will open on 1 March 2019. For more information, please email gradprog_ LKCMedicine@ntu.edu.sg or visit http://www.LKCMedicine.ntu.edu.sg/ Programmes/GDSM. ◆

Legend

- 1. A subject's physical fitness is assessed using the Jackson strength test
- 2. A runner points out the level of effort required as part of his VO2 Max test

A/Prof Lim is the GDSM programme director and associate professor of Exercise Physiology at LKCMedicine. Prior to this, he set up the Singapore Sport Institute, serving as its first executive director, and served on the Singapore Armed Forces Fitness Advisory Board and the National Sports Safety Committee.



A/Prof Tian is the the GDSM's clinical course director, and senior consultant, Sports Medicine, CGH. He is also the director of the Singapore Sports Medicine Centre at Novena Medical Centre. A/Prof Tian is active in both undergraduate and postgraduate teaching, and has published and presented his work in international journals and at meetings. He contributes his expertise to several national committees and advisory panels.