

By Dr Ben Tan

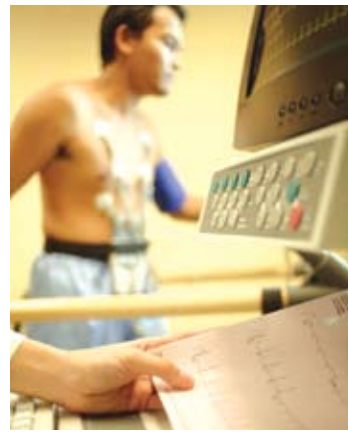


Photo Credit: Changi General Hospital (first three photos on top)

Development and Future of Sports Medicine in Singapore

In recent years, we have seen Singapore becoming more and more of a sporting nation. Not only are more Singaporeans participating in sports and exercising, the sports calendar in Singapore has grown fuller and the range of available sporting activities has broadened. As exercise becomes entrenched in the management and prevention of many chronic diseases, we find previously sedentary individuals starting to exercise. In the midst of an expanding sports industry, the scope and depth of Sports Medicine in Singapore has had to keep pace with the increasing demand.

MORE SINGAPOREANS TAKING UP SPORTS

More Singaporeans are exercising regularly. The National Survey on Sports Participation showed that the number of Singaporeans who exercised regularly at least once a week doubled from 24% in 1992 to 48% in 2005, while those who exercised at least three times a week more than tripled from 8% to 25% in the same period. It is likely that sports

participation rates will continue to rise, if overseas figures are anything to go by – sports participation rates in Scandinavian countries are around 70%!

This year, Singapore's sports calendar features three full marathons, numerous biathlons, duathlons, triathlons (including a half Ironman) and even ultramarathons such as the 84 km Sundown Marathon and the 12-hour MR25 Ultramarathon. This is in comparison to previous years where there was only a single marathon and a few other endurance events. The number of runners at the annual Singapore Marathon has increased exponentially in recent years, reaching a record of 40,000 in 2007. The figures for the OSIM Triathlon are equally impressive.

Apart from endurance events and 'mainstream' sporting activities such as tennis, football, basketball and so on, Singapore's sporting landscape boasts unusual and exciting options such as wakeboarding, sailing, ultimate Frisbee, go-karting, archery, competitive paintball, ice-skating, lacrosse,

Dr Ben Tan is the Head and Senior Consultant Sports Physician at the Changi Sports Medicine Centre, and the Medical Director of the Singapore Sports Medicine Centre. Having started sailing at the age of 12, he became renowned for his consistency at major events, winning four consecutive SEA Games golds and an Asian Games gold, as well as keeping him within the top 50 in official World rankings. He was the first recipient of the SNOC's Multi-Million Dollar Award Programme and was declared Sportsman of the Year three times (1991, 1994 and 1995). He is also placed Top 10 in Timesport's Millennium Series on Singapore's Sporting Greats.

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ballroom dancing, petanque, muay thai, capoeira, yoga, and much more. There is something for everyone, so it is not surprising that more Singaporeans are becoming physically active.

Apart from the buzz on our island and its surrounding waters, Singaporeans are also venturing overseas to participate in sports. We have busloads of triathletes crossing the causeway to compete in Port Dickson, Singaporean divers venturing to exotic diving spots, runners traversing the Sahara and Gobi deserts and climbers summiting Mount Everest.

THE ROLE AND DEVELOPMENT OF SPORTS MEDICINE

As the number of active individuals increase, so too does the demand for Sports Medicine by members of the public. Injuries do occur, but most can be managed effectively, with full return-to-sport. Diagnosing sports injuries has become more precise with bedside musculoskeletal ultrasound sonography, higher-resolution magnetic resonance imaging (along with Musculoskeletal Radiologists) and other tools. Treatment options now include ultrasound-guided injections and aspirations, as well as

extra corporeal shock wave therapy (ESWT). The increasing number and competency of Sports Physiotherapists, Sports Trainers, and Sports Podiatrists ensure better outcomes, making our Sports Physicians look good. We now have video gait analysis and other techniques to aid in identifying root causes, hence minimising recurrences. Complementing our Sports Physicians are Sports Orthopaedic Surgeons who take care of the surgical arm of Sports Medicine. When surgery is indicated, the benchmark of success is often no longer just the alleviation of pain or instability, but more importantly a return to the patient's pre-injury level of sporting activity. Sports Medicine is a great example of multidisciplinary care involving not only physician, surgeon and allied health professionals, but also coaches, sports trainers and sports scientists. With such intensive

care, our athletes face minimal downtime and enjoy safe participation in sports and exercise.

The increasing participation rates and competitive drive has necessitated not only better injury management and prevention, but also pre-participation screening. The sophistication of sports events also requires professional events medical coverage.

Concurrently, exercise intervention in the management and prevention of chronic diseases is becoming entrenched, further increasing the need for professionals in the exercise arena. Those with diabetes, hypertension, dyslipidaemia, coronary artery disease, chronic lung disease and obesity undergo exercise testing to demarcate safe exercise limits, followed by exercise prescription tailored to their condition and specific objectives.

At the elite level, more and more Singaporeans and foreign sports talents based in Singapore train and

compete professionally, demanding higher levels of Sports Medicine and Sports Science support. Not only do we have our own Singapore Sports School, there are Centres of Excellence throughout the island catering to young athletes intending to turn professional after completing their studies. The construction of the S\$1.5 billion sports hub, an injection of S\$500



Dr Ben Tan using an ultrasound machine.

million for sports over the next five years, and Singapore's hosting of the inaugural Youth Olympic Games, the Asian Youth Games, the world's first Formula One race to be held at night and the Volvo Ocean Race, can only serve to fuel the demand for Sports and Exercise Medicine. As the level of competition rises and the stakes increase, Sports Physicians are spending more time in anti-doping activities, from counselling and education to supervising in and out-of-competition testing, and submitting and approving requests for therapeutic use exemptions (TUEs).

HISTORY

Sports Medicine was first introduced to Singapore as far back as 1973, with the establishment of the Sports Medicine and Research Centre by the Singapore Sports Council (SSC). Singapore Armed

Forces' (SAF) Soldier Performance Centre was another hotbed for Sports Medicine in the early years. During this time, Sports Medicine services remained an exclusive privilege for elite athletes and military personnel.

At the turn of the millennium, Sports Physicians ventured beyond the SSC and SAF, and started practicing in restructured hospitals, such as Changi General Hospital, Alexandra Hospital and KK Women's and Children's Hospital. Private Sports Medicine centres and clinics have also sprouted in the past few years. This made Sports Medicine accessible to the general public, as is the case in the US, Europe and Australia.

SPORTS MEDICINE AS A SUBSPECIALTY

In Europe, Australia and New Zealand, Sports Medicine is positioned as a full specialty, while in the US and Canada, it is a subspecialty. Last year, Sports Medicine was recognised as a subspecialty in Singapore. Doctors who have exited from Internal Medicine, Emergency Medicine, Orthopaedic Surgery or Family Medicine are eligible for a three-year subspecialty training in Sports Medicine before exiting as a Sports Physician. November 2007 saw Changi Sports Medicine Centre (CSMC) taking in Singapore's very first Sports Medicine trainee. Medical Officer posts are also offered by CSMC.

In developed countries, Sports and Exercise Medicine is a popular field: The American College of Sports Medicine (ACSM) has more than 20,000 members worldwide; the Italian Federation of Sports Medicine Doctors (FMSI) has 4,405 members, about half of whom are fully accredited Sports Medicine specialists. Worldwide, the scope of Sports Medicine has gone beyond managing elite athletes exclusively, to include the sedentary who wish to embark on exercise programmes, the disabled, the elderly and the clinical population.

At the time when healthcare is becoming fragmented, doctors who are familiar with managing the 'whole athlete' are crucial. These doctors are expected not only to return injured athletes back to their sport expediently and safely (instead of simply asking the patient to rest), but also be able to manage medical conditions with the specific demands of the sport in mind, be proficient in exercise testing and prescription (especially for chronic disease management), be able to interact professionally and comfortably with coaches, trainers and team managers, be proficient in running the medical aspects of major sporting

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events, be thoroughly familiar with doping control and education, and be able to serve professionally in the medical commissions/ committees of national and international sporting bodies.

THE FUTURE

With a rapidly expanding sports industry, Sports Medicine is facing great difficulty in keeping pace. The limiting factor, as always, is human capital – it takes time to train Sports Physicians as well as Sports Physiotherapists, Podiatrists, and other allied health professionals. If we can overcome this bottleneck, then Singapore is likely to see multidisciplinary Sports Medicine centres sprouting up, both within existing institutions and in the community, much like the Medical Fitness Centres in the United States, where the number of centres has grown from 79 in 1985 to 875 in 2006. Such medically integrated health and fitness centres provide a continuum of care, with a strong emphasis on prevention and early intervention.

Sports Medicine will always be at the service of our elite athletes. The real challenge would be to meet the needs of those at the base of the pyramid – the recreational athletes, the non-competitive exercising population and the clinical populations who require exercise intervention, as they form much larger numbers than our pool of elite athletes. ■