Sports medicine in New Zealand

C. J. Milne MB, ChB, Dip Sports Med, MRNZCGP

General Practitioner, Hamilton, New Zealand

Sports medicine in New Zealand is characterized by a team approach. Experienced professionals work together to the benefit of athletes, be they elite performers or those in sport for purely recreational purposes. A no-fault accident compensation scheme is used to provide speedy access to treatment services for those injured in sport and also for advice on accident prevention. Recent initiatives include a task force on drugs in sport and the creation of regional sports foundations. Sports medical education is a prominent part of the New Zealand scene.

Keywords: Sports medicine, New Zealand, team approach, no-fault accident compensation

Sport in New Zealand has been described as a national passion¹. Because of this, the community accepts that the medical support of both competitive and recreational athletes is a sound investment. Thirty years after the establishment of sports medicine in New Zealand, the country is well served by a range of experienced professionals and organizations.

Interested groups

New Zealand Federation of Sports Medicine (NZFSM) This is the organization representing professionals working in the field. Following discussions with the then Sir Arthur Porritt at the 1961 British Medical Association Conference in Auckland, the inaugural meeting was held in Dunedin in 1963. Over the past 30 years the federation has grown to a professionally managed organization well recognized on the national and international scene. It is affiliated to the Federation Internationale de Medecine Sportive (FIMS)².

Its membership of over 900 is drawn from many professional groups including doctors, physiotherapists, sports scientists, psychologists, physical educators, dentists and coaches. It provides a forum for the free exchange of ideas between these people (*Figure 1*).

New Zealand National Olympic Committee (NZNOC) Formerly the New Zealand Olympic and Commonwealth Games Association (NZOCGA), this organization grants 'access rights' to national bodies for participation in major multisport festivals, particularly the Olympic and Commonwealth Games. It has a scientific commission, composed of both doctors and sports scientists, many of whom are members of the NZFSM (*Figure 2*).

Hillary Commission of Recreation and Sport This commission is named after New Zealand Mountaineer Sir Edmund Hillary, who, with Tenzing Norgay, was first to reach the summit of Mount Everest in 1953.

This commission is the principal avenue by which public funds are channelled into sport and recreation. Its role is thus analogous to that of the Sports Council

Figure 1. Two of the leading figures in New Zealand sports medicine, Dr Dave Gerrard, Chairman of the New Zealand Federation of Sports Medicine with Dr Matt Marshall, retiring President. Dr Gerrard is a former Empire Games swimming gold medallist and is currently an Olympic selector. He holds New Zealand's first full-time academic appointment in sports medicine. Dr Marshall was a member of the recent task force on drugs in sport and is Deputy Chairman of the Oceania National Olympic Committees (ONOC) Medical Commission

Address for correspondence: Dr Chris Milne, 32 Killarney Road, Hamilton, New Zealand

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0306-3674/92/010022-05

Figure 2. New Zealand's medical team for the 1990 Commonwealth Games, held in Auckland. Four doctors, five physiotherapists and two massage therapists were appointed to care for a team of 224 athletes

in the UK. The Hillary Commission also distributes funding to approved research projects through its recently established Sports Science and Technology Board (NZSSTB). Grant applications are considered by the board on an annual basis.

Accident Compensation Corporation (ACC) This independent organization was set up to administer a no-fault compensation scheme. The three objectives of this scheme are accident prevention, rehabilitation and the provision of earnings-related compensation³. It is funded from three sources – levies on employers, levies on motor vehicle owners and general taxation.

Since its establishment, the ACC has funded many accident prevention programmes. Several years ago the wearing of mouthguards in contact sports was a major project. More recently, pressure from New Zealand led to international rule changes to 'depower' the rugby scrum, resulting in a reduction in major cervical spine injuries.

In recent times there has been some debate as to the wisdom of employer-funded contributions being used to pay for treatment of sports injuries. From April 1992, employees and the self-employed will be levied up to 70 cents of every 100 New Zealand dollars to pay for sporting and non-work injuries.

Regional Sports Foundations These operate in many parts of the country, and are funded from both central New Zealand government and donations from local industry. They provide a local resource, with coaching courses, plus advice on planning, administration, finance and promotion.

Organization of medical care

In New Zealand, medicine operates similarly to the UK. Many New Zealand doctors have received postgraduate training overseas, and the public hospital system is set up in a similar way to the

British model, with government funding directed via area health boards³. Primary medical care is provided by independent general practitioners, working alone or in group practices. A fee-for-service system operates with state subsidies for children, pensioners and beneficiaries. The average fee for an adult consultation is 30 New Zealand dollars (about ten pounds sterling), and state subsidies account for about 75% of the fee for children and 40% of that for pensioners or beneficiaries. Accident-related consultations are paid for via the ACC scheme, up to the average fee stated above. About one-third of the population is covered by private medical insurance.

Aspects of sports medicine

Injury management

When a New Zealand athlete is injured, he or she usually presents initially to the general practitioner, who will make a clinical diagnosis and arrange appropriate treatment. If the injury is accident related, treatment costs are paid by the ACC. A certain amount of bureaucracy is involved (Figure 3) but in view of the fact that the ACC is paying for treatment, this is deemed to be a necessary evil.

Early diagnosis and management usually result in good functional recovery and a rapid return to work and sport. Physiotherapy services are available in all but the most remote parts of the country. Should a specialist opinion be required, this too is paid for in accident cases, as are certain investigations such as

Figure 3. Sample Accident Compensation Corporation form

radiography and ultrasonography. Complex and expensive procedures (e.g. computed tomographic scanning) require prior approval from the ACC. If surgery is necessary, this may be arranged at the local public hospital. Private surgical costs are met only in cases of unreasonable delay in the public system (a common occurrence) and the prospect of a rapid return to work after surgery. In view of the constraints on funding, it may well be that this system is amended in future⁴.

Women and sport

At the top level, New Zealand sportswomen are the equal of any in the world. Until recently our netball team were world champions; Susan Devoy is World Squash Champion; and Erin Baker is the world's top-ranked woman triathlete.

Among recreational athletes, the Hillary Commission is mindful of a drop-off in sports participation following childbearing, and recently organized a series of public meetings. Dealing with exercise in pregnancy, plus aspects of diet, these meetings provided motivation for mothers-to-be to continue an exercise programme. In the early 1980s, Radio New Zealand ran a successful 'Stepping Out' programme aimed at women who wished to take up running⁵.

Children and sport

The Kiwisport programme is an attempt to 'down-size' traditional playing fields and alter rules to make these games more rewarding for children. For example, netball goal posts are lowered, which improves the chances of scoring goals, thus improving motivation. Similar changes to the dimensions of other playing fields have seen Kiwisport adapted for rugby, soccer and basketball.

Cardiac rehabilitation

This programme has been promulgated via the Young Men's Christian Association movement, particularly in Auckland. Renowned athletics coach Arthur Lydiard provided much of the early inspiration, and now there are 'marathon clinics' in several centres around the country. These clubs encourage heart attack survivors to participate in regular exercise, and many have completed a marathon.

Drugs in sport

New Zealand is not protected from disturbing worldwide trends, including the use of performance enhancing drugs. In accordance with international opinion, the NZNOC, firmly supported by the NZFSM, has adopted rules which prohibit the misuse of drugs for moral, health, safety and ethical reasons⁶. Following major enquiries in Canada and Australia, New Zealand has recently set up a task force which recommended the establishment of an independent New Zealand Drug Testing Authority⁷. To reinforce this, the Medical Council of New Zealand has recently informed all doctors that prescription of doping agents to athletes could result in disciplinary action⁸.

Drug education booklets have been produced, and a card giving recommended treatment guidelines and drugs to avoid has been prepared for distribution to athletes and other interested parties.

The NZNOC is the leader in sports antidoping procedures in New Zealand and has arranged testing venues at student health centres in major cities. It is not cost-effective to operate an International Olympic Committee accredited laboratory in New Zealand, and samples are air-freighted to Australia or the USA.

Medical problems

Medical problems in athletes are managed along standard lines. Most high technology services are available, although it was only in the last few months that New Zealand's first magnetic resonance imaging scanner was installed (Figure 4).

Exercise physiology

We have three national centres of excellence, responsible for testing most national teams. These are the Otago University Human Performance Centre and recreation centres at Auckland and Canterbury Universities (see Figure 5). A small amount of

Martin Crowe's latest image

Top cricketer Martin Crowe spent over an hour recently developing a new image for himself. It could make a big difference to his sporting career.

The event took place at Auckland's Mercy Hospital inside a Magnetic Resonance Imaging System.

Mr Crowe was one of the first New Zealanders to experience the benefits of a machine described as the most significant advance in diagnostic medicine since the CT scanner.

Since December, Mr Crowe has suffered mysterious sharp pains in his right shoulder, especially when throwing.

Medical director Dr Kevin Lee (shown above with Mr Crowe), a New Zealand radiologist with extensive overseas experience, said that Mr Crowe was the sixth patient to use the new imaging system.

Figure 4. New Zealand's first magnetic resonance imaging scanner is used for sports medical diagnosis (cutting from New Zealand General Practice 23 April 1991)

Figure 5. Exercise physiology testing in progress at the Human Performance Centre, Otago University. The subject is Tania Pearce and the physiologist is Dr Duncan MacFarlane

continuing research is performed at these establishments. In addition, individuals work as private fitness consultants to teams such as the All Blacks and America's Cup crews.

Sports psychology

This discipline is in its infancy in New Zealand, but is developing an academic base at the Otago University Human Performance Centre. New Zealanders are pragmatic individuals, and in the absence of academically trained staff many coaches have developed their own insights into this field. For the first time, an official psychologist will accompany the New Zealand Olympic Team to Barcelona.

Sports medical education

This is available from a variety of sources⁹

1. NZFSM administers a Certificate of Sports Medicine for graduate doctors and physiotherapists. A 2-year part-time course, it provides a basic grounding in the discipline. For coaches, NZFSM offers an adaptation of the Australian Sports Trainers Course. Additional courses are organized in conjunction with the Coaches Association of New Zealand.
2. The New Zealand Association of Musculoskeletal Medicine runs courses on examination and treatment modalities for both spinal and peripheral joint problems. These courses are hands-on

sessions for doctors, and emphasize small group teaching by overseas experts such as Dr Jiri Dvorak (Switzerland), Professor Manohar Punjabi (USA) and Professor Barry Wyke (UK).

3. Otago University offers a Diploma of Musculoskeletal Medicine. This is a 2-year part-time course using mainly distance learning techniques, which started in 1989. It emphasizes theoretical aspects of musculoskeletal medicine.
4. For those who are prepared to travel, the London Hospital Medical College Diploma course offers places to New Zealand medical graduates. This 1-year full-time course covers not only musculoskeletal problems, but also aspects of physiology and medical problems germane to sport. Graduates of this course are now working in various locations around New Zealand.
5. The New Zealand Society of Physiotherapists offers a 2-year part-time course in manipulative therapy. This course is both theoretical and practical, and provides graduate physiotherapists with training in advanced manual therapy techniques.
6. In 1992, Otago University will offer a course to undergraduate students in sports injuries. A senior lectureship to the School of Physical Education with joint teaching responsibilities to the Department of Orthopaedics of Otago Medical School has been made. The appointee has dual qualifications in medicine and physiotherapy. This represents the first academic full-time sports medicine appointment in New Zealand.

Personal observations

Having worked in both the UK and New Zealand during the past 5 years, a few comparisons may be in order. The medical systems of both countries have more similarities than differences. There are the same endless debates about funding shortages and resource allocation. Nevertheless, the ACC system does provide a fast-track method for dealing with the musculoskeletal problems of sportspeople. Perhaps the UK could adopt something similar. In my experience, New Zealand physiotherapists are given more professional freedom than their counterparts in the UK, to manage a clinical problem as they see fit. Perhaps our greatest sports medical resource is the cadre of well trained therapists, skilled in manual techniques, who treat our athletes.

The two things that I think BASM could do with that we have in New Zealand are:

1. A more formalized regional structure with branch committees to generate more local interest – it appeared that we had a stronger branch in Hamilton (population 100 000) than they could manage in Leeds (population > 500 000).
2. A full-time executive officer. We are able to fund this from 950 members paying a subscription of NZ \$60 (£20) with the assistance of a grant from the Hillary Commission. This person can then attend all the quangos that busy clinicians are unable to find time for, as well as providing continuing support for the branches.

Conclusion

Sports medicine in New Zealand is a fine example of how medicine in a small isolated country can evolve

to serve the needs of the country's active men and women. It is characterized by a high degree of co-operation between trained professionals working to the benefit of the athlete. Readers of this journal may have caught glimpses of the sports medical back-up available during televised coverage of the 1990 Commonwealth Games held in Auckland. They may be assured that the same care and professional skill is available to recreational athletes in many centres in New Zealand.

Acknowledgement

I wish to thank Dr D. F. Gerrard for helpful advice in preparing this paper.

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