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Cover photograph: Australian Sports Commission
Many situations arise for sports medicine and science practitioners – and for SMA – where it is necessary to find a balance when dealing with conflicting or competing issues. What follows is a brief discussion of a number of cases where SMA has been involved in cases where many practitioners and no one else. Dr David Bishop, the President of the Australian Association of Exercise and Sports Scientists (AASESS), soon made us aware of this issue.

**Appropriate remuneration**

For example, last month the SMA National Board endorsed the Australian Physiotherapy Association (APA) Position Statement on payment for professional services. The Position Statement notes that APA members “should be paid appropriately for all professional services rendered” and are “entitled to payment at prevailing market rates”. The other Discipline Groups involved in sports medicine and science (covering sports physicians and doctors, podiatrists, dietitians, psychologists and sports scientists) also endorsed the Statement.

The President of the College of Sports Psychologists (COSP), Professor Peter Terry, provided the only discordant note to this multidisciplinary show of support. His enthusiastic endorsement of the Position Statement, but belief that COSP members “should be paid appropriately for all professional services rendered” and “entitled to payment at prevailing market rates”.

Many situations arise for sports practitioners, any exposure to sports medicine can help build skills and contacts. Current Queensland Executive Officer and APA Sports Physiotherapist Tileholder Mark Brown recalls working for Eastern Suburbs Rugby Union Club in Sydney in 1985 for an annual retainer that amounted to just $1.18 an hour. But, for a recently graduated physiotherapist working in a public hospital, his financial remuneration was nothing compared to the experience and knowledge gained and then later the opportunity to develop referral networks to this practice. The debate over the balance between the value of knowledge gained through training and endorsed by qualifications compared with knowledge gained through experience in the field will probably be with us forever.

There is no doubt that service in elite sport is the crowning achievement of a sports medicine practitioner’s curriculum vitae. But elite sport recruitment is not always based on what sports medicine practitioners would regard as merit. Most elite sport operates under the financial constraints described by Professor Terry. Many members have experienced the aggravation of having to work in elite sport undetected by a competing colleague offering the same service at a lower rate. To the person prepared to take the lower rate, the CV outcome – or the increased marketability deriving from service at the elite end – is worth far more than the payment received.

One former prominent SMA identity confessed his decades long career in elite sport medicine came as a result of forgetting to include a fee on his initial job application. This gave him an economic edge over other applicants and the position with the team.

Some large sports medicine practices have used sporting clubs’ search for the cheapest option as a way to compete with each other. Current Queensland Executive Officer and APA Sports Physiotherapist Tileholder Mark Brown recalls working for Eastern Suburbs Rugby Union Club in Sydney in 1985 for an annual retainer that amounted to just $1.18 an hour. But, for a recently graduated physiotherapist working in a public hospital, his financial remuneration was nothing compared to the experience and knowledge gained and then later the opportunity to develop referral networks to this practice. The debate over the balance between the value of knowledge gained through training and endorsed by qualifications compared with knowledge gained through experience in the field will probably be with us forever.

There is no doubt that service in elite sport is the crowning achievement of a sports medicine practitioner’s

The APA Statement notes that "volunteering one’s service ... may be considered where there may be a substantial non-monetary benefit to the member and specifically instances the Olympic and Commonwealth Games. Yet when SMA has been involved in cases where many practitioners and no one else. Dr David Bishop, the President of the Australian Association of Exercise and Sports Scientists (AASESS), soon made us aware of this issue.

**Patient privacy versus media interest**

Providing services in elite sport brings a whole range of additional “balance” issues. One of the most difficult is the intense public scrutiny that can be applied to medical practitioners. Historically, medical issues are held back – for maximum publication kudos or to ensure adequate patent protection for later exploitation.

Over the balance issue arising from the caffeine issue is clearly one of information dissemination. While the research outcomes from the trials involving Dr Bishop were very clear in terms of dosage levels and performance outcomes, it does seem from the reporting of the results that many athletes or team staff were unaware of the results of the research. The recent results reported at the 2004 AIS conference and are currently under review pending publication. Given the recent future, one could question whether this was sufficient dissemination of such clear-cut research findings.

Researchers in sports medicine and science produce and publish or present vast quantities of information. Much of it is fairly arcane, but it is obviously of immediate relevance to clinical practice. The system to which academic researchers are bound means that usually this research is “held back” until formal publication. What makes this even more of a possible “balance issue” is that academic researchers are hounded to get their work published in publications with a high impact factor. This may mean even longer delays as work is submitted, reviewed, possibly rejected and resubmitted until eventual publication. It is possible that, if more information is not disclosed, the discovery, the more likely it is to be held back – for maximum publication kudos or to ensure adequate patent protection for later exploitation.

In defence of Professor Terry, it must be said that, in circumstances where the information to be released, he will pay professional staff as much as he possibly can. Staff who have worked for Professor Terry at the AIS will vouch for his commitment to his creativity in finding ways to make restrictive budgets stretch to make incremental payments to staff. Is it possible that such a position exists?
The paradigm changed needed on inactivity

By Dr J

The phrase “it’s the economy, stupid” was made famous during President Clinton’s 1992 Presidential campaign and it seems to be very much a truth today in Western countries. Basically the logic behind this slogan is that if the economy is cruising along well, enough swinging voters will be happy with an incumbent leader to vote him back in but, if it is struggling, an opposition leader can capitalise on the drop in momentum to bring the government down. If a country is in recession, the blame gets well and truly pointed at the man in charge, rather than it being seen as a problem caused by the collective stupidity of the nation’s businesses and individuals.

The fact that the public is so willing to blame the government for the day-to-day bad economy (even when a recession might happen for reasons beyond government control) is a good thing in terms of keeping the government fiscally accountable. The downside is that there are many other important things going on in people’s lives than their financial well being, which the government can influence but for which it is rarely held accountable for. We live in a much wealthier society today than that of 30 years ago yet, where statistical measures can be made about happiness, we are neither more nor less happy than we were 30 years ago. Allowing for the point of view that people today have more or different connections with the outside world than we did 30 years ago, it is perhaps not surprising that our happiness has not increased. The reason for this is the decrease in personal connections that the average person has along with a corresponding decrease in personal contact and connection involved in those interactions. (7) I don’t have to keep going, you can add a few more here of your own. Apologies for how I phrased point (6), but I wanted to bundle in something about how much worse life is because people don’t have nearly as much connection with each other any more.

We have much better science has advanced so much; yet we were 30 years ago because medical care can prevent heart attacks and strokes. We now know that exercise could prevent almost certainly contributes a degree of the factors that people blame that almost anyone can exercise, yet people are doing less exercise than ever.

We live in a wealthier society where statistical measures can be made and the money is not the same. The government subsidise in the private health system for cigarette smokers, for people who don’t exercise and for people who are overweight – and a government penalty for non-smokers, for exercising more and for those with normal body weight. This is because, if the insurance companies had their way, they would penalise smokers (after risk rating them) and penalise people who were overweight. They will then pay people who played either no sport (or very high risk sports like football) and give them higher rebates for people who regularly run, swim and cycle.

The government line that exceptions shouldn’t be made with tax and levies and the like breaks down very quickly when you try to make them on some of my previously mentioned measures of societal well being. For example, the import duty on 4-wheel drive vehicles is 5%. The same system would work here, but how can you justifiably differentiate rates of duty and actually encourage people to buy the less safe, less environmentally-friendly option?

What if you want to visit a doctor under Medicare, what kind of rebates will the government pay you? Obviously the system could be ‘simple’ and the same rebate paid for the same length consultation for every type of doctor. Maybe this wouldn’t be ‘fair’ though. For example, surgeons can make lucrative amounts of money (of which is subsidised by health insurance) from operating, so perhaps it is fair that patients of surgeons deserve higher rebates from their consultations than the patients of surgeons. Psychiatrists can legally see more than one patient at the same visit so, when this happens, it is perhaps fair that each patient receives a lower Medicare rebate.

Why is it that patients of sports physicians receive lower rebates than any other recognised doctors in the Medicare system (Table 1)? In 1998 the Howard Government recognised that the ACMP had appropriate standards for training and registering sports physicians, yet since then it has kept payments to sports physicians equal to or lower than all other recognised doctors. If you ask the HIC or Health Department why this is the case, their only answer is a sentence that does not make any sense, such as “the sports physician rebate is lower than the GP rebate because sports physicians work in a specialised area; but the sports physician rebate is lower than the GP rebate because sports physicians aren’t specialists”. I know anyone reading this will think that this statement came from George Orwell’s 1984, but this is actually the official Health Department reason why sports physicians rebates are so low compared to other doctors. Perhaps a more truthful reason may be that the relative values of various doctors were determined in the actual year of paid, 1984.

When the current Medicare schedule came into existence, and neither the government nor the AMA has ever wanted them changed.

The only real conclusion is that the current government doesn’t care to support either sports physicians or people who are exercising and the sad fact is that most of society doesn’t think it is an issue for the government either. In the survey of 100 people on the question of “who should pay more for insurance, an individual injured playing sport?” the top answer would be, “the injured individual, as it was a self-inflicted problem”. But if the survey was “who should pay for the medical care of someone who suffers a heart attack” almost certainly would be “the government (Medicare), as this is a terrible, unavoidable disease”.

Of course in the medical profession we know that exercise could prevent a large proportion of heart attacks, but exercise is only ever people’s fault when they get injured doing it, not something for which they are credited for by our government for staying healthy. Whenever it suits the government, they will say that systems should be changed for exercise-related injuries. What is the government explanation for the paradox that a patient needing a referral to a specialist physician to manage inactivity-caused hypertension receives a government rebate of $108.85, yet a patient with a systemic incentive for people to not exercise. Why is it that the specialist pays a $108.85 to operate, and the same rebate paid for the same procedure, the same patient – a patient of a surgeon? Obviously the system could be ‘simple’ and the same rebate paid for the same length consultation for every type of doctor. Maybe this wouldn’t be ‘fair’ though. For example, surgeons can make lucrative amounts of money (of which is subsidised by health insurance) from operating, so perhaps it is fair that patients of surgeons deserve higher rebates from their consultations than the patients of surgeons. Psychiatrists can legally see more than one patient at the same visit so, when this happens, it is perhaps fair that each patient receives a lower Medicare rebate.

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Table 1- Medicare rebates for 30 minutes consultation with a doctor in each of the various offices

<table>
<thead>
<tr>
<th>Type of Doctor</th>
<th>Medicare rebate for half-hour consultation in office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant physician (including cardiologist, endocrinologist, rheumatologist, occupational physician, rehabilitation physician)</td>
<td>$108.85</td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>$62.40</td>
</tr>
<tr>
<td>Surgeon</td>
<td>$49.90</td>
</tr>
<tr>
<td>VR-General practitioner</td>
<td>$58.55</td>
</tr>
<tr>
<td>Sports physician</td>
<td>$47.80</td>
</tr>
</tbody>
</table>

Continued on page 14
Abolishing compulsory student unionism

The baby going out with the bathwater?

The Australian Government is clearly intent on pursuing its policy to abolish compulsory student union fees. But -- as the saying goes -- "everything is connected to everything else". What seems to be a good idea about education in Canberra can have unforeseen consequences in apparently unrelated areas such as public health.

Sport Health publishes here SMA's media release of 18 March in which SMA President Marilyn Feenstra and Sport Health Editor John Orchard express their alarm at an important implication of this policy.

SMA's reaction is not because it has any interest in defending the political activities of many student unions but because of the harm the policy may well do to university sport and all associated with it -- and, in the longer run, the ramifications for our attempts to help deal with sedentary behaviour and its spin-offs overweight and obesity, which is a huge health problem facing Australia today.

SMA has received letters from members who have disagreed with aspects of the SMA media release on this issue, partly because it is said that they lead SMA into political waters and partly because the issue should not be more than a peripheral issue for SMA members.

Sport Health respectfully disagrees. As Ms Feenstra said in her media release, the policy "will be terrible for sports participation". And sports participation has a central role in community physical activity and exercise.

Sport Health publishes here the SMA media release, some comments by one prominent SMA member which best sum up critical members’ reaction and the Editor’s response to these comments.

I would like to make comment about the John Orchard comment made on behalf of SMA. I think that we have to be very clear about what we are saying. I agree about the issues of sport and obesity, but I am also very clear about issues as they relate to compulsory unionism.

I believe that attacking the Minister for this decision does nothing to separate the debate about funding for sport and recreation at universities is one matter, but the abolition of compulsory unionism is a separate matter.

I believe, constitutionally necessary step. Part of the monies taken from students, a compulsory manner are sent to political parties. To have compulsion (or not) their own choice of support (or not) their own choice of union fees voluntary as I believe, constitutionally necessary and, I believe, constitutionally necessary step. Part of the monies taken from students, a compulsory manner are sent to political parties. To have compulsion (or not) their own choice of support (or not) their own choice of union fees voluntary as I believe, constitutionally necessary step.

It is true that the decisions concerning voluntary fees is going to have a major impact on facilities in the university arena. The way that this is happening is wrong, in my view. With respect to this, I fully support the SMA statement. That there is a viable alternative to doing this (such as the separation of guild fees from amenities fees) is the issue that I feel needs pushing. My comments concerning the SMA statement is that it was a negative criticism of government policy without any constructive comments concerning alternatives. Lobbying for a model such as is written above would be wholly supported by me and, I assume, all SMA members. To berate the Government concerning abolition of compulsory guild fees without discussing the reasons for this makes the SMA sound as though it supports compulsory unionism. This tends to imply that SMA is party political. I would not support SMA having this role.

Dr Gavan White
Synergy Sports Medicine
Margaret River, Western Australia

I am glad as always to get feedback and to have raised an issue which leads to debate. It has to be admitted that, since I work at a sports medicine centre at a university, I am close to the action and have many connections with people in the Sydney University sports union who are very distressed. I also have a bit of a conflict, in that the practice at which I work derives business from a vibrant sports scene at the university -- although with respect to funding it is paying rent to the university sports union rather than using up any student money.

Nevertheless, with an objective hat on, I think there is very little that should worry SMA about its stance on this issue.

Basically, I haven’t seen/read heard of a single opinion in favour of what the proposed legislation will do to university SPORTS facilities and programs.

I agree that there are many who dislike the principle of compulsory membership of political bodies, and this is the rationale for the Government proposing the legislation. However, it seems to be throwing the baby out with the bath water the way it has framed the legislation. Sports unions, even though they are a ‘union in name, are not political bodies. Students who pay their sports union fees (currently about 20% of the compulsory payment) are paying for the building and upkeep of cricket and football fields, gyms, and other university sporting facilities.

None of the SPORTS union money is going towards anyone spray painting graffiti. Virtually anywhere else in Australia major sporting facilities (eg, ovals) are maintained by taxes or compulsory levies (eg, council rates). I can’t think of an example, other than perhaps the few professional teams that own their own grounds, where a user-pays system operates. Sure, some lesser sports facilities such as private gyms may be completely user-pays but charge fees that are generally out of the reach of student budgets. Even swimming pools rely on government or council grants to be built and can’t be funded completely by casual swimmers paying $3 per swim.

At the moment, compulsory student fees allow greenkeepers, etc, to be employed to maintain university sporting ovals. Who is going to fund the upkeep of the ovals if the universities can’t charge a compulsory fee? If there are 50 active footballers and 50 cricketers who use an oval each year, between 100 they might need to pay over $1000 each to upkeep the oval. When all are not willing to cough up the money, the greenkeeper gets made redundant, the grass grows to a foot long, and no sport gets played on the oval.

(NB: The way the legislation is framed, universities will NOT be able to collect money from students (other than voluntarily) for sports facility upkeep and will NOT be able to divert money from academic programs to pay for non-academic expenses. Basically if the sports unions can’t raise enough money from users, facilities have to close.)

While there are some facilities such as gyms and swimming pools that might be debt free with lowish upkeep that could theoretically revert to user-pays, some of them have been funded by loans that were budgeted for with sports union payment. If the payments cease, they may go into receivership because the sports union can’t service the loan. If a receiver walks in, they might want to sell the swimming pool land to McDonalds to pay the creditors.

So far the government has not come up with any plans to keep sports unions afloat. If bodies like SMA say nothing, perhaps the Government will do nothing further and may even end up letting sports unions go to the wall, all for the sake of an ideological problem it has with student politics.

Obviously, it would be a tragedy if sporting facilities simply closed down, but it is completely not scaremongering to say that it could happen. SMA most definitely has a responsibility to raise the issue in the media and push towards some sort of compromise proposal between the Government and sports unions to make sure this doesn’t happen.

Perhaps the Government might step in and fund the sports unions directly, which would be great if it happens.

SPORTS unions can’t raise enough money from users, facilities have to close).
Specialist training programs: Is sport psychology the tip of the iceberg?

What is the status of sport psychology training in Australia? Peter Terry, Professorial Research Fellow in the Department of Psychology at the University of Southern Queensland and National Chair of the Australian Psychological Society’s College of Sport Psychologists, discusses this question with Kerry Mummary, Editor of Sport Health.

Sport Health. Peter, recently the issue regarding the closure of some of the clinical masters programs in sport psychology has been quite a hot topic. Could you give us an update on the current status and standards of sport psychology training in Australia?

PT: Australia is regarded as the benchmark around the world for sport psychology. Training programs in Australia are the most thorough and best in the world, with sport psychologists in Australia being trained first and then a specialist in sport second.

Typically, people coming into the program would have completed an undergraduate degree in psychology followed by a masters degree in psychology, gaining relevant skills. They would then complete a two-year Masters program or a three-year Doctorate program. During the course of their training, they would take advanced courses in sport psychology, which include relevant theories, applied skills, and professional practice issues. Those professional practice issues are dealt with in a more general sense.

The great thing that comes on top of that is that they get to do 1000 hours for the Masters or 1500 hours for the Doctorate of practical experience under close supervision. Typically they would do their first practical experience on campus at the psychology clinic, or student services or sports psychology clinics. So they would be working on campus with close supervision and usually they would have one hour of face to face supervision for every eight hours that they are working and this would gradually decrease as they became more independent. For their second practical they would be out in the community with a local sports club sometimes with an Institute of Sport if they have close affiliations as we have with USQ. The third practical may be something similar with another organisation. Some people go to work in a hospital which is more clinical oriented training. After the 1000 hours, they come out very well skilled. As a result of this training you have people coming out who are very prepared for the profession.

When I think back on my training, I wish I had done that because it is just such a great preparation. So when they do finish they automatically get selected by a national or state institute of sports around Australia or overseas. Not only are there career prospects but there is a great capacity to assist Australian sport, so it is really advantageous from day one.

SH: The closure of the programs domestically coincides with the attainment of an excellent reputation worldwide in terms of specialist preparation, can you comment on that?

PT: The success of the Australian team at the Sydney and Athens Olympics cemented Australia as the place that makes the most of its sporting ability. We have small numbers and lots of media. We must be doing something right and all of the sports science and sports medicine support are being held as the gold standard around the world. Australia has been granted the World Congress of Sport Psychology this year in Sydney by the International Society of Sport Psychology, a big acknowledgement of our standing on a world scale.

The irony is that, at the time when the reputation of Australian sports psychology has never been higher, two of the four specialist programs have been closed, with the other two under constant threat. Historically, programs have been offered at the University of Southern Queensland, the University of Queensland, University of Western Sydney and Victoria University. Two of those - USQ and UWS - have now closed and the program at UQ has come under threat. It is a tragedy that the reputation of excellence that has been built up has now been passed aside for reasons that have nothing to do with the interest of Australian sport; they have to do with education.

SH: By education, you mean a movement towards economic rationalism in the tertiary education sector?

PT: Exactly.

SH: How is this a threat?

PT: There is no doubt that there is a wave of economic rationalism that is sweeping through our universities. In previous times, the specialist masters programs would be effectively cross-subsidised from the income of the undergraduate program. A large number of undergraduates and small number of postgraduates is okay if we look at the overall picture as it’s fairly healthy economically. But, if we look at what is happening now, each program is being scrutinised and costed completely independently so our masters and doctoral programs are being costed separately from our undergraduate program and also separately from one another.

If you have a program that takes in six students a year - and I’d like to point out that Australian universities have been ethical and are not taking in large numbers of students if they do not feel there is a job market out there for the graduates - then you cost it all individually and when you take it into account the one-on-one supervision that is required for the practical and for the research experiences, those numbers aren’t very good at all. In fact, on paper, we are losing about $10,000 a year, for each student. There is no economy of scale, because you can’t take in, the more supervision we need to provide and therefore the more money is lost.

From a university perspective, they quoted $16,000 a head and it is difficult to put a dollar figure on the benefits to the reputation of the department and the benefits to Australian sport of these types of specialist programs. It is almost impossible to make an economic case for them unless you look at what the department is doing as a whole, which is what happened previously.

SH: There is a need to balance the losses in some areas with the relative gains in other areas?

PT: That’s right. The undergraduate programs that are cash-rich should subsidise the more specialist training at a higher level. I don’t think there is anything wrong with that, but the argument is falling on deaf ears in universities at the moment. Currently, it is sport psychology that is feeling the pinch but it could be any other sport and allied health professions.

SH: We have lost two of our four specialist programs and there is no guarantee that the other two will be immune to this problem. So what if we do lose all the programs?

PT: In simple terms, if we lose all the programs, there is no specialist training for sports psychologists in Australia in a university environment. The question then is what other models might there be? Well, certainly there would be potential for training psychology honours graduates in the Institutes of Sport for two years. Called the ‘four-plus-two-model’, it is an acceptable route of membership into the APS and registration. There is reason to believe that this option may close and it will become a compulsory six-year training model, which would make a problem, but at the moment there is potential of doing those two years in the Institute of Sport. In fact the NSW Institute of Sport has been able to do something right and all of the sports people pay $16,000 dollars to go and work for free at NSWIS and get their supervision while they’re doing it.

There is an ethical question there: whether that is the exploitation of aspiring sports psychologists who see the opportunity of going to NSWIS as an opportunity too good to give up and, “Yes I’m going to pay whatever it takes to get it.”

There is also a question of what impact that has on the core business of Institute: They have now built up an education arm which has the potential to detract from the specialists’ work to provide support for athletes. The question that is worth asking, and I suspect it might, is if that became the model then would elite Australian sport be the overall loser? If there were no specialists then Australian sport is the loser.

I think the AOC had 12 psychologists in Sydney and only four in Athens. What they did instead was appoint Athlete Liaison Officers. I think Dawn Fraser was the first of those and Laurie Lawrence. I mean those guys are heroes of Australian sport and they would inspire but they were put into situations out of their depth. The women’s hockey team were down and they needed some help and John Eales came in but he was out of his depth because they really needed a sports psychologist there. Laurie Lawrence was good for morale. The point is there is a sense from the AOC that what you need is somebody there to jolly things along rather then any clinical-based skill, which for the most part are not needed, but when they are required they are essential. And that shows the value of specialist training and that’s going to disappear from Australia if we are not careful.

SH: One of the answers is for a more inclusive accounting process?

PT: Yes, another possible solution: universities will just have to double or triple the fees that they will charge. That would act as a disincentive to enter the profession because no one enters this profession to make lots of money. The other possibility is the government will have to increase the support for these programs in the same way it provides supports for nurses and labor intensive programs. But I’m not optimistic about the future. I can see a readily-implemented solution but I can see that, if things continue, the excellence of Australian sport will be threatened.

SH: As you said earlier, for our readers, this could be the tip of the iceberg in terms of threats to professional and specialist training programs.

PT: Sports psychology is a small specialist profession, there are only about 100 members of the College of Sports Psychologists Australia and bigger colleges may still be having the same dilemma in a couple of years time because all specialist masters programs lose money if you account for them independently.
Single-sex competition in junior netball: the continuing debate

By Geraldine Naughton and John Carlson

Abstract

The age limit for children’s single-sex sporting competition was recently increased from 12 to 14 years of age in the Victorian Civil and Administrative Tribunal (Equal Opportunity Court). In November 2003, the Court ruled against single-sex participation in the case of a 14-year-old female wishing to compete in the sport of Australian Football. The finding in support of mixed competition was made on the basis of minimal physiological strength and size differences between genders up to 14 years of age. Officials from Netball Victoria were subsequently invited to re-defend the previously obtained right for the option of single-sex netball competitions. We present a number of arguments for the right to retain a choice for single-sex netball competitions. Restricting the options to play netball during the early years of adolescence may further decrease existing poor sports participation rates in young females in Australia. Our conclusion is that young females’ total health is a bigger issue than boys’ and girls’ participation in sport largely up to 14 years of age and above.

Girls aged 11 to 14 years have major psychosocial issues with sports participation that link to self-esteem, perceived physical competence, perceptions of behavioural control and perceived benefit versus risk decisions about participation.

Interestingly, the decision was not based on the marked global differences in stamina (shown by field and laboratory tests for cardiorespiratory endurance) between boys and girls. Stalina differences between boys and girls were dismissed because of evidence citing results from endurance testing of adolescent girls may be more reflective of low motivation than endurance capacity. A closer examination of the gender difference in endurance test performances may have been more illuminating. We contend that girls aged 11 to 14 years have major psychosocial issues with sports participation that link to self-esteem, perceived physical competence, perceptions of behavioural control and perceived benefit versus risk decisions about participation.

We argue a rationale that strategies for attracting girls to initiate or maintain participation in netball should include the right to choose to compete against aged-matched males. The rationale has a broader health bias than leg strength tests and body size.

The purpose of this article is to raise awareness of defensible issues for the right to choose single-sex options for netball in young females from a number of perspectives. These perspectives include: the need to increase girls’ sports participation outside of school, frequent reports of lower levels of physical activity participation in girls than boys from an early age, poorer upper body strength and skill differences in girls than boys, relatively less sport-specific strength and power in girls than boys, higher intensity of boys’ participation in sporting activities compared with girls, and psychosocial issues surrounding puberty in girls.

Need to increase girls’ participation in sport outside school

Sports participation rates are not increasing for girls. Figure one shows the percentage of girls and boys (aged 5 to 14 years) reporting sports participation outside of school during the 12 months prior to April 2003. Boys’ participation increased significantly from 66% to 69% between the data collection periods of April 2000 and 2003. The slight rise in girls’ participation from 54% to 56% remained substantially less than boys and was not significant (2).

Figure 2 shows age-specific participation rates for children aged five to 14 years. The decline in girls’ physical activity begins at 12 years and continues to 14 years of age. Chronological age decreases coincide with momentous maturational biological and psychosocial changes in puberty. Inherent in these changes is the increased attention on self-esteem and body appearance. We argue that physical activity in girls who have issues with poor self-esteem and concerns about body appearance should offer a high likelihood of satisfaction and a low likelihood of failure or other negative consequences. It is possible that lowly active girls may be most affected by the inclusion of boys into the popular sport of netball which remains the most acceptable sporting option for young females in Australia.

Across Australia, the most popular organised sports for boys were outdoor soccer (22%), swimming (16%) and Australian Rules football (14%). For girls, netball (18%), swimming (17%) and tennis (9%) were the most popular (Figure 3). Despite the popularity of netball, only one in two girls report sport or leisure physical activity outside of school. Campaigns to promote physical activity have strong justification for gender inclusiveness. In some states of North America, separate physical education sessions for boys and girls are against the law. An innovative school/community/family linked elective program was recently offered to lowly active adolescent girls. The program focused on gender-inclusive activities and issues. Lowly active adolescent girls showed increases in perceptions of physical competence and attitude to activity following the 16 week program (3). Gender inclusive curriculum and community sporting opportunities may be an effective strategy for addressing undesirable consequences of sedentary behaviour in young females.

It is difficult to suggest why girls’ sports participation rates have decreased markedly over the past two decades. It is likely that girls’ perceptions of physical competence and enjoyment of activity have strong justification for gender inclusiveness. In some states of North America, separate physical education sessions for boys and girls are against the law. An innovative school/community/family linked elective program was recently offered to lowly active adolescent girls. The program focused on gender-inclusive activities and issues. Lowly active adolescent girls showed increases in perceptions of physical competence and attitude to activity following the 16 week program (3). Gender inclusive curriculum and community sporting opportunities may be an effective strategy for addressing undesirable consequences of sedentary behaviour in young females.

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decades in Australia. Participation in other leisure and cultural categories of dance, singing and drama increased in girls between 2000 and 2003. Cultural and leisure activities other than sport carry innate social and personal rewards. However, long-term commitments to physical activities that require moderate to vigorous bouts of intensity such as netball hold unprecedented links to major health benefits. The benefits of habitual physical activity in young people include cardiorespiratory health, stronger musculoskeletal health and improved weight management. The highest incidence of overweight and obesity occurred in Australian children in 1995 between the ages of 7 and 11 years (17, 17). We continue to see large gaps between those children who are least active and those children who are most active, and this disparity has only increased since 1995. Significantly, girls are less active than boys (8). International trends generally show that girls are less active than boys (15, 16). Sensible lifestyle alternatives to restrictive dieting for weight management and body appearance must be offered to adolescent girls in order to achieve energy balance. Physical activity is a logical and developmental appropriate means to contribute to energy balance in young females. Gender-sensitive sporting opportunities also provide one of the strategies to avoid or manage highly complex psycho-social and maturational issues prohibiting physical activity in adolescents (15). 

Limited gender differences in young populations are observed in results from explosive jumping skills conducted in children four to seven years of age (17). However, throwing-based sports such as netball rely often on upper body strength. Again, results are limited by criticisms of inadequate validity of strength testing. But marked differences are presented in upper body strength tests of distance throw (8). Limited gender differences in young populations are observed in results from explosive jump testing in the field. That gender differences in leg power are significantly greater when the ability to sustain high energy demands is tested under more naturalistic conditions (18). Tests of sustaining short-term high intensity energy expenditure are generally termed anaerobic tests. Anaerobic power assessed under laboratory conditions show poorer power output in girls than boys in absolute (measured in joules) and relative (joules per kg) terms. Girls have less leg power than boys. Again, in sports where leg power may be important such as netball, girls may be seriously outplayed by age-matched males.

Higher intensity of boys’ participation in sport

When adolescent males and females participate in the same amount of physical activity, young males participate in activities at a higher intensity than females (8, 11-12). Furthermore, results from a motivation profile for sports participation in active youth aged nine to 14 years from Western Australia scored boys higher than girls in a subscale for aggression (13). How equal is the playing field when higher intensity rates and more aggressive motivation are predictive from boys? Perhaps the percentage of girls who are habitually highly active would be a descriptive proportion of boys playing intensively. But with approximately one in two girls in Australia not participating in sport, adding inequality of intensity to potential barriers to participation is extraordinarily unacceptable.

We acknowledge the absence of data on higher injury rates in mixed gender sports than single sports. But we suggest there are other markers within junior sports injury research worth considering.

Although boys generally participate in sport at a higher intensity, as early as six years of age, girls perceive a greater risk of injury (15). In addition to a higher perception of injury risk in mixed rather than single-sex competition, girls perceive competitive aspects required by an inability to match the intensity, leg power, upper body strength and confidence of male participants.

Psychosocial issues surrounding puberty in girls

The incidence of eating disorders in adolescent girls is greater than boys (15, 16). Sensible lifestyle alternatives to restrictive dieting for weight management and body appearance must be offered to adolescent female issues in achieving energy balance. Physical activity is a logical and developmental appropriate means to contribute to energy balance in young females. Gender-sensitive sporting opportunities also provide one of the strategies to avoid or manage highly complex psycho-social and maturational issues prohibiting physical activity in adolescents (15).

Compounding the psychosocial needs, girls are frequently criticised to address the increasing prevalence of overweight and obesity among young people in Australia. Although not directly implied in the literature, hopefully positive wellbeing will apply to active young populations, given findings of increased potential for depression (17), social marginalisation (18) and poorer quality of life in overweight and obese young people (20).

Perceived behavioural control was identified as a key mediator in predicting physical activity in a recent study of more than 1,000 adolescent females (21). On this psychosocial level, physical activity therefore become critical to adolescent females.

Conclusion

Decisions for participation rights based on strength physiologic fail to embrace more critical aspects of physical activity needs and consequences in young females.

Consequences should be given to the variations in involvement of boys and girls in activities that link physical inactivity to cardiovascular disease, diabetes, some cancers and debilitating psychosocial consequences. Evidence of clustering of cardiovascular risk factors in young populations continues to amass. Health promotion campaigns targeting populations at high risk of physical inactivity that, in Australia, include young females are immeasurably justified.

Every effort should be made to offer choices for positive, effective and low-risk activities in community sport for young girls. Females aged 11 to 14 years must have the right to choose whether or not they play competitive, low contact sport against aged-matched males.

Geraldine Naughton is Associate Professor in Paediatric Exercise Science at the Centre of the Physical Activity Across the Lifespan, Australian Catholic University, and John Carlson is Professor and Director of the Centre for Ageing, Activity and Policy, Science at Victoria University. Every effort should be made to offer choices for positive, effective and low-risk activities in community sport for young girls. Females aged 11 to 14 years must have the right to choose whether or not they play competitive, low contact sport against aged-matched males.

References


prepared to toe the line of the medical profession and the AMA and not ever claim that I personally am being paid by Medicare, only that my patients are (and I am billing my patients). But will go on the record as saying that, as a sports physician, I am being unfairly discriminated against by the Medicare system. The AMA claims that it is not in the business of telling doctors what to charge (or how the government should rebate), so it is not interested in the fact that sports physicians have much lower rebates than other doctors. If Medicare paid an $80 rebate for a consultation with a male doctor and a $60 rebate for a consulta- tion with a female doctor of the same type, do you think the AMA would get away with the line that female doctors weren’t being discriminated against because they were still free to charge their patients exactly what male doctors charge? If the AMA didn’t think this was an issue of the highest importance immediately, they would lose most of their female members. So the ACSP is at a stalemate with the AMA, who could be our most important advocate if there was an AMA policy for something as simple as equal pay for equal work.

Unfortunately, the AMA is anything but committed to this (because its members who get more lucrative rebates don’t want the status quo changed) and, because it is indifferent to the lower rebates of sports physicians, most sports physicians refuse to pay membership fees to the AMA. With an important body like the AMA not interested in promoting either sports physicians or (as far as I can see) greater exercise in the community, there is again less voice making this issue a relevant one for the government.

Based on the time lag between the knowledge that smoking was a killer and government policy to discourage smoking, we are probably looking at another decade before the governments of the day get serious with pro-exercise policies. I am only aware of one exercise policy in the life of the Howard government, which has been (belatedly) taken up by local councils and encouraged to local councils and to encourage schools financially to have a minimum number of physical education classes. By comparison, it is much more committed to funding sports physicians and having sports physicians financially work on the development of public-liability premiums.

The Coalition at the last election didn’t have an exercise policy, whereas the opposition was prepared to devote a couple of million to a “program” to encourage people to exercise, although there was nothing revolutionary in their policy statement. One of the next big planned Federal Government initiatives is to pass legislation to make all union and facility fees voluntary at universities. This will have the fantastic effect of meaning that many sports facilities at universities will fall into disrepair or need to be closed down, because — surprise surprise — university students aren’t going to want to pay voluntary fees. If the government made income tax or the Medicare levy voluntary, then hardly any one would pay it either. The Government seems to be oblivious to the fact that its policies can and do affect the amount that people exercise. But until the people are prepared to make this a political issue, there is unfortunately no incentive for the Government to act.

Page 6: Unforeseen consequences. How abolishing compulsory student unionism undermines the struggle against obesity

Cricket is one of the world’s major team sports. Injuries in cricket players are common, particularly to fast bowlers(1-8). According to Van Mechelen et al, ongoing injury surveillance is a fundamental process behind successful injury prevention(9). There is general agreement that cricket should follow the Van Mechelen paradigm of injury surveillance being the basis for risk factor and interventional studies which can ultimately lead to injury prevention. 7. However, successful ongoing injury surveillance in even major sports has proven elusive, partially because of the difficulties in forming consistent injury definitions. 10. This lack of consensus has severely limited the ability to compare injury rates between countries and to ascertain risk factors for injury.

Injury surveillance in professional cricket has been prospectively undertaken continuously since the start of the 1998-99 season(1). Data from seasons 1995-96 to 1997-98 is available in the current database as a result of retrospective survey using a number of different methods(1). The only known attempt at previous injury surveillance in Australian cricket was performed by Hoy and Payne in the mid-1980s(11, 12).

With the establishment three years ago by Cricket Australia of a research board, the injury survey is now an ongoing core component of cricket research in Australia. It will not only continue to provide a framework to highlight the most important areas which need further study, but it will also mean that, in the long-term, injury surveillance can follow trends in injury rates to test the interventions which are recommended by other studies(9, 15).

**Table 1 – Designated player hours of exposure in matches each season**

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<td>1287</td>
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<td>13638</td>
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<td>13563</td>
<td>13623</td>
<td>13977</td>
<td>14869</td>
<td>13903</td>
<td>16282</td>
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</table>

**Results**

**Injury exposure**

Table 1 lists the designated hours of player exposure in matches each season. As per the new international formula(14, 15), hours of player exposure in matches is calculated by multiplying the number of team days of exposure by 6.5 for the average number of players on the field and then multiplied by the average number of designated hours in a day’s play. For first-class matches this is six hours per day and for one day matches this is 6.667 hours per day. The exposure (in terms of match hours) was at its highest level in season 2003-04, compared to the previous eight seasons.

Generally each team is bowling 40-48 overs per scheduled day, and is presumably in the field for half of each match. The Australian Test teams of the last decade have often had the advantage of superiority to the opposition and as a consequence have spent less time in the field than batting. This decreased workload has probably helped with respect to injury risk.
Injury incidence

Over the nine seasons, there were 795 injuries that qualified as an injury according to the new international definition. There were 674 injuries that qualified as a seasonal injury for one of the State squads and 210 injuries that qualified as a seasonal injury for the Australian squad. Therefore there were 91 injuries that qualified as both a state squad injury and an Australian squad injury. These injuries were injuries that caused an Australian squad player to miss both games for his State and for the national team. Of the 795 injuries, 728 were new and 65 were recurrences. A total of 415 injuries occurred during major matches, of which 380 were new injuries and 35 recurrences. Of the 415 match injuries, 192 occurred bowling, 87 occurred batting, 91 fielding, 8 wicketkeeping and the remainder unknown in an unknown activity. Injury incidence results are detailed in Tables 2-4. Injury match incidence is calculated in Table 2 using the number of total injuries (Table 2(a)) or number of new injuries (Table 2(b)) as the numerator and the number of player hours of exposure (Table 1) as the denominator.

Injury match incidence in the units of injuries per 10000 player hours is higher in One Day Internationals than Test matches. There are also a small difference in injury match incidence between domestic One Day matches and first class matches, although not to the same extent as in international cricket. Because first class matches are played over a much longer duration than One Day matches (at both domestic and international levels), they produce a higher number of injuries per match, even though the hourly rate is lower. The scheduling formats of cricket in Australia tend to produce different biases for injury rates. There is generally less of a break between successive One Day Internationals than Test matches, so the risk of missing a subsequent match is greater overall in One Day Internationals. However, at domestic level, a one day match is often scheduled soon after a four day match, increasing the risk that an injury from the four day match will cause an injury in the subsequent (one day) game to be missed.

Table 2a and b

The matches with generally the highest incidence of match injuries are One Day Internationals played in Australia, although this was lower than usual in 2003-04 (Table 2b). However, bowling match injuries occur at a lower rate in One Day Internationals than Test matches (Table 5). The majority of home One Day Internationals are played in quick succession as part of the Carlton and United Tri-series (mainly during January and February each summer). From Australia’s viewpoint, this is the most crowded time of the international cricket calendar, with the Tri-series continuing on after back-to-back Test matches in Melbourne and Sydney over the Christmas and New Year period. Therefore, high risk period is a particularly relevant consideration for the Tri-series. It should be noted that Tables 2-5 reveal lower injury rates in the three seasons surveyed retrospectively. Because of the methodological differences, some of this difference may be spurious. However, Table 1 reveals a much lighter workload in these seasons, and there may have been a genuinely lower injury incidence related to the lower bowler match workload over this three-year period.

Seasonal incidence (Tables 3) is calculated by number of injuries (a) or new injuries (b) multiplied by 1500 (for a squad of 25 players over 60 days), divided by the number of player days of exposure. Tables 3(a) and 3(b) show that, over a five-season period, there is very little difference in injury incidence between the six Australian States.

Table 3a and b

Table 4 reveals that seasonal incidence by body part has generally been consistent over the past eight seasons. In 2003-04 there was an increase in ankle injuries, but generally the incidence of injuries by body part has remained constant.

Table 4

Table 5 lists incidence of bowling injuries (those 192 of the injuries which occurred in matches while bowling, which formed the basis of Table 2(a), multiplied by 1000 and divided by number of overs bowled).
Table 5
Table 5 shows that the incidence in terms of injuries per overs bowled has actually decreased slightly over the period 1998-99 to 2003-04, although as previously noted the number of overs bowled has gradually increased over this time period.

Table 4 - Injury seasonal incidence 1995-6 to 2003-04 seasons (injuries/team/season)

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<td>Fractured facial bones</td>
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<td>0.0</td>
<td>0.3</td>
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<td>0.3</td>
<td>0.0</td>
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<td>0.2</td>
<td>0.0</td>
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<td>0.2</td>
<td>0.1</td>
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<td>1.6</td>
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<td>1.1</td>
<td>0.0</td>
<td>0.8</td>
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<td>0.0</td>
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<td>0.7</td>
<td>0.3</td>
<td>0.4</td>
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<td>0.3</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
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<td>0.2</td>
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<td>0.0</td>
<td>0.0</td>
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<tr>
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<td>0.7</td>
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<td>1.1</td>
<td>1.0</td>
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<tr>
<td>Other wrist/hand injuries</td>
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<td>0.7</td>
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<td>0.6</td>
<td>0.7</td>
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<td>Side and abdominal strains</td>
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<td>1.8</td>
<td>0.5</td>
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<td>0.0</td>
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<td>0.4</td>
<td>0.0</td>
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<td>Lumbar stress fractures</td>
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<td>0.3</td>
<td>0.8</td>
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<td>1.2</td>
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<td>17.8</td>
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Table 5 – Bowling match injuries (injuries per 1000 overs bowled)

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Injury prevalence

Injury prevalence rates (Tables 6-9) follow a similar pattern to injury incidence although, whereas incidence stayed constant over the past five seasons, prevalence has gradually increased. The difference between the two can be attributed to the increased number of matches, with the ‘average’ injury artificially becoming more severe over recent years because there are more matches to miss (NB, Injury prevalence = injury incidence x average injury severity). As expected and previously documented, pace bowlers (16.2%) have a higher injury prevalence than spin bowlers (4.6%), batsmen (4.7%) and wicket-keepers (1.7%) (Table 6).

There were no striking differences in injury prevalence between States over the six-year period. Certain States had individual years in which injury prevalence was very high, usually due to a few players suffering long-term injuries that stopped them playing for the majority of the season. Table 10 shows that injury prevalence for all positions increases in players over 30 years of age. However, pace bowlers exhibit their highest injury prevalence in bowlers 22 years of age and under. This is due mainly to the increased incidence and prevalence of lumbar spine stress fracture in younger bowlers. Side strains are also more likely to occur in younger bowlers, whereas shoulder injuries, knee injuries, hamstrings and calf strains are more common in older bowlers.

Risk factors for bowling injury

Table 11 shows an increase in risk per innings and risk per 1000 balls for bowling second in a one day match and bowling in the second innings in a Test match. The risk of bowling in the second innings of a One Day match (compared to the first) is not significant (odds ratio 1.41, 95% C.I. 0.81-2.47). The risk for the second innings of a first class match compared to the first is statistically significant (odds ratio 1.90, 95% C.I. 1.55-2.67). There does not seem to be any consistent relationship as to whether or not the bowler has batted prior to bowling or not-batted, suggesting that fatigue from batting is not a relevant risk factor.
Interest with respect to bowling workload, with current data this has been previously injured bowling in the follow-on. This work (although it is not clearly known what the extent of overall workload was also to rise. This suggests that perhaps associated with the increase in bowling injury risk. This is an abridged version of the effect seen). It was foreseen that the playing condition change. This ideally should include all pace bowlers having their exact workload monitored and an annual formal biomechanical assessment and lumbar spine MRI. Future scheduling should bear in mind the potential for workload increase on players, with respect to issues such as back-to-back games and total number of matches scheduled.

There was a significant increase in injury prevalence in 2003/04 for the Australian team in particular, perhaps associated with the increase in number of matches scheduled during this season (although a small number of long-term injuries may have had most of the effect seen).

The action implemented four seasons ago at all major grounds in Australia to use a boundary rope rather than the fence has been a success. Prior to this, there had been two major ankle injuries (and five other minor injuries) over five seasons. The incidence and prevalence of contact injuries during batting fortunately remains very small at the elite level, with fewer than 5% of batsmen missing through injury at any given time. This suggests that protective equipment being worn by batsmen during matches and training is adequate.

A further analysis of injury risk was taken in the following circumstances:

1. Bowling risk in the second innings of a game when a team-mate had been previously injured bowling in the first innings. Although this would generally lead to higher workload, with current data this is not associated with a significant increase in injury risk.

2. Bowling in the second match of back-to-back matches (defined as less than a three day break between first class games or less than one day break between first class games and one day games): this was associated with an increase in bowling injury risk (risk ratio 2.00, 95% CI 1.26-3.17).

3. Bowling after enforcing the follow-on in a Test match: associated with an increase in injury risk (risk ratio 4.92, 95% CI 3.29-26.94).

Risk factors for non-bowling injuries

It was reported four seasons ago that there were two injury mechanisms that were potentially immediately preventable. There were a number of injuries that occurred between 1995-96 and 1999-00 from sliding into the boundary fence, and it was found that these cricketers were being protected by instituting a boundary rope at all grounds(1). In baseball and softball, the use of slide-away bases has been shown to lower the rate of serious injury(16). The boundary rope policy was instituted at all grounds in the early stages of season 2000-01. There were no significant injuries from rope or fence collision in the past four seasons, indicating that this policy has been successful to date. A number of injuries have occurred from foot- or knee-crossing drills and these could potentially be prevented by substituting other less dangerous drills as cross-training activities. There has been a divergence of opinion regarding the feasibility of eliminating football drills from the cross-training regime of elite cricket players. Some fitness personnel feel that it is very difficult to avoid monotony in cricket training and that the benefit of occasionally including touch football or soccer games in the training regime outweighs the negative of injury risk. It is worth noting that the Indian cricket team uses volleyball as its practice activity as an alternate sport, as this has a lower injury risk than touch football. Since this issue has been shown to lower the rate of serious injury(16), the boundary rope

1. Schedule changes: elimination of back-to-back games, institution of a forced off-season (ie, maximum number of matches scheduled per year for national teams).

2. Rule changes: allow 12th man to bowl for an injured player, which would reduce excess workload in the event of a team being a bowler short. However, this rule would be difficult to enforce with respect to eligibility by a team wishing to use the rule as a form of interchange.

3. Recommendation of tactical changes: avoiding enforcing the follow-on if upcoming matches are scheduled, deliberate rotation of bowlers, etc.

Biomechanics as a risk factor

Elliott has continued work showing that mixed bowling action is associated with a higher rate of lumbar spine injury(7). This recently published work reveals that junior players who have their action corrected showed less progression of disc degeneration on MRI scan than in a previous observation study. Because of the significance of bowling action as an injury risk, it is important eventually to establish a database of the most recently measured motion type (perhaps assessed by shoulder counter-rotation) and to include this in future risk factor studies.

Conclusions

1. The greatest risk factors for bowling injuries that are bowling speed and workload. Other study has proven that the mixed action is almost certainly a risk factor for lumbar spine injury in fast bowlers. Monitoring of bowling workloads in fast-class cricket has commenced and should be continued as a high priority.

2. The focus on injury prevention in the medium term should include: be on bowling injuries in fast bowlers, including ongoing injury surveillance, an ongoing workload study and regular screening of all first class fast bowlers in Australia.

Discussion

Increased match workload as a risk factor

Dennis has found a relationship between the overall bowler workload (matches and training) and risk of bowling injury(17). It appears from this work (although it is not clearly established) that number of bowling sessions per week (whether they are training or match) is the factor which most correlates with injury risk. In seasons prior to the workload study being implemented, it is not known what the extent of overall (match plus training) workload was, although it is very clear that match workload has increased over the years, particularly with respect to One Day Internationals. Although formal recommendations have not been set in stone regarding the maximum or optimum number of bowling sessions or overs per week, once these figures are established, any increase in match workload will make it harder for players and coaches to fall within the prescribed range. English county cricket surveillance reveals an even higher match workload (match wise) for first class bowlers in England than Australia(8). However, injury prevalence is also higher in England than Australia, and our figure could be expected to rise if our match workload was also to rise.

Other ways which may limit excess workload in the medium term should include:

1. Scheduling changes: elimination of back-to-back games, institution of a forced off-season (ie, maximum number of matches scheduled per year for national teams)

2. Rule changes: allow 12th man to bowl for an injured player, which would reduce excess workload in the event of a team being a bowler short. However, this rule would be very difficult to enforce with respect to eligibility by a team wishing to use the rule as a form of interchange.

3. Recommendation of tactical changes: avoiding enforcing the follow-on if upcoming matches are scheduled, deliberate rotation of bowlers, etc.

4. The action implemented four seasons ago at all major grounds in Australia to use a boundary rope rather than the fence has been a success. Prior to this, there had been two major ankle injuries (and five other minor injuries) over five seasons caused by collisions with the fence while fielding. Although this was a small number, it was foreseen that this could also be successful for any given season and lumbar spine MRI. Future scheduling should bear in mind the potential for workload increase on players, with respect to issues such as back-to-back games and total number of matches scheduled.

5. There was a significant increase in injury prevalence in 2003/04 for the Australian team in particular, perhaps associated with the increase in number of matches scheduled during this season (although a small number of long-term injuries may have had most of the effect seen).

6. The action implemented four seasons ago at all major grounds in Australia to use a boundary rope rather than the fence has been a success. Prior to this, there had been two major ankle injuries (and five other minor injuries) over five seasons caused by collisions with the fence while fielding. Although this was a small number, it was foreseen that this could also be successful for any given season and lumbar spine MRI. Future scheduling should bear in mind the potential for workload increase on players, with respect to issues such as back-to-back games and total number of matches scheduled.

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10. There was a significant increase in injury prevalence in 2003/04 for the Australian team in particular, perhaps associated with the increase in number of matches scheduled during this season (although a small number of long-term injuries may have had most of the effect seen).
Acknowledgements

The authors of the injury survey would like to acknowledge the contribution of the following people over the 2003-04 season:

• Team physiotherapists: Errol Alcott, Alex Kontouris (Australia), Patrick McGeer (Tasmania), Damien McCann (Western Australia), CA researchers and staff: Ross Dundas, Geoff Allardice, Steve Bernard, Ross Turner, Rebecca Dennis, Marc Portus.

References

17. Stretch RA, editor. Australian Cricket Board National First Class Cricket Players’ Injury Surveillance. Sports Medicine in Sport in Melbourne. This course is expected to fill quickly.

The 2004 Australian Conference of Science and Medicine in Sport in Alice Springs was the venue for the inaugural On-Field Emergency Care Course, sponsored and supported by Laerdal Australia and specifically designed for doctors, nurses and physiotherapists to provide the care of athletes and teams of all levels. In our line of work, life threatening emergencies do occur and they occur outside of the controlled hospital or clinic environment. Managing on-field emergencies is different to managing their potential to occur. These emergencies do occur and you can’t afford to be inadequately prepared to handle them. The On-Field Emergency Care Course was designed to fill the needs of the doctor facing these potential challenges.

This course was developed and facilitated by Dr Shane Brum, a Fellow of Sports Doctors Australia, and run with the expertise of other experienced and respected SDRA Fellows teaching and overseeing the skills stations.

The feedback from the course was unanimously positive with participants including sports doctors, sports physiotherapists, team doctors and sports trainers all stating that they learned valuable information and developed essential skills in managing an athlete requiring on-field emergency medical care, one participant stating that “no doctor who cares for athletes should ever afford not to do this course”.

Although the course was designed and accredited with SDRA for medical practitioners, the non-medical participants stated that they developed an insight into the skills and abilities of doctors who completed this course and felt better equipped to assist the doctor with on-field emergency care.

Given the more serious nature of sporting events and the greater demand for high quality and experienced medical care at these fixtures, the course has been designed for the medical practitioner who has the responsibility for the care of athletes or sporting teams of all levels. The course focusses on the on-field management of the seriously-injured or ill athlete and involves the essential theory and predominantly focusses on the hands-on management of these conditions. It is designed around systems and skills stations, whereby the doctor becomes competent at recognising and managing serious incidents without immediate hospital backup.

Each station is sport-based, and focusses specifically on the four major injury systems requiring acute medical intervention. The systems covered and some of the skills learned included the identification and management of:

- 1. Airway problems: the participants learning how to identify a compromised airway or an airway which has the potential of becoming compromised. The basics of establishing and maintaining an airway were reinforced and practiced, including cervical spine control, oxygen therapy and appropriate delivery systems, bag and mask resuscitation, inserting an oral/nasal airway, ETI insertion and LMA insertion.

- 2. Breathing problems: the participants understanding the basic principles of emergency management as well as the critical advanced medical skills required to stabilise the seriously-injured or seriously-ill athlete. To finalise, the course then tied together as a complete management model so as the participants gained the confidence and skills required.

- 3. Circulatory problems: concerning types of shock, fluid resuscitation and fracture management and stabilisation and the use of cardiac defibrillation.

- 4. Head and spinal injuries: the candidates learning how to assess and manage these patients, such as determining ominous neurological signs and how to immobilise a patient with a spinal injury.

Each station identified compromise and potential causes of the system covered. It also focussed on essential intervention as well as certain contraindications to management.

The stations emphasised the basics of emergency management as well as the critical advanced medical skills required to stabilise the seriously-injured or seriously-ill athlete. To finalise, the course then tied together as a complete management model so as the participants gained the confidence and skills required.

Because of popular demand, the course will be run again at the 2005 Australian Conference of Science and Medicine in Sport in Melbourne. This will be another great opportunity for participants from last year’s course to refresh their skills and other doctors to learn and practice essential lifesaving skills. Not only was it a valuable skills course, it was also a course where everyone had fun learning and acquiring the skills.

The demand for this course is high and is expected to fill quickly. It is envisaged that future courses will aim to be multidisciplinary given the multidisciplinary nature of sports medicine.

This course would not have been possible without the wonderful support and sponsorship of Laerdal Australia.
**New AIS Director**

The new Director of the Australian Institute of Sport is Peter Fricker, Medical Director of the Australian Olympic team at Athens, Deputy Medical Director at the Seoul, Barcelona, Atlanta and Sydney Olympics and prominent SMA member.

Professor Fricker has been at the AIS for more than 20 years, its first ever medical officer and driving force behind many of the medical and scientific breakthroughs behind the AIS’ successes over the years.

**Help call to SMA members!**

The Safer Sport Program needs SMA skills

SMA members who can help SSP as it provides training in injury prevention and management and crisis management techniques are invited to contact their State offices to find out more about the skills needed, remuneration, etc.

**SportScan Update**

SportScan Update is a new free alerting service from the National Sport Information Centre (NSIC) at the Australian Sports Commission – a new free monthly sport information email service that could interest sports scientists and sports medicine personnel. It lists new resources: journal articles, web documents, personnel. It lists new resources:

- new free monthly sport information news
- new free monthly sport information news
- new free monthly sport information news
- new free monthly sport information news
- new free monthly sport information news

**Structure of the Prohibited List**

The structure of the 2005 Prohibited List is as follows:
- Substances and methods prohibited at all times (for males and females)
  - anabolic agents
  - hormones and related substances
  - Beta-2 agonists
  - agents with anti-estrogenic activity
  - diuretics and other masking agents
  - enzymes that affect oxygen transfer
  - chemical and physical manipulation
  - gene doping

- Substances and methods prohibited in-competition only (for males and females)
  - all substances and methods listed above plus:
    - stimulants
    - narcotics
    - cannabinoids
    - glucocorticosteroids (except when applied via a skin cream)
  - Substances prohibited in particular sports (athletes should check whether these substances are prohibited by their sport)
    - alcohol
    - beta-blockers

**New anti-doping handbook**

With the 2005 Prohibited List now in effect, ASDA has released its new 2005 Anti-Doping Information Handbook, which features updated information on:
- the status of medications in sport;
- drug testing procedures; and
- requirements on athletes to provide accurate whereabouts information.

Sports medicine professionals can contact the ASDA Hotline (1800 020 506) to buy the 2005 handbook.

**FIMS Membership now open to SMA Members**

Membership of the International Federation of Sports Medicine (FIMS) is now open to SMA members for an annual fee of $AUS10.

FIMS membership will provide access to the members’ section of the FIMS website to connect with sports medicine and sports science professionals internationally. Membership also provides electronic access to the FIMS quarterly journal The International SportsMed Journal (ISMJ) available online at http://www.sportmed.com/ismj/frames.asp, plus a regular weekly sports medicine literature update service and the regular FIMS newsletter online.

Membership is to be paid as an optional amount with annual renewal of SMA membership. (All the members of Sports Doctors Australia have recently become members of FIMS through SMA.)

**Epidemiology of Pediatric Sports Injuries (Vol 48): Individual Sports**

(ISBN 3-8055-7848-7)

Covers the epidemiology of children’s individual sports injuries, injuries in gymnastics, skiing and snowboarding, tennis, track and field, wrestling and the martial arts, and injury prevention and future research.

**Epidemiology of Pediatric Sports Injuries (Vol 49): Team Sports**

(ISBN 3-8055-7849-5)

Covers the epidemiology of children’s team sport injuries, injury prevention and future research, and injuries in basketball, rugby and soccer (now football), as well as North American specialties such as gridiron, ice hockey and baseball.

Details are available from DA Information Services at 648 Whitehorse Road, Mitcham, Victoria 3132 in Australia or www.karger.com/msps.
Apology

The Editors of Sport Health apologise to readers and the authors for the omission of part of the list of references cited in the article “Uncovering the secrets of The Don: Bradman reassessed” which was published in Volume 22, Issue 4, Summer 2004-05.

We publish the full list here.

References