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Why are you here?



Most of the readers of this magazine are members of Sports Medicine Australia (SMA). The question above is addressed to them – and it is semi-rhetorical, because they probably know why they are here (in this case – members of SMA).

But just in case they needed a reminder, or if they ever wondered why others were members, a new feature on the SMA website helps to remind them. www.sma.org.au has a click through to page of testimonials from a range of SMA members explaining why they joined and why they have remained members. These testimonials are of interest because the reasons for becoming a member of SMA are not immediately obvious. It is not compulsory to join SMA – there is no professional requirement, no discounted professional insurance or other occupational based necessity to be a member. And you have to pay!

So why are these members members? Staff at SMA have a saying: “people become members of SMA if they **get it**.” What does “get it” mean? The testimonials give a number of clues.

In the first place, SMA members would all agree with John Donne that: “No man is an island, entire of itself;”¹. Without fail, all of the testimonials mention the importance of contact with other members – but not just members of their own professions, contact with members of other professions who are working to the same end but from a different direction or perspective. This is the second major thread that runs through the testimonials – the valuing of multidisciplinary knowledge. They “get it” that there is something to be learned from the training and knowledge of other disciplines and fields. There is a deep appreciation of the value of team work, of taking a team-based, collaborative approach to

problem solving. There is also an understanding that if you want to get the best out of yourself, that this is the best environment in which to do it.

SMA-membership is not based on any specific material requirement; it is based on an appreciation of the power of ideas.

An enduring sub-theme is that there is a universal appreciation of the strong social networks and personal friendships developed. One member wrote that returning to the national conference after a long absence “felt like coming home.”

All members attest to the importance of the national conference as a catalyst for these elements to develop and grow. The conference was one single event where “getting it” was made especially easy.

If you are a professional working in any area to do with enhancing the health of Australians by encouraging their safe participation in sport and physical activity – health professional, scientist, researcher, teacher, administrator, coach, sports trainer – you might want to consider “getting it”. And the best place to “get it” is at the national conference. Don’t miss Port Douglas in November 2010!

Exercise is Medicine

“Exercise is Medicine” (EIM) is the name of a public health campaign developed by SMA’s counterpart in the USA, the American College of Sports Medicine (ACSM). The aim of EIM is:

- to make physical activity and exercise a standard part of a disease prevention and treatment medical paradigm;

- for physical activity to be **considered** by all health care providers as a vital sign in every patient visit;
- that patients are effectively counselled and referred as to their physical activity and health needs.²

The American College of Sports Medicine believe that the achievement of these aims will lead to an overall improvement in the public's health and long-term reduction in health care cost – a belief that is increasingly supported by more and more studies into the benefits of activity and the adverse impact of inactivity on health.³

The Exercise is Medicine website (www.ExerciselsMedicine.org) goes on to articulate these aims in greater detail, especially that from a healthcare providers perspective, more should be done to address physical activity and exercise in healthcare settings. These are aims that are closely aligned to the Vision, Mission and Values of Sports Medicine Australia.⁴ For this reason, SMA has signed up to partner the ACSM in promoting the “Exercise is Medicine” campaign in Australia.

Australia on the Move (www.ozom.org.au)

SMA will provide links to the Exercise is Medicine website from the SMA website and promote specific aspects of the campaign to SMA members and the wider public. The campaign will also be supported by SMA's own public health website to be launched later in the year – “Australia on the Move”. Australia on the Move (to be known as www.OzOM.org.au) will promote physical activity within the overall context of achieving energy balance.

The campaign will also be supported by a survey of the actual detail of the teaching of preventative health and physical activity to trainee health professionals in Australia. The details of this survey will be published in 2010 in JSAMS and Sport Health.

A word on implants/prostheses

About nine years ago I attended a seminar in the Federal Parliament as part of the Bone & Joint Decade to launch a register of hip and knee replacements. During the presentations at the launch, it was remarked in passing that the average lifespan of an implant in Australia was around ten years, whereas in Scandinavian countries, it was around 25 years. By 2004, the revision rate for hip replacement surgery was estimated to be about 20–24 per cent in Australia, whereas in Sweden it was known to be just 7 per cent.⁵ Without going into too much detail, it appears that the fundamental difference was that in Scandinavia, only a very small number of orthoses are

permitted for replacements, whereas in Australia, a less stringent system operates.

In Australia the Medical Services Advisory Committee advise whether new surgical procedures should be funded by Medicare. Also, any therapeutic devices used in procedures funded by Medicare or available on the Prostheses List must have been assessed as clinically safe and effective by the Therapeutic Goods Administration (TGA) with input from its Medical Devices Evaluation Committee.⁶

Why is this an issue? To quote from the Medical Journal of Australia: *“Joint replacement surgery is a major area of health expenditure. In 2002, over 50 000 hip and knee replacement procedures were performed in Australia, at an estimated cost of well over \$500 million. Until recently, the rate of joint replacement surgery has increased by 5%–10% a year; the past 2 years have seen increases of more than 10%. **The ageing population and increasing use of joint replacement in younger people will ensure that this rate of increase will continue. The number of revision procedures will also increase as more patients survive longer than the life expectancy of the replacement joint.**”*⁷ (My emphasis.)

Further, from an SMA perspective, elite and extreme sport is believed to result in higher than average rates of hip and knee replacement; at the same time, these replacements can greatly increase the capacity of recipients to maintain healthy levels of physical activity.

In the last Sport Health, Dr J extolled the virtues of a robust ACL register as a means of reducing health costs and getting better patient outcomes. Dr J cut to the nub of the matter in his article when he said: *“So would an ACL register save us money? It depends on whether it actually recorded patient outcomes and whether we bothered to act on the findings.”*⁸

To provide this essential service economically and to maximise the physical activity potential for an ageing population, the Government must establish appropriate registers of practice and use – and then act on the outcome findings from those registers.

While governments are always reluctant to take-on medical practitioner groups, there could be more pressures than rising health costs from an ageing population. *The Melbourne Age* of 7 September carried a front page article “warning of implant risk” as a result of medical device firms wooing doctors to their devices with commissions and junkets.⁹ There is a real danger for orthopaedic surgeons in allowing perceptions to develop that lead the public to believe that draconian Government

action is warranted. Perhaps one mitigating factor in the mix could be the elevation of sports physicians to specialist status. Just as there is a perception that cardiologists keep cardiac surgeons honest, so sports physicians could play the same role for orthopaedic surgeons. It is imperative that the Government move to clarify the details under which the newly recognised specialty of sports physician can operate.

A last word (for now) on fat kiddies

The Federal Minister for Health finally launched the Report of the Preventative Health Taskforce on 1 September. Sadly, the Report continues to distract from the real health problems caused by obesity and inactivity with its insistence that of particular concern “is the increasing prevalence of overweight and obesity in children.”¹⁰

This is just plain wrong and a product of selective interpretation of the data. Obesity rates in children in Australia peaked around ten years ago and have plateaued or declined ever since. What this misperception means is that policy response to the **very serious health issues of obesity in adults** has to play second fiddle to a myth.

But don't believe me – if you are reading this at “Be Active ‘09”, make sure you go to sessions where Professor Tim Olds is

speaking and see what you think of the data he presents. If you missed the Conference, make sure you get the abstracts in the Journal of Science and Medicine in Sport (JSAMS) or any other recent publications by Professor Olds.

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The evolution of philosophies in professional sports medicine



Sports medicine is a relatively novel specialty, but established enough that there are now multiple schools of thought or philosophies, about how to practice within the field. In fact, by being a novel medical specialty, there may be greater scope to respect different philosophies in sports medicine, without being as bound by a mentality of “this is the way things have always been done”. A mature sports medicine philosophy should ideally be blend of the measured teachings of traditional medicine, the academic approach of modern evidence-based medicine and the “can-do” approach of athletes. Most importantly, a mature sports medicine philosophy should be situation-specific. Professional athletes and exercising individuals with the same diagnosis can often (and should) be treated differently because of situation-specific circumstances. However, there is some common ground between the way sports physicians treat professional athletes and the way that sports physicians can help to treat everyday patients in a manner that may be more beneficial than the approach that they might receive from hospital-trained specialty doctors.

Philosophies for treating professional athletes

Seven years ago I wrote a Dr J piece called “Winning at Russian Roulette”¹, in which I discussed some of the medical management at my rugby league team, the Sydney Roosters, in their 2002 Premiership year. Even though I claimed to have played some role in this success, fortunately I was humble enough to admit that a lot of the medical management was aggressive and involved risk-taking. Circumstances that year

had conspired to make it look like the risks were all inspired choices that had paid off. The most important of these was a Premiership victory, which in sport retrospectively makes geniuses of all those associated with it. In the 2002 season, the team had a very high injury rate in the middle parts of the season, but we managed to return enough players in a fit-enough state to peak at the ideal time. Luck played as important a role as good management.

I foresaw a future of times when some of my medical risks wouldn’t lead to such excellent outcomes. Perhaps I didn’t see (or want to see) a future as bleak as the Roosters 2009 season when we had fallen out of contention well before the halfway point of the season and, for most the season, it would become sensible *not* to take many medical risks. Does this mean I need to re-visit my mentality of 2002 that doctors can make an important difference to team results? After all, it superficially looks as though I haven’t had any positive influence on the Roosters’ results in 2009, so how is it consistent to claim that I did earlier in my career in 2002?

Trying to explain this paradox is where I want to head with this article. I’ll start with an anecdote that sums up the bad luck of our losing season and how bad luck can retrospectively make your medical management seem worse than it otherwise would have been, just as good luck makes the management look good.

Luck is forever present, despite our obligation to try to take it out of the equation as much as possible with skill. After round 5 this year, the Roosters were sitting on 2 wins and 3 losses

(of which 2 had been close games) and were involved in an obviously important away match to try to keep the season on track. In this game, we had led handsomely at half-time, but our opponents the Warriors were coming back at us and we were clinging to a narrow lead late in the game. Our half-back, Mitchell Pearce, was involved in an accidental head clash that immediately left him with a massive forehead laceration that was pouring out blood so profusely that we had no option but to interchange him immediately from the field. Given that he was a key player, that he hadn't been concussed in the incident, that the game and season was at a critical stage and that our team fortunately hadn't used up all of its interchanges, I thought that aggressive medical management was called for. We made the quick decision to staple the laceration in the change room, turban his head up with bandages and then offer the coach the option of sending him straight back out (for the final few minutes of the game), which he took.

With the game in the balance, Mitchell Pearce returned to the field, took possession in our defensive half and attempted a 40–20 kick. He kicked it brilliantly, catching the opposing winger off guard, and it looked like it was going to bounce into touch and virtually guarantee us the win. However, just as it was about to roll out it took a massive leg break and decided to stay just inside the field, allowing the Warriors to regather. They managed to tie the game up with a penalty and later kick a winning field goal in golden point extra time. It was our third narrow loss in four games and it seemed to knock the confidence out of our team. Worse still, three days later Mitchell Pearce had his forehead swollen up like a balloon requiring antibiotics and a few days off training. I had a sinking feeling that if I had ruled him out of the remainder of the game and put in regular stitches, that his wound healing would probably have been more uneventful. He managed to recover just in time for the following week's game, but a disrupted preparation from the infected laceration wouldn't have helped his performance. We got thrashed in this game and our season had started to unravel. I felt bad because my aggressive medical management looked like it had hurt us, although if a ball had bounced a different way it would have paid off in spades. This sort of situation might be less common for a team doctor, but it is probably what coaches need to put up with on a weekly basis, which explains why they generally get grey hair pretty quickly! As a medical anecdote, it is a good illustration of the most fundamental dilemma that a team doctor will face – do you hold an injured player off the field or try to get him quickly back on the park? And if you rush him back do you risk a worsening of the condition which might cost you at a later time?



Philosophies of playing and coaching sport

Analogous to the fundamental dilemma of the team doctor is a similar tension that coaches (and players) constantly face in team sport. The rules and tactics of most team sports mean that in trying harder to set up the opportunity to score points, you need to take risks which can therefore also increase the chances that your opponent will score points. Therefore a team (and individuals within the team) are constantly faced with the option of playing conservatively (defensively) or aggressively (offensively), usually involving a trade-off between the two. One of the great paradoxes in team sports is that successful teams generally tend to play conservatively for the most part, but fans and the media generally favour aggressive risk-taking players. Successful teams will generally base their success on choking down opposition ability to score, only playing with a high-risk aggressive approach when the situation demands it (i.e. when a scoring chance is imminent, when the opposition is tiring or when team is narrowly behind towards the end of the game).

Table 1 – Aggressive versus conservative play in various football codes

Sport	Examples of aggressive (risky) play (more likely to score but at a cost of giving opponent more opportunities as well)	Examples of conservative (defensive) play (limiting opportunities for opponents)
Australian football	<ol style="list-style-type: none"> 1. Kicking long to a contest 2. 'Peeling off' when ball is in dispute 3. Playing 'wide' of direct opponent 4. Traditional positional play (i.e. forwards stay in the forward line) 	<ol style="list-style-type: none"> 1. Handballing or kicking short to an unmarked teammate 2. Staying 'manned up' when ball is in dispute 3. 'Tagging' direct opponents 4. 'Flooding' defence
Rugby league	<ol style="list-style-type: none"> 1. Offloading in tackles 2. Multiple (or long) passes 3. Running on 5th tackle 	<ol style="list-style-type: none"> 1. Keeping the ball safe when tackled 2. Few (or short) passes, including dummy-half runs 3. Kicking on 5th tackle
Rugby union	<ol style="list-style-type: none"> 1. Running the ball from the defensive zone 2. Attempting to steal the ball when defending 	<ol style="list-style-type: none"> 1. Long-kicking from the defensive zone 2. Avoiding giving away penalties when defending
Soccer	<ol style="list-style-type: none"> 1. Playing a formation with multiple strikers (e.g. 4–3–3) 2. Shooting from a tight angle 3. Committing heavily during tackles 4. Trying to retain possession when deep in defence 	<ol style="list-style-type: none"> 1. Playing with a single striker (e.g. 4–4–1–1) 2. Crossing the ball to a teammate when attacking on the flank 3. Holding slightly off opponent when defending 4. Kicking long from defence
American football	<ol style="list-style-type: none"> 1. Passing plays (esp. long passing) 2. Rushing/'Blitz' defence 	<ol style="list-style-type: none"> 1. Running plays 2. Conventional 'one on one' defence

Table 1 lists examples of aggressive versus conservative play in the football codes. When defending, in almost all of the football codes, essentially pushing hard for a turnover involves "aggressive" defence, whereas conservative defence involves holding the attack away from their scoring zone. Usually avoiding giving away penalties is conservative, although this may depend on how close the opposition is to scoring. Home ground advantage usually arises in the football codes primarily because the referees/umpires will subconsciously give the home team a little more latitude with aggressive defence than they will the away team, because of the screams of the crowd.

Table 1 could be expanded to include non-football sports and even non-team sports. In golf it is aggressive to "shoot at the pin" but if you try it on too many holes you'll end up in too many bunkers. It is aggressive in tennis to come in to the net and defensive to stay at the baseline. It is aggressive to bowl short of a length if you are a fast bowler. "Slogging" cross-bat

in Test cricket is aggressive whereas "playing a straight bat" in the Commonwealth countries has become a metaphor for acting conservatively in everyday life. In baseball, Moneyball describes how the Oakland A's worked out statistically that stealing bases and swinging at too many pitches were overly aggressive, so they recruited players who did the less flashy things but who won them more games².

Doing the conservative thing is often referred to as "team play" and winning teams generally have players who stick to the script. In losing teams, when it is obvious that team glory is not going to be obtained, it is often too tempting for individual players to try for individual glory and try to pull off high-risk plays, which look great when they come off. A good team playing a bad team can often just play conservatively and wait for the less patient opponents to invite them to score by taking silly risks.

Another paradox of team sport is that successful teams are prone to being accused of being boring and too clinical, because they take few risks, something which Pim Verbeek has recently been through even though under his coaching, Australia had qualified for the football World Cup at the earliest opportunity. When this criticism actually threatens to have fans walk away from a sport, the rule makers can sometimes try to step in, because very few teams can get away with playing like the Brazilian team does (i.e. winning *and* being flamboyant). In soccer, they brought in 3 points for a win (and only 1 for a draw) to encourage attacking play, as well as the away goals rule for knockout match series. In Super 14 rugby a similar innovation is bonus points for scoring 4 tries in a match. They invented the shot clock and 3-point shot in basketball, which both entice teams to take low percentage shots rather than hang on to the ball. In cricket they invented Twenty-20 which encourages every batsman to slog, because the theatre-goers find this more exciting.

Defensive (conservative) sports medicine

The various ways (or philosophies) of practising sports medicine aren't completely analogous to coaching strategy, but they can be categorised in a similar way. The philosophy of traditional medicine (i.e. hospital specialty) teaching is to generally be conservative and avoid exposing patients to risk. I would characterise this as a defensive approach – maybe a “textbook” approach. Conservative is another word to describe it, although this can mean “non-surgical” and quite often a recommendation for surgery is defensive. Surgeons tend to magnify the risks of exercise and activity (and ignore the benefits) but often take the opposite approach to surgery itself (i.e. downplay the risks and magnify the benefits of surgery). For a surgeon, it is “if in doubt, cut it out” or at the very least “sit them out”.

One yardstick for the defensive medical approach is “what management would least draw criticism from the majority of my *medical* peers?” Another is “what management will minimise the recurrence rate of this injury/condition?” After all, the situation which tends to lead to the most criticism in sports medicine is the recurrence of an injury in a player's return match, which suggests the team medical staff failed to adequately assess fitness for return to play. Table 2 lists some of the common management scenarios in sports medicine, with the middle column detailing a typical defensive approach. A defensive sports medicine approach involves ordering a lot of investigations and referring to a lot of sub-specialists for further opinions. In addition, it means taking heed of any

negative opinion or adverse finding on a scan. A doctor practising in a defensive way wants to minimise any further harm that a player/athlete may be subjected to by continuing to play. Under a defensive philosophy, the final arbiter of return to play must be clearance by the doctor rather than self-assessment of fitness by the player.

Passive sports medicine

The opposite of defensive sports medicine is not particularly an “aggressive” approach but more a passive approach. Defensive practice is active, whereas passive is choosing not to act. Athletes and players left to their own devices will generally try to carry injury and play through the pain. Like a surgeon's attitude to surgery, the typical player will magnify the benefits of playing and downplay the risks of carrying an injury. And just as a surgeon couldn't operate as well if he/she was obsessing about DVTs and infections, a player can't play as well unless able to perform the mental trick of pretending the injury isn't there when in the heat of battle.

Because the defensive sports physician can be seen by players as a handbrake, the *modus operandi* of the passive approach is to “let them play”. One characteristic of the passive approach is a view that an investigation should only be performed if it will change management. Therefore, if a player is carrying an injury but is going to play anyway, an investigation is not needed as it won't affect the decision. The passive sports medicine philosophy is based on a mentality that doctors shouldn't be paternalistic. Whilst there are risks involved in playing sport and carrying injuries, if players wish to take those risks, a passive doctor feels bound to allow them do so. A sports physician can be basically passive in philosophy but this does not mean refusing to work – it just means doing so on a “consultant” basis rather than active searching for injuries to manage and holding off management unless it is clearly required. Under this philosophy the return-to-play decision rests primarily with the player.

Compared to a defensive philosophy, a passive philosophy will probably result in more players being available for games, but perhaps also to a higher rate of selection errors (recurrences or episodes of players performing badly due to injury). The bonus from the doctor's viewpoint is that in the event of a selection error, most of the perceived blame would lay at the feet of the player rather than the doctor. Whilst the passive philosophy may seem a bit passé, it is worth remembering that there are still many wealthy teams in sports around the world that don't take doctors with them

to away matches. If finance isn't the reason for this decision, then it indicates that team management actually prefers a passive approach from the team doctors.

Actively aggressive sports medicine

Actively defensive and passive philosophies represent the opposing poles of philosophy from embryonic sports medicine, but as sports medicine at the fully professional levels has a distinct third school in which the stakes are raised. This involves active medical intervention in order to allow players to continue to compete.

The mantra of the aggressive philosophy is trying to minimise "missed player games" or, alternatively, to maximise player availability. Sometimes the link between the medical management and continued participation is easy to demonstrate – for example a local anaesthetic injection which allows an otherwise-injured player to step on the park. On other occasions, the value of the medical management may be harder to prove or even somewhat dubious – for example the Actovegin and Traumeel cocktail of Mueller-Wohlfahrt³.

A cynic may suggest that some so-called aggressive medical treatments are no more than placebo. However, their very administration changes the psychological environment under which the athlete is competing. The player is on the field not just because the doctor agreed not to intervene, but because the doctor actively assisted. The doctor is in the position of an expert on injuries who has given the green light. This gives the player greater confidence in the return to play decision, but it also gives the doctor greater responsibility to help maximise the number of correct decisions. In claiming some of the credit for player participation in an aggressive philosophy, a doctor must also take more responsibility for complications and recurrences, which in professional sport will eventually occur.

One of the great weapons of the aggressive sports physician – the cortisone injection – has now been shown to perhaps help in the short-term and but be harmful in the longer-term for certain tendinopathies⁴. And last but not least, the aggressive sports physician is probably more likely than others to be at risk for medicolegal liability. A player who claims a premature end to his career because of reckless continued participation doesn't have much of an argument if the doctor was basically a bystander and the player made the decisions to play himself. There is at least some potential for argument if the player maintains he wouldn't have been able to take the field save for active intervention by the doctor. Therefore an active aggressive sports physician generally needs to

thoroughly investigate and document cases well where potential for long-term injury or permanent disability exists. However, the existence of active aggressive sports medicine is the rationale for teams in certain competitions (e.g. AFL) to pay good dollars for team medical staff, in the belief that getting top practitioners will assist the team in getting the best value out of their players.

Which sports medicine philosophy is better?

Table 2 shows examples of each philosophy and probably illustrates that virtually no doctor could be pigeon-holed as being exclusively in one school or another. Many sports physicians, for example, would like to be passive in certain situations (?minor injuries), defensive in others (?with potentially serious injuries) and aggressive in others (?in high stakes situations like finals). A doctor who was inflexibly and firmly in one school could be painted as a spectator/freeloader (entirely passive approach), a handbrake/prophet of doom/ Dr Death (entirely defensive approach) or a cowboy/maverick/show pony (entirely aggressive approach). Nevertheless some generalisations can be made. AFL club doctors have moved away from a passive approach in the last 15 years, with doctors now present at most training sessions and heavily involved in return-to-play decisions⁵. In some areas the shift has been to a more defensive approach – for example the average AFL player with a hamstring injury spends a greater number of weeks out but with a lower recurrence rate than a decade ago⁶. There is an impression that teams which can't make the AFL finals are, sensibly, implementing ultra-defensive medicine to best prepare their team for the following season, which can include early decisions to undergo surgery.

Aggressive sports medicine is more often seen at the other end of the ladder around the time of the finals series. Of the AFL teams, I've noticed a trend, perhaps, for the higher-profile teams to be less aggressive, possibly because the media backlash would be fiercer in the event of a perceived stuff-up. The Brisbane Lions and Sydney Swans have in common that they can fly under the media radar a bit more easily than the southern teams, and their medical teams have received (positive) publicity for aggressive management leading up to Grand Finals of recent seasons. Nevertheless, by being more active, the profile of all AFL medical teams have lifted and along with the evolution of the sports medicine media experts like Larkins and Brukner⁷.

The passive approach is still respected more in the NRL and maybe this is not just for financial reasons. Rugby league seems to be a game where if you can train well you can

Table 2 – Specific examples of various sports medicine philosophies

Situation	Passive philosophy	Defensive philosophy	Aggressive philosophy
Muscle strains	Let the player train and play when he thinks he is ready	MRI scan plus multiple clinical tests; hold the player back if any parameter abnormal	Encourage (and possibly facilitate) quick return to play with newer treatment modalities (e.g. autologous serum injections)
Painful but minor contact injuries (e.g. rib cartilage)	Let the player play if he thinks he can carry the injury	Advise against play if performance may be effected or recurrence is likely	Encourage use of local anaesthetic to allow continued play
Initial shoulder instability	Advise rest while pain persists then return to play, with surgery only considered after multiple episodes of instability	Advise early/immediate surgical stabilisation to increase the chance of a successful outcome	Encourage early range of motion and re-strengthen plus early return, followed by reconstruction immediately post-season
Gastroenteritis	Oral rehydration and again let the player decide whether he feels well enough	Withdraw from play if there is any sign whatsoever of fever or dehydration because of possible sequelae	IV fluids given to ensure adequate rehydration before play starts, with fever being the only contraindication to play
Bleeding player on the field	Let an on-field trainer dress to minimise blood loss and contact with other players	Withdraw from play to suture under sterile conditions in the dressing room	Use a staple gun during match time to speed up return to the field
Ankle sprains	Weightbearing as soon as comfortable	Crutches and immobilisation until an MRI scan can be arranged	Rule out fractures and syndesmosis injuries and rush back everything else, including consideration of use of cortisone
Partial ACL tear	Attempt conservative treatment if the player feels able	Insist on immediate reconstruction and a 9–12 month recovery period	Consider conservative options but go with accelerated rehabilitation and aim for 6 month return if surgery is required
Concussion	If the player can coherently say that he is right to play, let him play	Use consensus concussion guidelines and exclude if guidelines advise or if testing is in any way abnormal	Stick to testing and guidelines when affordable but give leeway when appropriate in certain situations
Training programs	Leave these completely up to conditioner and coaches	Take a strong stance on setting training limits for injured players	Be part of the process of individualising training loads to balance needs of maintaining fitness and managing injuries

generally play well, compared to the AFL player who can hide his dodgy hamstring on the training track but then find it fails half-way through the first quarter. Along with this the NRL doctors have slightly lower profiles, workloads and pay packets than their AFL compatriots⁸. In general though I think that local anaesthetic injection use – an aggressive intervention – is probably more common in the NRL, because of the greater contact profile of injuries. Even if it is common, it is not necessary for success, as one of the most successful clubs of the past decade, the Canterbury Bulldogs, has previously claimed that it is club policy to avoid local anaesthetic use, which is an anti-aggressive position⁹.

In my 2002 Dr J article, I certainly would have given the impression that I didn't mind using active aggressive management at the Roosters. Whilst I would still go back there in the right circumstances, from the bottom end of the ladder in 2009 it has seemed appropriate to be much more passive/defensive in the second half of the season. I recently had a player who developed gastroenteritis the day before the game and took the soft but sensible option of just ruling him out. What would be the point of trying to get him up by giving him intravenous fluids when he was vomiting the night before the match, when our season had already reached the point of no return?

In European soccer, aggressive management appears to be much more favoured on the continental side of the English channel, with some of the German, Spanish and Italian medical teams seeming to be more aggressive than, say, the EPL medical teams. Having said that, there is an argument for a defensive philosophy in an environment where the top EPL teams have over 50 fixtures scheduled per season. They have bigger squads and more of a "rotation" mentality, which therefore makes it easier to rule out a player who is only 95% fit and replace him with a similarly-skilled player at 100% fitness.

Team physician positions in the USA are dominated by orthopaedic surgeons and generalists rather than sports physicians as we know them. Therefore, for everyday injuries a passive approach is often taken and management is delegated to the athletic trainer. Players are far more likely to consult independent specialists (organised by their managers) than to necessarily stick to their team medical staff for all of their management. American professional team doctors tend to be aggressive in one way – perhaps sometimes overly – with local anaesthetic and cortisone injections. But the ever-present threat of lawsuits can also encourage defensive medicine once there is a sign of trouble. Perhaps a fourth

philosophy for American team physicians is needed where you put into writing that all of the injured players are unfit but they can sign waivers to be allowed to play!

Can we take this back to the clinic?

Just as design features from Formula One cars can sometimes be incorporated into regular passenger cars, it is also worth bearing in mind that these different approaches can be taken to back to the sports medicine centre. Not every patient needs active management and not every patient needs a scan. It is more possible than most doctors realise for a 60-year old with a rotator cuff tear or meniscal lesion to avoid a surgical opinion. You can do a good service for a patient who works in the door with a lumbar MRI scan and a worried look telling them it isn't all that abnormal to have disc bulge at L5/S1.

On the other hand, some of your most grateful patients can be those who have required aggressive treatment to allow them to achieve a lifetime goal, such as competing in an Iron Man or marathon or hiking to base camp at Everest. It might seem natural to take a defensive approach for Worker's Compensation patients, but there are sports physicians in Australia making good money by offering a service to companies which is less defensive than they are used to. The most important message is that, in sports medicine, there is more than one way to treat a condition in different circumstances and it is important to discuss these with the patient and decide on a management plan together.

Dr J

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SMA – Progress and Reforms for the past 2 Years



Vice president – Anita Green, Outgoing CEO – Gary Moorhead, Outgoing President – Michael Kenihan, Incoming CEO – Nello Marino & Incoming President – Tim Pain

I wrote an article in Sport Health a couple of years ago when I became SMA President

Now that I am nearing the end of my term as President I though it may be good to review some of the progress and reforms your organisation have made.

SMA now has a new logo and a revised Vision, Mission and Values statement:

Mission Statement – Sports Medicine Australia will build a vibrant community, including its members and other parties committed to sharing knowledge, training and information, to enhance the health of all Australians through facilitating their safe participation in sport and physical activity.

Mission Statement – Sports Medicine Australia is a national multidisciplinary organisation of professionals committed to working together to enhance the health of all Australians through safe participation in sport, recreation and physical activity.

Sports Medicine Australia will function as the peak body for:

- Medicine and science in physical activity and sport

- Medical and health care of active persons at all levels
- Well-being through safe physical activity
- Prevention of health problems associated with inactivity

Values – The corporate values governing SMA's ongoing development will include the following:

- SMA will always embrace integrity, fairness and equal access for all.
- SMA will value all of its members and openly recognises the contribution each member makes to the continued success of SMA. Further, SMA will ensure it offers unbiased, multidisciplinary and timely information to its members that compliments knowledge gained by each of the specific disciplines. Membership is bound to SMA's Code of ethics.
- SMA will have a transparent relationship with all of its commercial partners to ensure it is professional, ethical, honest and fair, with regular and open communication while meeting all commitments.

- SMA will seek to build relationships that are respectful while valuing each and every contribution by employees and volunteers. SMA values the passion, integrity, honesty and the highest commitment from this group to drive SMA to success. SMA will strive to be an open and approachable organisation, encouraging the sharing of information and knowledge.
- As a not-for-profit organisation, ongoing financial sustainability must be ensured. SMA will build strong professional, long-term relationships with stakeholders, while delivering on its promises, being transparent and accountable, and true to SMA's vision and mission.

SMA believes in the application of science and research to underpin and steer best practice in sports medicine and health education.

To assist those not so familiar with what SMA does we created a new tag line namely Safety-Prevention-Advice. I have heard many times people use this tag as they have something very easily used to provide a quick comment on what we do. Our logo is a little less busy and creates a more contemporary feel which can only be good for our image.

Each month I have provided a Presidents message and I have attempted to highlight one of our values each time I give a message. The SMA Board saw this as a good way to let everyone know how important the values are to the organisation.

SMA has a different structure now. By moving our key staff into a virtual office, Gary Moorhead (CEO) and Nello Marino (GM) have been more visible across the nation and this has assisted us to be more outward looking and more in touch with the needs of our stakeholders. At the same time we created national based portfolios and roles that have enabled us to have the jobs done where the appointed people live and not be confined to have such people domiciled in the ACT. Two such roles come to mind, where Amanda Wilson who is located in Victoria is our National Media Manager and in Queensland Mark Brown is working on the development of our Registered Training organisation status.

Our Profile committee is a new innovation! Comprised of our CEO, GM, President and Board Advisor Ms Kerri Lee Sinclair, this committee meet each month and look at ways to enhance our profile and our presence in the wider community. One of the more recent ideas from this committee has been the testimonials you may have seen flash across the front page of the web site. Another project has been the development of a process for surveying the membership and Community.

You will all see more of this over the next year or so.

A new web site will be in evidence very soon and we see this as a key communicator to our Members but also the public. Stay tuned for this.....

The opportunity to be a more international organisation has arisen in the last year with the possibility of the Safer Sports Program going off shore. Much work is still to be done but we are hopeful to see this fantastic Program being run in a couple of other countries.

Our Discipline Groups have been working very closely with your Board and some real progress has been made with the improvement of our mutual communications. Very recently both Sports Dietitians Australia and Sports Physiotherapy Australia featured articles about SMA in their periodical newsletters and all DG's have the opportunity to contribute articles in this magazine when they have something of interest for the our Members.

Operationally, your staff has had training across the country in the principles of risk management. The important topic has been widely addressed in every State and this will help us to ensure matters of risk are identified and dealt with in the most professional ways possible. SMA Management has 5 key result areas (KRA's) that we are measured on. These KRA's are Membership services, Community engagement, Profile Building, Sustainability and Structure and Operations. By creating key performance indicators around these KRA's we can be sure that very little falls between the cracks and that the organisation runs as smoothly as it can.

We have established a Scientific Committee that will provide the Board with advice about matters scientific and this committee will have as one of its Members our news JSAMs Editor DR Greg Kolt. Our journals impact factor growing and is now ranked very highly amongst the Sports Medicine journals worldwide. The newly created SMA Foundation is now operating and we hope to be able to provide some support for young scientists and researchers very soon.

Indeed the past 2 years have been very exciting times for your organisation. A very strong foundation for the future has been laid and we can now build SMA to greater prominence and importance in the wider community.

President Michael Kenihan

An Interview with SMA President • Michael Kenihan

What was your involvement in sports medicine prior to SMA?

As a South Australian high jump champion with a lifelong interest in sport it was suggested to me that a good way to stay involved in sport beyond my participation was to become a physiotherapist.

So following completion of my physiotherapy degree I was thrust into a multidisciplinary practice in Adelaide. I spent a couple of years there before becoming involved in a sports medicine practice in Melbourne whose partners were some of the luminaries of sports medicine; Barry Oakes, Peter Fuller and Peter Larkins. During my time here I was originally the physiotherapist however soon became involved in the administration. My administration role quickly took over, which saw a number of centres develop.

Around the same time someone suggested joining SMA.

Why did you become President of SMA?

I was the Victorian President and held virtually every other role on the Victorian Board. I served on the National Board, then had a break and was requested to rejoin. I was elected to the role of President fairly soon after giving me the opportunity to fulfil my passion to change the agenda and bed down some of SMA's processes and operations, which my administration experience could assist with.

Did you expect to achieve what you wanted in your two years as President?

I had enough experience to know that if you were going to make changes you needed to involve all stakeholders and try and accommodate their varying passions and opinions. So we consulted widely, but also acknowledged that change needed to happen quickly. Therefore the first six months were critical to the change process.

I was aware that I probably ruffled a few feathers as I wanted to achieve a reasonable consensus about my direction, but knew that if I didn't push it wouldn't happen at all.

I recognised that if I could get things moving in the first six months and have people accept the change of agenda then the next 18 months would provide opportunity to implement change.

What has been your greatest achievement?

There are three things.

One is the restructuring of the organisation from having a National Office and staff domiciled in Canberra to

domiciled anywhere in Australia, with the CEO and General Manager able to operate from a virtual office.

Secondly, the revamp of the Vision and Mission, and the creation of the new values, which involved significant work from the Board and other stakeholders.

Thirdly, the logo and tagline. The old tagline, "the team behind the teams", was too representative of clinicians and didn't engage the community or tell people what we did. So presenting Safety, Prevention, Advice was a strong message we could deliver and an easier marketing effort for our profile development.

And the greatest challenge?

Being able to represent a wide and varied number of stakeholders from Discipline Groups to State Branches, to the Board, to Members and to our broader community including sponsors and other relationships. All have different needs and achieving one coherent point is our greatest challenge.

What is the significance of the term community you use?

Before I became President it was obvious that SMA was engaging with more than its membership. This was evident when I attended the Victorian Branch Conference and realised 90 per cent of delegates weren't SMA Members. If SMA was going to be a resilient organisation it had to engage more with the 'community'.

Therefore my vision talks about members and community intentionally to appeal to a wider representation as I believe measuring an organisation on its membership base is a limiting factor, especially when we can reach a broader community.

What are the benefits a young practitioner might receive from being part of an SMA board or committee?

I've made many friendships with people who want to make a difference and who see service as an important element of their life. Steven Covey once said "service is the rent we pay for living on the Earth" and that has always stuck with me. Whilst giving back to the community is important I think the professional development opportunities you get in return from being on Boards, the deeper knowledge of other professions and their role in holistic treatment, and the relationships and friendships you develop are the most outstanding things to be got from this involvement.

Will these aspects inspire the next generation of Board and committee members?

If you consider the younger generation coming through the industry, they are focused on their own needs and referral by me or other members won't work. However, if they are informed of the opportunities which come from being on Boards they are more likely to become engaged.

What does the future hold for the industry?

The sports medicine industry will continue to grow and develop as the health agenda recognises the importance of exercise and physical activity in the prevention of disease and the promotion of healthier lifestyles.

The industry, not only SMA, will be called upon more and more to be engaged in the health debate, but this will only occur with stronger advocacy and by working more closely with government.

I see the smaller professions such as dietitians and exercise physiologist services growing. The government has already recognised the need for those practitioners through its enhanced primary care program, but I also think there is a greater awareness of their need.

Another evident change is sports physicians including sports and exercise medicine within their title, signalling a strong shift toward the health and physical activity agenda, not just the injury agenda.

These developments will continue however the industry needs to be able to maximise the opportunities that result.

What are the major challenges of this?

Funding is always a major challenge for a membership based organisation. As the population ages and the government's health dollars are stretched further this is an issue for SMA and the industry.

Another is representation at decision making tables, as there are many competing parties. SMA has been well served in the past by its CEO who has been strong in advocacy through his experience with Government.

Engaging members with speciality knowledge in the areas of physical activity, injury prevention and epidemiology will also become more important.

What is SMA's role in that future?

SMA now has recognition as the industry body. This change made to our Mission (from peak authority) was crucial as it shows the disciplines they hold the authority but SMA is the industry representative. If we continue to uphold this SMA can play a strong and important role in the future.

SMA has the potential to grow, but only if it achieves that representation and advocacy and continues to develop that at a higher level.

Anything else you'd like to add?

I've thoroughly enjoyed my role as president over the past couple of years and am really pleased with the support I've received during that period, but there is still a lot of work to be done. I think there is a good base to build on in terms of some of the structure and policies I spoke of earlier which have provided SMA with some further administrative strength. But the challenges ahead are multifactorial as we need to continue to develop our advocacy and foster positive relationships with our key stakeholders such as the disciplines, the States and with Government to ensure that we continue to be well represented on current and future health agendas.

Nello Marino

Upcoming events

Australian Academy Podiatric Sports Medicine (AAPSM)

Seminar 3 – Thursday November 12th, 2009. 7.30 – 8.30pm

Topic – Post-operative care of the foot and ankle – returning to activity

Speaker – Andrew Wynd – Andrew has worked in a variety of orthopaedic, sports, and private practice settings across Melbourne. He has recently returned from 2 years working in Ottawa, Canada where he worked at Barrhaven Sports Medicine Centre and raced with XCottawa.ca ski team. Andrew has experience with athletes of all levels and specialises in bike fitting and lower limb biomechanics.

Meeting point – Victorian Institute of Sport – Olympic Boulevard (formerly Swan Street), Melbourne. Opposite Rod Laver Arena. The VIS is part of the Lexus Centre, back towards the Olympic Park running track from the Collingwood Football Club. There is clear signage for the VIS. We need to enter from the side door, which is to the left of the main entrance towards the running track. There will be someone standing on the door to escort you to the theatre.

Parking – The best place to park is over the Swan Street Bridge (on the other side of the river), on Alexandra Avenue. There is free parking there beside the Botanical Gardens along the river path after 6.30pm, and its only a 5 minute walk to the VIS over the Swan Street bridge.

Sports safety with Smartplay



Sport and recreational injury is a known barrier to physical activity participation and is a significant public health issue. The delivery of safe sport and active recreation is recognised as an effective means of facilitating lifelong physical activity.

The Smartplay program aims to promote safety in sport to encourage Australians to become, and remain, physically active.

Smartplay explained

Smartplay is Sports Medicine Australia's sports injury prevention program. Its main aim is to help reduce the frequency and severity of sport and recreational injuries, as a means of encouraging and maintaining greater participation in physical activity.

Over the years the Smartplay program has grown into a vital part of the sports injury prevention landscape, offering sports participants vital information to reduce the risk of sports injuries. It has developed partnerships with researchers, state sporting associations, local government, regional sporting assemblies, schools, media and many other community stakeholders. It has become a hub for injury prevention advice and information for stakeholders to build safer sporting environments.

Resources available

- **General injury prevention** – warm up, drink up, gear up, fix up, footwear for safety and mouthguards.
- **Sport specific injury prevention fact sheets** – Australian football, baseball, basketball, cricket, gymnastics, hockey, netball, rugby union, running, soccer, softball, tennis and volleyball (there are 27 sports represented – for the entire list visit www.smartplay.com.au).
- **Injury specific fact sheets** – AC joint, achilles tendon, ACL, ankle sprain, hamstring, quadriceps contusion, gastrocnemius and meniscus.
- **Policies and guidelines** – blood rules, emergency planning, hot weather guidelines, safe landing, safety personnel, safety guidelines for children and young people in sport and recreation (for the entire list visit www.smartplay.com.au).

Support available

Resource development and distribution

- Working in partnerships to develop sports injury prevention resources.
- Providing expertise on resource development.
- Providing access to resources via the Smartplay website, mail outs and ordering.
- Developing sports injury articles for publications (sports newsletters and magazines) and websites.
- Distributing monthly sports safety e-newsletters.

Training

- Building the skills and knowledge of personnel to deal with injuries through injury prevention and awareness training.
- Facilitating links to other Sports Medicine Australia programs such as the Safer Sport Program, Sports Injury Tracker, CleanEdge and Get SMART on line course.
- Providing access to Train the Trainer courses on injury prevention and safety.

Raising awareness

- Raising awareness of sports injury issues by disseminating key messages at grassroots level, through training, resources and media.
- Increasing the profile of sports injury prevention with industry, government and the public.

Supporting and contributing to research

- Delivering cutting edge research at forums and workshops to highlight the importance of sports injury research initiatives.
- Communicating emerging research through training, resources, the Smartplay website and media.
- Providing access to research (Resources, Your Sport section) via the Smartplay website.
- Working with research partners to support and contribute to the ongoing evidence base for sports injury prevention.

Advocacy

- Influencing key stakeholders to place injury prevention on the agenda.
- Supporting and contributing to the ongoing evidence base for sports injury prevention.

- Supporting partnerships to reduce the incidence of sports injury.
- Delivering ongoing expertise and advice on sports injury prevention issues.

Using smartplay

Smartplay currently operates in each state of Australia. Resources are available from Sports Medicine Australia state branches, with samples available for free to SMA members (to give to clients), SMA Sports Trainers and schools, and further copies are available at a small fee.

Smartplay encourages all those working within the sport sector to utilise the resources and support offered by this program to help in reducing the frequency and severity of sport and recreational injuries to encourage and maintain greater participation in physical activity (please note: the support available in some states may vary and will depend on state branch capacity. Contact your local SMA Branch to find out more or email smartplay@vic.sma.org.au).

For more information

Visit www.smartplay.com.au or contact your local Sports Medicine Australia state branch.

To keep up with Smartplay developments register for the Smartplay eflash at www.smartplay.com.au

Smartplay is funded by the Australian Government Department of Health and Ageing

Smartplay Victoria is funded by VicHealth and the Department of Planning and Community Development (Sport and Recreation Victoria).

Smartplay Western Australia is funded by Healthway and the Government of WA Department of Sports and Recreation.



CleanEdge: Providing a clean edge in sport



Over the past 40 years numerous athletes worldwide have been caught using banned drugs in an attempt to gain a physical advantage.

Many athletes, regardless of their level of competition, believe this is the only way to get ahead, ignoring the risks involved.

Through doping education it is hoped that all sports participants can be informed of and involved in safer, cleaner, fairer and healthier sporting environments. To help with the education process, Sports Medicine Australia Victorian Branch has created an anti-doping website, www.cleannedge.com.au to complement the Victorian Anti-Doping Policy (available at www.sport.vic.gov.au).

CleanEdge explained

An initiative of Sports Medicine Australia – Victorian Branch supported by the Victorian Government, the CleanEdge website aims to ensure all adolescent participants and key influencers of such participants are aware of, and have access to relevant and credible anti-doping education in order to make informed choices regarding the use of performance and image enhancing drugs.

The website acts as an educational resource and information hub bringing together some of the best national and international resources. It features information that explores healthy ways to enhance performance, the facts about, and the consequences of, doping in sport in a variety of mediums. It includes nutrition and training tips, as well as

suggestions for key sport stakeholders to help young athletes maintain a positive involvement in sport and recreation.

The CleanEdge website can be used:

- By all involved with young athletes to give advice.
- By athletes themselves.
- To encourage healthy practices.
- To learn about drugs in sport.
- To learn about how to get an edge in sport.
- With coaches or sporting clubs, teammates, parents or children.
- In a classroom.
- In conjunction with other anti doping resources and activities.

Resources available

Sports Medicine Australia sought to ensure a variety of drugs in sport resources were developed, which could be used in a range of settings, and by different groups.

Resources were designed to:

- Be used by any individual or sporting club.
- Be used at any time, to suit individual/club needs.
- Require few resources.
- Be at no or low cost.

CleanEdge resources include:

- Video interviews of elite athletes providing anti-doping messages to aspiring athletes. These include such athletes as Joanne Fox – water polo, Kathryn Mitchell – javelin, Kate Quigley – softball and Janne Errington Smith – wheelchair basketball.
- Video information and advice from sporting professionals including dietitians, psychologists and physiotherapists.
- Games and quizzes from anti-doping and drug education agencies worldwide.
- A school education kit with activities including a series of lesson plans and a map of the website against Victorian Essential Learning Standards for the Health and PE Curriculum at Levels 5 and 6. Maribyrnong Secondary College Specialist Sports School, their staff and students from Years 7 to 10 have been key in the development, trialing and evaluation of these resources.
- Coaches Education Kit containing hands on activities to be used with community sport athletes.
- Links to other important national and international anti-doping agencies such as ASADA and WADA.

CleanEdge will continue to develop additional resources to complement this website and assist with this education process.

Direction moving forward

The CleanEdge website is to be supported by the Victorian Government over the next 12 months, and in this time it will begin to address other issues specific to body image. It will delve into the negative behaviours that can affect the mental and physical wellbeing of community sport participants.

Other developments will also include information for the fitness industry including male body image, nutrition, supplement use and muscle dysmorphia.

Through continuing to provide doping information, it is hoped that the message of approaching sport 'cleanly' is adopted by all athletes in the aim that safer, cleaner, fairer and healthier sporting environments can be created.

For further information

Visit www.cleannedge.com.au, phone 03 9674 8777 or email cleannedge@vic.sma.org.au



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Fuelling Recognition for SMA Sports Trainers



SMA is without question Australia's leader in the training of sports trainers and sports first aiders. Over 5000 sports trainers are accredited by SMA annually and over 15,000 sports trainers and sports first aiders form part of this network of volunteers throughout the nation.

Since its inception it's estimated that over one hundred thousand sports trainers have participated in the Safer Sport program, SMA's training and accreditation scheme that is

recognised as the 'gold standard' for the broader sports industry in Australia. At the most elite level of sport such as the NRL and AFL, the role of the sports trainer is viewed by many as a glamorous and exciting one. Being part of the inner circle of trust, rubbing shoulders with some of the cream of Australia's athletes and playing a part in the on-field success of a sporting team are very attractive and satisfying aspects of the role whether they're regarded glamorous or otherwise.

However as simple mathematics would suggest, a minority of SMA accredited sports trainers are 'employed' at the elite tiers of Australian sport. The vast majority are engaged in the community levels of sport and often play a vital, yet sometimes thankless role in the community sport landscape.

Whilst stakeholders at all levels of community sport including coaches, administrators, parents and players, appreciate the effort and support provided by sports trainers, Sustagen Sport, in partnership with SMA have recently set out to provide recognition of these invaluable services. The Sustagen Sport – Sports Trainer of the Year Competition (SSSTOTYC) aims to



recognise some of the outstanding work done by many of our unsung sports trainer heroes at all levels of sport.

Whilst best known for the acute management of on-field injury, many sports trainers also play an integral part in ensuring players are adequately hydrated and fuelled for battle. It is this aspect of their role that is the focus of the SSSTOTYC and Sustagen has put up some fabulous prizes including an all expenses paid trip to attend the 2010 Conference of Science and Medicine in Sport at Port Douglas and other great prizes valued at over \$11,000 to find them.

This is an exceptional opportunity to provide some recognition to individuals that play a vital role in injury prevention and management, and facilitating optimum performance at community sporting clubs.

One such example is the first monthly winner for 2009, Sharon Temby (pictured). Sharon is the Head Trainer at the Officer Kangaroos Junior Football (AFL) club which is situated on the far outskirts of south eastern Melbourne. Sharon showed how sports trainers are playing not only an on-field role, but also a health promotion role by encouraging healthy eating as part of pre-match preparation and post match replenishment. This is a great example of the impact beyond the obvious on-field sports trainer role.

A similar example is the most recent monthly winner Kaylene Pridham who has been a trainer at the Uraidla Districts Football Club in South Australia for seven seasons since her son began playing in the under 17 competition.

Having spent five years living and playing sport in the extreme Alice Springs weather conditions, Kaylene knows better than most the importance of proper hydration and the negative effects dehydration has on sporting performance. Her strategy is to educate the younger teams as soon as she can so that they come through the ranks already practicing the correct hydration and nutrition practices.

We're certain that these are just some of the many examples of how sports trainers are impacting on the health and ongoing participation of players and their wider communities. Sustagen would love to hear more such stories and all SMA accredited sports trainers are encouraged to tell us how they're achieving optimal performance at their sporting club by completing the entry form which can be found at www.sustagensport.com.au (follow the link to Trainer of the Year).

Nello Marino

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Anti-doping and the medical professional



In Australia the Australian Sports Anti-Doping Authority (ASADA) works with the sporting community to develop a sporting culture free from doping. They do this through a comprehensive anti-doping program that includes: testing; education; investigations of possible anti-doping rule violations (ADRVs); presentations of cases at hearings; and monitoring national sporting organisations for their compliance with the ASADA legislation and the World Anti-Doping Code (the Code). The success of ASADA's anti-doping program is reliant on the support and assistance of those who in turn support our athletes.

Supporting your athletes in their anti-doping requirements is not confusing, and doesn't need to be difficult. Under the Code, your responsibilities are to:

1. understand and comply with your sport's anti-doping policy
2. cooperate with the testing program and any ASADA investigation activities
3. use your influence on athlete values and behaviour to foster anti-doping attitudes.

What does this really mean? Your anti-doping role is to help your athlete(s) meet their anti-doping responsibilities, and to contribute to a sporting environment free from doping. There may be areas where you have influence over the athlete's actions, so it is important that you understand anti-doping rules and the World Anti-Doping Code (the Code) so that you can best assist your athletes.

Anti-doping rules apply to support personnel who are bound by a sport's anti-doping policy either through employment, membership or other formal affiliation.

Prescribing athletes with medications

Sometimes doctors have no alternative but to prescribe athletes with medication that are prohibited under the World Anti-Doping Code Prohibited List. The Code makes allowances for this under the Therapeutic Use Exemption (TUE) process.

While an athlete is with you, visit www.asada.gov.au and check the status of the substance. If it is prohibited, follow the steps to obtain a Therapeutic Use Exemption (TUE). The Australian Sports Drug Medical Advisory Committee (ASDMAC) administers TUEs; detailed information about how to submit a TUE application is available at www.asdmac.gov.au

Emergencies are treated differently to the TUE process. In an emergency situation, the life and health of the athlete comes before their anti-doping requirements. Doctors often have to carry prohibited substances for dealing with acute and emergency situations. Again, the Code provides for this situation and notes that it is acceptable for a doctor to carry such substances in case of an emergency.



When dealing with overseas medications you must remember that the status of these medications in sport cannot be guaranteed by ASADA. Australian medications can be checked at www.asada.gov.au but overseas medications should be checked with the local anti-doping authority.

Support personnel don't need a TUE for their own personal conditions

Neither ASADA nor the World Anti-Doping Agency (WADA) require support personnel to have a TUE for their own medications. A TUE is only for an athlete who requires the use of a prohibited substance. Unless support personnel are also athletes themselves, they do not require a TUE for their own medical conditions.

If a doctor is carrying prohibited medications, they may need to show acceptable justification to do so. An example of

justification is a copy of the relevant athlete's TUE, or showing that it may be required as a treatment for an emergency. A doctor possessing prohibited medications for acceptable and justifiable reasons has not violated the anti-doping rules for possession.

Whereabouts

You may agree to be an authorised representative for the purposes of athlete whereabouts, for an athlete you are associated with. In this situation, the responsibility for submitting the required information and being available for testing remains with the athlete, not the authorised representative. Hence your responsibility is to work with your athlete to provide accurate information.

Anti-doping education for support personnel

ASADA offers education programs directly to sport to ensure that athletes and support personnel understand their role in anti-doping. Ensure that you participate in any anti-doping education that is offered to your sport by ASADA.

In 2008–09 (financial year), ASADA delivered face-to-face anti-doping education to 10,500 athletes and support personnel at more than 200 education sessions delivered across Australia.

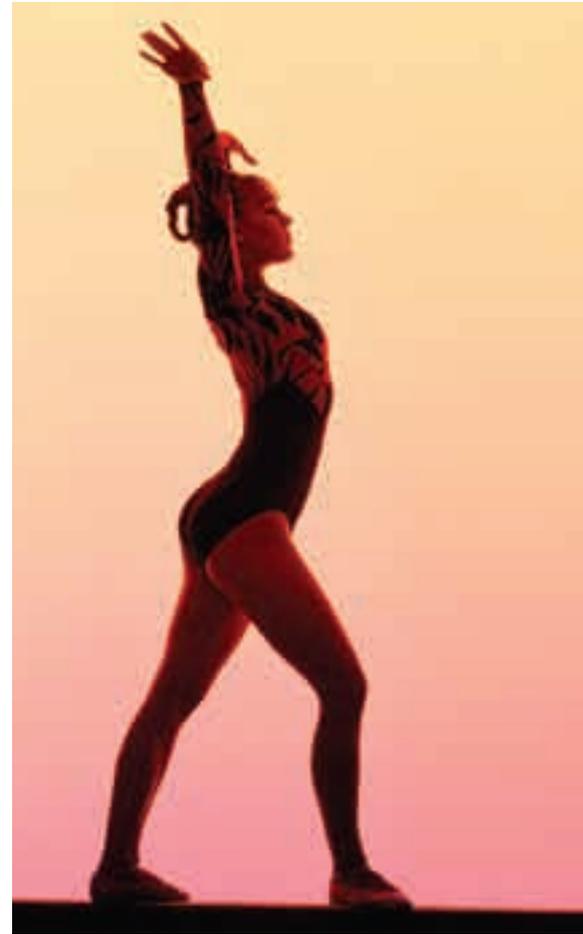
If you would like to organise anti-doping education with ASADA, speak with your sport's Anti-Doping Contact Officer who will liaise with ASADA.

Remember

Make it your business to understand anti-doping. And keep in mind the fact that anti-doping plays a crucial role in keeping your sport clean, keeping your athletes healthy, and it is critical to the reputation of your sport and your athletes.

ASADA is the Australian National Anti-Doping Organisation, established in 2006. It is the entity responsible for the Australian Government's commitment, through its acceptance of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Convention Against Doping in Sport, to implement the principles of the World Anti-Doping Code. Information about ASADA's role and functions, as well as specific information about support personnel rights and responsibilities in relation to anti-doping is available on the ASADA website at www.asada.gov.au or by contacting ASADA on 13 000 ASADA (13 000 27232).

Spine injuries in rhythmic gymnastics



APA Sports Physiotherapist Kate Roberts—MHS (Sports Physio), BAppSc (Appl Science)—takes a look at spinal injuries and the injury management of rhythmic gymnasts.

Rhythmic gymnastics (RG) is a sport that combines the beauty and elegance of classical ballet with the strength and fitness of artistic gymnastics. Rhythmic gymnasts demonstrate extreme levels of flexibility and strength in performing their body work while also perfecting handling of several different apparatus (rope, hoop, ball, ribbon or clubs). There is little research specifically on rhythmic gymnastics, as most research has involved artistic gymnastics. However, we are able to apply statistics relating to classical ballet to RG as they are very similar in their biomechanics and fundamental components.

Technical demands

Different rhythmic standards, techniques trained, hours of practice and competition demands will affect each gymnast differently, but some common technique faults predispose

the gymnast to injury. To assess these technique issues, it is necessary to understand the biomechanics of dance and in particular classical ballet, as many of the skills performed in a rhythmic gymnast's routine are derived from ballet.

Turnout is fundamental to rhythmic gymnastics; 180 degrees of turnout is desirable and 60–70 degrees of hip external rotation is required to achieve this safely. Adequate hip turnout is required to achieve full hip abduction to the extremes desired as well as for aesthetic reasons as it creates a better line in body work such as attitudes and arabesques. Leg extensions in arabesques, attitudes and grande battements are desired to be well above 90 degrees. Side flexions and penchees must be performed with greater than 180 degrees between the two legs with the body held at 90 degrees to the top leg, while split leaps are also required to be performed achieving greater than 180 degrees between the two legs. Great levels of flexibility of the hips and spine are required to achieve any of these positions successfully. Balances in

any of these positions must also be held for more than three seconds, which requires considerable strength at the end of joint range.

Spine injuries

Some of the most common injuries of the rhythmic gymnast affect the lumbar spine, with incidence reports ranging from 10 to 37% of all injuries. One study from the USA found that 86% of RG participants reported low back pain. A recent New Zealand study found that 50% of injuries are classified as acute and 50% as overuse or chronic. They found that injuries to the spine are more commonly chronic or overuse injuries, and statistics are therefore underestimated as gymnasts frequently fail to report chronic pain as an injury. Thoracic injuries are relatively uncommon and rarely reported in research, with cervical spine injuries reported even less frequently.

At the Rhythmic Gymnastics National Competition level, lumbar spine and thoracolumbar injuries are some of the most common injuries reported. Between 2002 and 2006, 21.4% of injuries treated were acute and 51.4% were chronic. Of all the injuries requiring treatment, 39% affected the lumbar spine or thoracolumbar region and of those injuries, 24% were acute and 56% were chronic.

The repeated extreme hyperflexion and hyperextension required for RG is associated with most of the lumbar spine disorders seen. Lumbar disc bulges are rare and it is more common to see facet joint dysfunctions. Spondylolysis and spondylolisthesis are also more common in rhythmic gymnasts than the normal population, with spondylolysis affecting approximately 8% of the normal population but up to 20% of rhythmic gymnasts. Excessive loading of the thoracolumbar junction, thoracic stiffness and facet joint pathology as well as lower rib dysfunction and sacroiliac joint dysfunction are also associated with the thoracic hypokyphotic and lumbar hypolordotic posture commonly seen in rhythmic gymnasts.

Apophysites of the spine have recently been reported in young athletes and epiphysites have also been reported in adolescents, although not specifically related to gymnastics or sport. Stress reactions and stress fractures of the pars interarticularis and kissing spine are also more commonly found in gymnasts than the average population, with 70% of stress fractures occurring in late adolescence. Stress reactions and stress fractures occur typically in normal bone that is subjected to repeated loading and have been found to be closely associated with repetitive or incorrect technique.

Scolioses often develop just prior to and during puberty. There is a 10-fold higher incidence of scoliosis in gymnasts compared with controls, which has been suggested to be due to their increased ligament laxity, dysmenorrhoea and asymmetrical loading of gymnastics training. Rhythmic gymnasts are often more flexible than the average population and have greater passive joint range than active joint range, which results in joint instability and is associated with increased risk of injury. Increased laxity of the ligaments results in poor proprioception and therefore decreased stability of joints from mid to end of range positions. Increased laxity may lead to multi directional instability of many joints including the zygapophyseal joints leading to impingement syndromes, especially in the younger gymnast. This poor joint stability combined with the typical posture of a rhythmic gymnast also leads to poor hip/lumbar spine dissociation and sacroiliac joint problems.

The female athlete triad (disordered eating, dysmenorrhoea and osteoporosis) has been reported in up to 78% of female rhythmic gymnasts. It is desired that elite rhythmic gymnasts have 5–10% body fat and one study found that they tend to consume only 80% of daily energy requirements. Dysmenorrhoea is associated with an increased risk of injury (such as bone stress), decreases in performance and decreases in wellbeing. Muscle strains are usually acute and are often associated with inadequate warm up or fatigue at the end of training, while muscle cramps are caused by dehydration, electrolyte imbalances, fatigue and excessive practice of a new skill.

RG has been shown to be a very asymmetric sport, with skills practised and performed on the stronger side with far greater repetition than the weaker side. Gymnasts also tend to focus on stretching their more flexible side, and this leads to significant muscle imbalances and overloading of the spine. To achieve perfection and reproducibility of their performance, skills must be practised over and over again which puts the gymnast, and particularly their spine, at risk of overuse injuries. Gymnasts have a high pain tolerance and train with some degree of discomfort on a daily basis, often failing to recognise the difference between pain from fatigue and pain from overuse, resulting in chronic overuse injuries. Acute injuries, however, often occur at the beginning of training because of inadequate warm up, inappropriate progression of skills, more complex skills being practised early when the gymnast is 'fresh' and late in training due to fatigue.

Common technique faults

Forcing turnout, tucking under the pelvis, uncontrolled lumbar extension and asymmetric stretching/training are the most common technique faults in RG.

Forcing turnout by placing the feet at 180 degrees on the floor and screwing the knees to achieve rotation increases the lumbar lordosis and this causes a tightening of the thoracolumbar fascia, erector spinae and iliopsoas muscles. The experienced gymnast will overcorrect by posteriorly tilting the pelvis to create a flat back, which compresses the intervertebral discs, facet joints and sacroiliac joint as well as increasing thoracic stiffness and altering muscle mechanics. This results in psoas insufficiency syndrome where initially the iliopsoas becomes short and tight and in more skilled gymnasts it becomes overstretched and weak. A gymnast compensates for lack of hip external rotation and tight iliopsoas by hyperextending and rotating the lumbar spine in arabesque and attitude derriere (behind), or by dropping the pelvis to increase leg height en avant (in front). This increases the torsional stress on the lumbar structures and sacroiliac joint. It has been reported that up to 45% of lumbar pain in dancers is due to keeping the back too straight in arabesque and 25% is due to hitching the hip to create external rotation.

Common muscle imbalances seen in rhythmic gymnasts include low hamstrings to quadriceps strength ratio, poor eccentric hamstring control with overactive hip flexors, poor gluteal strength with weak/tight piriformis, tight hip external rotators with weak internal rotators, weak transverses abdominus with tight lumbar extensors as well as long, weak iliopsoas or tight overactive iliopsoas. A recent Sydney study found that 14 year olds dancing more than eight hours a week had an increased risk of developing chronic injury. Many gymnasts train up to five hours a day, five or six days a week well before 14 years of age! These gymnasts start competing in earnest as young as nine years old and face intense levels of competition as they reach puberty. During periods of growth, they will experience increased muscle tightness, decreased epiphyseal strength and decreased motor coordination.

Injury management

Injury management should be multifaceted, requiring a specialised approach to diagnosis and treatment. It is important to consider structural and functional implications, psychological influences, impact of working conditions, whether the injury is acute or chronic and whether the

dysfunction is primary or secondary. Some standard tests will also need to be modified such as the straight leg raise, as rhythmic gymnasts often have 180 degrees of passive hip flexion.

Rhythmic gymnasts tend to be ectomorphs—they have a long skeleton and long, lean limbs which means they have to control a longer lever arm when performing, and this requires a very high level of core control to minimise injuries. Rhythmic gymnasts also tend to be very goal oriented and highly motivated which will impact diagnosis and rehabilitation.

Rhythmic gymnasts' flexibility has been found to be highly correlated with successful performance; however, a recent study found that stretching prior to performance actually decreased muscle strength and jump height. Between the ages of eight and 16, passive flexibility/joint ROM does not change, which means that increases in dynamic flexibility are due to increases in strength at the end of range. It is therefore wise not to stretch to improve flexibility on the day of competition and to stretch at the end of training rather than at the beginning. Technique and proprioception training should be emphasised to increase control to develop specific strength through range and stability at end range. It is important to remember that most rhythmic gymnasts are children—their physical and mental health is very important and they can't follow an adult program. Prior to puberty, it is better to work on agility and skills and, as pre-pubescent muscles have a greater proportion of Type II fibres than Type I fibres, to focus on slow, controlled low load movements.

Injury prevention is better than treatment and correction of technique faults is paramount to treatment. Exercises must be as specific as possible so it helps to have some knowledge of skills and bodywork. Periodic screening to monitor weight, uncover pathology and detect any musculoskeletal imbalances will allow rhythmic gymnasts to correct technique issues to prevent injuries.

Presently, most rhythmic training programs emphasise flexibility at the expense of through range strength (control/proprioception) and fitness. A team approach to treatment should therefore emphasise strength, flexibility and fitness. Fitness training for 30 minutes twice a week at a HR of 70–80% MHR has been found to improve pain management, decrease the risk of injury and increase wellbeing in dancers and gymnasts.

Kate Roberts



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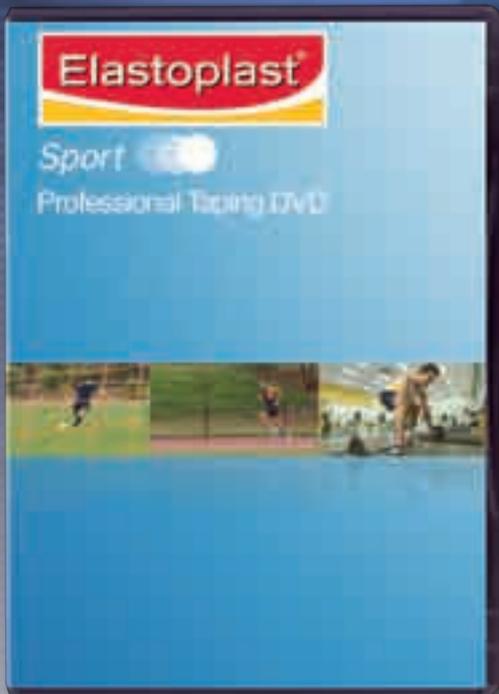
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What do users of multi-purpose recreation facilities think about safety at those facilities?



Introduction

In a recent issue of *Sport Health*, we described the profile of people who participated in physical activity (PA) in multi-purpose recreation facilities (MPRF)¹. MPRFs include publicly and privately operated leisure or health/fitness centres and are a common setting for PA²⁻⁴ and PA-related injuries⁵⁻⁷. People who use these facilities (MPRF users) generally participate in a range of activities (e.g. strength and resistance training, swimming, exercise classes, sporting activities) for health and fitness reasons¹ and they consider safety an important aspect of their participation. In this follow-up paper we describe MPRF users' perceptions of the safety-related policies and practices within those facilities. This information provides guidance to people interested in preventing injuries in MPRFs including facility managers, insurers and health promoters on how to improve safety. It also identifies clear opportunities for safety promotion practitioners to improve the delivery of PA-related safety information to those at most need for it—the people who undertake PA.

Study methods

The survey sample and methodology used in this paper are described in the earlier *Sport Health* paper¹ and so are not reproduced here. The sample included 703 eligible respondents from four multi-purpose recreation facilities in Victoria (one metropolitan, one regional and two rural facilities). Interested readers are referred to¹ for the survey details and to⁸ for more details about the sampled MPRFs and their current safety policies and practices from the facility managers' perspective.

The survey respondents were asked to indicate their opinions and experiences of safety at the MPRF they used and their awareness of a number of specific safety policies and practices applicable to MPRFs in general. These questions

were structured with stated response options to select from. The opportunity to expand on some responses was also provided for some questions. The proportions of respondents from each facility type (i.e. metropolitan, regional and rural) were also compared with chi-square tests to identify significant differences in perceptions between respondents.

Respondents were also asked to respond, on a 5-point scale ranging from "strongly agree" to "strongly disagree", to six specific statements about their perceptions of risk in the MPRF they used (see Table 2). Principal component and factor analysis techniques were used to summarise and explore the responses to the risk perception statements. Risk perception scores were generated using the loadings from the Principal Components Analysis (PCA). These scores were then compared across sub-groups of interest (i.e. selected socio-demographic variables such as gender, age and MPRF location) by Analysis of Variance, independent samples t-tests or Pearson's correlation coefficients (r), as appropriate.

Perceptions of safety

Awareness of safety

Almost all respondents (95%) thought that the MPRF they used was safe for engaging in PA. Just over one-quarter (28%) thought that the MPRF they used was safer than other facilities in their local area and 7% believed it was not. Two-thirds (65%) did not know whether it was safer than other facilities.

Concerns about safety and self-safety practices

Safety was an issue that concerned most respondents (72%), yet fewer than half (47%) reported practising PA-related safety measures when using their facility. Forty-two percent (42%) reported that they did not practise PA-related safety measures and 11% did not know if they practiced safety measures. Over half (55%) of all respondents reported not

having undertaken any form of pre-participation assessment at their facility. Just over one-third (37%) of respondents reported having undertaken a fitness test and 8% had undertaken a health screen. This suggests that, although a large proportion of respondents were concerned about safety, a much smaller proportion had participated in health assessment activities consistent with such a concern.

Locus of responsibility

The majority of MPRF users believed that the responsibility for PA-related injury prevention at their facility lay with themselves (81%), facility staff (73%), and to a lesser extent, other people who use the facility (32%), council and management (28%) and venue managers (26%). Fewer than 2% reported not knowing who was responsible for PA-related injury prevention at their facility.

Staff qualifications

The respondents typically either believed that the staff involved in PA programming and delivery had the appropriate qualifications for their role at the facility (50%) or else they did not know if they did (46%). Only 4% believed that these staff were not appropriately qualified.

The provision of injury prevention information

One-third (32%) of respondents reported that they had been provided with information about injury prevention in their chosen activity by their MPRF. Just over half (55%) reported that they had not been provided with such information and 13% could not recall if they had.

Formal safety policies and safety promotion

Forty-four percent (44%) of respondents considered that injury prevention was promoted at the facility they used. Only 19% considered that injury prevention was not promoted and the remainder (37%) did not know if it was promoted. In contrast, 14% reported that they knew if the facility they used had a formal policy recognising the health and welfare of its participants. Another 14% knew if the facility they used did not have such a policy and almost three-quarters (72%) reported not knowing.

Comparisons of perceptions across facility locations

Table 1 summarises the significant associations that were identified when the above perceptions of safety were compared across the three types of facility locations. Perceptions not listed in this table were not significantly different across facility location types.

Although a higher proportion of metropolitan facility users reported that safety was an issue that concerned them, they were less likely than users of regional and rural facilities to report having practised any PA-related safety measures or participated in pre-activity assessments. More metropolitan facility users also thought that the council or facility management were responsible for safety at the venue they used than did their regional and rural counterparts who reported higher levels of self-responsibility for safety. Metropolitan facility users were also less likely to report that they had been provided with safety information by their facility or that their facility was safer than facilities in other localities.

User safety perceptions of their facility

Table 2 summarises the respondents' risk perceptions of the MPRF they currently used. Overall, respondents did not have definitive views, with fewer than 10% of respondents "strongly agreeing" or "strongly disagreeing" with any of the statements. Combined, a relatively large proportion of respondents agreed or strongly agreed that safety policies at their facility significantly decreased their risk of injury, that safety education was provided to them at their facility, and that it was safer to participate in PA at a MPRF than at other places (e.g. parks, outdoor courts). However, most respondents agreed or strongly agreed that sports facilities should do more to promote safety. Finally, the respondents were typically unsure if more could be done or more information needed to be provided to improve safety at their facility.

A PCA of the responses to these six statements identified two independent factors which accounted for 63% of the variance in these items. The first factor represents the perceptions that facility safety needed improvement. The second factor represents individual differences in perceptions about current safety at the facility.

Two new variables were derived based on the outcome of the PCA. The loadings for the first factor were used to generate a *Needs Improvement* (NI) score that assessed perceptions about the need to improve facility safety. The loadings for the second factor were used to generate a *Current Safety* (CS) score to assess perceptions about the current safety of facilities. Higher NI scores corresponded to a greater perception that safety should be improved and higher CS scores corresponded to a greater perception of current facility safety.

There was a significant difference in NI scores but not CS scores across facility location types with metropolitan facility users, in particular, scoring significantly higher than rural facility users.

Table 1 – Significant associations between facility users' safety perceptions and the location of the facility. The % corresponds to the proportion of respondents from each location type.

	Facility location		
	Metropolitan	Regional	Rural
Considered safety an issue of concern			
	78%	69%	69%
Practiced PA safety measures			
	33%	50%	59%
Undertook a pre-participation assessment at the facility			
	33%	50%	50%
Locus of responsibility			
Myself	80%	86%	74%
Council/management	35%	26%	24%
Considered staff to be appropriately qualified			
Yes	36%	54%	60%
Don't know	60%	45%	35%
Provided with injury prevention information			
	22%	37%	36%
Considered that the facility promoted injury prevention			
Yes	31%	49%	51%
Don't know	48%	33%	30%

Relationships between the NI and CS scores and the awareness/concern variables

Analyses that examined the relationship between the NI and CS scores and the awareness/concern variables provide further evidence for the validity of these two factors.

Mean CS scores were:

- lower for users who reported that their facility was not safe for engaging in PA than for users who reported that it was safe or users who did not know if it was safe [means -1.37, 0.01 and -0.10, respectively; $F_{(2,621)}=6.81$, $p=0.001$].
- higher for users who thought that staff had the appropriate qualifications than for users who did not think this or who did not know [means -0.27, 0.28 and -0.32, respectively; $F_{(2,622)}=25.78$, $p<.001$].
- higher for users who knew if the facility had a formal safety policy than for users who knew that the facility did not have such a policy or who did not know [means 0.61, -0.21 and -0.08, respectively; $F_{(2,619)}=19.26$, $p<0.001$].
- higher for users who reported having been provided with injury prevention information than for users who reported not being provided with such information or who did not know whether they had [means 0.46, -0.32 and 0.14, respectively; $F_{(2,626)}=46.11$, $p<0.001$].

Table 1: Respondents perceptions about safety within their multi-purpose recreational facility and the two dimensions of these views representing improvements needed to facility safety (NI) and current safety provisions (CS).

Item	Percentage of respondents (add to 100% across rows)					Factors and their loadings	
	Strongly agree	Agree	Unsure	Disagree	Strongly disagree	Needs improvements (NI)	Current safety (CS)
There needs to be more information about safety for the range of physical activities at this facility	4.0	34.0	35.0	25.3	1.7	0.853	-0.082
Safety policies at this facility significantly decrease my risk of injury	6.0	46.7	40.2	6.3	0.6	0.095	0.763
Safety education is provided to me by this facility and/or its staff	3.7	42.0	36.6	15.5	2.2	-0.244	0.790
I believe it is safer to participate in physical activity/sport at a facility than at other places	6.5	39.3	25.0	26.4	2.6	0.216	0.551
Sport facilities should do more to promote safety	7.0	55.7	27.4	9.9	0.0	0.753	0.295
I believe more could be done to improve the safety of participants at this facility	3.0	28.3	43.1	23.8	1.9	0.862	-0.006

Note: Shading shows factor loadings greater than 0.400, indicating which items are most associated with each factor

- higher for users who considered that injury prevention was promoted at the facility than for users who did not consider this or who did not know [means 0.50, -0.64 and 0.26, respectively; $F_{(2,630)}=85.00, p<0.001$].

Similarly, mean NI scores were also related to the awareness and concern responses in ways that suggest that this variable is a valid measure of perceptions about the need to improve facility safety. Mean NI scores were:

- higher for users who did not think that the facility was safe for engaging in PA than those who thought it was safe and those who did not know [means 1.07, -0.04 and 0.34, respectively; $F_{(2,621)}=5.83, p=0.003$].
- higher for users who reported safety as an issue of concern than those who did not [means 0.09 and 0.24, respectively; $t_{(621)}=3.69, p<0.000$].

- higher for users who did not think that staff had the appropriate qualifications than those who thought that staff did have the appropriate qualifications or who did not know [means 0.66, -0.11 and 0.06, respectively; $F_{(2,622)}=7.49, p=0.001$].
- higher for users who reported not having been provided with information about injury prevention than those who reported having been provided with such information [means=0.10 and -0.16, respectively; $F_{(2,626)}=4.28, p=0.014$].
- higher for users who did not consider that injury prevention was promoted at the facility than those who did or those who did not know [means 0.63, -0.24 and 0.02, respectively; $F_{(2,630)}=26.40, p<0.001$].

Summary

Multi-purpose recreation facilities are an important community infrastructure for supporting, encouraging and enabling participation in PA¹⁻⁴. However, for participation to be sustained, the settings in which PA opportunities are provided need to be safe and well managed⁸. Knowing more about users' perceptions of safety at PA facilities is important for facility managers as it will enable them to provide programs and environments that better meet the needs of current and future users^{1,8}. This information is also valuable for highlighting where safety professionals could become more involved in promoting safety messages.

This descriptive study is limited in that the number of facilities was small. Nonetheless, over 700 users were surveyed, adding some robustness to the findings. The information was provided by current users only and it is possible that people who no longer used the surveyed facilities may have expressed different views to those gathered through the surveys. It is possible that non-users may have included people more concerned about safety issues than the survey respondents or people who sustained an injury at the facility. Finally, the survey collected self-report information only and the findings were not independently validated.

On the surface safety seems to be an important issue for MPRF users. Respondents reported a general awareness and concern for safety. Furthermore, they acknowledged their own responsibility for preventing injury when participating in PA at these venues. However, there also seemed to be a certain level of superficiality and complacency associated with their concerns and awareness. For example, relatively large proportions did not know whether their facility had a formal safety policy, if staff were appropriately qualified, or whether safety was promoted at the facility. While most reported being concerned about safety, a far smaller proportion took actions that were consistent with such a concern—such as practising safety measures or undertaking fitness tests and health screens. Finally, most respondents did not show strong agreement or disagreement with statements about facility-related risk perceptions.

The tendency towards a superficial awareness of, and concern about, facility safety seemed to be higher among metropolitan respondents than respondents from other locations. For example, although they reported a greater concern for safety, the metropolitan respondents were less likely to use PA safety measures or undertake fitness assessments. They were also more likely to report not having received information about injury prevention, to not know if staff were appropriately qualified, and to not know whether the facility promoted injury prevention.

The findings of this study strongly suggest that there are opportunities for MPRF managers and others with an interest in preventing injuries, to do more to promote safety in these facilities. Such measures include:

- encouraging more users to adopt PA safety measures relevant to the type of activity they are engaging in and to undertake pre-participation health assessments;
- ensuring that all the staff are appropriately qualified for the roles they perform and promote this fact to users; and
- promoting injury prevention, including providing safety information, to users.

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Sports Dietitians Australia (SDA)

Upcoming events

Sports dietitians Australia has been running a 4 day intensive sports nutrition course for Dietitians in Australia for the last 15 years. Like many other sports medicine discipline groups in Australia SDA's course has long been recognised worldwide for training high level sports dietitians. SDA has recently received requests from both the Canadian Dietetics Association and Hong Kong University asking for assistance in setting up a sports nutrition course locally and for SDA members to present during the course. It is great to see the growing interest for sports nutrition internationally and the opportunity this provides for collaboration between countries.

SDA's vision is to advancing excellence in sports nutrition practice and we are proud to be seen as leaders in this area and to be able to assist other groups in bringing sports nutrition courses to their dietitians.

Upcoming events (for events from Mid October to December):

- Nutrition for exercise and sport course (NES) for Active People to be held in QLD 31/10/09
- Sports Nutrition Course – 19–22 November to be held in Canada
- Nutrition for exercise and sport course (NES) for the Junior Athlete to be held in SA 14/11/09 <http://sportsdietitians.com.au/>

For more information visit www.sportsdietitians.com.au

Upcoming events

Challenges of Sport and Exercise Medicine in the Middle East



Sports Medicine has evolved dramatically over the past 10–20 years to include a wide-ranging, and ever increasing, scope of services to optimize athletic performance. Excellent athletic performance at a National and International level is desired by most countries, and for some countries excellence in a particular sport can define the country's success (e.g. cricket in India, football in Brazil, and Rugby Union in New Zealand). As a result, many countries and regions are attempting to increase athletic success through the development of Sports Medicine. The Middle East region has current economic wealth and a strong desire to increase the success of athletic performance.

Increasing athletic performance at the elite level involves many facets, but perhaps the most important for long-term success is participation rates of sports and exercise across all ages, and particularly in childhood, adolescence, and early adulthood. This equates to the development of an active culture across a population and not only increases

the available number of athletes for possible selection in elite sport but also creates a competitive atmosphere which can aid to drive improvements in performance. There are multiple difficulties in attempting to develop an active culture across a population, and some challenges that are specific to the Middle East region.

Whilst the countries in the Middle East region are quite varied, the countries attempting to increase athletic success tend to be wealthy on a per capita basis. This has both positive and negative influences on the development of an athletic culture. Whilst there are abundant opportunities for athletic activity due to increased leisure time, the motivation to exercise and to achieve athletic excellence can be difficult to sustain, especially over a long period of time. As a result of wealth in the local population and a relatively inexpensive expatriate labor force, a "service culture" has developed where incidental exercise is minimized. There are no requirements to perform daily duties such as shopping,

cooking, cleaning, or performing physical work, and home-delivery and drive-through services are ubiquitous. Education and emphasis on reintroduction of incidental exercise, as well as regular physical exercise can represent a significant challenge in this population.

The traditional Middle Eastern diet is similar in many respects to the Mediterranean diet and is relatively healthy, being low-fat and rich in cereals, grains, fruits and vegetables. With increases in personal and national wealth and an increase in the variety of restaurants in the region, a “Western” diet of high-fat fast food has insidiously developed. This has, as demonstrated in many other regions of the world, almost inevitably led to increased rates of obesity, hypercholesterolaemia, diabetes, and heart disease. Medical screening for these medical problems and their clinical manifestations is important even in adolescents and young adults to ensure that early intervention, patient education, and effective management plans can be instituted.

The Middle East is predominantly Islamic, and sociocultural religious influences can present specific challenges in Sport and Exercise Medicine. Firstly, there are possible restrictions in regard to clothing, as the traditional long robes worn by both men and women make exercise difficult. Certainly for women, other clothing options whilst exercising publicly represent a deviation from accepted practices and are not commonly seen. Walking for exercise is certainly one exercise possibility for women, but other more vigorous forms of exercise are problematic in public places, and thus gymnasiums or other more private exercise areas are preferred.

Another specific religious sociocultural issue is Ramadan, the month of religious fasting during daylight hours that generally occurs in the Northern hemisphere late summer and early spring (August / September). During this period, when all Muslims fast as one of the “five pillars” of the Islamic faith, exercise is difficult due to an inability to let anything “pass the lips”, which includes food or fluids. Obviously, there are issues of dehydration and hypoglycaemia with physical exercise during this period. Fatigue and an increased risk of musculoskeletal injury are also concerns. Even relatively common treatments such as analgesic or anti-inflammatory medications require thought in dosing regimes. Twice daily dosing is possible with the evening meal (after sunset), and the morning meal (pre-sunrise).

The desert climate of much of the Middle East region means that temperature extremes occur for long periods of the year. Temperatures in summer months regularly reach 45–50

degrees Celsius in the day, cooling to 35–40 degrees during the night, and are intermittently associated with periods of high humidity (up to 80–90% humidity at times, but commonly 50–60% humidity). Despite acclimatization with this environment, regular exercise is difficult, fatiguing, and requires planning to ensure adequate hydration. During Ramadan, the climatic extremes are a specific and difficult challenge to manage for athletes and sports medicine personnel.

Interestingly, specialist Sport and Exercise Medicine practitioners are a relatively recent addition to the Middle Eastern medical environment. It is really only in the past 5 years that specialist doctors, physiotherapists, sports trainers, sports physiologists, and sports dietitians have begun working in the region. This means that many local athletes are unfamiliar with medical personnel, and certainly with multidisciplinary sports medical centres. As a result, compliance with medical follow-up, and treatment regimes such as attendance at physiotherapy, can be a challenge to optimize. Education and positive experiences of better health outcomes and increased performance can definitely assist this aspect of Sport and Exercise Medicine.

Athlete medical screening is also a relatively newly implemented concept in the Middle East and has similar challenges with regard to compliance. For many athletes, particularly children and adolescents, this may be the first contact they have had with a medical environment and medical tests such as blood testing, spirometry, X-ray and electrocardiograms (ECG). It can be a daunting process for these athletes and requires education and support to ensure an efficient result. There are athlete medical screening issues specific to the Middle East that require knowledge and expertise to manage.

Thalassemia, a disorder of globin chain synthesis and thus important in haemoglobin formation, red blood cell function and stability, and oxygen transfer, is common in the Middle East. Beta-thalassemia minor is particularly common but, fortunately, causes few clinical manifestations even with extreme physical exercise or heat stress. It can lead to problems such as splenic infarction with severe systemic illness such as septicaemia.

Lack of immunity to hepatitis B is common in the Middle East due to the relatively recent introduction of organized immunisation programs in young people. The rate of hepatitis B immunity in football players in Qatar is only approximately 50%, and this has significant implications for infection risk as there is a 2–3% rate of active hepatitis B, mainly from

African and South American expatriate footballers. Universal precautions should be instituted and strictly followed by all athletes and support staff, especially medical staff. This is critical with aspects such as blood or body fluid contact, and sharing of water bottles amongst team members. Hepatitis B immunization for athletes of all ages and all sports is recommended if they are known to be hepatitis B immune.

Vitamin D is another ubiquitous problem throughout the Middle East. Vitamin D is attained both through the diet, but it is also converted in the skin through ultraviolet (UV) light exposure from direct sunlight on the skin. In general, dark-skinned people and veiled women are at risk of vitamin D deficiency. These aspects, coupled with the fact that Middle Eastern males are also effectively veiled and that there is a low UV penetration index in the Middle East due to high particulate matter in the air such as dust and sand, contribute to the extremely high rates of vitamin D deficiency in the local populations (almost 100% in many countries). Vitamin D deficiency can cause problems with bone and soft-tissue health but, fortunately, can be readily supplemented through a single intramuscular injection (300,000 IU vitamin D), or eight weeks of oral vitamin D tablets (1000–2000 IU depending on age). Checking vitamin D status is important both in medical screening, but also in Sports Medicine consultations where acute fractures or stress fractures are diagnosed.

In general, the organization of sports in the Middle East has lacked cohesion, and support, organization, and funding of junior sports has been inadequate. In addition, some activities such as cycling or swimming for exercise are almost unheard of by the general population in many countries in the region. This can mean that there is a lack of familiarity with many sports and athletic activities, which may present difficulties in the rehabilitation of injuries, especially injuries where minimization of weightbearing is desired, and cross-training commonly advised. There is often no distinct “sporting culture” in Middle Eastern countries and thus dedication to training, excellence in competition, and seeking and complying with medical care represent specific challenges where education is paramount. However, this relative void of sporting culture creates an ideal opportunity to develop and implement all aspects of sporting culture including specialized sports training and coaching, sports nutrition, sports physiology, sports physiotherapy and rehabilitation, and Sport and Exercise Medicine.

Dr Justin Paoloni

Dr Hakim Chalabi



Correction

Volume 27, Issue 2, Winter 2007, pp14–15
 Diagnosis of low back pain: Is a diagnosis really necessary

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Sports doctor and philanthropist • Dr June Canavan 1950 – 11/8/2009



Dr June Canavan, sports physician from Maroochydore, Queensland and long serving SMA member, was one of 13 people killed in the Kokoda air tragedy on August 11, this year. June was a significant person within SMA. She was a SMA QLD Board Member for four years, the Chair of the Sunshine Coast SMA sub-branch, and a co-author on the original SMA Women in Sport fact sheets.

Aside from her involvement with SMA, June made a difference to the lives of many young sports enthusiasts. She had been in practice on the Sunshine Coast for more than 20 years, was well-known throughout sporting circles locally, nationally and internationally and was highly regarded as a sports physician, particularly for her expertise with swimmers and triathletes. She had been Medical Officer for Swimming Queensland and Swimming Australia, and was one of the unsung heroes behind several Olympic campaigns and the pool feats of Kieren Perkins, Susie O'Neill and Samantha Riley.

June, an energetic sports lover and mountain climber, died trying to improve the lives of others, and had travelled to Papua New Guinea for the fourth leg of her Klocking up the Ks campaign to raise \$50,000 for a school in Tanzania. In October she was to climb Tanzania's Mount Kilimanjaro. She had already climbed Kiel Mountain (Sunshine Coast), Kosciuszko (highest mountain in Australia) and Kinabalu (highest mountain in Malaysia).

She had hoped to climb a total of 47,560 feet above sea level to raise one dollar per foot climbed for Tanzanian school children suffering hardship.

June herself was no stranger to adversity.

She was a champion sportsperson at school and played competitive sport all her life. She represented country Victoria in netball and later became a Queensland representative player. She captained the Australian University Netball team and earned a Full Blue at the University of Queensland. June played A grade squash for nearly 30 years before rupturing her Achilles tendon during a match in 2005.

She also required open heart surgery in 2004. Upon recovery, June accepted the challenge to regain her fitness by training for surf life saving and was rewarded with her Bronze medallion less than nine months later. She followed this up with her mountain climbs.

June radiated determination, strength and passion. She spent hours caring for her athletes. She achieved an enormous amount in her career and her legacy will be strong.

In honour of June's work in sports medicine and for Sports Medicine Australia, SMA National and SMA QLD have donated \$1000 to her fundraising appeal, www.klockinguptheks.com.au.

Sports Physiotherapy Australia (SPA)

News

The neck safe course produced by SMA in conjunction with the Surf Lifesaving Australia has been approved by the SPA national committee and will be run in February 2010 in Melbourne with a view to be rolled out in most capital cities in 2010. For more information visit www.physiotherapy.asn.au

Australian College of Sports Physicians (ACSP)

Upcoming events

24th ACSP Annual Scientific Conference • 17–21 October 2009 • Couran Cove Island Resort • South Stradbroke Island
For more information visit www.acsp.org.au

Upcoming events