Anabolic Steroids - A Growing Community Concern

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Major Issues

Since the 1988 Olympic Games in Seoul, performance enhancing drugs have become a controversial topic around the globe and recent reaction to allegations of drug-taking by the Chinese swimming team is an indication that interest in this subject has not waned. Furthermore, in a survey of leading athletes conducted by the Australian Sports Drug Agency in 1994, more than half the athletes who participated said that pressure on Australian athletes to use performance enhancing drugs would increase with Australia playing host to the 2000 Olympics.

Much debate surrounds the definition of what constitutes a performance enhancer. The International Olympic Committee (IOC), a pre-eminent sports organisation, prohibits six classes of drugs and two classes of procedures because of the difficulty of establishing a precise, global definition of doping.

Under the IOC's regulations, performance enhancing drugs include substances such as stimulants, diuretics, narcotic analgesics, beta blockers, peptide hormones and anabolic steroids.

This paper deals with one class of these substances, anabolic steroids, which has in the past been used by elite athletes to improve their performance and which now appears to be used increasingly by many outside the elite sports area. This trend was first alluded to during a Senate Inquiry which followed allegations in the media in 1987 of widespread use of drugs by Australian athletes. Evidence to the Senate Inquiry claimed that children as young as 10 years had been given drugs to improve their performance. Since then, it appears there has been a general social acceptance of anabolic steroids as they have become more widely used in the community.

Most disturbing, in the few studies carried out in Australia to date, is the increasing trend of their non-medical use by high school students. This is of particular concern as it involves many young and seemingly fit people who are seeking better performance in local and school sport or who desire an improved physical appearance.

Increased usage seems to stem from a changing attitude to what constitutes a legitimate means of achieving one's potential both in a sense of fitness and appearance. Whilst this may be a current perception it remains for further research to establish its validity.

Anabolic steroids were first used in the 1940s as a treatment to stimulate growth in tissues in cases of severe malnutrition. In this respect, they were particularly useful in treating ex-prisoners of war who had experienced conditions of near starvation. They are still used today to treat a number of medical conditions including the treatment of growth delay and osteoporosis.

As anabolic steroids have become more widely used there has arisen considerable argument concerning their effectiveness in increasing muscle size and strength. This has occurred partly because little research has been available and partly from a campaign which sought to employ scare tactics to deter would-be users both in relation to the drugs' effectiveness in enhancing performance and their side effects.
There is a growing body of evidence which supports the observation of many users that anabolic steroids are effective when taken in prescribed doses, combined with appropriate diet and training and monitored to avoid the well-known side effects associated with misuse or overuse.

In future the increasing use of anabolic steroids will become an issue which governments will need to deal with, particularly as we approach the year 2000. Issues such as their status in the area of performance enhancement and their side effects will be factors guiding future policies towards these and other drugs as we seek to address use and abuse of drugs in our society.

Australia will no doubt be in the world’s focus as we host the Olympic Games; while we might claim an international reputation as a leader in the fight to achieve a drug free sport environment it remains to be seen if this reputation will extend to drug use outside of elite sport.

Before we begin to deal with the problem of anabolic steroids we will need to know the cause and dimensions of the problem. This will involve considerable research across a number of disciplines.

While a long term strategy may take time to evolve, we have the opportunity to address the issue in the short term through education and awareness raising and through an approach of harm minimisation as advocated by the National Drug Strategic Plan 1993-97.
Introduction

Two reports containing 65 recommendations were produced by the Senate Standing Committee on Environment, Recreation and the Arts in relation to Drugs in Sport following allegations in the media in 1987 of widespread use of drugs by Australian athletes.

The first, entitled Interim Report, Drugs in Sport and produced in 1989, examined the extent of drug use in Australian sport, the reasons for usage, and issues relating to the supply of drugs. The Second Report, Drugs in Sport, produced in 1990, examined "professional" sports and power sports (weightlifting & powerlifting)*, the supply and distribution of drugs, the national and international regulatory background, and the impact of drugs on society.

One of the major outcomes of the inquiry was the establishment of the Australian Sports Drug Agency (ASDA) in February 1991 as a statutory authority. The functions of ASDA are carried out through its programs - Testing, Research and Policy; Education; Executive; and International. Included in these functions is the provision to maintain a schedule of drugs and doping practices referred to in the International Olympic Committee List of Doping Classes and Methods. ASDA refers to this list when carrying out testing for its public interest and user pays testing programs. Testing by ASDA is carried out on behalf of sporting bodies which are receiving government funding and on a fee for service basis when requested by other sporting bodies.

Through its activities, ASDA has earned an international reputation as a leader in the fight against drugs in sport. This has been primarily through its year-round drug testing of athletes and its commitment to assisting the International Olympic Committee (IOC) and international sports federations in carrying out effective doping controls.

ASDA has also raised awareness in the sporting community and in schools of the issues associated with drugs in sport. Apart from an educational role, ASDA does not have direct involvement in bodybuilding, fitness and other non-competitive sports.

ASDA's task in the future is daunting as it strives to develop tests to detect the presence of substances such as human growth hormone and erythropoietin (a hormone which induces the production of red blood cells), not to mention keeping pace with technology which is developing new performance enhancing drugs and masking agents which hide the presence of banned drugs.

Though the "drugs in sport" issue has had the media limelight in recent times, there is another problem associated with the use of these drugs which has been overlooked to a large extent. Many ordinary people, not normally categorised as drug users, have begun taking anabolic steroids for a variety of reasons. These are the lower profile people who are seeking better performance in local and school sport and people who are looking for an improved physical appearance.

* Weightlifting is a competitive Olympic sport. It has two styles of lift - the snatch, and the clean and jerk.

Powerlifting is not an Olympic sport. It has three types of lift - the back squat, the bench press and the deadlift.
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The primary substances which are being used for performance enhancement are anabolic steroids which are illegal* drugs in Australia except when medically prescribed. The extent to which these substances are being taken indiscriminately by members of the community, especially the young, cannot be ignored and is cause for concern. This paper looks at the background to this problem and presents some options which governments might consider in addressing the issue.

History/Background

The use of performance enhancers dates back to as early as 668 BC. In that year at the ancient Olympic Games, it was noted that a foot-racer named Channis, who had been on a diet of dried figs, won what was the equivalent of today's 200 metre sprint1 (for References, see p-14).

The history of anabolic steroids goes back to the 1940s when they were first used to treat people suffering from severe malnutrition. They were particularly effective in treating people who had been prisoners of war. Today they are used to treat certain anaemias and gynaecological problems, to increase protein synthesis and to aid the treatment of growth delay and osteoporosis.2

By the early 1950s, athletes in the Eastern Bloc were injecting anabolic steroids in an effort to increase their strength. Athletes quickly began to see the positive effects of anabolic steroids and usage began to increase. In 1956 CIBA laboratories in America developed Dianabol in order to give American athletes the same edge as their Russian competitors.

By the late 1960s, the first anti-doping measures instituted by the IOC resulted in testing at both the Winter and Summer Olympics of 1968. Steroids were not included in the list of substances banned at that time as the technology had not been developed to detect their presence.

It was not until the 1974 Commonwealth Games that tests were developed to detect steroids. They were subsequently added to the list of substances banned by the International Olympic Federation.

Through history, performance enhancers have included a wide range of "legal and illegal" substances. Where the line between legal and illegal should be drawn is a question open to debate.

The International Olympic Committee (IOC) prohibits six classes of drugs and two classes of procedures because of the difficulty of establishing a precise, global definition of doping. Even this approach is not without its critics who question the difference between an athlete who takes Vitamin B12 (not banned) and another who takes an anabolic steroid, when each does so with the intent of improving performance. Further criticism suggests that decisions about what is to be banned are related to whether there exists a practicable test for detection rather than as a matter of principle.

* Australia does not manufacture anabolic steroids and must import supplies for the treatment of medical conditions. Use of these drugs except when prescribed is illegal and contravenes Commonwealth legislation. Various State legislation also covers use and possession.
Anabolic steroids represent only one of the several types of performance enhancers which are illegal today (i.e., banned from sport). Others in this category, and which are on the ASDA schedule of substances banned by most national sporting organisations and the International Olympic Committee, include stimulants (e.g., amphetamines), diuretics (e.g., lasix), narcotic analgesics (e.g., morphine), and peptide hormones (e.g., human growth hormone).

Allowed performance enhancers include vitamins, food supplements such as amino acids, psychological techniques such as hypnosis, mechanical aids such as special equipment, and carbohydrate loading. Some would even regard spectacles, contact lenses, hearing aids and the contraceptive pill as performance enhancers. Enhancers are usually intended to increase strength and endurance, increase concentration, decrease pain and delay the onset of fatigue.

Other substances which are not prohibited but can be restricted for competitive athletes are alcohol, marijuana, local anaesthetics, corticosteroids, caffeine and beta-blockers.

**What are anabolic steroids?**

Anabolic steroids are defined as being synthetic derivatives of testosterone. Testosterone is the primary sex hormone found in men. It has both an *anabolic* effect and an *androgenic* effect. The anabolic effect stimulates growth in tissues and assists muscle to become larger and stronger. The androgenic effect is responsible for secondary sexual characteristics in men: facial hair, deepening of the voice, sex organ development as well as aggression.

Not all anabolic steroids have the same structure which means they do not all act the same way. Some have more anabolic effects than others. It is the anabolic effect which the athlete hopes to maximise in order to produce increased muscle size and strength. For the athlete, it is desirable for the androgenic effect to be minimal as it may result in unwanted side effects such as acne, testicular atrophy, aggressive moods/irritability, development of breasts in men, increased body and facial hair and changes in libido. To date it has not been possible to develop steroids which have an anabolic effect without an androgenic effect or vice versa.

Anabolic steroids do not act in the same way in all individuals. The reason that they are more effective in some individuals than others is due to factors such as genetic makeup, age, and the degree to which usage is accompanied by diet, exercise and training.

Anabolic steroids are available in both oral and injectible form. Oral forms, whilst avoiding the risks associated with injection, are linked with increased health risks involving the liver and increased levels of cholesterol in the blood. A further drawback with the oral form is that it is rapidly metabolised, and therefore regular doses are required throughout the day to keep a constant level in the blood. On the other hand, injection of anabolic steroids carries with it the possibility of transmission of blood-borne diseases, such as hepatitis and AIDS, through needle sharing.
Who uses anabolic steroids?

Use of steroids by athletes was first reported in the 1950s. Since the 1970s there has been increasing usage by those involved in powerlifting, weightlifting and bodybuilding. Usage has spread to football players, swimmers, track and field competitors and other professional athletes.

Though much has been written in recent years about the use and abuse of steroids there is no clear picture in Australia of the numbers taking anabolic steroids. In the few studies carried out in Australia so far, there appears to be an increasing trend of non-medical use by high school students\(^4,5,6\). This trend was also highlighted in evidence presented to the Senate Standing Committee on Drugs in Sport in 1989, where it was claimed that children as young as 10 years had been given drugs to improve their performance in sport such as weightlifting.

In 1993 the National Drug Strategy household survey\(^*\) interviewed 3,500 persons aged 14 years and over. Three percent of the sample indicated they had used steroids, giving a projected population estimate of 444,000 persons. Of these, the majority said they had used them for medical purposes. Of those that had used them illicitly 75 percent said they had first tried them by the age of 17.

In a recent submission to the Drug and Alcohol Review by the National Centre for Research into the Prevention of Drug Abuse\(^3\) it was noted that the use of anabolic steroids has permeated into the wider community. Anecdotal information indicates that use has increased among non-competitive athletes, occupational groups (e.g., law enforcement) and the homosexual community for enhancement of body image.

In the United States similar trends have been reported indicating that about one-third of high school students who were using anabolic steroids began using them at 15 years of age or younger\(^7\).

Currently the Federal Department of Human Services and Health is undertaking research to develop indicators of non-medical use in Australia. The results of this research should be available later in 1995.

Are they effective?

Based on the results of available scientific data and overwhelming anecdotal reports by athletes, it can be surmised that anabolic steroids combined with appropriate diet and training do result in increased muscle size and strength\(^14\). Where this is a requisite for a winning edge, they are effective.

\(^*\) From an Information Sheet, The Drug Data Series - Steroids, Issue No 3, May 1994 which was produced by the National Drug and Alcohol Statistical Unit of the Commonwealth Department of Human Services and Health.
The case of Ben Johnson is an example. He lost his Olympic gold medal at Seoul because of his use of steroids. He is quoted as saying that if steroids had been a controlled substance in Canada before the 1988 Olympics, it would not have deterred his use of them. If effectiveness of steroids were in question, it is hardly likely that Johnson would take such a risk. More recently we have seen the case of the Chinese athletes, particularly the women’s swimming team, who have been at the centre of drug abuse suspicions since emerging from competition obscurity to world dominance late last year.

Participants in many areas of competitive and non-competitive sport have found steroids useful for increasing muscle size and/or for enhancing strength and endurance. The degree to which this can be achieved appears to be limited by genetic make-up, age and the degree to which a user employs exercise and diet.

Initial attempts by medical and sporting organisations to educate and raise awareness of the effects of anabolic steroids largely employed scare tactics and supported misinformation which reported that steroids were ineffective. Users and would-be users observed their peers and the results achieved using steroids. Later, when genuine information was employed by the scientific community to curb usage of steroids, this effort fell on deaf ears as few had any faith in what they perceived as propaganda. The situation was further compounded by irresponsible journalism which fostered an overreaction through exaggeration and inaccuracy. Today the task of informing and educating is more difficult as those involved work to regain credibility.

**Do anabolic steroids have side effects?**

Side effects depend on variables such as the sex, age, dosage, duration of use, specific drug taken, health of user and the method of administration. They include acne, atrophy of the testicles, water retention, aggressive moods, changes in liver function, and changes in libido. In most cases where there is no overuse, side effects appear to be reversible when steroid use ceases.

In some cases, females may develop menstrual irregularities, increased facial hair and deepened voice. Virilising side effects in women such as deepened voice and increased facial hair, etc., are irreversible. Less common is the development of abnormally large breasts in men and premature baldness.

In adolescents of both sexes, bone maturation may be accelerated with premature closure of growth plates, resulting in permanent short stature. This is of particular concern with the number of young users increasing, especially where these young users are not adequately informed of the risks of overuse.

The foregoing effects are not exhaustive. Many long term effects are not well understood. Side effects such as liver and prostate cancer and heart disease have been cited in some literature, but these are open to speculation as there is no scientific basis to link anabolic steroid use specifically to these conditions.
One of the main points in relation to side effects is that as intake (quantity, mix of steroids and frequency) increases, so too do the risks of side effects. Unfortunately, many users become abusers with the mistaken belief that double the dose will produce double the effect. This is further compounded when the practice of "stacking" is involved. "Stacking" is the term which describes the use of numerous drugs with varying methods of administration. It has been known for some athletes to take twenty times the standard dose of steroids in order to gain a competitive edge\textsuperscript{13}.

An important risk factor when assessing side effects is the quality of supply. Frequently, for example, veterinary products are sold to users. In addition, there have been accounts where "counterfeit" drugs obtained on the black market have been found to be contaminated. Martin Vinnicombe, an Olympic cyclist who has admitted taking steroids, said when interviewed on the 7.30 Report in August 1993 that he knew of instances where calamine lotion and other foreign substances had been sold as steroids.

To minimise side effects and/or to avoid detection, many long term users of anabolic steroids practice what is termed "cycling". This is a regime of "on and off steroids" which allows the body to return to normal between cycles. Current evidence suggests that where dosage is minimal and the user practices "cycling" there is a minimisation of harmful side effects and many minor side effects are found to be reversible\textsuperscript{17}.

As a final point on the adverse effects of steroids, it was stated in the Beel review of the literature\textsuperscript{3} that a trial reported by Millar in 1994 found that side effects were minimal and reversible when anabolic steroids were medically prescribed and monitored.

**Why take anabolic steroids?**

Anabolic steroids are taken by different people for different reasons. They can be taken to enhance performance in order to gain a winning edge or they can be taken to enhance appearance.

The primary reason elite athletes take anabolic steroids is to give them the winning edge. The pressure to win can become overwhelming. Apart from the financial aspects, it can come out of the expectations of others, that is expectations by the community, peer groups, sporting administrators and the media.

Winning is accompanied by a feeling of success and adulation from all quarters. The rewards can be many, including financial. Sport is big business and the rewards are considerable. Ben Johnson was prepared to take a risk because the financial rewards were great. He estimated that his 2 year disgrace following the Seoul Olympics cost him $25 million in lost contracts\textsuperscript{13}.

In a survey of leading athletes conducted by the ASDA in 1994, more than half the athletes who participated said that pressure on Australian athletes to use performance enhancing drugs would increase with Australia playing host to the 2000 Olympics. This pressure will come largely from a surge in Olympic nationalism and public expectation of medal-winning performances in front of a home crowd. This is despite the growing reputation Australia has around the world for drug testing.
There has probably not been a more explicit example of such expectation than that witnessed at the Montreal Olympics in 1976 when Stephen Holland, an Australian swimmer, won bronze and not gold. In the media, he was portrayed as a failure, even to the extent that very little coverage was given to the fact that he swam under the world record (which was his) to come third.

The desire to obtain the winning edge is not restricted to elite athletes. The same pressure to win can be experienced by competitors in junior competition when they are subject to displays of intense enthusiasm by parents during local sporting competitions. High school competition can also intensify pressure to win at all costs. These situations can at times be the catalyst for some young people to experiment with steroids.

Clearly, there is a need to balance the emphasis between "winning at all costs", "participation" and "personal best". This will require a re-evaluation of some of our social and cultural values which up to now recognise only “winners” and “losers”.

Many involved in bodybuilding competitions believe they cannot compete without using steroids in order to reach what they describe as their potential. Some others in the fitness community use them for both improved performance and appearance.

As regards appearance, cultural attitudes also need to be questioned. The extremes of the fashion catwalk and the bodybuilding stage present role models for us at both ends of the spectrum whilst neglecting the majority middle ground.

What are the options to deal with the increasing use of anabolic steroids?

Various deterrents such as testing and law enforcement/prohibition have been employed in the past in an attempt to address the issue of not only drugs in sport but also their use in the general community. The effectiveness of these approaches are frequently called into question. Other methods such as legalisation or decriminalisation have been suggested in recent times as possible alternatives worth pursuing in addressing this issue.

Testing

In competitive sport random testing of athletes is carried out by ASDA under its public interest testing program funded by the Commonwealth and under a user-pays contract testing program covering professional sports leagues and international sporting organisations. ASDA’s mission is to reduce harm associated with drug use in sport in order to enhance the well-being of individuals and the value of sport to society.

In 1993-94 ASDA conducted 2802 tests and reported 0.57% positive drug tests for the use of prohibited substances (i.e., anabolic steroids and diuretics). This was compared to 0.25% in 1992-93. These figures show an increased rate of detection for some banned substances but they are not indicative of the real picture.
Factors such as newly developed performance enhancers, masking agents and the inadequacy of tests to determine misuse of human growth hormone and erythropoietin make the true picture of drug use in sport somewhat unclear. Ben Johnson's coach, Charlie Francis, claimed Johnson had passed 17 drug tests in 1986 and 1987 before being tested positive at the Seoul Olympics. Dr Robert Voy, former chief medical officer for the US Olympic team says:

*The science of avoiding drug detection is as sophisticated today as the science of drug testing itself... From what athletes tell me, I know that the drug users continue to be a lap ahead of the testing initiative in almost all circumstances.*

Random testing, whilst effective to some extent, has its limitations and will never be the complete answer to drugs in sport. In effect it can never be guaranteed that all contests are fair as it cannot be guaranteed that all athletes do not use drugs.

**Law enforcement/prohibition**

Australia does not manufacture anabolic steroids and therefore legal and illegal supplies are imported. Customs has been vigilant, recording some 24 seizures of illegal imports in 1993/94. Unfortunately these account for only a small proportion of these substances which find their way onto the Australian black market. This is evidenced by the fact that users find anabolic steroids relatively easy to obtain.

Unlike the "harder" drugs such as cocaine and heroin, anabolic steroids are generally not perceived in the user community as "illegal drugs". There is a large body of evidence which indicates that attempts to control the use of any illegal drug (including anabolic steroids) have failed to achieve a reduction in demand. This has resulted in Australia and a number of other countries investigating possible alternative policies to combat this problem.

Costs associated with law enforcement are extremely high. Whilst there is no specific figure that can be quoted in relation to anabolic steroids, the Joint Parliamentary Committee on the National Crime Authority in 1989 estimated that the direct costs of law enforcement associated with illegal drugs in Australia are in the vicinity of $123.2 million annually (in 1987-88 dollars). This figure covers work of customs officers as well as police, courts and prison staff.

Former Federal Court judge, Russell Fox, an opponent of prohibition, says Australia has not thought the arguments through and is merely following the dictates of US drug policy. He has also said that widespread prohibition results in an unenforceable regime and inadequate treatment of serious social problems. He argues that it may be preferable to end prohibition and risk an increase in consumption to deal a crippling blow to the black market.

*History shows that the imposition of the prohibitions was wrongly motivated and wrongly directed in the first place.*

**Legalisation**

Many of the arguments advocating legalisation arise out of the search for an alternative to prohibition. Generally they focus on economic and social costs of prohibition. They may also offer a way to minimise the spread of AIDS and other blood borne diseases.
Some suggestions using this approach advocate:

- sale of drugs through controlled outlets where the government is the monopoly supplier;
- users to be registered and to be supplied through legal prescription;
- availability of drugs on the same basis as alcohol and tobacco; and
- decriminalisation.

It must be remembered that, under the Australian federal system, regulation of illicit drugs lies within the responsibility of both the Federal government and the various State governments. Part of the role of the Federal Government is in relation to international conventions ratified by Australia and the capacity to be involved in national education campaigns.

Currently, a body called the Australian Parliamentary Group for Drug Law Reform is seeking to see drug law reform become a national reality. The Group was established in 1992 by a group of parliamentarians led by independent ACT MLA, Michael Moore. It seeks to encourage a more rational, tolerant, non-judgemental, humanitarian and understanding approach to people who are using illicit drugs in our community. Notable amongst signatories to its national charter are: Professor Peter Baume, Dr Neal Blewett, Don Dunstan, Sir John Gorton, Janine Haines, Archbishop Ian George, Phillip Adams, Eva Cox, Russel Cox, Jack Mundy and Anne Summers.

This Group will no doubt raise awareness and promote discussion of the issues and anomalies which exist in relation to our current drug laws throughout Australia.

Anomalies such as those which currently exist in ACT legislation need to be addressed. For example, ACT legislation provides for decriminalisation in relation to some cannabis offences on the one hand, but imposes a fine of $5 000 and registration of criminal conviction for the possession of anabolic steroids on the other.

**Management using the principle of harm minimisation**

The National Drug Strategic Plan 1993-97 says that:

> Harm minimisation is an approach that aims to reduce the adverse health, social and economic consequences of alcohol and other drugs by minimising or limiting the harms and hazards of drug use for both the community and the individual without necessarily eliminating use....

> Harm minimisation demands realistic strategies focused on preventing and reducing harm to individual drug users....

This Strategy applies both to legal and illegal drugs.
The harm minimisation approach is advocated by a growing number of professionals, including Dr Anthony Millar who is the Director of Research at the Lewisham Institute of Sports Medicine. Dr Millar has said:

_The overall benefits of legal provision of illicit steroids are improved health, reduced side effects, less corruption of law enforcement, and a gradual and progressive limiting of black market supply. Even if the number of users rose, the increased safety and diminished dosage schedule would lead to fewer steroid-related problems in the community_.

Should a harm minimisation program be adopted in the short term to address the problem of anabolic steroids it would seem practical if this were undertaken by medical professionals in the area of general practice. This would enable the problem to be treated largely where it exists.

Appropriate education for doctors and health care providers involved in the program would ensure they had access to accurate information on the use and abuse of anabolic steroids so that credibility could be established with clients.

Under an approach of harm minimisation users could obtain licit supplies of quality anabolic steroids and have their effects, including potential side effects, monitored.

If medical professionals are in the position to monitor steroid usage, they are also in a position to educate users and would-be-users.

A spin-off of this approach would allow reputable Australian pharmaceutical manufacturers to produce quality products and provide an incentive to conduct research into low risk steroids.

Finally, this approach would negate the social stigma associated with the illegal use of these substances - a stigma which may be worse than any adverse side effects.

It should not be overlooked, however, that this approach involves certain risks in that users involved may abuse the system. For example, they might obtain licit supplies from several sources for either overdosing themselves or for disposal of their excess supplies on the black market.

**Future strategy**

Prevention is, without question, better than cure for economic, social and health reasons. The reality is that anabolic steroids are already being used within the community. The best that could be hoped for is that their use is minimal, particularly since integrity of supply from the black market cannot be guaranteed. Foremost for any program addressing this problem is the role of education, i.e., raising awareness of the consequences of taking these drugs.

Part of ASDA’s role is to educate its target groups so that they are able to respond to drugs in sport issues. These activities have been effective to some extent but they need to be expanded beyond ASDA target groups to include those who are most vulnerable, through ignorance.
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The basic message in any education program should at all times be reliable and accurate, and should not over-emphasise the dangers or employ scare tactics. Credibility is essential with all clients, from school children to long-term users.

Gymnasiums and fitness centres would be prime targets for an extended education program. Appropriate support and encouragement would need to be provided for any centres participating in such a program to ensure that educators, apart from being well trained themselves, maintained credibility as they raised awareness of all the issues associated with steroid use amongst users and potential users.

An education program might be a first step in the short term to address the problem of anabolic steroids in the community. For the longer term, any strategy employed would need to take into account the dimensions of the problem. This would necessitate not only determining the extent of the problem but also assessing the social and cultural reasons associated with usage.

The results of research commissioned by the Department of Human Services and Health to develop indicators of non-medical use of anabolic steroids in Australia should be available later this year. These will be a first step in identifying some of the factors associated with the problem and will form a basis for future research.

Such research will be a difficult task because of the illicit nature of these drugs, and their covert distribution and use. Nevertheless, can we afford to neglect this challenge and sweep the issue under the carpet, thus risking the health and wellbeing of many Australians in the future?
References


