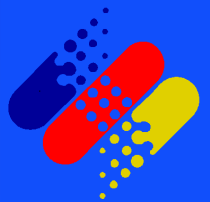


Drugs in Sport

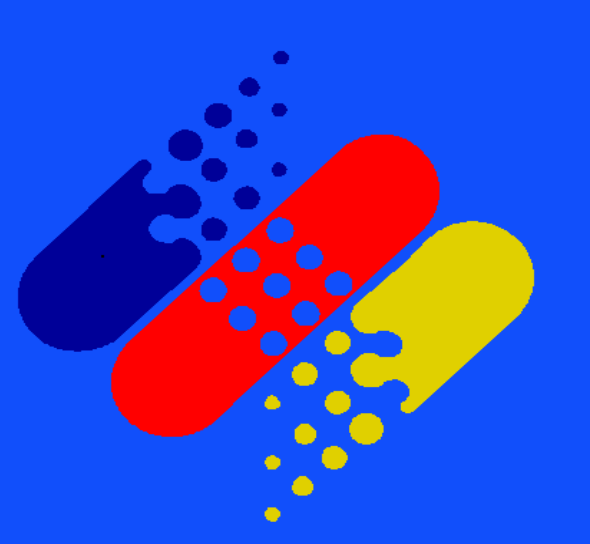
Dr Geoffrey Verrall
Sports Physician

South Australian Sports Institute
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South Australian Sports Institute



Introduction

- Sports Physician – full time sports medicine practice. New speciality.
- SASI Medical Director
- Team Physician –
- In the past Norwood football club (13 years).
- In the present Adelaide 36ers basketball club

What is a sports physician

- Usually a failed sportsperson
- Medical school 6 years
- Intern – Hospital 3 years
- Primary exam for sports physician 2 years
- Training program 5 years
- 16 years – typical of any medical speciality

Research

- Cardiac study (SASI)
- Hamstring
- Groins
- Elbows
- Achilles tendons

International Olympic Committee IOC book
chapters and medical commission

This presentation

- WADA ASADA
- Drugs on banned list and testing
- Performance enhancing PED's and Imaging Enhancing Drugs
- Current drugs in sport issues

WADA

- World Anti-Doping Authority
- Administered through ASADA
- There is a banned list – you need to be placed on the banned list. The default position is that a substance is not on the banned list
-

WADA

- The “list” is extensive
- But once a substance is on the list then all related compounds to that drug or method are automatically listed
- If the drug has been approved for human use
- And is a related compound to the known banned drugs

WADA

- Surveillance
- Caffeine
- Nicotine and related products
- Viagra and related products
- ?Peptides

WADA

- The “blur”
- Is it a food and therefore not subject to significant regulation
- Or is it a drug and therefore is subject to significant regulation and barriers

WADA / ASADA

- Underresourced (User pays)
- Varies between countries
- As a deterrent for elite sport..Hmmm
- As a leader of the community with respect to drugs in sport issues..Hmmm
- As beholden to the integrity of sport..Hmmm

But it is what we have Got

PED's Performance Enhancing Drugs

- Immediate acting
- Strength / Muscle size
- Endurance

PED's Performance Enhancing Drugs – Immediate acting

- Pseudoephedrine (cold and flu medication)
- Salbutamol (Ventolin) (anti-asthmatic drugs)
- Most inadvertent doping cases involve these drugs
- **THESE DRUGS WORK BY** improving reaction time and strength/speed

PED's Performance Enhancing Drugs – Strength

- Anabolic steroids
- Growth Hormone – not detectable with current drug testing methods
- Anabolic steroid like drugs – clenbuterol (Alberto Contador) / Importation laws in Australia
- **THESE DRUGS WORK BY** increasing muscle mass / strength and probably by allowing earlier/quicker recovery from training sessions

PED's Performance Enhancing Drugs – Endurance

- Reindeer milk/Turtle soup
- EPO Erythropoetin and its derivatives.
- Blood doping (own blood or someone else's)
- Anabolic steroids also increase your hemoglobin levels
- THESE DRUGS WORK BY increasing the O₂ carrying capacity of the blood usually by increasing your red blood cells

Sport – Commitment to sport

- Commitment to sport – participation and development
- Ethical obligation to sport outweighs my ethical obligation to the athletes – therefore will not prescribe PED's

Life summarized in 4 bottles



Shit, I am already on the 3rd one!!!

Long Term Side effects of PED's

- Unknown
- Not many athletes admit to taking them at the time they are in competition
- And to be fair many effects are reversible upon ceasing the drug BUT

Athletes take

- MEGA
DOSES

Side effects of strength drugs

- Tumours (Flo Jo)
- Overgrowth
- Masculinization
- Feminization
- Voice changes
- Liver
- SAFE reasonably for both sexes

Side effects of endurance drugs

- Death and thick blood 1987 and 1991 – Dutch Tour de France cyclist
- 18 deaths – thick blood
- Reversible side effects
- 1999 tour de France – used urine from these competitors to enhance testing methods in 2006. 12 positive samples – six from the one athlete –UCI commissioned a report – chain of custody could not be established beyond reasonable doubt

So what are the long term side effects of the use of PED's in sport

- Acceptance into our culture – e.g. adolescent use
- Image Drugs

So what are the long term side effects of the use of PED's in sport

- The loss of the magic of sport – all feats are tainted by the possibility that the athlete may have been using PED's to gain an advantage over their competitors

So what are the long term side effects of the use of PED's in sport

- So the members, especially younger members, of our society who see use of PED in normal life and sport
- Attitudes of appearance over substance
- Devalue sport
- Devalue society

This results in

- Appearance being more important than other attributes eg style over substance
- Success at all (any) costs
- Low continuation rates in sport – less willingness for sport as a recreation

This results in

- OBESITY and other HEALTH PROBLEMS
- LOW SELF-ESTEEM of many teenagers (girls more affected than boys). Not playing sport. The overconnected world
- COMPUTER BASED GAMES (sport attendance, sponsorship, clubs, etc)

Do you think athletes drink more or less than the general population?

- ✧ **Athletes drink less frequently, but when you do drink they consume more**
- ✧ **Athletes drink in public places rather than private**
- ✧ **Athletes don't have strategies to limit their alcohol intake**
- ✧ **Greater intake of beer in athletes compared to non-athletes**
- ✧ **Athletes are more likely to engage in high-risk behaviours than non-athletes when intoxicated**

SPEED (Amphetamines), COCAINE PSEUDOEPHEDRINE and Marijuana

- Stimulants

- Increase heart rate – actually dangerous in a sporting performance context especially cocaine

loss of proper decision making process, dehydration, physical effects on performance, long term dependence and addiction, “graduate” to stronger dose and stronger medication, illegal behavior, mood swings,
Not suitable to team or “elite level” environment

WHAT ARE “WE” ABOUT

ZERO TOLERANCE

Vs

HARM MINIMISATION

Anabolic steroids

Marijuana

Alcohol

CAFFEINE

- Group A supplement AIS classification
 - Unsanctioned after 2004
- 100mg 1 NoDoze = 1 espresso coffee = 0.5 Guarana
- Sports dose is 300-500mg
- Problems JAVASTEM 300mg dose – one high level Olympic athlete taking equivalent to 13 No dose pills and wondered why he never slept before his major final

CAFFEINE

The research at the present time shows promise for the possible ergogenic effect of caffeine. But the research is NOT good enough to strongly recommend caffeine. There is much variability on an individual's response to caffeine.

CAFFEINE – How does it work?

- Glycogen sparing – using fat reserves
- Decrease of perception of fatigue

• BUT

- In high doses it is detrimental so WADA
uninterested

EPO

- Increases your red cell mass and hence increases your oxygen carrying capacity
- Made 1983
- Banned list 1989
- Test constructed for its detection in 2000
- The test is cheatable in 3 days or 12 hours if you use small IV doses as occurred in Texas

hGH

- Human Growth hormones (are others pig and horse)
- Increases your muscle strength and size and also your red cell mass
- 1990's
- Use for small stature
- Banned list forever

hGH

- Many other effects including
- Increasing your sugar
- Fat depletion
- Inducing IGF-1 stimulate growth in muscles and bones
- 191 amino acid long

Now lets pretend

- Fragment of that amino acid
- You do not want to increase sugar but you would not mind fat depletion
- If it stimulates IGF-1 well that is OK muscle would get stronger
- Can we develop a fragment
- Is it SAFE
- Does it WORK

AOD9604

- These fragments of amino acids are actually called PEPTIDES
- Current WADA / ASADA investigation
- Was not named on banned list
- Because it was being experimented upon
- It was on banned list by default as it had not been approved for human use

AOD9604

- A derivative of growth hormone
- WADA are not going to approve that no matter how many calls you make
- If it was taken then this represents
- A failure of due process for the overseers of drug policy in the respective club putting athletes (and the club and the sport and the country) at significant personal, health and reputational and ultimately financial risk

Peptides

In clubs the problem with peptides can be

- Outside of normal processes
- Easily obtainable (internet)
- A belief system (halleluijah)

Combating the risk

Policy

Supplements / Integrity / Governance and
structure / Qualification / Conflict of
Interest / Integrity

The Shame File – American Sport

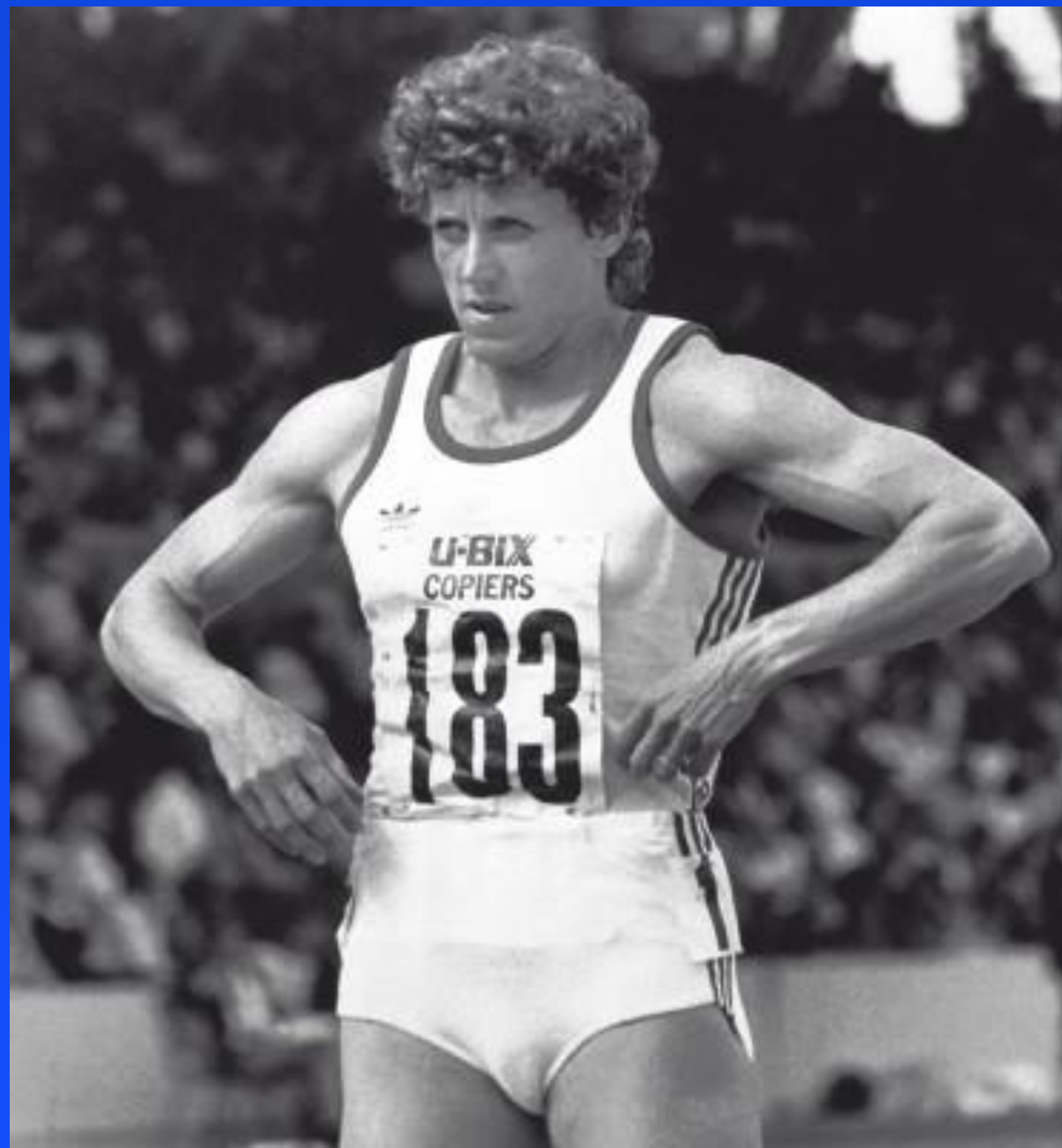
- An example of PED
- Baseball (2% decrease in home runs since testing began). Jim Thome
- American Football – testing for anabolic steroids but not growth hormone
- Cycling – most now admitting to have taken PED's
- US athletics 1988

Finally

- Sport
- We want our athletes to be healthy and happy
- Administration of sport is very important
- One sport that let it all slip for short term gain but have long term pain with regards to participation and media profile is
ATHLETICS











The Shame File – Women's Athletics World Records

- 100m-1500m, 3000m, 10000m
- 100m hurdles, High jump, Long jump, Shot put, Discus, Heptathlon, 4 x 100m relay, 4 x 400m relay
- 1990's and beyond
- Pole vault, hammer, triple jump, 400m hurdles and 5000m (all new events), javelin (they changed the weight)
-

Combating the risk

Policy

Supplements / Integrity / Governance and
structure / Qualification / Conflict of
Interest / Integrity

In club / SASI / elite sport environment we need

- Mentors (who)
- Leadership (how)
- Parents
- EDUCATION
- INFORMATION
- ENFORCEMENT

In club / SASI / elite sport / community environment we need

- Do not take our eye off the ball
- Insist on ethics through our tertiary education system
- Need to engage the young as they know how things work
- Insist on process through our Networks

In club / SASI / elite sport / community environment DO we need

- Integrity panel (for all South Australian sports)
- And if so what are its aims and targets

Thanks for listening

An abstract graphic on a white square background. It features three overlapping, rounded, pill-like shapes: a blue one on the left, a red one in the center, and a yellow one on the right. A trail of small dots of the same color (blue, red, and yellow) extends from the top-left of the blue shape towards the center, and another trail of yellow dots extends from the bottom-right of the yellow shape towards the center. The text "Thank you!" is overlaid in a large, yellow, serif font with a subtle drop shadow.

Thank you!

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