A Performance & Image Enhancing Drugs (PIEDs) Webinar
How to manage non-prescribed AAS use

Adverse effects and managing withdrawal

Presented by
Dr Eva Jackson

9 November, 2020

GP Guide to harm minimisation for patients using non-prescribed Anabolic-Androgenic Steroids (AAS) and other Performance And Image Enhancing Drugs (PIEDs)

The Guide and PIEDs webinars are available here on the Sydney North Health Network (SNHN) website

Project Team: Dr Katinka van de Ven, Dr Beng Eu, Dr Eva Jackson, Dr Esther Han, Dr Nicole Gouda, Craig Parsons, and Pat Simmonds

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PERFORMANCE AND IMAGE ENHANCING DRUGS WEBINARS

- **Introduction to PIEDs: What, why, and how?** - Types of Performance and Image Enhancing Drugs (PIEDs) - Prevalence, why people use non-prescribed Anabolic-Androgenic Steroids (AAS) and methods of administering.
- **How to identify non-prescribed Anabolic-Androgenic Steroid (AAS) use** - Red flags, screening, and assessment.
- **How to manage non-prescribed Anabolic-Androgenic Steroid (AAS) use** – Adverse effects and managing withdrawal.
- **How to manage a patient who does not want to stop non-prescribed Anabolic-Androgenic Steroids (AAS)** – engaging pre-contemplative patients and harm minimisation.

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SPEAKER INTRODUCTION

DR EVA JACKSON

Job Title: Sexual Health Physician

Public Appointment

Head of Department, Sexual Health

Nepean Hospital, NBMLHD

Private Practice

Doctor Eva (Penrith)

The Male Clinic (Macquarie University Hospital)

Brief Bio

Eva is a generalist Sexual Health Physician with experience in HIV, BBVs, STIs, male and female sexual dysfunction, genital dermatology, transgender medicine and harm minimisation. In her work with Needle & Syringe Programs she gained extensive experience seeing men who use AAS and continues to consider and lobby for research for the best harm minimization approach and withdrawal treatment for this growing problem in Australia.

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LEARNING AIM AND OUTCOMES

Learning Aim – How to identify and manage AAS withdrawal

Learning Outcomes

- Identify effects of testosterone withdrawal
- Identify your prescribing and referral biases
- Manage testosterone withdrawal

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CAVEAT

"Despite the large number of articles identified, the evidence base consists of case reports of predominantly treatment of physiological harms and there is scarce evidence on treating dependence, managing withdrawal, or initiating behaviour change in users in any setting"

Bates et al, Harm reduction Journal 2019

"…no comprehensive management recommendations available for the treatment of AAS-induced complications such as infertility and ASIH (Anabolic steroid induced hypogonadism)"

Rahnema et al, Fertility and Sterility 2014

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CASE STUDY

TOM 28 YEAR OLD PHYSIOTHERAPIST

- Presents with lethargy, fatigue, low libido and feeling down and sometimes anxious
- Started AAS use at age 22 in his final year of study when he was having problems keeping up studies, not doing as well as he would like at the gym, working part time and finding he didn't seem to want sex as much with his girlfriend.
- Non-smoker, rarely drinks alcohol and no other recreational drugs
- Friends at the gym suggested he was low in testosterone and should get a test and start testosterone supplements.
- He had a testosterone blood test that showed a level of 10 and he felt that this was indeed 'low for his age' and started a cycle that was recommended by his gym friends. He found that he had more energy, could go to the gym more times a week and lift heavier. He was more satisfied with his body and his libido was much improved.
- He now has a finance and is thinking about marriage and children, but in his research he has found that AAS can reduce fertility, so he stopped all AAS 6 months ago, but has "crashed".

WHAT IS ‘NORMAL TESTOSTERONE’

- 2005 Australian study, in 21–35-year-old men with normal health and fertility reported a reference range of 9.7–34.3 nmol/L with a mean of 18.2 nmol/L. Sikaris K et al, J Clinic Endo Metab 2005
- Guidelines on when testosterone replacement is acceptable vary depending on country.
- Testosterone assays vary.

- Diurnal variation is very important, and never give advice on a single low testosterone.

SYMPTOMS

LOW TESTOSTERONE

- Low mood
- Low libido
- Fatigue, low energy
- Anxiety
- Low motivation
- Insomnia
- Suicidal ideation

DEPRESSION/STRESS/ANXIETY

- Depressed, irritable mood
- Anhedonia
- Fatigue, low energy
- Insomnia
- Psychomotor agitation or retardation
- Feelings of worthlessness
- Suicidal ideation

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TESTOSTERONE IS A “FEEL GOOD” DRUG

TESTOSTERONE

- Elevated mood
- Increased energy
- Increased libido
- Can “do more”
- Weight gain

AMPHETAMINES

- Elevated mood
- Increased energy
- Increased libido
- Can “do more”
- Weight loss

- If someone suggested that you take amphetamines would you have done it?
- Is testosterone addictive? (DSM-5, substance use disorder – Other (including anabolic steroids)

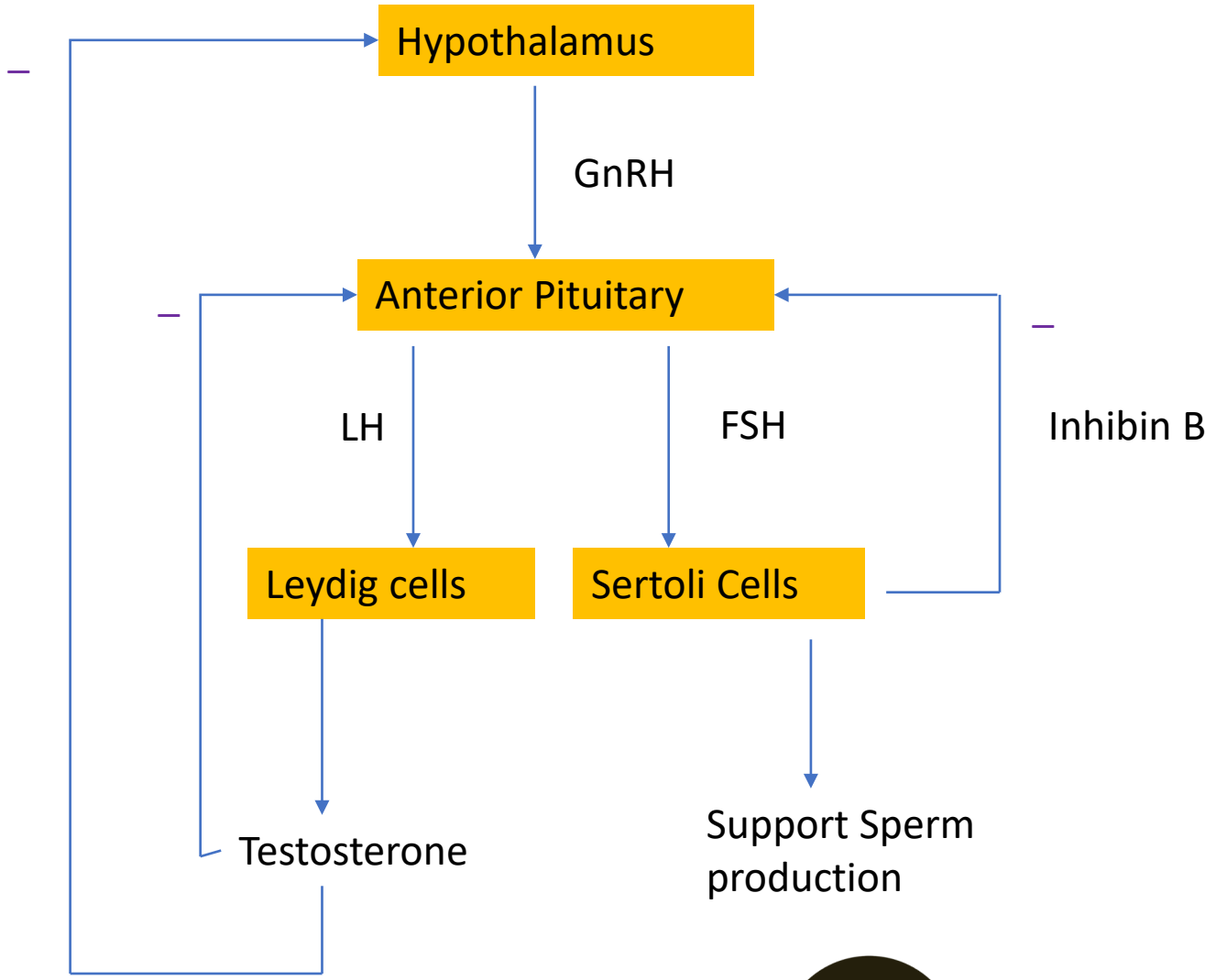
EXAMINATION FINDINGS

- Presents as a lean, fit young man ‘normal BMI’
- BP 130/90
- General systemic examination normal
- Testicular volume estimated at 15 cc, other genital examination normal

BLOOD TESTS RESULTS

- LH < 0.1 IU/L (2-8)
- FSH < 0.1 IU/L (1-8)
- Testosterone 4 nmol/L (6-28)
- Estradiol 150 pmol/L (<150)
- SHBG 47 nmol/L (11-71)
- PSA within normal range
- TSH within normal range
- Prolactin within normal range
- UEC, LFTs, FBC normal

HYPO-PITUITARY-GONADAL AXIS



HYPOGONADOTROPIC HYPOGONADISM

CAUSES

- Congenital 1:10,000 live births
  - Kallmann syndrome (2/3)
  - Idiopathic (1/3)

- Acquired
  - Drugs (anabolic sterods, glucocorticoids, opioids, alcohol abuse)
  - Pituitary lesions (tumor, granuloma, abscess), trauma, surgery
  - Systemic disease (haemochromatosis, sarcoidosis, histiocytosis X), severe/chronic illness
  - Cushing syndrome, hyperprolactinaemia, Prader Willi Syndrome

SEMEN ANALYSIS

Volume	2.0 mL	(> 1.5)
Viscosity	normal	
Liquefaction	complete	
Non-Specific Agglutination	<10%	
Motility	67%	(>40)
Rapid progressive	56%	(>32)
Immotile	33%	
Sperm count	88 x 106/mL	(15-250)
Normal Forms	3%	(4-100%)

MRI BRAIN

- Essentially normal findings

WHAT CAN BE DONE

1. Do nothing
2. Address mood, sexual issues, body image, fatigue
3. Medications

1. DO NOTHING

(WITH REASSURANCE)

- Recovery of the axis can be 6-18 months
- “Full” recovery may never occur

- Practical practice point is to strongly support men who require fertility preservation with psychological and life-style interventions for the first six months after ceasing AAS use with the knowledge that at least partial recovery can occur without drugs. Specialist may investigate further but are unlikely to prescribe within the first six months.

- Risk – return to illicit AAS use as symptoms prevent normal daily functioning

2. ADDRESS SYMPTOMS

- Address current stressors
- Insomnia
- Low libido and erectile dysfunction
- Fatigue
- Mood

3. MEDICATIONS

(AND IS THIS POSSIBLE?)

- Many case reports and case series of treating anabolic steroid induced hypogonadism. However – **trial evidence is lacking**
- SERMs (anti-E2 effect and increases gonadotropin secretion)
  - Eg clomiphine 50mg alternative days, tamoxifen 20 to 40 mg daily
- hCG 1500 iu 3 x week
- Aromatase inhibitors competitively inhibits conversion of T to E2
  - Anastrozole, 1mg daily or less
  - Letrozole 2.5 mg or less
  - Cross reacts with E2 assay

CAUTION: THE ABOVE IS NOT TGA APPROVED IN AUSTRALIA FOR THE TREATMENT OF TESTOSTERONE DEFICIENCY

3. MEDICATIONS

- Human chorionic gonadotropin is the most commonly advised and used drug for HH secondary to AAS in the literature.
- Treatment is usually 1,000 – 3,000 IU sc three times a week for 12 weeks
- More commonly used to address fertility issues
- Pregnyl is TGA indicated for male hypogonadotrophic hypogonadism at doses of 500 – 1000 IU 2-3 x week

3. MEDICATIONS

IF TOM WERE OLDER, PERHAPS ALREADY HAD CHILDREN AND NO FURTHER DESIRE FOR FERTILITY

- Testosterone replacement therapy may be an option.

WHERE TO REFER

- Refer to an endocrinologist/fertility clinic
- Significant depression, body dysphoria may need to referred to a psychiatrist/psychologist
- Significant other drug use to Drug and Alcohol services
- Trials in NSW may begin next year in treatment of AAS withdrawal, if you have a potential patient for the trial, I would encourage you to see if he is eligible. **We desperately need more good research to inform the treatment of these men.**

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Sydney North HealthPathways

List of pathways related to PIEDs

Addiction and Drug Misuse

Alcohol
Benzodiazepines
Cannabis
Codeine - Chronic Use and Deprescribing
Drug Seekers
Methamphetamine (Ice)
Opioids
Opioid Treatment Program (OTP)
Problem Gambling

Addiction and Drug Misuse Requests

Drug and Alcohol Treatment
Drug and Alcohol Support
Drug and Alcohol Advice
Problem Gambling Counselling

Mental Health

Anxiety in Adults
Depression in Adults

Sexual Health Requests

- Sexual Health Review
- HIV Support

Eating Disorders

Eating Disorders
Eating Disorders Specialised Review

https://sydneynorth.communityhealthpathways.org

Primary care username:
healthpathways

Primary care password:
gateway

For more information contact

healthpathways@snhn.org.au

NSW GOVERNMENT Health
Northern Sydney Local Health District

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GP GUIDE TO HARM MINIMISATION FOR PATIENTS USING NON-PRESCRIBED ANABOLIC-ANDROGENIC STEROIDS (AAS) AND OTHER PERFORMANCE AND IMAGE ENHANCING DRUGS (PIEDS

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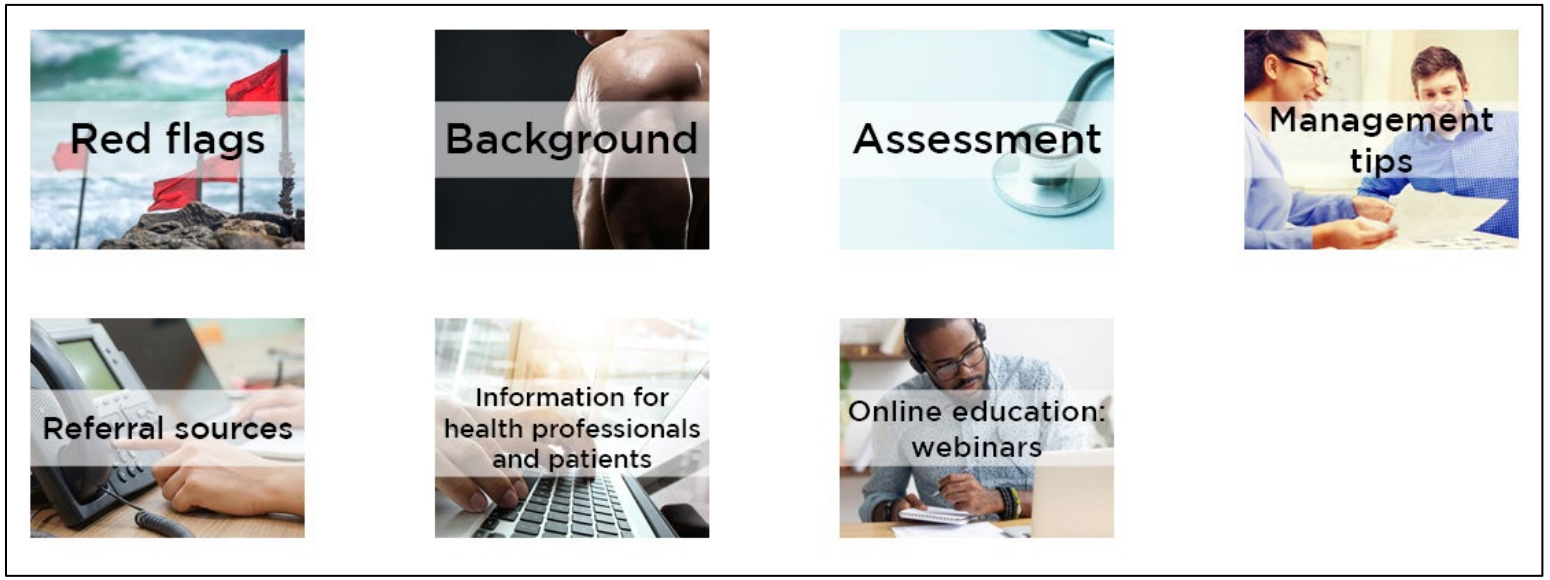

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