GP Quick Reference Guide to Harm Minimisation: Anabolic-androgenic steroids (AAS) and other performance and image enhancing drugs (PIEDs)

The GP Quick Reference Guide is based on the *GP Guide to harm minimisation for patients using AAS and other PIEDs* (the PIED Guide). More detailed information can be found in the full PIED guide: https://www.snhn.net/steroid-harm-minimisation/

ENGAGE YOUR PATIENT

Include AAS/PIED use in general history taking
Not all patients will show features of AAS/PIED use (e.g. muscular body). It is important to include AAS/PIEDs in general history taking when updating the patient's alcohol and other drug history.

Be non-judgemental
Discuss AAS/PIED use without judgement or stigma and acknowledge positive effects of use.

Assure confidentiality
A common reason that patients do not disclose AAS/PIED use is concern that information will be passed on to a third party (e.g. family). It is therefore key to assure the patient of doctor-patient confidentiality

Offer testing
Offering testing to identify emerging health problems will help patients feel more comfortable, more willing to discuss their AAS/PIED use, and more likely to return for follow-up appointments.
A GP could ask: *Would you like me to do a health check that could help us find early problems from steroid use such as high blood pressure, cholesterol, too many blood cells, liver and kidney injury, and hormone imbalances that can cause mood problems and infertility?*

Ask how and when a patient started using to identify underlying issues such as anxiety, depression and/or lack of body confidence.

How to ask about AAS/PIED use?

As part of a comprehensive assessment a GP could ask:

- *Do you use or take anything to help with your workouts or muscle gain?*
- *Can you tell me about supplements you are using, including any pills, powders or injectables?*

RED FLAGS

The following RED FLAG warning signs require closer monitoring of patient:

- Use by a young person (<21 years) and women – high risk of irreversible complications, even with short-term use
- Comorbidities (e.g., cardiovascular disease, hypertension, hypercholesterolemia, polycythaemia)
- Abnormal test results (e.g. blood tests, electrocardiogram, blood pressure)
- Mental health disorders and/or other substance use disorders

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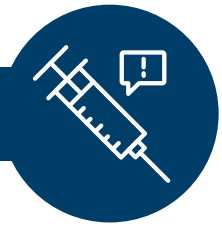
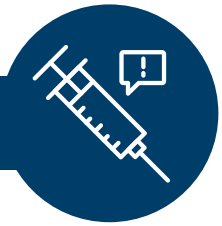
ASK ABOUT ADVERSE EFFECTS



Common adverse effects from AAS use are (list not exhaustive)

1. AAS induced **hypothalamic pituitary gonadal (HPG) suppression** leading to testosterone deficiency. HPG suppression takes several months to resolve when coming off AAS. Coming off AAS can lead to:
    - Depressed mood, fatigue, sleep disturbance, loss of libido, anxiety, reduced semen production in men and amenorrhoea in women
2. **Gynaecomastia** (increased estradiol)
3. **Injection-related harms** (e.g. scarring and abscesses)
4. **Steroid dependence.** Signs of drug dependence:
    - Using larger amounts or longer than initially intended
    - Unsuccessful attempts to stop or cut down
    - Using substance to recover from adverse effects of withdrawal (see first point)
5. Masculinisation for female users (e.g., masculine physique, voice deepening, hirsutism, amenorrhoea and infertility), which is potentially irreversible.

ASSESS YOUR PATIENT



Arrange regular follow up, examination and investigations (during and after an AAS cycle) to monitor for emerging adverse effects from AAS/PIED use.

Examination:

1. Cardiovascular, incl. heart sounds and blood pressure
2. Chest/abdomen, incl. gynaecomastia and hepatomegaly
3. Skin, incl. problems with injecting sites and acne
4. Signs of poor mental health

AAS/PIED RECOMMENDED TESTING

Quick summary of recommended tests:

- Full blood count (FBC) (polycythaemia)
- Liver function tests (LFT) (abnormal, especially with oral AAS use)
- Urea Electrolytes and Creatinine (UEC) (direct kidney injury or secondary to rapid break down of muscle)
- Luteinizing hormone (LH), follicle stimulating hormone (FSH), testosterone, estradiol, sex hormone binding globulin (SHBG) (see PIED Guide)
- Prostate-Specific Antigen (PSA)
- Lipid profile
- Pregnancy test (risk to foetus if pregnant whilst using)

TAILOR MANAGEMENT FOR YOUR PATIENT

The below outlines some key management tips for different patient groups considering or using AAS/PIEDs. More detail can be found in the PIED Guide.

For patients < 21 years of age	• Higher risk of hypothalamic pituitary gonadal axis suppression and low testosterone when coming off AAS. • Important to engage and educate.
Female patients	• Educate on potential non-reversible effects of testosterone, incl. deepened voice, enlarged clitoris, and male pattern balding. • Ensure adequate contraception.
Patients considering using AAS/PIEDs	• Educate on potential adverse effects of continual use. • Explore patient's reasoning around use and assess for distorted self-image (e.g. body image disorder).
Patients already using AAS/PIEDs	• Ask the patient if they have ever reflected on the possible health consequences of their use, now and in the future, and educate on specific risks of adverse effects. • Arrange regular follow up and investigations (during and after an AAS cycle) to monitor for emerging adverse effects from AAS/PIED use.
Patients willing to cease their AAS/PIED use	• Educate the patient that they may have a period of months with symptomatic testosterone deficiency, including loss of muscle mass, until their own testosterone levels recover. • Possibility of referring to specialist to assist with testosterone recovery.

GIVE HARM REDUCTION INFORMATION

- Discuss training frequency, getting adequate rest, and diet. If suboptimal, encourage consultation with a certified trainer, exercise physiologist or sports nutritionist.
- If patient is not willing to stop using – recommend reducing amounts or frequency of use, and to return for regular review.
- Recommend use of sterile injecting equipment and advise on how to safely inject in order to reduce risk of blood-borne viruses and injection related harms. Consider referral to a needle and syringe program for equipment, advice on safer injection practices and information.

MORE RESOURCES

- GP Guide to harm minimisation for patients using non-prescribed AAS and other PIEDs
- Your Room Anabolic Steroids
- NSW Needle and Syringe Program
- The Human Enhancement Drugs Network

THIS QUICK REFERENCE GUIDE WAS DEVELOPED IN PARTNERSHIP WITH