

LETTER OF THE EDITOR

# Interdisciplinary care for users of anabolic agents in recreational sports in Switzerland – a first clinic has opened in Zurich

DOPING / PHARMACOLOGY / SPORTS AND SOCIETY



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The use of anabolic androgenic steroids (AAS) as well as other image- and performance-enhancing drugs (IPEDs) has become one of the most recent global major substance use disorders in the 21st century. These substances are not only used by professional bodybuilders

and competitive athletes, but moreover by recreational gym users aiming to achieve personal image and sports-performance goals [1]. The global lifetime prevalence of AAS use is estimated to be as high as 1-5% in the general population and up to 30% among recreational gym users. In Switzerland, it is estimated that there are over 200 000 users that use these substances mostly outside of competitive sports [2].

Multiple factors make these substances a serious concern for both public health as well as the health of the individual user. These include: an increasing prevalence and popularity, complex user pattern with multiple combination of compounds, substances and dosages used, a variety of motivations to use these substances, extensive polypharmacy that also often includes the concomitant use of other illicit substances, injection risks (local infections and risk of blood born viruses), counterfeit substances from unregulated underground pharmacies, as well as misinformation among users. Information on the use of these substances often originates from non-medical sources (e.g., peers, online forums, underground books) [3]. Furthermore, acute, and long-term side effects of AAS and IPED use are multiple and complex, and affect all aspects of health – physical, mental, and social. The well-established and alarming side effects which can affect several organ systems and functions occur commonly among users of anabolic steroids, especially when used in supraphysiological doses (table 1). Although most users experience side effects, only a minority of them will seek medical care, often due to fear of stigma or judgmental reactions from health care workers, as well as perceived lack of trust and knowledge from these health care professionals. Therefore, specialized knowledge is needed when providing care to these users [4]. A serious and important public health concern is the development of a substance dependence which appears to be common among users of anabolic androgenic steroids affecting approximately a third (34.4%) of this population [5].

Physical Health	
Cardiovascular System	Dyslipidaemia with atherogenic effect, arterial hypertension, cardiac (tachy-) arrhythmias, myocardial hypertrophy, thrombosis, polycythaemia, myocardial infarction, sudden cardiac death (SCD), obstructive sleep apnea, edema
Endocrine system/Reproductive System	Decreased/increased libido and subfertility/infertility, change in gonadotropins (LH/FSH), altered glucose metabolism <ul style="list-style-type: none"> <li>• <b>In men:</b> Decreased testicular volume/testicular atrophy, erectile dysfunction, impotence/alteration of spermatogenesis, gynecomastia of the mammary gland, prostatic hyperplasia and prostate cancer, testicular cancer/breast cancer</li> <li>• <b>In women:</b> Virilization, hirsutism, voice change, irregular menstruation cycle, clitoral hypertrophy, breast regression, teratogenicity, uterine atrophy</li> </ul>
Hepatic System	Hepatocellular damage, cholestasis, jaundice, peliosis hepatis, neoplasms, gallstones
Injection Risks/Infections	Hematomas, infections, aseptic necrosis, fibrosis, neuro-vascular injuries, risk of transmission of blood born viruses (HIV, hepatitis B and hepatitis C)
Renal System	Pollakisuria, acute/chronic kidney insufficiency, kidney stones, focal segmental glomerulosclerosis, membranoproliferative glomerulonephritis, neoplasia
Hair and Skin	Acne, urticaria, striae, alopecia
Gastrointestinal System	Nausea, vomiting, diarrhea, hematemesis
Musculoskeletal System	Muscle and tendon injuries, herniated discs, premature closure of the epiphyseal fusion during puberty
Allergies	Anaphylaxis/anaphylactic shock
Mental Health	
<ul style="list-style-type: none"> <li>• Mood swings</li> <li>• Aggressiveness, irritability, impulsivity</li> <li>• Depressive symptoms, suicidality</li> <li>• Hypomania, mania</li> <li>• Sleep disorders</li> <li>• Dependence syndrome, withdrawal symptoms</li> <li>• Psychosis</li> <li>• Muscle dysmorphia</li> </ul>	
Social Health	
<ul style="list-style-type: none"> <li>• Criminal records, criminal sentences, prison sentences</li> <li>• Intimate partner violence</li> <li>• Comorbid alcohol and psychotropic substance use</li> <li>• Financial burden</li> </ul>	

Table 1: Overview of side effects and complications from the supraphysiologic use of anabolic androgenic steroids [6-10]

Recently, a few specialized clinics have emerged focusing primarily on providing care and treatment for this user population for harm reduction purposes, so called “Steroid Clinics”. In view of the increasing prevalence and subsequent health risks of this substance use there is an urgent need to improve specialized service provision for this often insufficiently informed and medically neglected community. In Switzerland a specialized integrated care service for users of anabolic agents was recently established in the Arud centre for addiction medicine in Zurich. Arud provides holistic and specialized medical care for users of anabolic agents in

recreational sports. Research data generated from this clinical service will provide more insight into the characteristics of anabolic agents users, the methods of use and the health risks associated with its use in Switzerland. Current anti-doping legislation restricts this medical service to users who are not engaged in competitive sports and want to abstain and/or appropriately treat the comorbidities or consequences of these substances.

### Infobox

The Arud centre for addiction medicine recently established a specialized and multidisciplinary care service for users of anabolic agents in recreational sports in Switzerland. The service is provided by a team including anabolic steroid management specialists as well as internal medicine, psychiatry and addiction medicine specialists providing a holistic service under one roof. More Information is available on the homepage: Anabolic steroid use: side effects, addiction potential and treatment ([arud.ch](http://arud.ch))

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ANABOLIC ANDROGENIC STEROIDS COUNSELLING DOPING PED SUBSTANCE