

Recovery from sperm suppression due to performance-enhancing drug abuse is slow

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Decreased sperm and testosterone production caused by abuse of performance-enhancing hormones may be fully reversible once men stop taking the drugs, but full recovery can take at least nine to 18 months, according to research to be presented Sunday, March 24 at ENDO 2019, the Endocrine Society's annual meeting in New Orleans, La.

Androgen abuse, the use of non-prescribed male [reproductive hormones](#) such as testosterone for body building or other cosmetic purposes, is growing sharply in many affluent countries, according to lead researcher Nandini Shankara Narayana, M.B.B.S., F.R.A.C.P., of the ANZAC Research Institute at the University of Sydney and Concord Repatriation General Hospital.

"These results will help endocrinologists involved in care of men who are using typically non-prescribed, high doses of androgens for body building, a practice that is increasingly recognized but for which virtually no prognostic information has been available to support medical care during recovery from androgen abuse," Shankara Narayana said.

Until now, there have been few studies of the effect of androgen abuse on the suppression of male reproductive function, including testicular function, [sperm](#) production, testosterone and fertility, she noted. "Even less is known about the rate and extent of recovery from the suppression of male reproductive function after cessation of [androgen](#) abuse," she said.

The researchers studied 93 men, including 41 who were currently using androgens, 31 who had used androgens three or more months before the study began, and 21 healthy regularly exercising men who did not use androgens. They underwent physical examinations, testicular ultrasound and provided blood and semen samples.

Compared with men who had stopped using androgens or those who had never taken them, men who were currently using androgens had significantly lower average testicle size, sperm output and levels of luteinizing hormone (LH), which is associated with testosterone production in men, as well as follicle-stimulating hormone (FSH), which is involved in sperm production.

Men who had used androgens in the past did not differ from men who had never taken the drugs in terms of sperm production and hormone levels, indicating complete recovery. It took an average of nine months from the time men stopped taking androgens until their LH levels recovered. Sperm output returned to normal in an average of 14.2 months, while FSH levels returned to normal in an average of 18.7 months.

Testicular size continued to be smaller in the men who had stopped taking androgens, compared with those who had never taken the drugs.

Shankara Narayana said it is possible that men whose sperm and [hormone levels](#) do not return to normal after they say they have stopped taking androgens may be secretly continuing to abuse the drugs.

Despite the high prevalence of performance-enhancing drug (PED) use, media attention has focused almost entirely on PED use by [elite athletes](#) to illicitly gain a competitive advantage in sports, and not on the hormones' [health risks](#), according to the Society's Scientific Statement on adverse health consequences of PEDs. There is a widespread

misperception that PED use is safe or that adverse effects are manageable.

"In reality, the vast majority of PED users are not athletes but rather nonathlete weightlifters, and the adverse health effects of PED use are greatly underappreciated," the statement notes. PED use has been linked to an increased risk of death and a wide variety of cardiovascular, psychiatric, metabolic, endocrine, neurologic, infectious, liver, kidney and musculoskeletal disorders.

Provided by The Endocrine Society

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