

# **STASH Vol. 2(5) - ATLAS: Anabolic steroid prevention for teen athletes**

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Although participation in school sports provides teenagers many benefits, participation in school sports also might be a risk factor for the use of anabolic steroids and other illicit substances (Bahrke, Yesalis, Kopstein, & Stephens, 2000). As discussed in the video *Steroids: True Stories* Hosted by Curt Schilling, anabolic steroid use can lead to dangerous consequences (e.g., violent behavior, depression, stunted growth, liver tumors). Prevalence rates of anabolic steroid use are higher for high school athletes (4% to 12% ) (Bahrke et al., 2000) than for the general teenage population (2% to 4%) (National Institute on Drug Abuse, 2002). According to research conducted from 1998 to 1999, anabolic steroid use increased by more than 50% among male, high school football players (Yesalis, Barsukiewicz, Kopstein, & Bahrke, 1997). This week, STASH reviews a study about the efficacy of the Adolescent Training and Learning to Avoid Steroids (ATLAS) program, a school-based intervention designed to reduce anabolic steroid use among male, high school athletes (Goldberg et al., 2000).

Researchers recruited 3207 male football players from 31 Portland metropolitan area high schools to participate in the study. Researchers matched participants' schools receiving ATLAS or the control condition (i.e., a commercially produced anti-anabolic steroid pamphlet) according to pertinent school characteristics (e.g., family socioeconomic characteristics, school size, and football team's win-loss record). Integrated as part of team practice, the ATLAS curriculum consists of 45-minute interactive classroom sessions conducted by peer facilitators to review the potential effects of anabolic steroid use in sports. In addition, weight room skill training sessions and nutrition education sessions reviewed healthy alternatives to anabolic steroid use. Preseason, end of season and 1-year follow-up questionnaires assessed anabolic steroid use. To demonstrate the effect of the ATLAS program on athletes' anabolic steroid use, researchers used regression models to examine the differences in anabolic steroid use between the experimental group (i.e., subjects receiving the ATLAS program) and the control groups at end of season while controlling for individual participant differences at

the pre-intervention assessment (i.e., age, ethnicity, parental education). Regression models for the 1-year follow-up analyses included whether the subject was a senior as a covariate in the model to account for possible differences between graduating students and remaining students.

Overall retention rates were approximately 79% at end of season and 69% at 1-year follow-up. For the sample as a whole, both control and experimental groups combined, there was a significant decrease in intent to use anabolic steroids over time. Table 1 shows the differences between the control and experimental groups' anabolic steroid use during the study periods. Note the reasonably small actual number of new users (approximately one out of two thousand.), but that the ATLAS program cut the number of new users in half.

<i>Measure</i>	<i>Period</i>	
	Pre-Post Season	Pre-Follow-Up*
Intent to use	p < .05	p < .03
Proportion of new users	p < .04	P < .07 (not significant)
(Number of new users)	Experimental = 7 Control = 18	Experimental = 9 Control = 19*

Figure. Analysis of Selected Individual-level Anabolic Steroid Use Scores (Adapted from Goldberg et al. 2000)\* Based on two cohorts, eliminates the cohort of students who graduated before follow-up. Click image to enlarge.

This study has some important limitations. First, participation in the study was voluntary and required parental consent, which could result in selection bias. For example, it is possible that students using anabolic steroids or other drugs might have been reluctant to enroll for fear that their parents would find out about their behavior; similarly, it is possible that steroid users were more likely to enroll because of their interest in such use. Second, subjects self-reported attitudes and behaviors. Consequently, they might have succumbed to self-presentation biases, such as wanting to appear healthier or unhealthier, depending on students' perspectives. The authors note that selection bias and reporting bias are likely since there was a lower base rate of anabolic steroid use for the study sample than in anonymous point prevalence surveys (DuRant, Escobedo, & Heath, 1995; Yesalis et al., 1997).

Despite these limitations, results from this study demonstrate that a sex-specific, team centered approach might be able to reduce anabolic steroid use among high school football players. The ATLAS program's emphasis on the immediate effects of substance use on sports performance rather than long-term consequences of

these behaviors (e. g., addiction, risk of disease) may be an effective approach for adolescents. In addition, the use of a team centered approach and health promotion strategies (e.g., improved nutrition and exercise) might have been instrumental in improving subjects' overall health. Researchers need to conduct further studies to determine whether subjects retain these behaviors in the long-term when they are no longer participating in high school football.

*What do you think?* Please use the comment link below to provide feedback on this article.

## **References**

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