



## Performance Enhancing Drug Abuse by Youth and Teens

Many assume that teens involved in athletics are less likely to use drugs and alcohol than those who don't participate in sports. Unfortunately, young athletes are just as likely to engage in substance abuse and most reports reveal they use more performance enhancing drugs, including anabolic steroids. Female adolescent athletes' drug use is linked to disordered eating practices and depression and they are better able to hide their drug use. Young males in general, are greater risk takers and use more illicit drugs & alcohol.

- Anabolic Steroids are synthetic copies of the major male hormone, testosterone. These drugs can be taken orally, used as creams or gels, by injection, implanted beneath the skin or by placing between the cheek and gums (buccal).
- Human Growth Hormone (hGH) is a pituitary hormone used by athletes to enhance performance. These drugs are synthetic copies of the pituitary hormone, but not a steroid. hGH is taken by injection and is much more expensive than anabolic steroids and more difficult to acquire. There are negative effects with long-term use, including thickening of skin, bones, nerve compression, weakness and diabetes.
- The Centers for Disease Control (CDC) 2003, 2005 and 2007 surveys found that between 1 and 16 and 1 of every 25 students in high school report having used anabolic steroid pills or injections without a prescription. These drugs can be purchased on the "black market" at gyms, sports-training centers, and on the Internet. This suggests there may be between 700,00 and 850,000 high school students who have admitted use of anabolic steroids.
- There are online publications and books that how to use these drugs: using several steroids at once is called "stacking;" using for several weeks and stopping for several weeks, then starting again is termed "cycling."
- It is important not to rely on "scare tactics" to prevent use. Stressing only the harmful effects of steroids is counter-productive, and can bring more attention to its use, and even greater desire to use these drugs. A balanced presentation is believable and inspires trust that you will tell the truth.
- The benefits of student-athlete drug testing have not been shown to reduce use of steroids or other drugs. Although this may be helpful to detect a drug user, by itself there is little credible evidence that it prevents use of any drugs. The one randomized control study funded by the National Institute on Drug Abuse found drug testing to not deter alcohol or drug use in the past 30-days in a study that examined students over a 2-year period. Because of this, if drug testing is used, it is recommended that there be an effective behavior based educational program proven to work. For the cost of one steroid test, 12 or more student athletes can be engaged in behavior based education. Also, drug testing does not reduce





drug use beyond the time the athlete is subject to testing. Evidence-based education deters use for years.

- Encouraging supplement use, other than vitamins and minerals can have a downside. Those who use performance enhancing supplements are more likely to use performance enhancing drugs in the future. Furthermore, performance enhancing supplements have not been scientifically studied among youth, so there is little safety information. Supplements are not under the watchful eye of the FDA and many contain contaminants. A 2003 International Olympic committee Study found that nearly 1 in 5 of 240 supplements studied had anabolic steroids or other performance enhancers not listed on the product label.
- Potential unhealthy effects of anabolic steroids include: stunted height; high blood pressure; abnormal cholesterol levels; increased blood clotting, formation of blood filled cysts in the liver (peliosis hepatis); acne; female breast development and shrunken testicles (male); permanent facial hair and voice deepening (female); Psychological symptoms including mood swings, uncontrolled aggressive behavior; paranoia; and when stopping steroid use, depression and lack of sexual drive.

## **OVERVIEW OF PREVENTION EDUCATION**

ATLAS (Athletes Training and Learning to Avoid Steroids) and ATHENA (Athletes Targeting Healthy Exercise and Nutrition Alternatives) are evidence-based drug prevention and health promotion programs, proven to be effective.

### **ATLAS and ATHENA**

ATLAS and ATHENA are gender-specific, team centered, peer taught health promotion and substance abuse prevention programs for high school sports teams. They are easy to implement and integrate into a sport team's usual practice sessions. Both programs promote healthy nutrition while increasing communication and decision-making skills. ATLAS and ATHENA were tested in rigorous research trials with over \$7.5 million in funding from the National Institutes of Health. Program evaluations took place in 49 schools and 12 cities with more than 4,000 student athlete participants. ATLAS and ATHENA are national models for effective drug prevention and health promotion.

### **ATLAS Results**

- New anabolic steroid use decreased 50%
- Less desire to use anabolic steroids
- New alcohol and illicit drug use decreased 50%
- Occurrences of drinking and driving declined 24%
- Reduced use of performance-enhancing supplements
- Improved nutrition and exercise behaviors
- Students believed they were better athletes





## ATHENA Results

- Less use of athletic enhancing substances (steroids, amphetamines, supplements)
- Less new and ongoing use of diet pills
- Less riding in a car with a drinking driver
- Less new sexual activity
- Improved nutrition behaviors
- Fewer injuries
- One to three years following graduation: improved nutrition practices and reduced use of alcohol, marijuana and diet pills (1/2 to 1/5 use)

## How ATLAS and ATHENA Work

ATLAS and ATHENA offer a new paradigm for health promotion. Unlike traditional health class teaching, these programs are gender-specific and use a sport team setting. Influential team leaders and coaches promote the health of young athletes. During the sport season, ATLAS and ATHENA are incorporated into the usual team activities. Student athletes are divided into learning groups of five. One student per group is trained as the “Squad Leader”. The coach introduces activities, keeps students on task and facilitates the programs with help from the Squad Leaders.

The programs are easy to implement and the instructions are completely scripted. Each 45-minute session (10 sessions for ATLAS and 8 sessions for ATHENA) is interactive and includes educational games, role-playing and mock public service campaigns. Importantly, the programs focus on the here and now, rather than the long-term harmful effects of substance use. Athletes learn how to achieve their goals using state-of-the-art sports nutrition and strength training, and develop skills to avoid unhealthy behaviors

## **How are ATLAS and ATHENA Implemented?**

ATLAS and ATHENA training usually occurs during the sport season within the team setting. The programs are student-athlete-(squad leader) led and performed in small groups of five to six athletes, referred to as squads. Both are coach-facilitated, highly scripted and interactive, with each session lasting 45 minutes. ATLAS involves 10 sessions, while ATHENA has 8 sessions. Both programs have five-session boosters for subsequent years.

## **How do ATLAS and ATHENA differ?**

The reasons young men and women use performance-enhancing and body-shaping drugs and alcohol differ, so much of the content of ATLAS and ATHENA are gender-specific. The programs target those risk and protective factors that are either more relevant to young males or more useful to young women. For example, the nutrition portions of ATLAS focus on the protein and calorie needs





for the young male athletes who are at risk for using performance-enhancing drugs to become bigger and stronger.

Because discussions of calories can place a focus on body weight, it can stimulate unhealthy eating practices for young women athletes. Therefore, ATHENA focuses on the protein and calcium needs for young women's muscles and bone strength.

## RECOGNITION

- **Champion Award**, Sports Illustrated, 2006
- **National Model**, Anabolic Steroid Control Act of 2004
- **Exemplary Program**—U.S. Department of Education
- **Model Program**—U.S. Department of Health and Human Services
- **National Registry of Effective Programs**
- **Model Program**—Office of Juvenile Justice and Delinquency Prevention
- **Recommended Program, Level 1 (highest scientific level)**—Helping America's Youth.gov
- **Model programs of the Anabolic Steroid Control Act of 2004**

## NFL ATLAS & ATHENA Program

Currently funded by a \$2.6 million dissemination grant from the NFL's Youth Football Fund, ATLAS & ATHENA focuses on nutrition and exercise as alternatives to drug use. The ATLAS program targets adolescent male athletes' use of anabolic steroids, alcohol and other drugs and use of sport supplements, while improving healthy nutrition and exercise practices. ATHENA is designed to reduce disordered eating and use of body shaping and other drugs among young women, while promoting healthy nutrition and exercise.

Coaches and administrators at all NFL ATLAS & ATHENA schools received curriculum training and materials, and athletic teams at each selected school will participate in the program. Schools were chosen based on their enthusiasm and commitment to bring coaches, administrators and students together to implement the program.

During the year of involvement, over 15 thousand 9<sup>th</sup>-12<sup>th</sup> grade students have been involved in ATLAS and ATHENA with over 700 of their coaches during the 2007-2008 school year. Participating teams include the Kansas City Chiefs, Miami Dolphins, San Diego Chargers, San Francisco 49ers, Seattle Seahawks, St. Louis Rams, Tennessee Titans, and Washington Redskins. During the second year of the program, the teams included, the Pittsburgh Steelers, Green Bay Packers, Oakland Raiders, Phoenix Cardinals, and Baltimore Ravens. A national campaign contest of student-athlete generated messages culminated in two national winners from a Phoenix Cardinal School (ATHENA) and a Green Bay Packer School (ATLAS).

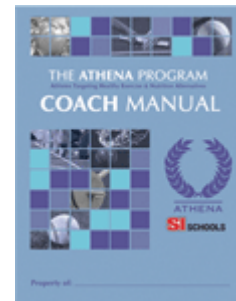
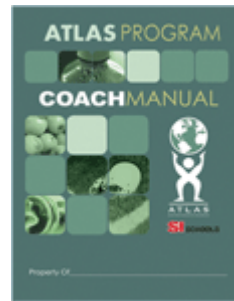




## Curriculum Materials

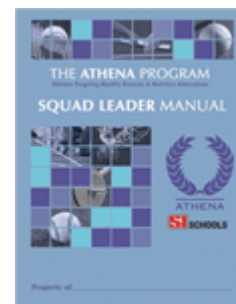
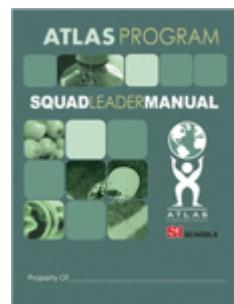
### **Coach Manual**

Includes background information, the Squad Leader Training Guide, and the 10-Session curriculum (for ATLAS) or 8-Session curriculum (for ATHENA). Coach training DVD and Squad Leader training DVD and CD included.



### **Squad Leader Manual**

Squad Leader Manual: Includes the Squad Leader Training Guide and the 10-Session curriculum (for ATLAS) or the 8-Session curriculum (for ATHENA). There is one Squad Leader for every five athletes.



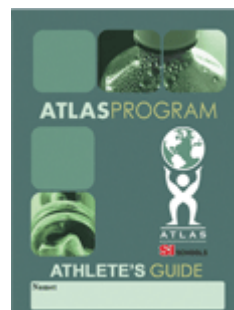
### **Team Workbook**

Includes the 10 Session curriculum (for ATLAS) or the 8-Session curriculum (for ATHENA).



### **Athlete's Guide**

Includes state-of-the-art information about sports nutrition, strength training, and the effects of drugs and sport supplements on sport performance. (pocket sized)





For more information: Website: [www.atlasprogram.com](http://www.atlasprogram.com);  
[www.athenaprogram.com](http://www.athenaprogram.com), or <http://www.ohsu.edu/hpsm>

Email Contact: [chpr@ohsu.edu](mailto:chpr@ohsu.edu)

Phone: 503-418-4166

Fax: 503-494-1310

Linn Goldberg, M.D., F.A.C.S.M

Professor of Medicine

Head, Division of Health Promotion & Sports Medicine

Oregon Health & Science University

[goldberl@ohsu.edu](mailto:goldberl@ohsu.edu)

Phone: 503-494-6559

