

HB

126

# HOUSE COMMITTEE REPORT

(7)

Date Referred: January 30, 1989

FURTHER REFERRALS: JUDICIARY

Date of Committee Action: 3/22/89

The HEALTH, EDUCATION & SOCIAL SERVICES Committee recommends that:

HOUSE BILL NO. 126 [ANABOLIC STEROIDS AS CONTROLLED SUBSTANCE]  
"An Act adding anabolic steroids and their related materials and substances to schedule VA of the schedule of controlled substances under the Criminal Code."

[ X ] be replaced with CSHB 126 (HESS) [ ] the same title  
[ ] a new title

[ ] have attached amendment(s)

- [ X ] do pass
- [ ] do not pass
- [ ] no recommendation
- [ ] individual recommendations
- [ ] additional referral to the \_\_\_\_\_ Committee

ADOPTS: \_\_\_\_\_ letter of intent

ATTACHES NEW FISCAL NOTE(S):

- [ ] fiscal impact
- [ X ] zero fiscal note
- [ X ] zero with analysis

APPROVES PREVIOUS:

- [ ] fiscal note(s) published: \_\_\_\_\_
- [ ] zero fiscal notes(s) published: \_\_\_\_\_

SIGNING DO PASS:

[Signature]  
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SIGNING OTHER THAN DO PASS:  
(Do Not Pass, No Recommendation, Amend)

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[Signature]  
Chairman's signature

A M E N D M E N T # 1

OFFERED IN THE HOUSE

BY MENARD

TO: HB 126

Page 1, following line 17:

Insert:

"(1) bolasterone;

(2) boldenone;"

Renumber following paragraphs accordingly.

Page 2, following line 7:

Insert:

"(22) ultandren"

A M E N D M E N T #2

OFFERED IN THE HOUSE

BY MENARD

TO: HB 126

Page 1, line 15, after "androgenic properties":

Insert ", including an isomer, salt, or derivative of the following substances that acts in the same manner on the human body,"

## APPENDIX IV

### NATIONAL ASSOCIATION OF BOARDS OF PHARMACY (NABP)

#### *Model Law on Anabolic Steroids*

##### **Section 1: Definitions**

The term "anabolic steroid" includes any of the following or any isomer, ester, salt, or derivative of the following that acts in the same manner on the human body:

- (a) clostebol;
- (b) dehydrochloromethyltestosterone;
- (c) ethylestrenol;
- (d) fluoxymesterone;
- (e) human growth hormones.
  
- (f) mesterolone;
- (g) methandienone;
- (h) methandrostenolone;
- (i) methenolone;
- (j) methyltestosterone;
- (k) nandrolone;
- (l) norethandrolone;
- (m) oxandrolone;
- (n) oxymesterone;
- (o) oxymetholone;
- (p) stanozolol; and
- (q) testosterone.

##### **Section 2: Board of Pharmacy Authority**

The Board of Pharmacy may by rule adopted pursuant to the Administrative Procedures Act, add or delete substances to the list in Section 1. In adding or deleting such substances, the Board shall consider the use of the substance, and potential for physiological harm due to the use or misuse of the substance.

##### **Section 3: Prescriptions**

If an anabolic steroid is prescribed, the purpose for which it is being prescribed must be provided by the prescriber and appear on the prescription.

##### **Section 4: Unprofessional Conduct**

It shall be considered to be unprofessional conduct for a practitioner to prescribe, dispense or administer an anabolic steroid for the purpose of the hormonal manipulation that is intended to increase muscle mass, strength or weight without a medical necessity to do so, or for the intended purpose of improving performance in any form of exercise, sport, or game.

##### **Section 5: Violations**

A person commits an offense if the person:

(a) prescribes, dispenses, delivers, or administers an anabolic steroid or delivers a prescription form for an anabolic steroid to a person for human use for any purpose other than a valid medical purpose and in the course of professional practice;

(b) without a valid prescription delivers an anabolic steroid to a person for human use, or;

(c) is not a practitioner or pharmacist, and the person possesses over 150 tablets or four 2cc bottles of an anabolic steroid without a valid prescription.

1 IN THE HOUSE

BY MENARD, LARSON, C.DAVIS,  
KOPONEN, LEMAN, AND SHARP

2

HOUSE BILL NO. 126

3

IN THE LEGISLATURE OF THE STATE OF ALASKA

4

SIXTEENTH LEGISLATURE - FIRST SESSION

5

A BILL

6

For an Act entitled: "An Act adding anabolic steroids and their related materials and substances to schedule VA of the schedule of controlled substances under the Criminal Code."

7

8

9

10 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

11 \* Section 1. AS 11.71.180 is amended by adding a new subsection to  
12 read:

13

(d) Schedule VA includes anabolic steroids and any material, compound, mixture, or preparation having pronounced anabolic properties and relatively weak androgenic properties that is used clinically principally to promote growth and repair of body tissues, containing one or more of the following substances:

14

15

16

17

18

(1) clostebol;

19

(2) dehydrochloromethyltestosterone;

20

(3) ethylestrenol;

21

(4) fluoxymesterone;

22

(5) human growth hormone;

23

(6) mesterolone;

24

(7) methandienone;

25

(8) methandrostenolone;

26

(9) methenolone;

27

(10) methyltestosterone;

28

(11) nandrolone decanoate;

29

(12) nandrolone phenpropionate;

*not a steroid  
but also is anabolic drug  
used for a similar purpose*

- 1 (13) norethandrolone;
- 2 (14) oxandrolone;
- 3 (15) oxymesterone;
- 4 (16) oxymetholone;
- 5 (17) stanozolol;
- 6 (18) testosterone propionate;
- 7 (19) testosterone-like related compounds.

## Table of Contents

- 1) Memo from Rep. Menard
- 2) "Estimated Prevalence of Anabolic Steroid Use Among Male High School Seniors," study by Penn St. University.
- 3) Penalties for class 5a controlled substance violations
- 4) "The Risks of Using Anabolic Steroids," NY Times 2/18/88 Article on harmful effects of steroids.
- 5) "The Bad News About Steroids"  
A list of established and possible side effects.
- 6) Editorial from Jan 11 1989 Fairbanks Daily News-Miner on Anabolic Steroids.
- 7) Zero fiscal notes from Dept. of Health and Social Services and Dept. of Law.
- 8) "Athletes and Steroids: Playing a Deadly Game" by Roger W. Miller, U.S. Dept. Health and Social Services. 6 pgs. Pamphlet on Anabolic Steroid use, abuse, and effects.
- 9) Wall St. Journal article, "Among Teen-Agers, Abuse of Steroids May Be Bigger Issue Than Cocaine Use,"
- 10) "Kids Have to Learn about Steroid Dangers," USA Today article on kids, steroids, and task oriented addiction.
- 11) "Description of Anabolic Steroid Compounds," chapter 2 of Anabolic Steroids and the Athlete, by William Taylor.
- 12) American College of Sports Medicine Position Stand on the Use of Anabolic-Androgenic Steroids in Sports.
- 13) The "Underground Steroid Handbook for Men and Women," explains how and where to get steroids illegally.
- 14) "The Death of an Athlete," by Rick Telander and Merrell Noden, Sports Illustrated, Feb 20, 1989 pp68-78. Account of high school football player's death after using anabolic steroids.
- 15) "The Nightmare of Steroids," by Tommy Chaikin with Rick Telander, Sports Illustrated, Oct. 24, 1988 pp82-102. Testimonial of ex-steroid user and football player on physical and psychological effects of anabolic steroids.



# ALASKA STATE LEGISLATURE

## REPRESENTATIVE CURT MENARD

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### M E M O R A N D U M

TO: Members of the House HESS Committee *Curt*  
FROM: Representative Curt Menard *Curt*  
RE: House Bill 126  
DATE: March 22, 1989

-----  
Steroids are hazardous to your health.

Item 14 in your packet is the story of the death of high school athlete Benji Ramirez. Anabolic steroids contributed to his death.

The attached study published in the Journal of American Medical Association states that as many as 500,000 or 7% of all high school students may be taking anabolic steroids to enhance their athletic performance or physical appearance." A memo from Dr. Jon May of the Federal Food and Drug Administration, states that this figure may actually be as high as 10 percent or 700,000 users. For comparison purposes, the use of cocaine by high school students in Alaska is between 2 and 6 percent (Alaska Department of HESS).

Steroids have become an epidemic in our gyms and schools. The past testimony of Drs. Caldwell and Nolan and Coach Doug Bean corroborate this fact. Dr. May indicated that the federal government is unlikely to place anabolic steroids on the controlled substance list. He said that the states themselves must take the lead on this problem. At this time, 13 states have passed laws or adopted regulations regarding steroids. An additional 25 have legislation pending. Let's make Alaska the fourteenth State to address this problem.

Copies of the statutes from other states, as well as Dr. May's memo are on file in my office. Feel free to contact me for any additional information. Thank you for your time.

Representing the  
Matanuska-Susitna Borough



Co-Chair  
House Resources Committee  
Member  
State Affairs Committee  
Budget Subcommittee

# Estimated Prevalence of Anabolic Steroid Use Among Male High School Seniors

William E. Buckley, PhD, Charles E. Yesalis III, ScD, Karl E. Friedl, PhD,  
William A. Anderson, PhD, Andrea L. Streit, MHA, James E. Wright, PhD

The use of anabolic-androgenic steroids (AS) is perceived by the media, by segments of the sports medicine and athletic communities, and by the public to have grown to epidemic proportions. Unfortunately, the incidence and prevalence of AS use among elite, amateur, and recreational athletes is poorly documented. This study was designed to help identify AS use patterns among the male portion of the general adolescent population. The overall participation rate on a schoolwide basis was 68.7% and on an individual basis reached 50.3%. Participants in this investigation were 12th-grade male students (N = 3403) in 46 private and public high schools across the nation who completed a questionnaire that established current or previous use of AS as users and nonuser characteristics. Results indicate that 6.6% of 12th-grade male students use or have used AS and that over two thirds of the user group initiated use when they were 16 years of age or younger. Approximately 21% of users reported that a health professional was their primary source. The evidence indicates that educational intervention strategies should begin as early as junior high school; the intervention should not be directed only toward those individuals who participate in school-based athletics.

(JAMA 1988;260:3441-3445)

MUCH of the public and scientific interest in anabolic-androgenic steroids (AS) tends to be focused on the use patterns exhibited by athletes (*Sports Illustrated*, Oct 3, 1988, p 20; *Sports Illustrated*, Oct 24, 1988, p 82; *New York Times*, Oct 25, 1987, p C41). The large

majority of studies regarding the ergogenic efficacy and health risks of AS use have dealt with adult athletic subjects.<sup>1-4</sup> While most of the effects of AS use among adults may be reversible, several studies suggest that they could have more serious biophysical consequences for adolescents, particularly in regard to premature skeletal maturation, spermatogenesis, and an elevated risk of injury. Approximately 27% of adolescents reach Tanner stage V (sexual maturity) after 16 years of age, and many high school students may be at risk of permanent effects from AS use.<sup>5,6</sup>

The incidence of AS use appears to have expanded since its first reported use by athletes in the 1950s. Few studies have attempted to determine actual prevalence using appropriate epidemiologic methods, and these have generally been restricted to athletic populations.<sup>7-10</sup> It has been hypothesized but not documented that the elite athletic population may be the smallest but most visible user group and that a larger user group exists that is composed of lower-level amateur and recreational individuals with other reasons for use, such as physical appearance. A review of the literature yields only tentative estimates of the prevalence of AS use in the general population. For example, in 1973, at five American universities, 1.5% of the general college population, including women, were AS users.<sup>11</sup> In 1975, AS use among the general population in Arizona high schools was found to be 0.7%, and there was a 4% use rate

among athletes at these schools.<sup>12</sup> A more recent study by the Hazelden Foundation, Minneapolis, found that in 1986, the rate of current or previous AS use was 3% for all students polled, including grades 8, 10, and 12.<sup>13</sup> According to the responses of the seniors, 5% of the males and 1% of the females used or had used AS. At one high school, 8% of the senior males said they had used steroids. No national figures are available for comparison.

This study was designed to help establish the prevalence of AS drug use among the male portion of the general adolescent population. Impetus for the development of this study was provided by the regional studies mentioned above and by anecdotal evidence from high school athletes, coaches, and athletic administrators that suggests that AS use is much more widespread than previously documented.

## METHODS

### Study Population

Participants in this investigation were 12th-grade male students in private and public high schools. This population was selected because of a priori evidence that this group made up a significant portion of users within the general adolescent population. According to Jessor's concept of developmental transition, problem behaviors such as illicit drug abuse play a key role in the lives and behavior patterns of this age group.<sup>14</sup> It has been postulated that a significant proportion of the developmental transition has occurred by the time students reach the 12th grade, and it can be argued that students in this grade make up the best study population.

A sample of schools was drawn from a pool of 150 high schools across the nation that employed certified athletic trainers who had participated in a sports epidemiology survey within the past two years.<sup>15</sup> A certified athletic trainer has graduated from an accredited institu-

For editorial comment see p 3484.

From the Department of Health and Human Development, The Pennsylvania State University, University Park (Dr Buckley and results and Ms Street), the Physiology and Biostatistics Service, Madigan Army Medical Center, Fort Lewis, Wash (Dr Friedl), the Department of Medical Education, Michigan State University, East Lansing (Dr Anderson), and the Exercise Science Branch, US Army Physical Fitness School, Fort Harrison, Ind (Dr Wright).

Reprint requests to Health Education Department, The Pennsylvania State University, Mary D. and John White Building, University Park, PA 16802 (Dr Buckley).

Table 1.—Stratification\*

Characteristic	Cell							
	1	2	3	4	5	6	7	8
Sunbelt?	Yes	No	Yes	No	Yes	No	Yes	No
Statistical area	Metropolitan	Metropolitan	Metropolitan	Metropolitan	Nonmetropolitan	Nonmetropolitan	Nonmetropolitan	Nonmetropolitan
Total No. of students in each school	>700	>700	<700	<700	>700	>700	<700	<700
No. of schools contacted	9	14	5	10	6	10	3	10
No. (%) of schools that participated	2 (22.2)	10 (71.4)	3 (60.0)	8 (80.0)	4 (66.7)	8 (80.0)	1 (33.3)	10 (100.0)
Total male enrollment in participating schools	450	2466	398	614	703	1196	20	910
Total No. (%) of questionnaires returned	224 (49.8)	1152 (46.7)	174 (43.7)	342 (55.7)	352 (50.1)	656 (94.8)	20 (100)	446 (48.6)

\*Forms for 32 respondents could not be linked to an institution. These subjects are not included in Table 1 but are included in all analyses.

tion and has successfully completed a certification examination administered by the National Athletic Trainers Association Inc, Greenville, NC. This association is a member of the National Commission for Health Certifying Agencies, which maintains rigorous standards for education and certification programs for allied health care professions. Certified athletic trainers are generally based in high school, university, and professional athletic environments, and their primary responsibilities are the prevention, recognition, treatment, and rehabilitation of athletic injuries. The 150 schools in this study do not represent a random sample of all US high schools in that only 10% of high schools employ a certified athletic trainer. Our sample schools, however, do share the characteristics of a large number of schools in the United States. These high schools were stratified into eight categories (Table 1) based on general demographic characteristics: (1) urban (metropolitan statistical area) and rural (nonmetropolitan statistical area) locale, (2) large (>700 students) and small (<700 students) enrollment, (3) and Sunbelt and non-Sunbelt locale. Sunbelt locale was defined as states that were contiguous and bordered any ocean body or Mexico from Virginia south and west to Texas, Arizona, New Mexico, and California. The strata were selected based on anecdotal accounts that the rate of steroid use is higher among students in large, urban schools in Sunbelt states.

A random proportional sample of schools was drawn within each of the eight categories. The schools were treated as clusters of potential respondents, and all male seniors were invited to participate. All Sunbelt schools with enrollments less than 700 and rural Sunbelt schools with enrollments more than 700 were used due to the small numbers available in these pools.

The athletic trainer at each school was contacted by the principal investi-

gators and asked to collaborate on the study. In total, 46 of the 67 schools contacted completed the study protocol, for a return rate of 68.7%. Out of 6765 male senior students who were eligible from the responding institutions, 3403 (50.3%) voluntarily participated.

#### Data Collection

A questionnaire was employed to collect the data. The first section of the instrument was completed by all the respondents. It consisted of 11 questions, the last of which established current or previous use of AS. Those who answered "yes" to this question were instructed to proceed to a series of 12 questions that further elaborated their usage. Those who responded "no" were directed to a different series of 12 questions related to basic health behavior. This strategy likely resulted in equal survey completion times for AS users and nonusers, helping to assure anonymity during the administration of the instrument. Pilot surveys were conducted and established that the instrument could be used with this population without difficulty and required similar time commitments for both users and nonusers to complete.

The questionnaires were administered to all male seniors by their homeroom teachers. This setting provided a normal testing environment and was used for completion of all the surveys. The students' confidentiality was maintained by having the homeroom teachers seal the collection envelopes before returning them to the athletic trainer, who then forwarded them to the researchers for scoring and tabulation.

The tabular analysis involved simple frequency counts and percentages. The  $\chi^2$  statistic was used to test for significant differences between groups, primarily between AS users and nonusers.

#### RESULTS

The mean rate of AS drug use for the entire sample, using the school as the

unit of analysis, was  $6.34\% \pm 5.61\%$  ( $N = 46$ ); with the student as the unit of analysis a mean use rate of  $6.64\%$  (226/3403) was derived. It is necessary to consider both of these rates in interpreting the data to account for possible "nesting" effects related to the stratification.<sup>5</sup> These data indicate that the nesting effects were negligible (calculation of a weighted mean of  $6.41\%$  demonstrates a small nesting effect of school size) and not at all confounding, because in either case, between six and seven individuals out of 100 reported current or previous use of AS. The results indicate, however, that there was significant variation among the participating institutions, with seven schools reporting no AS use.

The test for dependence between AS use and sampling strata (metropolitan statistical area designation, enrollment, and locale) showed only enrollment to be associated with use/nonuse behavior ( $P < .05$ ). While schools with greater than 700 students made up 69.6% of sample, 76.1% of the users attended the larger schools.

While all respondents were males in the 12th grade, the user group tended to be chronologically older (>19 years,  $P < .001$ ) (Table 2). The racial composition also differed between user and nonuser groups, with greater minority representation in the user group ( $P < .001$ ). In addition, respondents in the nonuser group were more likely to have a parent who finished high school ( $P < .001$ ).

Participation in sports activities was significantly different between users and nonusers, with the users more inclined to participate in school-sponsored athletics ( $P < .05$ ) and, specifically, more likely to participate in football and wrestling (Table 3). More revealing was that 35.2% of the user group did not intend to participate in a school-sponsored activity.

Two questions were specifically designed to differentiate between the attitudes and self-perceptions of the users

Table 2 - Basic Demographic Data for AS\* Users vs Nonusers

Characteristic	% of Respondents	
	AS Users	Nonusers
Age, yr		
< 17	7.5	8.2
17	51.8	69.0
18	36.5	23.3
19	4.4	1.4
≥ 20	5.8	0.1
Race†		
White	77.4	87.9
Black	8.9	4.7
Hispanic	4.9	3.5
Asian	4.0	2.7
Other	4.9	1.3
Parents' education‡		
Not a high school graduate	10.2	5.3
High school graduate	14.2	22.5
Some college	17.7	19.3
College graduate	52.2	49.1
Not known	5.8	3.8

\*AS indicates anabolic steroids  
†P < .001

Table 3 - School-Sponsored Sport Participation

Sports Participation	% of Respondents	
	AS* Users	Nonusers
School-sponsored sports participation?†		
Yes	64.8	52.3
No	35.2	42.7
Main sport at school‡		
Baseball or basketball	14.7	21.3
Football	43.5	32.6
Track and field	12.3	14.9
Wrestling	17.2	8.9
Other	12.3	22.3

\*AS indicates anabolic steroids  
†P < .05  
‡P < .001

and nonusers (Table 4). The first asked the respondents to rate their personal strength levels compared with their peers. Approximately 57.8% of all users believed their strength was "greater than average," while only 27.8% of the nonusers were so inclined ( $P < .001$ ). It should be noted, however, that there was a significant difference ( $P < .05$ ) between users and nonusers relative to their intention to participate in school-sponsored sports in the next academic year. It could be hypothesized that the users were more likely to be athletes and, therefore, would believe that their strength was "greater than average." In fact, 65.4% of the users who intended to participate in school-sponsored sports thought their strength was "greater than average," while only 35.1% of the nonusers who intended to participate in school-sponsored sports responded in the same fashion ( $P < .001$ ). Likewise, 39.7% of all users reported their overall health as "excel-

lent" compared with only 24.1% of the nonusers ( $P < .001$ ). However, perhaps a preexisting bias toward this response was in effect, as previously noted, because 45.9% of the users who intended to participate in school-sponsored sports reported this response, and 29.6% of the nonusers who anticipated participation in a sport chose the "excellent" response category ( $P < .001$ ). Interestingly, 4.9% of the users rated their health in the "poor" category vs only 0.4% of the nonusers.

#### User Characteristics

This study also established a profile of adolescent AS users. More than one third of the sample of users (38.3%) reported that they first used AS at age 15 years or younger, and another third had started by age 16 years (Fig 1). These data indicate that AS have been used at all high school grade levels and perhaps at the junior high school level as well.

The self-identified users in this study

Table 4 - Attitudes and Perceptions of AS\* Users vs Nonusers

Perception	% of Respondents	
	AS Users	Nonusers
Strength self perception†		
Above average	57.8	27.8
Average	31.2	59.3
Below average	5.9	8.8
Don't know	3.1	4.2
Health self perception†		
Excellent	39.7	24.1
Very good	31.7	40.7
Good	17.4	29.4
Fair	6.3	5.3
Poor	4.9	0.5

\*AS indicates anabolic steroids  
†P < .001

reported from one to more than five cycles of steroid use, with each cycle usually lasting six to 12 weeks. Only 18.2% of the users reported one cycle, while almost 40% of the users reported five or more cycles of use. Of those who reported first using AS at age 15 years or younger, only 9.5% said they had used AS for *only* one cycle. Twelve percent of the users reported cycles of steroid use lasting 13 weeks or more. A long-term use pattern for some of the users can be postulated even at this early stage of drug abuse.

Approximately 44% of the users responded that they had used more than one AS drug at the same time ("stacking"). More revealing is that 38.1% of the users had used both oral and injectable methods of administration.

The largest percentage of users (47.1%) reported that their main reason for using the drug was "to improve athletic performance" (Fig 2). "Appearance" was selected as the main reason for use among 26.7% of the user group. And, while it is not accepted medical practice in this country, the use of AS for injury prevention or treatment was reported by 10.7% of users.

The reported sources of AS for this user group included the black market (60.5%), defined as "other athletes, coaches, gyms, etc" (Fig 3). However, approximately one fifth of the users reported that their primary source was a health care professional (defined in this study as a physician, pharmacist, or veterinarian). Health professionals were the most frequent source (43%) when the reported reason for AS use was to "prevent or treat a sports-related injury" vs 15.5% and 18% of users whose reasons were "appearance" and "increased performance," respectively.

#### COMMENT

This study represents the first nationwide survey of AS use among the general adolescent male population. As such, it offers a picture of the nature and

scope of AS use that can be employed when developing intervention strategies, substance control programs, and health risk assessments. Indeed, these data indicate that the population at risk is much broader than previously believed. Not surprising is the fact that significant variability in user rates was observed among the participating schools, with 15% of the schools having no reported users. This could indicate that diffusion of use is still operating and is in part supported by our finding that schools with small enrollments reported significantly lower use rates.

One important consideration is the level of AS use among schools that did not participate in the study. It is possible that if school administrations held a self-perception that there was little AS use at their schools, they were more likely to participate in this study. School administrations that perceived that they had a problem with AS use may have been less likely to participate in the study because of the emotion and controversy about this issue. The methodology of the study addressed this point by establishing that no institution would or could be identified individually. Therefore, on balance, it is reasonable to conclude, albeit not with complete confidence, that the results reflect an under-reported use rate.

Likewise, we have no information on individual students who chose not to volunteer in the study, but, again, it could be hypothesized that those who did not participate were more likely to be AS users. This could also result in an under-reported use rate. Regardless of this, it is well established in self-report studies that by appropriately addressing the standard protection of human subjects through the use of permission (if required), voluntary participation, and assurance of anonymity, a significant level of validity can be achieved. All of these concerns were appropriately addressed through a review process at the research institution.

The basic user characteristics identified in this study demonstrate that educational intervention strategies should probably be in place at the high school level or earlier. Our evidence indicates that responsible adults who deal directly with this age group need to be aware of user behavior characteristics so that appropriate interventions can be initiated. This would obviously include coaches and athletic trainers, but the responsibility can legitimately be broadened to include high school health instructors, physical education specialists, school nurses, school physicians, and others who would come in contact with the subgroup of users (35.2%) who did not par-

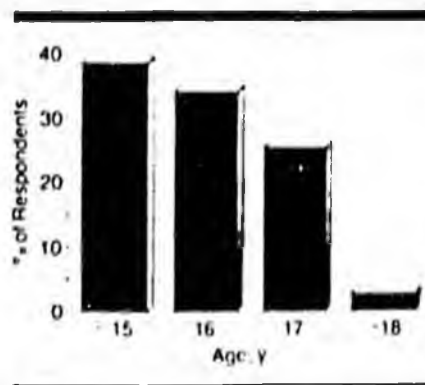


Fig 1 - Age of respondents at first use of anabolic steroids

ticipate in school-sponsored athletics. While many of these users may still participate in athletic competition, it is primarily on an amateur and individual basis, such as bodybuilding and power lifting. These users may belong to private fitness or health clubs or local YMCAs, or they may train on their own. Still, these data indicate that a significant impact on the reduction of AS use may be achieved by targeting intervention efforts at school-based athletics. In fact, with 43.6% of the users reporting participation in interscholastic football, athletic directors, team physicians, coaches, and athletic trainers cannot assume that their institutions are not affected. Also, these data implicate a range of sport activities, such as wrestling, basketball, and track and field, that cannot be overlooked in assessing the presence of AS use at any individual school.

This study elicited descriptive data that can be used to establish guidelines for subsequent studies dealing with specific psychological, sociologic, or pathologic attributes of the AS user group. The users were more extreme in their health perceptions; the majority believed they were in decidedly better general health than their peers. Similarly, a greater percentage believed their strength levels exceeded those of their peers. The accuracy of these perceptions cannot be determined from this study, but the implication that the AS user group perceives benefits from drug use behavior is important. Changing a behavior that has resulted in strongly perceived benefits to the user will require carefully planned and implemented interventions and strategies.

While we could not specifically establish the prevalence of use at each junior high school grade level, the data strongly indicate that there is significant AS use in boys 15 years old and younger (38.3%, the largest single response group). This is particularly distressing in that premature epiphyseal closure is

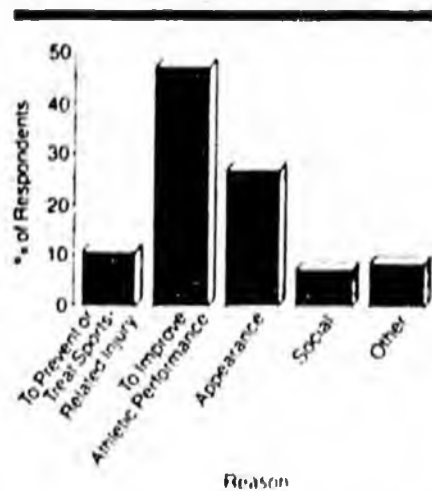


Fig 2 - Main reasons for using anabolic steroids

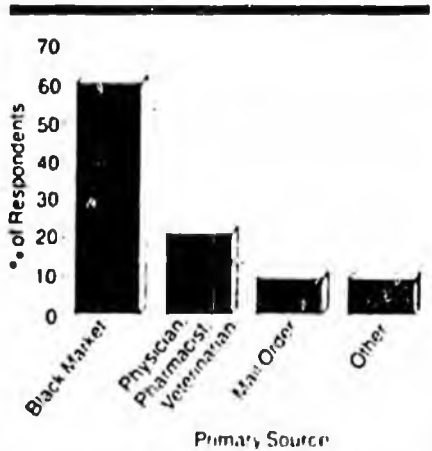


Fig 3 - Primary sources of anabolic steroids

potentially a permanent side effect of AS use in adolescents. Also, exogenous testosterone and its derivatives have a marked effect on the pituitary gland and testes, resulting in decreased endogenous hormone production and suppression of spermatogenesis. It is currently known that discontinuation of AS use by mature males results in an eventual return to normal hormonal activity.<sup>20</sup> This has not been established in biologically immature males, however, and questions remain regarding the effects of AS use on pubarche. Anabolic steroids may affect not only the rate of maturation but also the developmental blueprint for biochemical homeostasis.

Coinciding with the evidence of a relatively early onset of AS use behavior is evidence of what may be described as long-term use behavior. Twelve percent of users in this study reported average cycles of 13 weeks or more. Other studies indicate that adult power lifters who are familiar with AS use rarely exceed a 12 week cycle.<sup>21</sup> These adolescents are experimenting with cycle

lengths that are longer than those of older admitted AS users. This must be further investigated relative to dosage patterns and multiple drug administrations. When one considers that 44% of the users had taken multiple kinds of AS simultaneously and over 38% had used injectable preparations, it is clear that the potential for the development of long-term use patterns is real.

To what extent did respondents accurately report their AS use? It is possible that they intentionally or unintentionally underreported or overreported their AS use. The respondents may have underreported their drug use to meet more socially acceptable standards of behavior. Intentional overreporters could be characterized as "braggarts" who overemphasize drug use to present themselves in a more worldly manner. Reasons for unintentional reporting errors include the reading levels of the respondents, the reporting time frames for drug use, and the complexity of the scales for reporting frequencies and amounts of drug use.

It was not possible to objectively validate the self-reported use rates for AS. However, inferential evidence suggests that the reported use rates are generally valid or slightly underreported, that the schools did not represent a biased selection, and that the respondents were not a biased sample. Research on the use of self-report methods has shown them to be valid for documenting drug use, especially for this age group.<sup>24</sup> When the drug use rates from self-report studies have been compared with external methods of documenting drug use (reports by others, blood, urine samples, etc), the self-report use rates have been similar or only slightly lower than rates from the other methods.<sup>25</sup> The methods used in this study allowed respondents to have complete confidentiality. There was no motivation to intentionally overreport or underreport AS use. Effects of variables that have an impact on self-report methodologies had been reviewed and incorporated into the conduct of this study. Furthermore, the results obtained from this study are somewhat similar to the results of earlier studies of AS use by high school and college athletes.<sup>1,2</sup> Lastly, respondents were permitted to skip questions they believed they could not answer honestly. The missing data rate for questions about self-use of AS (1%) indicates that there was no intentional skipping pattern for these questions.

Inferential evidence suggests that the self-reported use rates for AS are generally valid. There is some evidence to indicate that respondents did under-

report their own use. In fact, the schools assigned to cell 1 of our stratification criteria (ie, large, urban, Sunbelt schools, Table 1) were expected to have the highest use rate, but the school participation rate was the lowest for this cell (16%). This potential bias may have deflated our reported use rate.

This study has established the presence of anabolic AS use among high school males. Based on our findings, 6.64% of 12th-grade male students use or have used AS, and it is also probable that there was a certain amount of underreporting. More importantly, if the AS use rate from our self-selected sample is applied to the national population of males enrolled in secondary schools, it suggests that between 250,000 and 500,000 adolescents in the country have used or are currently using these drugs.

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VA Classifications

Alaska State Statutes 11.71.030-11.71.050

Misconduct involving controlled substance in the third degree  
Class B Felony--Max 10 years, \$50,000 fine  
(AS12.55.035,12.55.125)

-delivers any amount to a person under 19 years of age  
who is at least three years younger than deliverer

Misconduct in the fourth degree:  
Class C Felony--Max 5 years, \$50,000 fine  
(AS1 .55.035,12.55.125)

-manufactures or delivers any amount or possess with  
intent to manufacture or deliver  
-if over 18, possession within grounds of a school or  
adjacent parking lot  
-possession of greater than 50 tablets, preparations,  
ampules, or syrettes

Misconduct in the fifth degree:  
Class A Misdemeanor--Max 1 year, \$5,000 fine  
(AS12.55.035,12.55.135)

-possess less than 50 tablets, ampules, or syrettes  
-possesses one or more preparations, compounds, mixtures,  
or substances of an aggregate weight of less than six  
grams

Currently, anabolic steroids are under the Federal Food and Drug Administration's jurisdiction. They will not be a Federal controlled substance since the DEA has determined that they are not harmful enough. One of their criteria for a controlled substance is that it be psychoactive and have addictive qualities. However, studies have shown that anabolics are more psychoactive than many substances on schedule 1 (the most dangerous) of the Federal Controlled Subs. list. In addition, they have been shown to be task oriented addictive.

...that the first meetings four  
...ago.

The search is on now for a super-  
... that combines the most effec-  
... of all the types of  
... therapy," said Paul Wachtel, a  
... at the Graduate Center  
... City University of New York.

... there is still a wide dis-  
... in what therapists mean when  
... they say they are eclectic. Many  
... mean that they combine elements  
... from just two schools. Others mean  
... that they borrow techniques from a  
... loose grab bag of therapies in which  
... they have happened to have had  
... training.

Even a proponent of the approach,

tend to use the term "integrated  
... psychotherapy," rather than eclectic.  
... Dr. Lazarus is the developer of  
... "multi-modal therapy," one of the  
... first systematic therapies to draw  
... from a wide variety of schools.

Some of the newest data to show the  
... popularity of such eclectic ap-  
... proaches is from a survey of 710 psy-  
... chotherapists by John Norcross, a

were the second most popular.

Other evidence that the eclectic  
... movement is gaining momentum can  
... be seen among graduate programs  
... for psychotherapists. The majority of  
... them in all disciplines now subscribe  
... to an integrated approach. Moreover,  
... within the last two years there have  
... been almost 50 professional books on  
... the integration of therapies, accord-

psychiatrists that uses the integrated  
... approach.

Within psychiatry, the integrated  
... approach seems to be healing a long-  
... standing rift between those who fa-  
... vored exclusive treatment of psychi-  
... atric problems with drugs and those  
... who favored therapies that involved  
... talking.

"The two camps — the biological

to integrate therapies in seeking the  
... similarities that already underlie dif-  
... ferent approaches, but that are hid-  
... den by differences in the language  
... used to describe what goes on in ther-  
... apy.

"When you clear away the jargon  
... you find there is much in common,"  
... said Marvin Goldfried, a psychologist  
... at the State University of New York  
... at Stony Brook.

## Personal Health | Jane E. Brody

V4 TIMES 2/18/88

### Reading use of steroids by young athletes ... sports medicine specialists.

... and possibly life-  
... threatening effects of body-building  
... drugs are becoming better known, spe-  
... cialists are increasingly alarmed  
... by the growing use of these drugs  
... among college and high school athletes  
... (by men—boys who want an  
... "big" body without the work.

... years the hormone-like drugs  
... have been used by adult athletes who  
... are willing to risk possible long-  
... term damage for what they believed  
... was a short-term competitive edge.  
... Well-known dangers include the  
... ability of sexual and reproductive  
... organs. Recent research also indi-  
... cates use of the drugs can dan-  
... gerously change cholesterol levels  
... and not only are more people now  
... taking these drugs, experts say they  
... are taking them at younger ages,  
... they do so and for longer peri-  
... ods which can greatly exacer-  
... bate risks. In some cases, parents  
... of school athletes have asked  
... their physicians the drugs to help  
... youngsters excel in competi-  
... tion for college scholarships.

... anabolic steroid drugs are  
... banned for athletic use. But they  
... are still obtained under the counter  
... from mail-order companies that  
... sell in Mexico and abroad, as  
... well as from some veterinarians and  
... others willing to prescribe them  
... for medical purposes.

... anabolic steroids are especially  
... popular among men and boys who  
... play football, body builders, box-  
... ers, shot-putters, discus  
... and javelin throwers. They are  
... also used by some women body build-  
... ers to increase muscle mass and their  
... performance will allow.

According to Dr. John A. Lombar-  
... do, medical director of sports medi-  
... cine at the Cleveland Clinic Founda-  
... tion, "runners, swimmers, wrestlers  
... and cyclists who want to train harder  
... also ask for steroids because they  
... seem to speed recovery from intense  
... workouts."

For some activities, especially  
... powerlifting, athletes believe they  
... have no choice but to take the drugs if  
... they wish to hold their own in com-  
... petitions with others who take them.

Since the late 1950's, when anabolic  
... steroids were introduced, thousands  
... of athletes have injected or swal-  
... lowed them in hopes of improving  
... performance. Sports Illustrated has  
... reported that as many as 80 percent  
... of the linemen and half of the line-  
... backers in the National Football  
... League are thought to have used ster-  
... oids.

Although the drugs were banned in  
... 1976 by amateur athletic organiza-  
... tions and have since resulted in sev-  
... eral competitors being disqualified or  
... losing medals, professional athletic  
... groups have not taken similar action.

Even in amateur sports, the drugs  
... remain popular among some ath-  
... letes, who seek to fool the urine tests  
... used to detect them. The Mayo Clinic  
... estimates that a million people in this  
... country are now taking the steroids  
... for nonmedical purposes, with annual  
... sales (mostly black market) exceed-  
... ing \$100 million.

#### Anabolic Steroids

Anabolic steroids are sometimes  
... used medically in patients with cer-  
... tain blood disorders, severe burns,



### The Risks of Using Anabolic Steroids

Recent studies on  
... the use of ana-  
... bolic steroids  
... have uncovered a  
... wide variety of ill  
... effects that can  
... set the stage for  
... potentially fatal  
... diseases.

**Heart Disease.** A 10-week study  
... of 35 male body builders recently  
... completed at the Cleveland Clinic  
... showed that the drugs danger-  
... ously changed cholesterol levels  
... in all those who took them. After  
... just six weeks on the drugs, men  
... who started out with normal cho-  
... lesterol levels experienced a dra-  
... matic rise in the level of hazard-  
... ous low-density lipoprotein cho-  
... lesterol and a precipitous drop in  
... protective high-density lipoprotein  
... cholesterol.

The cholesterol levels that resulted

from drug use "are typically seen  
... in much older patients with severe  
... coronary stenosis who are await-  
... ing bypass surgery," said one re-  
... searcher, Dr. Herbert K. Naito.

**Sexual and reproductive  
... disorders.** When men take syn-  
... thetic steroids, their own testos-  
... terone production is inhibited.  
... This can result in atrophy of the  
... testicles, loss of libido, impotence  
... and enlargement of the breasts. In  
... women, steroids can cause men-  
... strual irregularities and infertility.  
... The drugs can also have pro-  
... nounced masculinizing effects,  
... such as facial hair, diminished  
... breast size, permanently deep-  
... ened voice and thinning of the  
... hair. Acne may develop or worsen  
... in both sexes.

**Immune deficiencies.** The  
... Cleveland Clinic study docu-

mented a significant suppression  
... of the white blood cells that  
... produce antibodies, as well as  
... those that fight off viruses and  
... cancer. "This could possibly lead  
... to more frequent, severe infec-  
... tions and decreased immune sur-  
... veillance against malignancies,"  
... said Dr. Leonard H. Calabrese,  
... who directed the study.

To further complicate the pic-  
... ture, in some gyms body builders  
... share needles used to inject the  
... drugs, increasing their risk of con-  
... tracting serum hepatitis and AIDS.

**Liver disorders.** Both men and  
... women who take these steroids  
... risk serious liver damage, includ-  
... ing jaundice, tumors and gall-  
... stones. Half of the athletes who  
... use steroids develop abnormal  
... liver function tests.

**Stunted growth.** In teenagers  
... and young adults who have not

yet completed growth, the ster-  
... oids can close the growth plates in  
... the long bones and permanently  
... stunt their growth. If used by  
... women during pregnancy, the  
... drugs can impair fetal growth and  
... possibly cause fetal death.

**Psychological disturbances.**  
... Steroid use by athletes has been  
... linked to increased fighting and  
... other aggressive and hostile  
... behaviors. The former wives of  
... some football players who have  
... used steroids said their husbands  
... became superaggressive and  
... sexually violent. Dr. Lamb at Ohio  
... State has seen such psychologi-  
... cal disturbances as violent mood  
... swings, psychotic episodes and  
... extreme euphoria. Dr. Lamb said  
... severe depression can occur  
... when use of the steroids is dis-  
... continued.

muscle-wasting diseases and some  
... endocrine gland abnormalities.

The drugs are synthetic derivatives  
... of the natural male hormone testos-  
... terone, which increases protein syn-  
... thesis and promotes the growth of  
... lean muscle tissue rather than fat  
... when excess calories are consumed.

Dr. David Lamb, director of exer-  
... cise physiology at Ohio State Univer-  
... sity in Columbus, said most athletes  
... who use anabolic steroids take three  
... to four times the natural daily "dose"  
... of testosterone and many take 20 to 40

times the amount their bodies would  
... produce of this hormone.

#### Do They Work?

There is little question that the ster-  
... oids can help men, women and teen-  
... agers lay down more muscle tissue.  
... However, to maintain this muscle  
... mass, the drugs must be used indefi-  
... nitely. Furthermore, the drug stimu-  
... lated muscle tissue appears to be  
... highly susceptible to injuries, which  
... take much longer to heal than dam-  
... age to ordinarily developed muscle.

Then there is the matter of docu-  
... menting an increase in strength. In  
... 1981 Dr. Allen Ryan, a former team  
... physician at the University of Wis-  
... consin who is now retired, reviewed  
... more than two dozen studies of the ef-  
... fects of steroids on physical strength  
... and endurance. In 13 of the better  
... studies, there were no significant im-  
... provements in the athletes.

In another review several years  
... later, 14 studies of weight lifters in-  
... dicated a significant increase in  
... strength when steroids were used, but

16 studies reported no such increase.  
... The primary benefits were described  
... as arising from previous training in  
... weight lifting and cardiovascular training  
... in the period of drug use, an effect  
... that would result from training even  
... without the drugs.

But even if the drugs do work for  
... some athletes, Dr. Lamb seriously  
... questions the wisdom of their use,  
... given the fact that they "almost in-  
... variably cause adverse side effects,  
... certainly minor ones and possibly  
... life-threatening effects as well."

## Few Medical Costs ... Focus of Campaign

By GLENN KRAMON

... bypass operation, de-  
... in the 1970's, was still uncom-  
... mon. But as techniques  
... improved, many Americans began to  
... and insurance plans began  
... thousands of lives have  
... by the procedure, in  
... around

treatments are performed, arguing  
... that some expensive procedures are  
... overused on people with health insur-  
... ance yet underused for the 37 million  
... Americans with little or no coverage.  
... The procedures range from the  
... \$250,000 effort to save a premature  
... baby with severe problems to the  
... \$175,000 liver transplant.

Figures compiled by the Govern-  
... ment for The New York Times show  
... that at least four procedures that did

### The High Costs of Advanced Treatments

Relatively few major procedures and conditions absorb a large and rising share of the nation's medical expenditures. Experts have called for better guidelines on when the expensive treatments are beneficial.



At some companies, 15  
... percent of employees now  
... account for 90 percent of  
... the health costs.

Experts say the \$50,000 or \$100,000

Liver transplant

\$175,000

Care for premature newborn with a severe problem

### Editorial Opinion and Comment of



## Daily News - Miner

"Independent in All Things... Neutral in None"

Other opinions expressed on this page do not necessarily reflect those of the Daily News-Miner.

### Steroids are stupid

Men have described vanity as a female characteristic, but women have not done anything as destructive for the sake of vanity as men who inject steroids into their bodies.

The use of anabolic steroids to improve athletic performance and muscle appearance came to world attention when Olympic sprinter Ben Johnson was disqualified after winning a gold medal last September. But Olympic athletes and professional football players aren't the only people who take steroids. In gymnasiums across the country, athletes and body builders take steroids to improve their performance and make their bodies look better.

Fairbanks is not immune to the problem. Use has been reported in high schools and local health clubs.

Anabolic steroids are a group of drugs that synthetically recreate testosterone, the male hormone produced naturally by the testicles. Large doses of the synthetic hormone cause muscles to become larger. The drug causes natural production of the hormone to slow down and can lead to temporary sterility, premature hair loss, mood swings, aggressiveness, abnormal liver function and high blood pressure. Long-term use can cause cardiovascular disease and possibly cancer of the liver and testicles.

Athletes who use steroids to improve performance are cheating. In a society increasingly concerned with steroids, their actions will be discovered and condemned. Body builders who use them to look good are engaged in an absurd form of vanity. Improving their bodies, they run the risk of long-term damage to them.

Sid Swerman, a Fairbanksan who has promoted body building and weight lifting competitions in Alaska since the early 1970s, says he is fed up with steroids and will test for their use in winners of all future competitions he sponsors. He expects this will help clean up their use by local weight lifters.

High school coaches can also do much to discourage steroids by making certain that students are aware of the dangers and know that their use is not condoned. A directive from the school board to so require would not be out of order.

The use of steroids is stupid, there's no kinder way to put it. If that message gets out to athletes and body builders, we should see their use decline in our community.

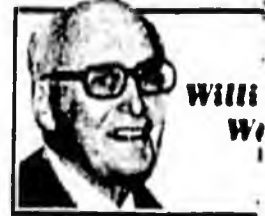
Swedish rosenuse

## UAF institute

Long ignored or downplayed in significance by temperate and tropical zone residents generally, the North is now gaining a measure of merited recognition through its own efforts. An emerging leader in this development is the University of Alaska, headquartered in the recently opened, yet unfinished, Butrovich Building on the West Ridge campus here in Fairbanks. It is the northernmost center of advanced higher education in the Western Hemisphere—and growing in prestige and prominence.

Among its many assets are geographic location; a beautiful campus; a small but highly talented teaching, research, and service faculty; the Geist Museum; and the world-renowned Rasmuson Library with its highly specialized, unique Alaska and Polar Regions Department.

Currently featured UAF programs of particular import for the future of the North are: anthropology, Arctic engineering, Arctic biology, Alaska Native languages, business management, communications (highlighted by KUAC-FM and TV), health care



Views expressed here do not represent those of the Daily News-Miner.

studies, space studies at Physical Institute (includes the one-of-a-kind Pokeret Range), marine science resources utilization and more. Each of these, while small to modest scale, with marks of superior

This is being recognized increasingly by knowledgeable as well as by a greater Outside, particularly in Asia. Throughout the country the emphasis is upon taking to understand the people, what it takes to live good life there, what it values the North can offer the rest of the world.



## West lacks co

NEW YORK—One day perhaps the West will summon the moral

**FISCAL NOTE**

**REQUEST:**

Revision Date: \_\_\_\_\_  
Title: "An Act relating to steroids,  
and providing for an effective date."  
Sponsor: Curt Henard  
Requestor: \_\_\_\_\_

Agency Affected: Health & Social Services  
BRU: Alcohol and Drug Abuse Services  
Components: Administration

**EXPENDITURES/REVENUES: (Thousands of Dollars)**

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

**FUNDING: (Thousands of Dollars)**

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

**POSITIONS:**

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

**ANALYSIS : (Attach a separate page if necessary)**

Prepared by: Matthew C. Felix *Matthew C. Felix* Phone: 586-6201  
Division: Office of Alcoholism and Drug Abuse Date: 2/8/89  
Approved by Commissioner: Myra H. [Signature] Date: 2/9/89  
Agency: Health & Social Services

Distribution (by preparer):  
Legislative Finance  
Legislative Sponsor  
Requestor  
Office of Management and Budget  
Impacted Agency(ies)

**FISCAL NOTE**

**REQUEST:**

Revision Date: \_\_\_\_\_ Agency Affected: Department of Law  
 Title: "An Act adding anabolic steroids... BRU: Prosecution  
to schedule VA...controlled substance..."  
 Sponsor: Repr. Menard Components: All  
 Requestor: Repr. Menard

**EXPENDITURES/REVENUES: (Thousands of Dollars)**

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>

CAPITAL						
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REVENUE						
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**FUNDING: (Thousands of Dollars)**

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS						
OTHER						
<b>TOTAL</b>						

**POSITIONS:**

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME						
TEMPORARY						

**ANALYSIS : (Attach a separate page if necessary)**

Please see the attached analysis.

Prepared by: Richard I. Pegues, Director Phone: 465-3672  
 Division: Administrative Services Date: February 10, 1989  
 Approved by Commissioner: Grace Berg Schaible, Atty. Gen. Date: February 10, 1989  
 Agency: Department of Law

Distribution (by preparer):  
 Legislative Finance  
 Legislative Sponsor  
 Requestor  
 Office of Management and Budget  
 Impacted Agency(ies)

# CONTINUATION of FISCAL NOTE ANALYSIS

For Bill/Resolution No. HB 126

This bill amends AS 11.71.180 by adding a new subsection that will include anabolic steroids and their related materials and substances in schedule VA of the schedule of controlled substances under the Criminal Code. Violation of schedule VA is misconduct in the fifth degree, the penalty for which is a class A misdemeanor. Although the misuse of anabolic steroids to enhance athletic ability has recently received wide public attention, there is no information available to suggest that this practice is a problem in Alaska. Therefore the Department of Law does not believe that this bill will have a fiscal impact on its operations. The department does, however, caution against adding new crimes at a time when there are not enough resources to adequately enforce existing state laws.


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# *Athletes and Steroids: Playing a Deadly Game*

by Roger W. Miller

Politics and sports usually don't mix too much, but the legacy of just such a mixture some 30 years ago has left modern America with another serious drug problem—abuse of anabolic steroids.

The Russians provided the politics in the 1950s when they gave their athletes—both men and women—a male hormone called testosterone that apparently helped the competitors build muscle. As a result, they dominated many international sports events at the time.

An American doctor, who was later to regret his action, sought to even the score in those coldest of the Cold War days by developing for our athletes a variation of a drug that was related to testosterone. The doctor came up with a form of anabolic steroid for use by weight lifters that was supposed to build muscle while minimizing masculinizing side effects. The weight lifters who found that the prescribed 5-milligram (mg) pills helped build muscle assumed immediately that 10 mg, or two pills, would add even more muscle, 15 mg more yet, and so forth. The race was on.

Today, anabolic steroids are widely used and abused by young athletes in search of bigger muscles. This drug abuse involves boys not yet in their teens; high school, college and professional athletes; and body builders of both sexes.

A more recent problem, according to experts on the subject, is the use of anabolic steroids by law enforcement officers who are lifting weights and using steroids to make themselves more imposing to criminals. The *Miami Herald*, in a May 19, 1987, article, quoted a Florida police chief as saying more police officials should be aware of the problem, adding: "There's a great potential for an officer abusing steroids to physically mistreat people." In fact, possibly the first misuse, or, as the medical people say, the first "nonclinical application," of anabolic steroids was by the Nazis in World War II who gave them to their troops to make them more aggressive.

Steroids were first developed in the 1930s to build body tissue and prevent the breakdown of tissue that occurs in some debilitating diseases. But an FDA review of these drugs years later failed to find evidence that they were effective for those purposes.

Anabolic steroids can produce a host of side effects and adverse reactions (see accompanying list). They include liver

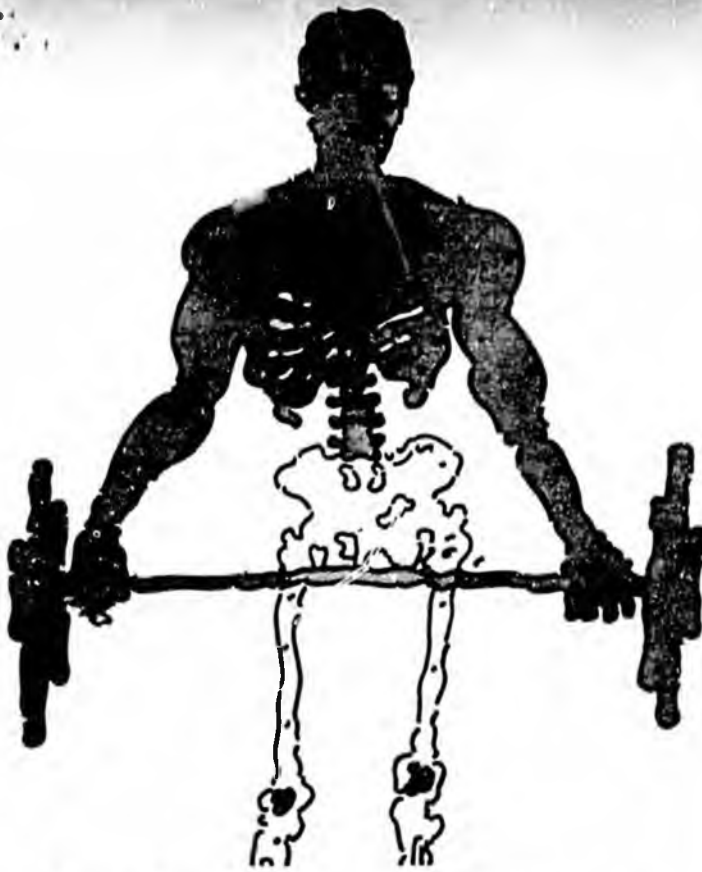
cancer, cardiovascular problems, sterility, testicular atrophy, jaundice, and masculinization of female fetuses in pregnant women taking steroids. What's more, steroids don't mix with some other drugs, a fact that can add to the list of unwanted consequences. Actually, the total side effect picture is unknown, for it remains to be seen what complications will develop for today's iron pumpers who take steroids in large quantities and for extremely long periods. It is known that communist athletes in the 1950s were given so much testosterone that many of the men developed large prostates and had to be catheterized (have a tube inserted in the penis) to urinate. And some women athletes had to have chromosome tests to prove that they were really women because of the extensive masculinizing effects of the drugs.

Although the numerous adverse side effects of steroids are unquestioned, the drugs' ability to increase muscle mass has not been fully verified. The current *AMA Drug Evaluations*, published by the American Medical Association, says the evidence on the muscle-building ability of steroids is "equivocal." Writing in the September 1987 issue of *Clinical Pharmacy*, researchers Michael W. Kibble and Mary B. Ross concluded that steroids increase muscle mass and strength "only in persons who are already weight-trained and who continue intensive training while maintaining high-protein, high-calorie diets."

What muscle gain there is may be offset by injuries associated with use of the drugs. That possibility was noted in a *Journal of the American Medical Association* article (Jan. 20/27, 1987): "It seems likely that their use may expose athletes to the risk of injury to ligaments and tendons and that these injuries may take longer to heal."

Weight lifting has gained enormously in popularity in recent years. Not too long ago, musclemen were looked on as freaks. As recently as 1973, the *Wall Street Journal* ran a front page feature on the U.S. heavyweight lifting champion under a headline: "Weight-Lifting Champ Frets as U.S. Yawns Over His Achievement." The champ was quoted in the story as saying: "Do you think I like having people make fun of me?"

But that was four years before the Arnold Schwarzenegger movie "Pumping Iron" transformed barbells and big biceps into status symbols. The movie sent young men thronging to



## Death of a Steroid Abuser

He was then admitted to the intensive care unit with acute hepato-renal (liver-kidney) failure. . . . He was treated as a normal hepatic shutdown, like a cirrhotic patient would be treated.

On the fourth hospital day, he suffered cardiac arrest and died. The autopsy showed severe hepatic necrosis (death of liver tissue), complete renal shutdown, and acute tubular necrosis. He had severely degenerating testes. . . . [Examination of] the testicular tissue showed him to be sterile.

—Death of a 23-year-old body builder who had been taking anabolic steroids. He had also taken an anti-histamine to counteract an itchy rash resulting from steroid use. From *Death in the Locker Room*. The Body Press, Tucson, Ariz.

health clubs and gymnasiums. There they found out about steroids.

Knowledge of the value of weight lifting gradually spread, as athletes in other sports, particularly football and track, but also some baseball players, put on muscle to play their games better. It was only a matter of time before pumping iron—and using steroids—got into high schools and even junior high schools.

Women have also taken to pumping iron and steroids, as have young men who are not even interested in athletics. In using steroids to build muscle, women athletes run a particular risk, as some of the side effects, including male pattern baldness and a deepened voice, are irreversible.

Some young men are interested in steroids because they hope a more muscular physique will make them look good to young women. Or they don't want to look like "wimps," which seems to be the word of choice these days for degrading a young man's masculinity.

## The Bad News About Steroids

Established side effects and reactions from anabolic steroids are:

- acne
- cancer
- cholesterol increase
- clitoris enlargement
- death
- edema (water retention in tissue)
- fetal damage
- frequent or continuing erections (mature males)
- HDL (which helps reduce cholesterol) decrease
- heart disease
- hirsutism (hairiness in women—irreversible)
- increased frequency of erections (boys)
- increased risk of coronary artery disease (heart attack, stroke)
- jaundice
- liver disease
- liver tumors
- male pattern baldness (in women—irreversible)
- oily skin (females only)
- peliosis hepatis (a liver disease)
- penis enlargement (young boys)
- priapism (painful, prolonged erections)
- prostate enlargement
- sterility (reversible)

The popularity of anabolic steroids is attested to by the growth of a large black market and the development of quack steroid products. Conservative estimates put the black-market gross at \$100 million a year. A lot of the black-market products come from underground labs and foreign countries and are of questionable quality and purity.

Some doctors have readily written prescriptions for athletes. Robert Voy, M.D., chief medical officer for the U.S. Olympic Committee, tells of a small study that he did indicating that 30 percent to 40 percent of the steroids used by body builders came from physicians. However, he believes those figures are dropping as doctors become more aware of the drugs' dangerous side effects. Malpractice suits are further cutting into the mindless prescribing of these drugs.

Many athletes claim they take steroids to help mend their bodies after injuries. But the *AMA Drug Evaluations* calls this a "medically trivial indication." The only uses FDA allows on anabolic steroid labels are for treating certain types of anemia, certain kinds of breast cancer in women, and hereditary an-

stunted growth

swelling of feet or lower legs

testicular atrophy

yellowing of the eyes or skin

**Other possible side effects and adverse reactions:**

abdominal or stomach pains

aggressive, combative behavior ("roid rage")

anaphylactic shock (from injections)

black, tarry, or light-colored stools

bone pain

breast development (sore or swelling—male)

chills

dark-colored urine

depression

diarrhea

fatigue

feeling of abdominal or stomach fullness

feeling of discomfort

fever

frequent urge to urinate (mature males)

gallstones

headache

high blood pressure

hives

hypercalcemia (too much calcium)

hypertension

increased cholesterol

irregular periods (female users)

insomnia

kidney disease

kidney stones (from hypercalcemia)

listlessness

menstrual irregularities

muscle cramps

nausea or vomiting

paralysis of red-muscle fibers in body, leading to muscle atrophy

rash

stomach ulcers (blood poisoning from injections)

swelling

weight gain

weight loss (from hypercalcemia)

weight gain

weight gain

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gioedema, a type of allergic reaction to some insect bites, foods, viruses, and so forth.

Despite such limitations, use of anabolic steroids by football players has become notorious. In a celebrated case late in 1986, a University of Oklahoma All-American was barred from a bowl game because he tested positive for steroids. In 1987, the National Football League checked for steroids for the first time in training camps and set standards for steroid levels. A player who tests positive is sidelined for 30 days; two additional positive readings of equal or higher levels result in being barred from the league. The NFL has also started an education effort that includes a videotape on the dangers of steroid use.

Testing to detect steroids has been used for a number of years in major track-and-field and weight-lifting events. These days some athletes look for ways to cheat the tests, as evidenced in a recent issue of a body-building magazine in which a British lifter bragged of using water-based steroids because, he said, they couldn't be detected after a day or two. Dr. Voy, the U.S. Olympic medical director, scoffed at that idea. "Let

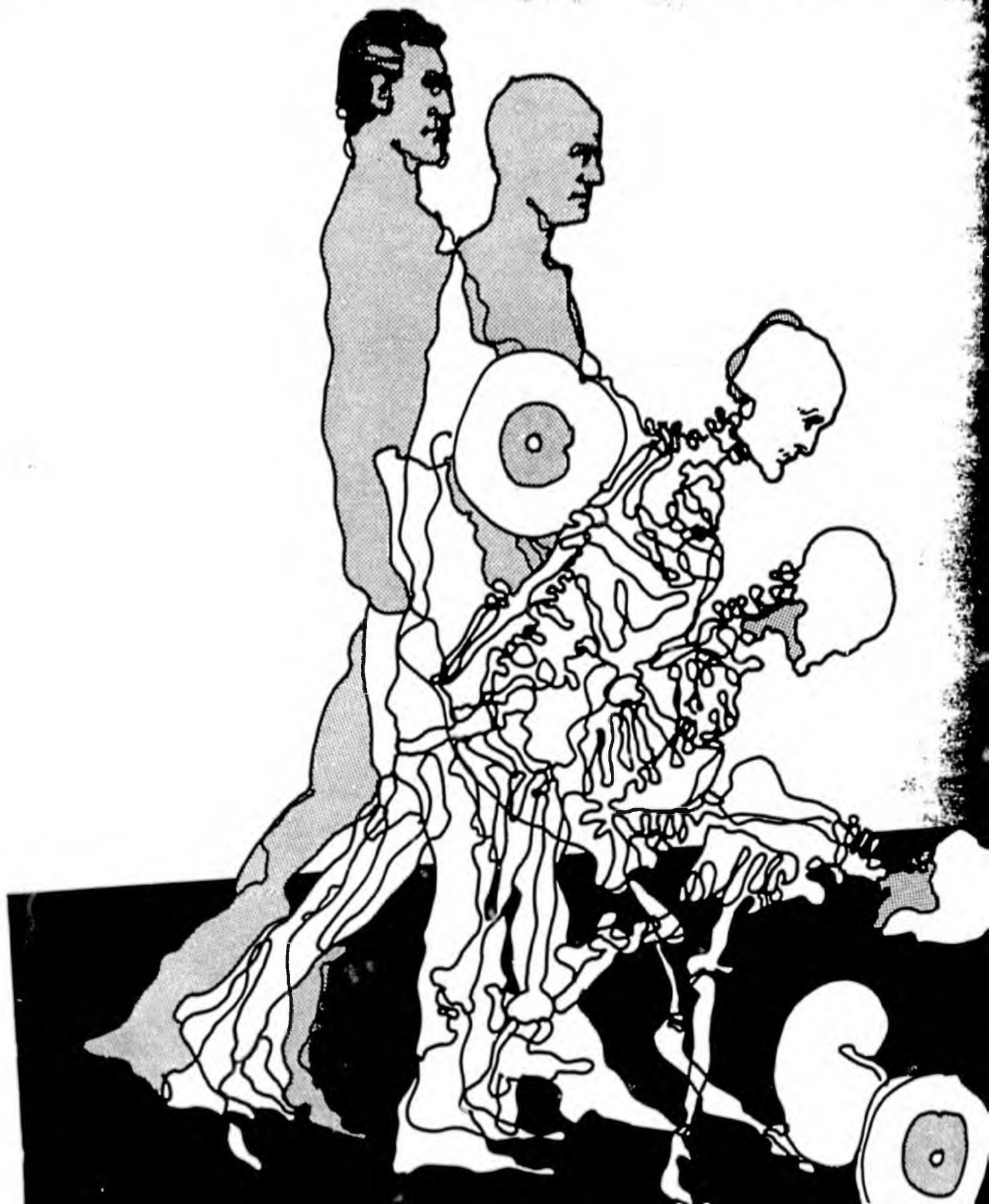
them think that's true," he remarked.

Testing is becoming more sophisticated all the time. The magazine *Muscle & Fitness* notes in its August 1987 issue that: "Steroid detection today exists in the nanogram range, or one billionth of a gram." (Italics in original.) In some cases, the magazine adds, detection can be made of one-quarter part per billion.

While testing may be better, it apparently has not stopped the growth of the drugs' popularity. Experts such as Dr. Voy, Bob Goldman, D.O., author of *Death in the Locker Room*, and FDA's Don Leggett, who handles enforcement efforts against illegal steroid sales, agree that the problem has become more widespread, involving younger children and more groups.

FDA, the U.S. Justice Department, and the Customs Service are cracking down on the steroid black market. Last May, their efforts resulted in a 100-count indictment against 34 people, including a former British Olympic medalist. The indictment charged that counterfeit steroids were manufactured and smug-

(Continued on page 6)



*This is the FDA-approved labeling for one anabolic steroid. As such, it is carried on the package insert included with the drug and in the Physicians' Desk Reference. It is important to remember that the adverse reactions cited on this labeling have been noted when the drug is taken in prescribed amounts. But weight lifters and other athletes are known to take such drugs in many times the normally prescribed doses.*

## WARNINGS

PELIOSIS HEPATIS, A CONDITION IN WHICH LIVER AND SOMETIMES SPLENIC TISSUE IS REPLACED WITH BLOOD-FILLED CYSTS, HAS BEEN REPORTED IN PATIENTS RECEIVING ANDROGENIC ANABOLIC STEROID THERAPY. THESE CYSTS ARE SOMETIMES PRESENT WITH MINIMAL HEPATIC DYSFUNCTION, BUT AT OTHER TIMES THEY HAVE BEEN ASSOCIATED WITH LIVER FAILURE. THEY ARE OFTEN NOT RECOGNIZED UNTIL LIFE-THREATENING LIVER FAILURE OR INTRA-ABDOMINAL HEMORRHAGE DEVELOPS. WITHDRAWAL OF DRUG USUALLY RESULTS IN COMPLETE DISAPPEARANCE OF LESIONS.

LIVER CELL TUMORS ARE ALSO REPORTED. MOST OFTEN THESE TUMORS ARE BENIGN AND ANDROGEN-DEPENDENT, BUT FATAL MALIGNANT TUMORS HAVE BEEN REPORTED. WITHDRAWAL OF DRUG OFTEN RESULTS IN REGRESSION OR CESSATION OF PROGRESSION OF THE TUMOR. HOWEVER, HEPATIC TUMORS ASSOCIATED WITH ANDROGENS OR ANABOLIC STEROIDS ARE MUCH MORE VASCULAR THAN OTHER HEPATIC TUMORS AND MAY BE SILENT UNTIL LIFE-THREATENING INTRA-ABDOMINAL HEMORRHAGE DEVELOPS.

BLOOD LIPID CHANGES THAT ARE KNOWN TO BE ASSOCIATED WITH INCREASED RISK OF ATHEROSCLEROSIS ARE SEEN IN PATIENTS TREATED WITH ANDROGENS AND ANABOLIC STEROIDS. THESE CHANGES INCLUDE DECREASED HIGH-DENSITY LIPOPROTEIN AND SOMETIMES INCREASED LOW-DENSITY LIPOPROTEIN. THE CHANGES MAY BE VERY MARKED AND COULD HAVE A SERIOUS IMPACT ON THE RISK OF ATHEROSCLEROSIS AND CORONARY ARTERY DISEASE.

(Continued from page 3)

gled from a pharmaceutical lab in Tijuana, Mexico. The individuals had a potential of doing \$70 million worth of steroid business a year, the U.S. attorney said. (See "For Athletes and Dealers, Black Market Steroids Are Risky Business" in the September 1987 *FDA Consumer*.)

But enforcement efforts aren't going to do it alone, especially with some coaches pushing steroid use on young athletes. "Our children have got to know what steroids really are," says FDA Commissioner Frank E. Young, M.D., Ph.D. "These things aren't a simple shortcut to building muscle. They're complex chemicals that the body doesn't handle easily, particularly in the amounts being taken by many weight lifters and athletes. Anabolic steroids can be dangerous—deadly dangerous." FDA, the Department of Education, and the Drug Enforcement Administration have joined together in sponsoring a public education program on steroids aimed mainly at youngsters.

One problem with trying to educate youth is that young people tend to believe they're immortal. Death, they think, is for old people. Another difficulty is that many of the bad effects of steroids might not show up for a decade or two after the user begins taking the drugs. Cardiovascular problems and liver tumors 10 years down the road aren't going to get much consideration from a high school senior trying to make first-string linebacker. But that young athlete should know that there are dozens of other steroid reactions, and that some, such as acne and uncontrollable "roid rages (aggressive and combative behavior), might cause immediate difficulties. He and the rest of our sports-loving society probably also have to reexamine the fanaticism embedded in the philosophy that "winning isn't everything—it's the only thing."

There's little doubt that steroids can affect human behavior. And withdrawal from steroids can bring on problems that may make an abuser want to go back on the drugs, or take other drugs. Steroids may be considered an ongoing physical necessity for an athlete or body builder when he or she finds, upon withdrawal, that some weight and muscle mass are quickly lost. (However, there is evidence to indicate that the weight loss is really just water, as steroids cause water retention in the body.) Also, depression can result from withdrawal, prompting some former abusers to turn to amphetamines for a lift.

A look at how the body uses testosterone, which anabolic steroids mimic, gives an idea of why steroids are so dangerous. Testosterone is secreted by the testes in mature men in quantities of 2.5 mg to 10 mg daily. (Those who use steroids to build muscle often "stack" them—i.e., take a combination of brands in quantities of 100 mg or more daily.) Testosterone stimulates and maintains many of the sex organs, including the penis, prostate gland, and the semen sacs. The hormone also, as explained in *Remington's Pharmaceutical Sciences*, "stimulates the development of bone, muscle, skin and hair growth and emotional responses to produce the characteristic adult masculine traits."

Women produce little testosterone; thus, their use of steroids leads to the development of masculine characteristics such as balding, facial hair, enlarged clitoris, and deepened voice.

But if testosterone is basically a sex hormone, how can too

much of it in the body stunt growth, or result in female breasts for males, or cause cardiovascular problems such as heart disease or stroke? The answer requires an appreciation of that complex machine of ours, the human body. For example, when testosterone levels get too high, the hypothalamus within the brain takes note. It acts to shut down processes in the body involving testosterone. One result is that, in an adolescent, bone growth stops.

The feminization of male breasts is another example of action by the hypothalamus. With excessive testosterone in the blood, that brain unit sends a signal to the pituitary gland to stop producing the hormone gonadotropin, which in turn stops the testicles from producing more testosterone. The process may remain shut down when steroids are discontinued, leading to an imbalance of male and female hormones within the body—and the development of unsightly, enlarged breasts that can even produce milk.

Cardiovascular problems can come about as follows: Steroids cause fluid retention, which in turn can lead to high blood pressure. Steroids also lower high-density lipoproteins (HDLs) in the blood. HDLs help rid the body of cholesterol. Too much cholesterol in the body leads to the formation of plaque on the walls of arteries. Eventually the arteries get clogged, possibly causing stroke or heart attack.

A few anabolic steroid compounds are available by prescription. They come in tablet or injectable form. The listing of these drugs in the *Physicians' Desk Reference* runs less than 10. However, the August 1987 issue of *Muscle & Fitness* magazine listed 22 steroids that are "commonly tested" for. Dr. Voy, in a 1986 speech to the American Pharmaceutical Association, said there are about 80 testosterone derivatives available, including the veterinarian supply.

Records of U.S. sales of anabolic steroids are incomplete. However, such sales are recorded in Norway, where a 42 percent increase was noted in one nine-year period.

The recommended dosages for steroids used for legitimate purposes may range from 1 mg a day to as much as 400 mg intramuscularly (by injection into a muscle) every three to six weeks. These amounts are a far cry from those being "stacked" by some body builders.

There seem to be some indications, in reading the muscle magazines, that the popularity of steroids is wearing thin among body builders. Writing in a recent issue of *Musclemag*, columnist Garry Bartlett said: "Drugs will only ruin your chances of developing a championship physique. My advice to you is to avoid steroids like the plague."

And in *Muscle & Fitness*, Lee (Mr. Olympia) Haney says: "You will ultimately make your best bodybuilding gains if you avoid steroid usage and just concentrate on hard training and good nutrition. But many young and impressionable body builders get on drugs within a couple of weeks or months of starting to pump iron. . . . The gains they make are lost very quickly—within a few weeks—once they get off the juice. You're much better off—both in terms of health and ultimate bodybuilding gains—if you train naturally." ■

Roger W. Miller is director of FDA's communications staff.

## Among Teen-Agers, Abuse of Steroids May Be Bigger Issue Than Cocaine Use

By MARI CHAUJER

Staff Reporter of THE WALL STREET JOURNAL  
Aaron Henry wanted to play football in the worst way, but he felt he wasn't big enough or fast enough. So, at 13, he started taking anabolic steroids.

Soon it seemed his dream would come true. His first year in high school, he was a linebacker and a nose guard on a winning St. Charles, Mo., football team. As a sophomore, he had bulked up to 175 pounds.

But he had also become aggressive, so aggressive that he didn't want to be with others, and he quit playing football. He turned violent, beating his girlfriend, threatening to kill his sister, and attempting suicide. Finally, as a senior in high school, he was hospitalized for drug addiction.

Today, Aaron is off steroids, but his football dream is dead. Though he rejoined the team as a high-school senior, no college would sign him because of his addiction. "I ended up destroying my dream," he says.

Hundreds of thousands of American teen-agers are taking anabolic steroids, orally or by injection, to play better or to simply look better. As many as 7% of American high-school males have taken or are taking steroids, according to a survey of 3,400 boys by Pennsylvania State University professor Charles Yesalis. In Portland, Ore., 35% of high-school football players surveyed by Oregon Health Sciences University researchers said they knew where to get the drugs.

"People think the cocaine issue is big," says Pat Croce, a Philadelphia physical therapist who works with athletes. "It's not as big as anabolic steroids. Among kids, it's epidemic."

In interviews at health clubs around Dallas, teen-agers all denied using steroids, but most said they knew someone who did. Daryl Simperetti, who worked at a recently closed gym, says 25% to 30% of the youths working out there took steroids—most simply to look good. "I'd tell them they were going to impress the women one day and be dead the next," he says.

Young people know that steroids build muscle mass and strength. "Our entire defensive line was on steroids, and they were the division champs," says one Dallas high-school student working out in a suburban health club.

Even those who know the risks may use the drugs. "I'm going to see how big I can get naturally before I decide whether to use them," says 16-year-old Jimmy Kaleta of North Dallas, who wants to be a professional wrestler. His trainer, a 350-pound pro, says he has taken steroids for seven years and considers the risks overblown.

Steroid use by youngsters can cause problems that last a lifetime: liver tumors, jaundice, blood disorders, sterility. The drugs can shut down bone growth plates. "You may have a kid who's genetically gifted to be 6-foot-5 and 225 pounds, but with steroids you may end up with a 5-foot-10 obese teen on your hands," asserts Keith Wheeler, a biochemist at Ross Laboratories in Columbus, Ohio.

But doctors are equally worried about psychological effects. Aggressive behavior is almost universal among anabolic-steroid users. Harvard psychologist Harrison Pope has documented cases of full-blown psychosis, including paranoia and delusions, that followed steroid use. One steroid-cramped youngster told Prof. Pope he bought a car for \$25 and had a friend videotape him as he ran it into a tree at 35 miles an hour.

Michelle Roberts, an 18-year-old working out at The Gym in North Dallas, is frightened by her boyfriend's behavior shifts

when he takes steroids. "One minute he's real nice and the next minute he's nasty," she says. And a student at Stephen F. Austin College in Nacogdoches, Texas, says when he was on steroids, he would react to a traffic dispute by running the other car off the road.

Virtually no high-school steroid testing is done. A youngster can take steroids throughout his career and win a college sports scholarship before ever submitting to testing. Says Lyle Sticheu, sports medicine director at Children's Hospital in Boston, "This is something the medical community is going to have to address."

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# INQUIRY

## Topics HOOKED

Scott Driggers, 26, U.S. Olympic men's team handball player, answered some of the questions from the more than 3,000 callers to USA TODAY's hot line on steroids Tuesday. Driggers and Dr. Bud McDougal, an Indianapolis physician and crew chief for one of the U.S. Olympic Committee drug testing teams who also fielded calls, were interviewed by USA TODAY's Steve Woodward.



By Barbara Pines, USA TODAY  
Scott Driggers

## Kids have to learn about steroid dangers

**USA TODAY:** Were you surprised by the extent of steroid use as revealed in calls to the USA TODAY hot line?

**McDOUGAL:** The thing that struck me the most was the large number of young people — 14, 15 and 16-year-olds — who called with really good questions. They were well thought out. These kids know about steroids, and they're thinking about using them. Fortunately, a lot of them had sense enough to call and ask questions, but it was absolutely amazing to me that so many people so young called.

**DRIGGERS:** I'd have to agree with that. I spoke with a person who said he'd been on testosterone for six months and now he was completely impotent. He wondered what he could do and how long it would take for that to go away. I found out from Dr. McDougal that it was going to be about a year, and you could just hear the air go out of his balloon. I asked him how old he was, and he was 18, but he said he felt like he was 13 again. It was unbelievable to me that somebody that young was so mature in the use of steroids that he'd already missed himself up.

**USA TODAY:** Were people calling asking you who they could get steroids for their personal use?

**McDOUGAL:** I had four or five calls like that. "My doctor won't give them to me. Can you get me prescriptions, or where can I get them? How much do they cost?" In fact, that was probably an unrelated and unsuspected but very important part of this survey. There are a certain percentage of people who looked at this as a means of informing them about how to get their heads on steroids.

**DRIGGERS:** I had a few of those phone calls myself.

**USA TODAY:** What was the most important message to get out to the public about the use of steroids?

**McDOUGAL:** We had the opportunity to stress the risky side effects of steroids. People were calling and asking all different kinds of questions, but it basically boiled down in most cases to: "Is it all right to take it, or how can we make it all right to take it?" And we had the opportunity then to print out those severe side effects, ranging all the way from a little hair loss to liver cancer to mental aberrations and death.

**USA TODAY:** Were you surprised by the ignorance of steroid users about the negative side effects?

**McDOUGAL:** A lot of them didn't know that the problem is not just with the particular

brand that they're taking. For example, they'd call to say, "Well, I'm taking Brand X and I know it's bad, but which one can I take?" And they didn't have a sense that it's steroids in general that are bad for them.

**DRIGGERS:** I ran into a few situations where a couple wives or girlfriends would actually call up on behalf of somebody else and say, "What are the side effects?" and then say, "I've seen those in him, but he doesn't see those things in himself, and everybody else does." I think people who called were at least willing to face the fact that there are side effects and that they might possibly be affecting themselves.

**USA TODAY:** What were some of the most frequently asked questions?

**DRIGGERS:** I got a lot of questions about "if I just take a little bit, is that OK? And if I have a doctor give me just a little bit, is that all right?"

**McDOUGAL:** I had a lot of those, too. "Is it all right to just take a little bit, or can I just take it for three weeks and stop?" A lot of them asked that. But this one fellow said, "I don't want you to tell me not to take them. I'm going to take them. Just tell me how to take them safely."

**USA TODAY:** Do steroids have addictive qualities similar to narcotics, for example?

**McDOUGAL:** I don't think the mechanics of addiction are the same for steroids as they are for cocaine. What can happen is that you look in the mirror and you like the way you look, so you'll do anything to stay that way, to keep looking like that. It takes more and more and more steroids to stay that way, and pretty soon you're beyond the limits, and you don't stay that way anyway, and that is an addictive-type process.

**USA TODAY:** So from the calls, it was firmly established that the steroid problem is much bigger than use in world-class competition?

**McDOUGAL:** That's one thing that this hot line brought to the public. There were over 3,000 calls. That's evidence that there are people other than world-class athletes who are using steroids. An awful lot of them.

**DRIGGERS:** How many world-class athletes are there



in the first place? I've talked to people 20 to 30 years old who are working in the body-building gyms. Invariably, every one of them told me that everybody is doing it — "Everyone in my circle of friends and where I live is doing steroids." And most of them would say they don't see any specific side effects except the irritability. And I said, "Well, that's the point. You don't see it. You don't see people dying of AIDS on the street, either."

**USA TODAY:** Did the national obsession in recent years with physical well-being and health save the way for steroids use?

**McDOUGAL:** Probably so. It was a very important movement that started in the '70s. People started jogging and doing aerobics. They're watching more carefully what they're eating, lowering their cholesterol levels, and people are very much more health-conscious now than they were when I finished medical school 23 years ago. However, you have a certain percentage of people who always feel they have to be that much better than most of the people around them, and all of us are more health-conscious and are getting a little bit better than most of us were 20 years ago, so that percentage of people has to do something to get just a little bit better yet. And it probably has had some influence.

**USA TODAY:** In a situation like the Olympics, do people suspect steroid use in all sports or do they limit speculation to the sports that have already been affected by the controversy?

**DRIGGERS:** I'm sure that sports besides the ones that are getting all the attention are being suspected. In our case, with handball, it's not as prevalent. It's more similar to basketball, where steroids would be an advantage, but there are so many

other things that you can concentrate on to be better that steroids are not in the forefront, like they would be for weightlifting or track. People associate it with the Olympics and amateur sports. So when someone tests positive in a certain sport, it doesn't relate only to that sport, it relates to all amateur athletics in general.

**McDOUGAL:** That's very true. A positive test is a reflection on all athletes, not just the power performers, or the runners, whatever.

**USA TODAY:** Is the suspicion about steroid use aimed at one country more so than others?

**DRIGGERS:** It's not only so much for one country anymore, either. You used to be able to say the East Germans, then people would label them, or they might label the Rus-

sians. But now, since the Ben Johnson episode, people say track athletes, then they'll say the U.S. athletes in general. So a positive test for somebody from another country leads many people to think "OK, are the U.S. athletes doing it as well?" It's not bounded by the country, specific team or sport.

**USA TODAY:** Who would represent the largest group, those athletes who want to use steroids or those who want to rid sports of them?

**DRIGGERS:** I would break it down into two categories. There are the elite athletes, who say the way to clean they want more spontaneous drug testing throughout the year. Right now, it's relatively easy to bypass times of the year when you're going to be tested, or certain competitions. High school athletes look at it like, "OK, we all have to catch up with the other football players, or the other weight lifters or amateur body builders." They have a different attitude. High school and younger students are more of less saying, "The only way to beat it is to join it." That's the impression I am getting.

**USA TODAY:** Have education efforts been successful in warning against the dangers of steroid use?

**DRIGGERS:** That 10-year-old I mentioned earlier, one of the last things he said was, "Why didn't anybody tell me this in high school? None of the guys who were telling me to take this told me about this." He said, "I wasn't ready to make that decision, and I had no one to turn to, and no one was informing me." I don't think he would have gone out to seek out the information, but it's something that obviously now he regrets not hearing when he was in school. I asked him "If you were on steroids, and you were innocent, would you tell somebody else?"

**USA TODAY:** How did he answer that?

**DRIGGERS:** High school kids aren't going to admit to things like that. And it wasn't the problem when he was on the drug, because by then, he'd boosted his testosterone level. But as soon as he quit, his own body had ceased producing it, and then he didn't find out till he hurt his knee and he had to quit football. He didn't know, all that time he was taking it that was going to happen.

**USA TODAY:** So a big problem, then, is education?

**McDOUGAL:** I think so. I had calls from everywhere, all over the country. So this information is getting out.

"You look in the mirror and like the way you look so you'll do anything to stay that way. It takes more and more steroids to stay that way, and pretty soon you're beyond the limits and you don't stay that way anyway."

-Dr. Bud McDougal

## 2 Description of Anabolic Steroid Compounds

### Introduction

Anabolic steroids are artificial synthetic derivatives of the natural male steroid hormone, testosterone. They are synthesized in order to retain and magnify some of the effects testosterone produces on the body, and to alleviate or reduce some of the other effects.

Anabolic steroid hormones have the basic four ring structure as depicted in Figure 1. Synthetic steroids differ from the natural androgenic steroid hormone testosterone by alterations in one or more of the positions of the basic steroid ring structure. These alterations include addition of methyl, hydroxyl, alkyl, esters, or benzoyl groups at one or more of the sites along the basic structure. Common sites for these changes are also shown in Figure 1.

### Facts Regarding Testosterone

Testosterone is the primarily male steroid hormone end-product of the testes of the male. A much smaller amount of testosterone is also produced by the adrenal glands. In women, the primary source of testosterone is the adrenal glands; however, the daily amount produced by a woman is normally very low when compared to a man.

Testosterone concentrations in the blood are controlled by a negative feedback system called the hypothalamus-pituitary-testes axis, which is illustrated in Figure 2. There is a normal small variation in the testosterone serum concentration throughout the day, which allows a fine tuning effect of the negative feedback system. Even among normal males, there are some individual differences in the daily quantity of testosterone produced.

Testosterone is synthesized by the interstitial Leydig cells of the

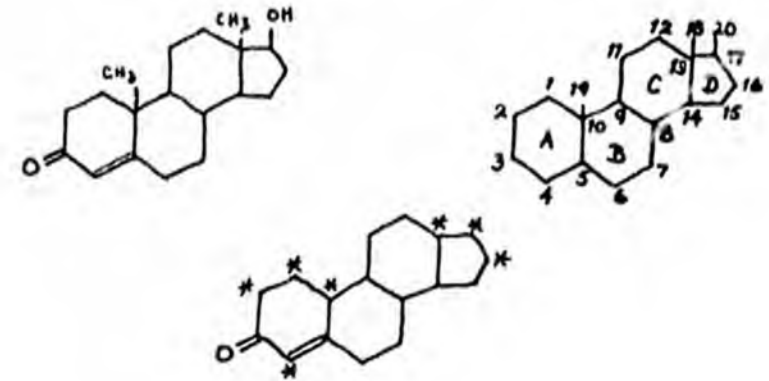


Figure 1. Basic Structure of Testosterone and Sites Commonly Altered to Produce Anabolic Steroids.

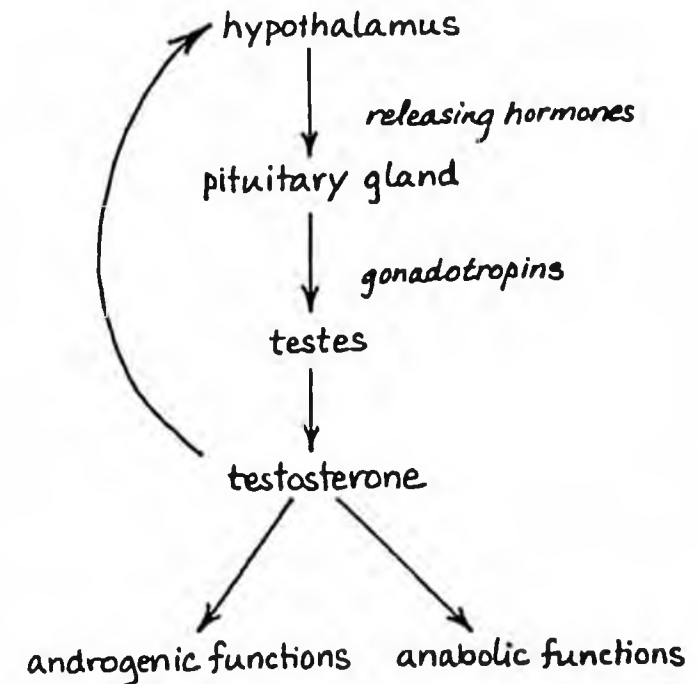


Figure 2. Basic Conception of the Hypothalamus-Pituitary-Testes Axis.

Attachment 7

testes primarily under control of the gonadotropins secreted by the pituitary gland. Normal adult male testosterone secretion rates range from 5 to 10 milligrams a day, with some normal variation throughout the day. After testicular secretion, testosterone is transported to the target organs and specific receptor sites in both a free form and a protein-bound form. Normally, only about 1% of the total blood testosterone is in the free form, which is the active form. The free form of testosterone is in an equilibrium situation with the protein-bound form so that the bound form serves as a stored reserve of the hormone, readily available if needed by the tissues.

The free testosterone has a relatively short half-life in the body, and most of the circulating free testosterone is converted into water-soluble compounds called 17-ketosteroids. This conversion primarily takes place in the liver. Once the conversion to the inactive 17-ketosteroid compounds takes place they are quickly excreted from the body through the kidneys into the urine. The concentration of these 17-ketosteroids are readily measured in the urine if desired. Normally, almost negligible amounts of the 17-ketosteroids are excreted through the skin, and a low concentration may be identified in the feces.

Several bodily functions are under either direct or indirect control of testosterone. Basically, testosterone has a stimulation effect on skeletal muscle, some visceral organs, the hemoglobin concentration and the red blood cell number and mass. Testosterone also affects characteristics associated with the secondary sexual organs, including the pattern, distribution and amount of facial, body and pubic hair,

the deepening tone of the voice, the percentage and distribution of fat and several muscular characteristics.

More specifically, the bodily effects of testosterone are artificially divided into two basic classifications: androgenic functions and anabolic functions. However, the total delineation and separation of these two classifications has never been successful. The basic androgenic and anabolic characteristics controlled or produced by testosterone are contained in Table I.

When the testosterone concentration in the blood is low, then the hypothalamus releases its hormones and the stimulation of the pituitary gland causes a release of the gonadotropins (see Figure 2). The gonadotropins then stimulate the Leydig cells of the testes to produce testosterone. When the testosterone concentration is normal to high, the hypothalamus is not stimulated and thus the total axis is depressed and no additional testosterone is produced.

Table I. BASIC COMPARISON OF THE ANDROGENIC AND ANABOLIC FUNCTIONS OF TESTOSTERONE

<i>Androgenic Functions</i>	<i>Anabolic Functions</i>
initial growth of the penis	increased skeletal muscle mass
growth and development of the seminal vesicles	increased hemoglobin concentration
growth and development of the prostate gland	increased red blood cell mass
increased density of body hair	decreased percentage of body fat
development and pattern of pubic hair	control of the distribution of body fat
increased density and distribution of facial hair	increased calcium deposition in the bones
deepening tone of the voice	increased total body nitrogen retention
increased oil production of the sebaceous glands	increased retention of several electrolytes
increased libido and awakening of sexual interest	

DISTRIBUTED OUT OF CANADA (MAIL ORDER ONLY) all correspondence sent to PO box in Canada. WRITTEN BY "PROCLAIMED PROFESSIONALS!" The rest of this handbook describes drugs, dosages, and side effects.

THE DOCTOR USES A MEDICAL DOCTOR

# UNDERGROUND STEROID HANDBOOK

FOR MEN AND WOMEN



KILLS THIS ME!

Well, it would be nice to get them from a doctor. A knowledgeable, kind, honest, humanitarian-type doctor who would give you a fair price on injectables, let you take them home with you so you could save time and gasoline by injecting them yourself, and would write you refillable prescriptions for your orals. He would be concerned with the progress you are making while on the drugs. We happen to go to such a doctor. Unfortunately, this is the exception. Most doctors have formed an opinion on steroids, which means that they don't like them. Lucky for us though there is a large number of what we call the 'businessman doctor'. These guys are out to hustle a buck.

We'd recommend that you first look for the young ones just out of medical school. Young doctors have a different morality than the older ones. Many do the standard recreational drugs and are open minded about steroids. Also, doctors just starting up a practice usually need instant money. Steroid users are regular, cash paying customers who take up little of a doctor's time. This is financially attractive to him as it frees him to make more money with other patients. Some of the most successful doctors on the West Coast who specialize in steroids have between 1000 to 1500 steroid patients. As you can imagine, this is a very lucrative sideline. You should ask the doctor if he has an interest in building up a steroid clientele as you should be able to pitch him a lot of business. Don't be indiscriminate though; don't send him a deluge of crazies, animals and loudmouths. We've seen that happen before, and what results is suddenly the doctor will not see anyone for steroids. So be careful; don't spoil it for yourself.

Your second choice is the quack doctor. Ask around your area about doctors who routinely and indiscriminately prescribe diet pills, qualludes, valiums, etc. He is an excellent candidate for a steroid clientele. Call him and ask him if he is interested in helping you as a bodybuilder through steroid therapy. Of course, when you are talking to a doctor (or his receptionist) on the phone, you are going to be nervous. We were when we were young and inexperienced. Do what telephone salespeople do, write out your 'pitch' on paper and practice reading it aloud. When you call up, have that pitch there in front of you. For example: "Hello, I'd like to be a new patient. Should I talk to you or the doctor?" (someone will ask what is wrong or why you want to come in) Well, I'm a pretty serious bodybuilder (for example) and think that the doctor would be receptive to this kind of therapy." Usually, the nurse or receptionist will be fairly honest with you as she knows what the doctor likes to do and what he doesn't. She may have to have you call back later so that she can ask the doctor. Don't get panicky, call back. If you get a no, don't get discouraged, and don't be afraid to ask the person on the line for a recommendation of a doctor who does prescribe steroids. All doctors throw each other business. Keep calling until you get a yes. When you get one, discuss prices.

Reading this book will give you an idea of what you want. Tell him what you want, especially the amounts. Many doctors will, for example, agree to give you an injection of 50mgs of Deca every week, which is too low a dosage to do you any good (unless you are a special case; most people, even women are not), or a doctor will write you a non-refillable prescription so that you have to pay for an office visit to get another one. This is a very common practice. So barter. Try to get five refills on that prescription. If you don't get satisfaction, try someone else. A lot of times a doctor will have you come in and talk with him about it all. You'll have to use your own judgment here. A lot of doctors will sucker you in and have you pay an office visit and test fees only to say, "Oh, two tablets of Dianabol should suffice." Don't waste your time, you've already wasted your money. If you walk on this one, remember to bring along those blood test results with you as another doctor can use them. Just don't be intimidated by doctors. You are paying him, not vice-versa.

Another thing about quack doctors. Don't really trust them with your health. Massive amounts of steroids are effective for performance but could make you slightly unhealthy (especially if you are physically sub-normal). Most all doctors will have you sign a release form before you start taking steroids. This form protects the doctors from lawsuits. Don't be afraid to sign this form. If you don't, you'll be given piddly small amounts of steroids that won't harm you nor help you either.

There are very few doctors that know correct dosages to prescribe. They'll stick their noses into the Physician's Desk Reference and see what the manufacturer of the drug recommends giving to sick and ailing people. No manufacturer has ever recommended dosages for healthy athletes. You could give your doctor this book. A lot of information here is obtained from the top steroid doctors in the country.

If you are lucky enough to have a doctor in your area specializing in sports medicine, he's usually willing to prescribe steroids to you. His recommended dosages will depend on how up-to-date and practical he is on his research. A lot of doctors just don't read enough or keep track of the results of the dosage to strength/weight ratios. The amounts also can depend on whether the doctor likes you or not. Doctors can play favorites for a lot of reasons. If he doesn't like you, we'll about guarantee that your dosages will be low and the prices high. It's happened to us a few times. Doctors are businessmen but don't automatically treat them like slysters.

Sports doctors who are well known and readily accessible for steroid therapy sometimes will have high prices. That is why we listed them last in preference. We don't term them as a best buy. However, if your tests show you to be sub-normal in steroid stress areas, he may be the best man for the job.

So, what if you can't find a doctor or the doctor you find has high prices or won't give you the dosages you want? We can't tell you to buy from an illegal source, but that is just what many athletes do. This is what we have done in the past. Sometimes these sources have the best prices.

You could call him a 'gym pusher', a shady name, but these people are usually honest (relatively) and straightforward. What they do is technically illegal and so is buying the drugs from them. There are worse drugs you could use than steroids. Usually, Black Market prices are higher than drugstore/doctor prices. This is because the seller assumes that you are saving office visit and blood test costs and his higher prices balance this out. He's right. What can we say? Legally, so we won't be sued, all we can state is that we have bought from these sources in the past and will continue to do so if there are good buys available or if the drug is just not legally available in America. We have found these sources by asking around in the gym (we aren't the

bashful type; how else would we have found out?). When we were younger and nervous, we would call him up on the phone because we were more relaxed that way than face to face. We always kept a list of what he said he had and the prices of them. We had our own Physician's Desk Reference (which has color photos of the tablets) so we knew what we were getting. If it was some weird product packaged poorly, we usually didn't buy it. We learned not to waste the seller's time by asking lots of questions about what works and how much to take. Most sellers don't want to tell you this as everybody asks the same questions year after year. Sometimes we come across someone selling some new mystery product from Mars (or France, the same place) that may just be cold cream with Ben Gay in it. We never dismiss him completely as some day he just may have the best prices on something reputable. A lot of times these guys will sell you something by saying it works the best just because the stuff really isn't and is not moving. We've been suckered a few times, mostly with Winstrol and Testosterone Propionate. No hard feelings, who else is going to buy the stuff except dumb people like us, and we deserved it. Really, we've had a doctor prescribe us Halotestin because he knew the pharmacy didn't have Dianabol. So the pharmacist was able to unload that dog on us. You don't have to be a criminal to be unscrupulous.

We've known a lot of people who got steroids from veterinarians specializing in horse and dog racing. They just walked up to them at the track and made a business proposal. We'll admit that takes a lot of nerve. Some vets have suitcases full of injectables with them all the time at the track.

A lot of European bodybuilders have financed their vacations to Southern California by bringing in non-USA approved drugs and selling them. Also, we have bought drugs in Mexico (Primobolin Depot, Winstrol and Dianabol) and smuggled them in over the border. That makes us very bad boys in the eyes of US Customs as this is an illegal thing to do (but a real easy one too). Mexico used to have lower prices on the stuff, but this is not true now. South America, however, has dirt cheap prices on Primobolan, usually about \$.50 a vial.

We've known a few people who used a lot of steroids for free during clinical research projects at medical schools. We've put our names in at a few schools in our area volunteering to be the test subjects as the blood and gland monitoring during the research can point out how much steroid an individual takes with what results.

To finish out this section, we'll admit that we've not been too direct in some areas of how to find the drugs. Legally, we cannot advocate you to engage in criminal acts. Buying from anyone but a pharmacist or doctor is illegal, and there is a danger here. Many bodybuilders have taken just massive dosages of steroids bought through illegal means. Most are still alive and healthy today (and bigger for it) but some have run into trouble because they did not have the smarts to monitor body disfunctions. These are the people you hear about and have given steroids their bad reputations. Just don't be stupid. Find out what your body can handle.



# AMERICAN COLLEGE OF SPORTS MEDICINE POSITION STAND ON THE USE OF ANABOLIC-ANDROGENIC STERIODS IN SPORTS\*

Based on a comprehensive literature survey and a careful analysis of the claims concerning the ergogenic effects and the adverse effects of anabolic-androgenic steroids, it is the position of the American College of Sports Medicine that:

1. Anabolic-androgenic steroids in the presence of an adequate diet can contribute to increases in body weight, often in the lean mass compartment.

2. The gains in muscular strength achieved through high-intensity exercise and proper diet can be increased by the use of anabolic-androgenic steroids in some individuals.

3. Anabolic-androgenic steroids do not increase aerobic power or capacity for muscular exercise.

4. Anabolic-androgenic steroids have been associated with adverse effects on the liver, cardiovascular system, reproductive system, and psychological status in therapeutic trials and in limited research on athletes. Until further research is completed, the potential hazards of the use of the anabolic-androgenic steroids in athletes must include those found in therapeutic trials.

5. The use of anabolic-androgenic steroids by athletes is contrary to the rules and ethical principles of athletic competition as set forth by many of the sports governing bodies. The American College of Sports Medicine supports these ethical principles and deplores the use of anabolic-androgenic steroids by athletes.

This document is a revision of the 1977 position stand of the American College of Sports Medicine concerning anabolic-androgenic steroids.<sup>1</sup>

## BACKGROUND

In 1935 the long-suspected positive effect of androgens on protein anabolism was documented.<sup>2,3</sup> Subsequently, this effect was confirmed,<sup>4,5</sup> and the development of 19-nortestosterone heralded the synthesis of

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*Taken from "Drugs + Performance in Sports" 199  
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to increase total blood volume and hemoglobin<sup>88</sup> might suggest a positive effect of steroids on aerobic capacity. However, only three studies indicated positive effects,<sup>8, 21, 24</sup> and there has been no substantiation of these results in subsequent studies.<sup>27, 41, 50, 52</sup> Thus, the majority of evidence shows no positive effect of anabolic-androgenic steroids on aerobic capacity over aerobic training alone.

## ADVERSE EFFECTS

Anabolic-androgenic steroids have been associated with many undesirable or adverse effects in laboratory studies and therapeutic trials. The effects of major concern are those on the liver, cardiovascular, and reproductive systems, and on the psychological status of individuals who are using the anabolic-androgenic steroids.

**Adverse Effects on the Liver.** Impaired excretory function of the liver, resulting in jaundice, has been associated with anabolic-androgenic steroids in a number of therapeutic trials.<sup>15, 21, 22</sup> The possible cause-and-effect nature of this association is strengthened by the observation of jaundice remission after discontinuance of the drug.<sup>28, 29</sup> In studies of athletes using anabolic-androgenic steroids (65 athletes tested),<sup>90, 98, 104</sup> no evidence of cholestasis has been found.

Structural changes in the liver following anabolic steroid treatment have been found in animals<sup>99, 101</sup> and in humans.<sup>7, 100</sup> Conclusions concerning the clinical significance of these changes on a short- or long-term basis have not been drawn. Investigations in athletes for these changes have not been performed, but there is no reason to believe that the athlete using anabolic-androgenic steroids is immune from these effects of the drugs.

The most serious liver complications associated with anabolic-androgenic steroids are peliosis hepatis (blood filled cysts in the liver of unknown etiology) and liver tumors. Cases of peliosis hepatis have been reported in individuals treated with anabolic androgenic steroids for various conditions.<sup>7, 10, 11, 25, 25, 29, 70, 88, 102</sup> Rupture of the cysts or liver failure resulting from the condition was fatal in some individuals.<sup>9, 70, 102</sup> In other case reports the condition was an incidental finding at autopsy.<sup>6, 10, 26</sup> The possible cause-and-effect nature of the association between peliosis hepatis and the use of anabolic-androgenic steroids is strengthened by the observation of improvement in the condition after discontinuance of drug therapy in some cases.<sup>7, 25</sup> There are no reported cases of this condition in athletes using anabolic-androgenic steroids, but investigations specific for this disorder have not been performed in athletes.

Liver tumors have been associated with the use of anabolic-androgenic steroids in individuals receiving these drugs as a part of their treatment regimen.<sup>25, 29, 41, 57, 88, 90, 115</sup> These tumors are generally benign,<sup>2, 27, 28, 29, 115</sup> but there have been malignant lesions associated with individuals using these drugs.<sup>26, 30, 115</sup> The possible cause-and-effect nature of this association between the use of the drug and tumor development is

strengthened by a report of tumor regression after cessation of drug treatment.<sup>26</sup> The 17-alpha-alkylated compounds are the specific family of anabolic steroids indicted in the development of liver tumors.<sup>90, 98</sup> There is one reported case of a 26-year-old male body builder who died of liver cancer after having abused a variety of anabolic steroids for at least four years.<sup>26</sup> The testing necessary for discovery of these tumors is not commonly performed, and it is possible that other tumors associated with steroid use by athletes have gone undetected.<sup>9</sup>

Blood tests of liver function have been reported to be unchanged with steroid use in some training studies<sup>11, 21, 22, 29</sup> and abnormal in other training studies<sup>27, 29</sup> and in tests performed on athletes known to be using anabolic-androgenic steroids.<sup>21, 22, 100</sup> However, the lesions of peliosis hepatis and liver tumors do not always result in blood test abnormalities,<sup>6, 28, 29, 41, 57, 102</sup> and some authors state that liver radioisotope scans, ultrasound, or computed tomography scans are needed for diagnosis.<sup>28, 29, 102</sup>

In summary, liver function tests have been shown to be adversely affected by anabolic-androgenic steroids, especially the 17-alpha-alkylated compounds. The short- and long-term consequences of these changes, though potentially hazardous, have yet to be reported in athletes using these drugs.

**Adverse Effects on the Cardiovascular System.** The steroid-induced changes that may affect the development of cardiovascular disease include hyperinsulinism and altered glucose tolerance,<sup>111</sup> decreased high-density lipoprotein cholesterol levels,<sup>74, 98</sup> and elevated blood pressure.<sup>106, 107</sup> These effects are variable for different individuals in various clinical situations. Triglycerides are lowered by anabolic-androgenic steroids in certain individuals<sup>24, 22</sup> and are increased in others.<sup>18, 28</sup> Histological examinations of myofibrils and mitochondria from cardiac tissue obtained from laboratory animals have shown that administration of anabolic steroids leads to pathological alterations in these structures.<sup>12, 112</sup> The cardiovascular effects of the anabolic-androgenic steroids, though potentially hazardous, need further research before any conclusions can be made.

**Adverse Effects on the Male Reproductive System.** The effects of the anabolic-androgenic steroids on the male reproductive system are oligospermia (small number of sperm) and azospermia (lack of sperm in the semen), decreased testicular size, abnormal appearance of testicular biopsy material, and reductions in testosterone and gonadotropic hormones. These effects have been shown in training studies,<sup>19, 41, 100</sup> studies of normal volunteers,<sup>16</sup> therapeutic trials,<sup>12</sup> and studies of athletes who were using anabolic-androgenic steroids.<sup>21, 22, 100</sup> In view of the changes shown in the pituitary-gonadal axis, the dysfunction accounting for these abnormalities is believed to be steroid-induced suppression of gonadotrophin production.<sup>12, 16, 18, 22</sup> The changes in these hormones are ordinarily reversible after cessation of drug treatment, but the long-term effects of altering the hypothalamic-pituitary-gonadal axis remain unknown. However, there is a report of residual abnormalities in testicular morphology of healthy men 6 months after discontinuing steroid use.<sup>16</sup> It has been

reported that the metabolism of androgens to estrogenic compounds may lead to gynecomastia in males.<sup>22, 23, 24, 112</sup>

**Adverse Effects on the Female Reproductive System.** The effects of androgenic steroids on the female reproductive system include reduction in circulating levels of luteinizing hormone, follicle-stimulating hormone, estrogens, and progesterone; inhibition of folliculogenesis and ovulation; and menstrual cycle changes including prolongation of the follicular phase, shortening of the luteal phase, and amenorrhea.<sup>20, 21, 21</sup>

**Adverse Effects on Psychological Status.** In both sexes, psychological effects of anabolic-androgenic steroids include increases or decreases in libido, mood swings, and aggressive behavior,<sup>20, 21</sup> which is related to plasma testosterone levels.<sup>25, 26</sup> Administration of steroids causes changes in the electroencephalogram similar to those seen with psycho-stimulant drugs.<sup>27, 28</sup> The possible ramifications of uncontrollably aggressive and possible hostile behavior should be considered prior to the use of anabolic-androgenic steroids.

**Other Adverse Effects.** Other side effects associated with the anabolic-androgenic steroids include: ataxia; premature epiphyseal closure in youths;<sup>22, 23, 24, 109, 110</sup> virilization in youths and women, including hirsutism,<sup>29</sup> clitoromegaly,<sup>29, 113</sup> and irreversible deepening of the voice;<sup>27, 28</sup> acne; temporal hair recession; and alopecia.<sup>27</sup> These adverse reactions can occur with the use of anabolic-androgenic steroids and are believed to be dependent on the type of steroid, dosage and duration of drug use.<sup>20</sup> There is no method for predicting which individuals are more likely to develop these adverse effects, some of which are potentially hazardous.

## THE ETHICAL ISSUE

Equitable competition and fair play are the foundation of athletic competition. If competition is to remain on this foundation, rules are necessary. The International Olympic Committee (IOC) has defined "doping" as "the administration of or the use of a competing athlete of any substance foreign to the body or of any physiological substance taken in abnormal quantity or taken by an abnormal route of entry into the body, with the sole intention of increasing in an artificial and unfair manner his performance in competition." Accordingly, the medically unjustified use of anabolic steroids with the intention of gaining an athletic advantage is clearly unethical. Anabolic-androgenic steroids are listed as banned substances by the IOC in accordance with the rules against doping. The American College of Sports Medicine supports the position that the eradication of anabolic-androgenic steroid use by athletes is in the best interest of sport and endorses the development of effective procedures for drug detection and of policies that exclude from competition those athletes who refuse to abide by the rules.

The "win at all cost" attitude that has pervaded society places the athlete in a precarious situation. Testimonial evidence suggests that some athletes would risk serious harm and even death if they could obtain a

drug that would ensure their winning an Olympic gold medal. However, the use of anabolic-androgenic steroids by athletes is contrary to the ethical principles of athletic competition and is deplored.

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steroids that have greater anabolic properties than natural testosterone but less of its virilizing effect.<sup>10</sup> The use of androgenic steroids by athletes began in the early 1950s<sup>100</sup> and has increased through the years,<sup>100, 102, 103, 104, 105, 106</sup> despite warnings about potential adverse reactions<sup>4, 10, 106, 107</sup> and the banning of these substances by sports governing bodies.

### ANABOLIC-ANDROGENIC STEROIDS, BODY COMPOSITION AND ATHLETIC PERFORMANCE

**Body Composition.** Animal studies investigating the effect of anabolic-androgenic steroids on body composition have shown increases in lean body mass, nitrogen retention and muscle growth in castrated males<sup>37, 37, 38</sup> and normal females.<sup>46, 47, 71</sup> The effects of anabolic-androgenic steroids on the body weights of normal, untrained, male animals,<sup>37, 40, 71, 100, 104</sup> treadmill-trained<sup>41, 97</sup> or isometrically-trained rats,<sup>92</sup> or strength-trained monkeys<sup>100</sup> have been minimal to absent; however, the effects of steroids on animals undergoing heavy resistance training have not been adequately studied. Human males who are deficient in natural androgens by castration or other causes have shown significant increases in nitrogen retention and muscular development with anabolic-androgenic steroid therapy.<sup>41, 50, 100</sup> Human males and females involved in experimental<sup>19</sup> and therapeutic trials of anabolic steroids<sup>19, 46, 91</sup> have shown increases in body weight.

The majority of the strength-training studies in which body weight was reported showed greater increases in weight under steroid treatment than under placebo.<sup>17, 41, 44, 50, 61, 74, 91, 96, 107</sup> Other training studies have reported no significant changes in body weight.<sup>17, 27, 41, 45, 100, 108</sup> The weight gained was determined to be lean body mass in three studies that made this determination with hydrostatic weighing techniques.<sup>41, 42, 107</sup> Four other studies found no significant differences in lean body mass between steroid and placebo treatments,<sup>17, 41, 42, 43</sup> but in two of those the mean differences favored the steroid treatment.<sup>41, 42</sup> The extent to which increased water retention accounts for steroid-induced changes in body composition is controversial<sup>17, 44</sup> and has yet to be resolved.

In summary, anabolic-androgenic steroids can contribute to an increase in body weight in the lean mass compartment of the body. The amount of weight gained in the training studies has been small but statistically significant.

**Muscular Strength.** Strength is an important factor in many athletic events. The literature concerning the efficacy of anabolic steroids for promoting strength development is controversial. Many factors contribute to the development of strength, including heredity, intensity of training, diet, and the status of the psyche.<sup>112</sup> It is very difficult to control all of these factors in an experimental design. The additional variable of dosage is included when drug research is undertaken. Some athletes claim that doses greater than therapeutic are necessary for strength gains<sup>109</sup> even though positive results have been reported using therapeutic (low-dose)

regimens.<sup>50, 74, 91, 107</sup> Double-blind studies using anabolic-androgenic steroids are also difficult to conduct because of the physical and/or psychological effects of the drug that, for example, allowed 100% of the participants in one "double-blind" study to correctly identify the steroid phase of the experiment.<sup>92</sup> The placebo effect has been shown to be a factor in studies of anabolic-androgenic steroids as in all drug studies.<sup>92</sup>

In animal studies, the combination of anabolic-androgenic steroids and overload training has not produced larger gains in force production than training alone.<sup>100, 97</sup> However, steroid-induced gains in strength have been reported in experienced<sup>17, 71, 91, 107</sup> and inexperienced weight trainers<sup>50, 71, 96</sup> with<sup>50, 51, 74, 91</sup> and without dietary control or supplemental protein.<sup>42, 100</sup> In contrast, no positive effect of steroids on gains in strength over those produced by training alone were reported in other studies involving experienced<sup>21, 44, 51</sup> and inexperienced weight trainers<sup>17, 27, 41, 45, 61, 100, 108</sup> with<sup>21, 41, 61, 100</sup> and without dietary control or supplemental protein.<sup>17, 27, 41, 45, 51, 100</sup> The studies that reported no changes in strength with anabolic-androgenic steroids have been criticized<sup>113</sup> for the use of inexperienced weight trainers, lack of dietary control, low-intensity training,<sup>17, 27, 41, 45</sup> and nonspecific testing of strength.<sup>41</sup> The studies that have shown strength gains with the use of anabolic-androgenic steroids have been criticized<sup>113</sup> for inadequate numbers of subjects,<sup>41, 91, 107</sup> improper statistical designs, inadequate execution, and the unsatisfactory reporting of experimental results.

There have been no studies of the effects of the massive doses of steroids used by some athletes over periods of several years. Similarly, there have been no studies of the use of anabolic-androgenic steroids and training in women or children. Theoretically, anabolic and androgenic effects would be greater in women and children because they have naturally lower levels of androgens than men.

Three proposed mechanisms for the actions of the anabolic-androgenic steroids for increases in muscle strength are:

1. Increase in protein synthesis in the muscle as a direct action of the anabolic androgenic steroid.<sup>91, 92, 92</sup>
2. Blocking of the catabolic effect of glucocorticoids after exercise by increasing the amount of anabolic-androgenic hormone available.<sup>91, 92, 92</sup>
3. Steroid-induced enhancement of aggressive behavior that promotes a greater quantity and quality of weight training.<sup>44</sup>

In spite of the controversial and sometimes contradictory results of the studies in this area, it can be concluded that the use of anabolic-androgenic steroids, especially by experienced weight trainers, can often increase strength gains beyond those seen with training and diet alone. This positive effect on strength is usually small and obviously is not exhibited by all individuals. The explanation for this variability in steroid effects is unclear. When small increments in strength occur, they can be important in athletic competition.

**Aerobic Capacity.** The effect of anabolic-androgenic steroids on aerobic capacity has also been questioned. The potential of these drugs

SPORTS ILLUSTRATED

FEB. 20, 1989

P. 68-78

# *The* DEATH *of an* ATHLETE

BENJI RAMIREZ TOOK STEROIDS TO 'GET BIG.' THEY HELPED MAKE HIM A FOOTBALL STARTER. THEY MAY HAVE KILLED HIM  
□ BY RICK TELANDER AND MERRELL NODELL





Physical fitness is one of the few growth businesses in Ashtabula, which has been devastated by the loss of several manufacturing companies.

**I**T RAINED HARD THE DAY THE Ashtabula (Ohio) High football team faced Northeastern Conference rival Conneaut High in October. The field was a quagmire, but that didn't stop Benji Ramirez, a 17-year-old senior defensive tackle, from playing the game of his life. He made

four tackles and recovered a fumble as the Panthers won 21-0. "Benji stuck a lot of dudes that night," says Ashtabula defensive end Fred Gage. For his efforts, Ramirez was named the Panthers' defensive lineman of the game.

Three nights later, on Halloween, Ramirez collapsed during practice after a tackling drill. He was taken to the Ashtabula County Medical Center, where, at 6:02 p.m., he died, apparently of a heart attack. He was buried three days later in his football uniform, the bright yellow BULA on his shirt almost obscured by poems, pictures and other mementos placed on his chest by grieving friends. Four hundred people attended the funeral, including city officials, his coaches and his teammates. Everybody liked Ramirez.

"He was a really nice guy," says Aaron Morris, a senior at Ashtabula High

and one of Ramirez's closest friends since second grade. "I don't think Benji had any enemies. He was really low key. He didn't even like rock 'n' roll."

One of the mourners was Mark Craffey, a first-team all-county offensive tackle, who wrote an essay about Ramirez's death for an English class. "Benji Ramirez died today," Craffey's piece began. "I don't even know exactly how to write about it. I feel cheated and helpless," Craffey concluded. "I asked Benji to tell me how, I asked God to tell me why. There was no answer and I cried."

Indeed, at first Ramirez's death seemed to defy explanation. The practice had not been strenuous, and the weather wasn't hot. The 6'3", 201-pound Ramirez appeared to be strong and fit. He was a member of the Ashtabula High wrestling team as well, and he was an avid weightlifter. After two years as a jayvee player in football, Ramirez had finally cracked the varsity lineup and seemed to be improving every day. He had even received a letter from Youngstown State expressing interest in him. A year earlier, he would never have dreamed that he could even be considered for a college football scholarship. "He'd come a long way as a

football player," says Sean Allgood, the Panthers' star quarterback. "Everybody was really surprised."

But as Ramirez's dazed friends struggled to console one another in the hospital halls shortly after his death was announced, Tony Rivera, team manager for the Panthers, took Ashtabula High coach Jim Orr aside and told him what many of Ramirez's friends suspected or

Before dying, Ramirez had the game of his life.



knew Ramirez had been using anabolic steroids. Orr passed the information on to Jeff Brown, an investigator for the Ashtabula County Coroner's Office. Coroners don't routinely test for steroids, but after a shocking death like Ramirez's, they will follow every possible lead. According to Dr. Robert A. Malinowski, the county coroner, the rumors of steroid usage by this young, healthy athlete changed the focus of his office's investigation. "We conducted it with that in the backs of our minds," he says. "Benji had no history of heart problems, so there was basically no reason for him to die."

Because the pathologist who normally would have performed the autopsy was unavailable, Ramirez's autopsy was performed by the coroner's office in Cleveland, which sent its findings to Malinowski. In an interim report released on Dec. 14, Malinowski announced that Ramirez had died of cardiac arrhythmia, a heart condition caused in this case by a diseased and enlarged heart. On Jan. 10, Malinowski released his final report, which included two findings. First: "Although we were not able to identify any specific steroid in the blood of Benjamin Ramirez, we can conclude through field investigation and some changes seen in the body at autopsy that Benjamin Ramirez did use anabolic steroids." Second: "It is the strong opinion of County Coroner Dr. Robert A. Malinowski that use of anabolic steroids did in some way contribute to the death of Benjamin Ramirez."

Malinowski, the father of 10 children and an avid football fan, is quick to point out that a coroner's report can't always deal in incontrovertible facts, and that steroid use wasn't listed as the cause of Ramirez's death but as a contributing factor. "I've been very careful to say it's my opinion," says Malinowski. "We don't have to prove anything beyond a reasonable doubt in this business. We don't have to read people their Miranda rights. Yes, it's possible I could be wrong. But I doubt it."

If Malinowski is right, Ramirez is the first U.S. athlete whose death has been linked officially to the use of steroids, a practice that, by all accounts, is spreading across the country faster than experts can track it.

On Jan. 31, the tiny St. John High gym on Station Avenue in Ashtabula was rocking St. John, which had a 14-2 record, was taking on 13-2 Ashtabula High, which had handed St. John one of its two defeats of the basketball season. The gym had filled long before the end of the preliminary jayvee game, and many fans who couldn't get inside stood outdoors by the windows, trying to gauge the course of the game by the crowd noise. The scene seemed cut from the pure, mythical heart of America. Here was high school sport drawing

"It's obviously an extremely timely problem," added committee member Dr. Jeff Brodsky. "I don't want to see more kids go through what [Ramirez] went through."

At halftime back at the school gym, Morris thought once again about his buddy. "Benji asked me if I wanted to use steroids," said Morris. "I was tempted, but I don't need to get bulkier; I'm a baseball player. The thing about kids these days is that physically we're in a rush to be adults, but mentally and emotionally we want to stay teenagers."



Ramirez (left) didn't think the body he had three years ago was big enough to "get girls."

folks together in a celebration of youth, competition and rock-solid, middle-class values.

But nothing these days is quite what it appears. That night in another part of town the Ashtabula Area City Schools Substance Abuse Committee was holding its first meeting. While the idea for the committee was developed before Ramirez's death, there is no doubt that the tragedy added urgency to its deliberations. The group discussed the need for a comprehensive drug-education program in local schools as well as for some sort of drug-testing procedure for athletes. Not as a punishment, said school superintendent Elinor Scricca, but as "an evaluation of behavior and physical prowess."

Jim Smith, the football coach at St. John, doesn't believe that kids have changed that much. But the world around them certainly has: the temptations they must face have increased tenfold. Smith stood in the gym hallway and observed the girls running past and giggling, the boys strutting, the same adolescent ebb and flow one has always found in high schools. "I think if kids had known about something like steroids 20 years ago, they would've taken them then, too," said Smith, shaking his head sadly.

Certainly Ashtabula (pop. 24,000) has changed in the last two decades. Located 55 miles northeast of Cleveland on Lake Erie, the town was once a vital manufacturing and transportation hub



Orr admitted his ignorance of the signs of steroid use.

feeding materials to the rubber companies in Akron and the steel mills in Youngstown. But the manufacturing slump that hit the Midwest in the '70s devastated Ashtabula. Two of the area's biggest employers, True Temper, a toolmaker, and Rockwell International's brake manufacturing plant, added to Ashtabula's woes of the past decade by pulling out of town.

Today Ashtabula is pocked with vacant, graffiti-covered buildings, and a sense of used-to-be pervades the town like a chill wind. "We should develop our recreational side, our beaches and the Ashtabula River," says acting police chief Gus Powell. "But all we're getting are a large number of welfare recipients because of our empty houses (and the resulting low rents)."

Ironically, one of the few growth businesses in town is physical fitness. The health clubs are jumping in Ashtabula. The message seems to be: If you can't control the world around you, you can still control your physique. The largest and most elaborate of the

bodybuilding centers is the New Life Health Club. When it opened in 1979, New Life had 22 members—all women—10 pieces of equipment and 1,000 square feet of space. Now it has nearly 1,000 members, 15,000 square feet of space, three tanning rooms, a lounge with video games and card tables, and three well-equipped weight-and-exercise rooms—one coed, one for women only and one for men only.

"The main reason for all this is the public's awareness that you need to control your own health," says New Life owner Jim Harrington as he conducts a tour of the facility. The flaw in that kind of reasoning is the equating of muscle development with good health. A fit-looking body is not necessarily a fit body.

Ramirez proved that point. He looked pretty good, though he wasn't a sculpted hunk by any means. "I laugh when people make him out to be this big Arnold Schwarzenegger-type guy," says Morris. "He was thick, but he was no muscle-bound critter."

In fact, in addition to the limited cosmetic benefits that steroids gave Ramirez, his body was undergoing other changes as well, including the atrophy of his testicles. He also had

the puncture wounds in his thighs from injecting the drugs. When used to promote rapid muscle development, anabolic steroids—natural and synthetic testosterone—can cause many physical and psychological side effects, among them liver and kidney disorders, temporary acne and balding, hypertension, decreased sperm count, aggressive behavior, depression and irritability. Like most users, however, Ramirez thought either the steroids were not actually harming him or that the result was worth the risk.

The primary reason Ramirez took steroids was not to become a better athlete though his new strength helped him in that regard. "Oh, no, this had nothing to do with football," says Morris. "Benji was not a diehard football player. He used steroids because he wanted to be big and get girls."

On the bulletin board at New Life is a cartoon of Santa Claus looking at a reindeer with huge antlers that look like two trees. "Blitzen," says Santa, "have you been using steroids again?" On a nearby bulletin board is a sign stating that the club strongly opposes the use of steroids and that anyone promoting that use at the club will forfeit his membership.

It's a nice touch—the antisteroids message—but it's undermined, particularly for young men, by the glossy posters on other walls in the club of muscle gods Franco Columbu, Lou Ferrigno and, of course, Schwarzenegger, in one of his many greased and bulging poses. On a table are muscle magazines with more photos of grotesquely swollen iron-pumpers. Nobody can look like that, no youngster, anyway. The kids all know that the bodybuilding ranks are riddled with steroid-abusing athletes, who seem to embody the power and confidence that many male adolescents seem so desperately to crave.

"I've got a lot of old mag-

Mallnowski reported that steroids did "contribute to the death."



azines with guys like Steve Reeves and Charles Atlas in them." says Danny Wells, 25, who won the Northcoast lightweight bodybuilding championship, a regional competition with participants primarily from eight Midwestern states, in 1987 and '88. "Back then there was a smoother, more natural look. Now it's how far can you take your body. You've got to be ripped, hard, down-to-the-bone, and that's what's really hard to do without taking steroids."

Wells used steroids for almost five

years, and though he's only 5' 7", he once weighed 220 pounds and sported 21-inch biceps. He said he quit using steroids when he became convinced he would die if he kept taking them. "My body just completely broke down," says Wells.

He now works at the Zip-Zap Brushless Car Wash in Ashtabula and says he's happy just to be alive, a notion he tried to impress on Ramirez several years ago when Ramirez approached him about taking steroids. "I was in training," says Wells, "and he said, 'Man, you're huge!' I said, 'Yeah, but a couple of trophies aren't worth risking your life for. If you want to play football, go train. Don't take steroids at an early age.' He seemed to listen to me, but I knew he got on them later. I know a juicer when I see one."

Wells no longer trains at health clubs because he has grown weary of young men—and some older ones as well—approaching him to ask about getting on steroids so they, too, can develop the

ripped look. Wells's mistakes have made him reflective. "I think every guy wants to be powerful," he says. "But kids don't understand that [Sylvester] Stallone weighed about 165 pounds in *Rambo*—that's the big screen. It's all an illusion. You have to think about life, what's real."

Ask any of Ramirez's friends why he used steroids, and they'll look at you in amazement. "To get big," says Rico Velez, an Ashtabula High sophomore. The word "big" has taken on new meaning for teenage boys. To be big means to be in control, macho, bad. It means you have bypassed adolescence and jumped straight to manhood. Joe Weider, the guru of modern bodybuilding and the editor of several muscle magazines, sells a bodybuilding protein powder that's called BIG.

Mchele Heath, a junior who knew Ramirez well, believes that the first time she heard of steroids was sometime in her junior year, when an antisteroid poster was placed on a wall in one of the high school's hallways. Before long someone wrote Ramirez's name on the poster. "Benji said the steroids were increasing his growth," says Heath. "He thought he'd be big eventually, but he



ELIASH VOORHOUT

Many of his high school buddies knew that Ramirez (left, with Morris) was on steroids.



W. B. BROWN



Cole says Ramirez took steroids "to fit in."

said he needed it now. He said he was speeding up time. He was impatient. He didn't want to wait."

According to Karey Cole, who worked with Ramirez at the Ponderosa Steakhouse in Ashtabula and had been a friend of his since seventh grade, he began to use steroids about a year before his death. "I know he started doing them in the late fall of 1987," she says. "He just came out and told my girlfriend and me. I think he took them because he wanted to fit in."

Another friend, Orlando Lopez, says that last summer he went into Ramirez's bedroom and watched him inject himself with steroids. Lopez also says that "anytime we saw a mirror, we'd always stop and flex in front of it. I wanted to be big, too. I always wanted to try steroids, but I didn't have the money." Lopez pauses and then continues, "Every picture I got of Benji and me, we're flexing."

Ramirez's mother, Milagros, and father, Benjamin Sr., who are both from the Dominican Republic, were divorced about 10 years ago, shortly before Milagros and her family moved to Ashtabula from New Jersey, where Benji had been born. Back then Benji was a skinny kid who often was teased because of his slight Spanish accent. "He looked like E.T.," says Morris. "He always had a big head, and his chest was sunken and his stomach stuck out a little. When people picked on him, he'd either back down or come get me."

In high school Ramirez was still insecure. Self-improvement was his obsession. "He wanted to better himself in everything," says Craffey. "Not just in football but in wrestling, at the Y, socially." Ramirez lifted weights almost every day at the YMCA. Although he was a woeful wrestler—he once lost a high school match in less than 30 seconds—he helped coach younger kids in wrestling classes at the Y.

Orr is still stunned by Ramirez's death. For a while Orr was painted as the bad guy, the coach who should have recognized Ramirez's steroid problem and taken swift action to correct it before things got out of hand. "My life has been nothing but hell since Benji died," he told the Ashtabula *Star-Beacon* on Jan. 13. "I'm damn tired of trying to defend myself when nobody is supporting me."

In fairness it should be said that Orr probably did no more or less than most coaches would have done in the same situation. "I'll admit ignorance about this," he says. "I'll admit that the kinds of training coaches have to go through doesn't at this point include the kind of information you need to identify this problem. I recently talked to our county coaches, and every one of them admitted he wouldn't have known the signs."

Coaches aren't alone in their ignorance. No one knows just how widespread steroid use is, in high schools or anywhere else. Almost always the drugs are bought and sold on the black market, making users difficult to track. Nonetheless, Charles Yesalis, a professor of health and human development at Penn State, suspects that "steroids are being used in epidemic proportions." Indeed, a 1988 study that Yesalis worked on found that 6.6% of male high school seniors were using steroids. FDA Commissioner Frank Young estimates that 10% of all high school students use steroids.

Compounding the problem is the fact that in many states, Ohio included, the possession and use of steroids

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is perfectly legal, though selling them in Ohio is a misdemeanor. Moreover, purchasing syringes—as Ramirez did to inject himself with the drugs—is as easy as going to the corner drugstore, presenting an I.D. and laying down your money. Hoffman's Pharmacy, where Ramirez bought boxes of syringes on several occasions, is only a few yards from Racquet West, where Ramirez sometimes pumped iron.

Milagros Ramirez sits in the family dining room near her son's framed Army Certificate of Enlistment. Be-

even see steroids as being drugs."

By all accounts, Ramirez's hero was his older brother, John, 24, an amateur bodybuilder who once finished second in the Mr. Golden Isles competition in Brunswick, Ga. "His brother was strong and really got the girls," says Gage, who was near Ramirez when he collapsed. "Benji wanted to be like him."

John, who is studying to be an air-traffic controller in Oklahoma City, denies ever using steroids and says that last spring, when he got a call from Morris and classmate Kevin Cherry

thought about it," says Orr. "I asked him, 'Are you using them, or have you been using them?' He said, 'No, and I promise you I won't.'" Gage, to this day, denies that he ever used steroids.

But Ramirez was using steroids. Sometimes, according to Morris, he would even shoot the drugs on game days, hoping for a rush that would carry over into the game. Morris went into Ramirez's bedroom the night after his death and found a used syringe in an old shoe in a wastebasket. "The cap was on the needle, but you could still see juice on it," says Morris. "It looked so fresh. I wasn't about to let his parents find it."

Morris says he kept the syringe until the day of Ramirez's funeral, when he turned it over to Dave DeLeone, the assistant principal at Ashtabula High. DeLeone in turn gave the syringe to the police, who sent it to the coroner's office. Brian Hubbard, an investigator for that office, says there wasn't enough material in the syringe to identify any drug, just as there was not enough urine in Ramirez's corpse to test for steroids. Although no drugs were found in or on Ramirez, Powell, the police chief, says he "would love to tie the sale of steroids to someone [in this case]. That could lead toward a manslaughter or homicide charge."

What remain for Ramirez's friends are images of a young man with a drug problem he either did not understand or had no control over. Shane Clinard, a senior at Ashtabula High, says that last spring he walked in on Ramirez injecting himself with steroids in his bedroom. After that, according to Clinard, "he did it openly in front of me. He used a 3-cc needle. He would fill it up to 2½ cc's, squirt a little bit out and then tap it to make sure the bubbles were out."

Craffey says, "Benji openly admitted his use to me after people started talking about it. I saw a vial, too, at school. It was the first time I had held one. It was in English class."

Some of Ramirez's friends also noted that the normally mild-mannered Ramirez became more aggressive. "I noticed the change because he played over me in scrimmages," says Craffey. "People would tease me, saying,



Wells, who says he now bulks up without using drugs, told Ramirez to avoid steroids.

fore he received the feeler from Youngstown State, he had decided to join the Army in hopes of becoming a pilot. She insists in broken English that her Benji could not have been using steroids because he had vowed to her that he didn't take drugs. She pulls out the Spanish edition of the *Reader's Digest's* medical encyclopedia and turns to a page that describes myocarditis and its range of symptoms. The entire entry is circled in red ink. "He had them all," she says of the symptoms. "He had them all."

"We explained to her that Benji was probably being honest with her," says Malinowski. "These kids don't

telling him that Benji was using steroids, he called his brother. "I told him that if he was taking them, to stop, and if he was thinking about it, not to," says John. "I told my mom and I told Aaron that they should let me know about it. That was the last I heard about it."

No one who knew Ramirez well should have been surprised to learn he had used steroids. His nickname was Roids. Last March, when Orr heard that Gage and Ramirez were using steroids he called each of them into the assistant principal's office and questioned them separately about the rumors. "Benji admitted that he had

"What's the matter? You can't take on Benji anymore?" Gage remembers that when a "a hiker girl" threw beer in Ramirez's face last summer, "he freaked out. He went crazy. I'd never seen him like that. He could've ripped somebody's head off."

Another of Ramirez's classmates, who asked not to be identified, says that on two occasions last summer he purchased steroids from Ramirez and used them in his company. In both instances Ramirez injected the classmate in the buttock and then injected himself. Says the classmate, "Benji talked to me about the side effects—that his nose would bleed and he'd have bad breath and get pimples on his shoulders—but he said it wasn't all that bad."

Another classmate who requested anonymity says that last summer he drove Ramirez to a house in Ashtabula and waited in the car while Ramirez went inside to buy steroids. When he returned to the car, Ramirez showed the classmate a bottle two inches long and told him it contained steroids. The classmate then drove to the YMCA, where he dropped Ramirez off and where, according to friends, Ramirez had first met this steroid supplier.

Bob Hile, the director of the Y, acknowledges that when he took over in 1985, "I found a syringe and a vial and turned it over to the police for testing. They told me it was anabolic steroids. I went down to the weight room and stopped everyone from working out. I told them it was our policy not to allow drugs on the premises. We had about six guys leave, and that was the last we heard about it until this."

At the Giant Eagle grocery store in the Saybrook Shopping Plaza on the western edge of Ashtabu-

la, the March edition of *Muscle & Fitness* is on sale. Ramirez liked looking through the magazine, with its colorful photos of highly muscular men and women. "He always talked about [bodybuilder] Lee Haney," says Morris. "He'd turn a page and say, 'God, look at this!'" The March issue contains a feature that promotes "living sexier through bodybuilding," advertisements that sell every form of bodybuilding supplement *except* steroids, and an article on silicone implants, the latest thing for "calf augmentation."

What does any of this have to do with health? Nothing. Indeed, Ramirez apparently started to feel sick not long before he died. James Barksdale, 26, a cook at the Ponderosa, says that in mid-October Ramirez complained of chest pains and admitted that he was injecting himself with steroids again. "He had quit taking them for a while and had just started back," says Barksdale. "He was smart enough

to know it was hurting him." Milagros recalls that during "the last months Benji said to me all the time, 'Mom, I don't feel good. Mom, I don't feel good.'"

But as Morris says, "Whenever Benji saw a big person, he'd comment, 'I want to look like that.' He wanted *the look*." And he wanted it now.

"All girls freak over bodies," says Gage. "I remember Benji saying he was starting to get the girls. Girls would say, 'Benji, you're getting big,' and he liked that. He liked the results."

After hearing the coroner's verdict, Vivian Cortes, a 15-year-old Ashtabula High sophomore, told the *Star-Beacon*, "I guess he did it [used steroids] to be more popular. He didn't have to do it, he was already popular."

Back in the St. John gym, the home team holds on to beat Ashtabula 64-61 in a thriller. "This was the biggest game ever played in this gym ... it's

probably the most important game I've ever had as a coach ... it's probably the most exciting game I've ever seen." Heralds coach John Bowler tells the press. His enthusiasm is understandable. Clear-cut victories are few and far between these days, particularly in the ever-confusing world of American high schools. For instance, in the next morning's *Star-Beacon*, a few pages before the story on the St. John-Ashtabula game, there was a letter from Rev. Ronald J. Nuzzi of St. John High explaining why the school was standing firm in its decision to sponsor the play *AIDS: I Don't Want To Talk About It*.

We live in troubling times. But troubling times can also be rewarding times for those who struggle and ultimately find their way. It's a shame Benji Ramirez isn't here to look for his reward. ■

Ramirez's grave is a sad reminder that fitness means more than big muscles.



**South Carolina  
lineman Tommy Chaikin  
used bodybuilding  
drugs for  
three years.  
They drove  
him to violence,  
and nearly to  
suicide**

# **THE NIGHTMARE OF STEROIDS**

**By Tommy Chaikin with Rick Telander**



**I** WAS SITTING IN MY ROOM AT THE ROOST, THE ATHLETIC dorm at the University of South Carolina, with the barrel of a loaded .357 Magnum pressed under my chin. A .357 is a man's gun, and I knew what it would do to me. My finger twitched on the trigger.

I was in bad shape, very bad shape. From the steroids. It had all come down from the steroids, the crap I'd taken to get big and strong and aggressive so I could play this game that I love.

I felt as though I were sitting next to my body, watching myself, and yet I was in my body, too. I was trying to get up that final bit of courage to end it all. Every nerve inside me was on fire. My mind was racing. I couldn't get a grip on anything. The anxiety attacks I'd been having for the last five months had become so intense that I couldn't stand them anymore. I'd lost control of everything—it's impossible to describe the horror I felt, the fear, the anxiety over that loss of control.

I could hear my teammates outside my room. They were walking back and forth, listening at the door. They talked in low voices, and they sounded very concerned. Every now and then someone would try opening the door, but I'd locked it.

"Tommy," someone would say quietly. "You O.K.?"

"Yeah."

"You sure?"

"Yeah." I was definitely going crazy, but not in a wild way. I answered in a very calm voice. I knew I was history—it was just a matter of time. I thought about the explosion and the bullet, about how it could take away this pain.

And then I heard my father's voice. He was banging on the door. "Tommy, open up!" he said.

It was a Friday morning, the day before our game against Clemson last November, and my dad and my older brother, Mark, had arrived from our home in Bethesda, Md. They were going to come down for the game anyway, but they arrived

I said to the two attendants, "You won't last 10 seconds with me now." They knew it. They let go of my arms.

"What are you talking about?" she asked. She was scared. "I can't take it anymore." I kept saying. "Please don't think of me as a coward."

I was a 23-year-old football player at a big-time school, 6' 1", 250 pounds, a senior defensive lineman who could bench-press 500 pounds. I was ready to kill myself, but I couldn't stand the thought of being seen as a coward. That's all I cared about. Even then, I was a football player, not a coward.

Somehow I got back to the Roost that night and fell asleep. I don't know how that happened, since I hadn't been able to sleep right for months. But when I woke up Friday morning, I felt O.K., and the first thing I said to myself was, "I'm going to play against Clemson. I'll play, goddammit!" We were 7-2, having a great season. I wanted to continue to be a part of it.

But then I started feeling bad again. The waves of anxiety washed over me. I started to tremble, and then I got my gun.

And now my dad was pounding on the door. On reflex, like a dutiful son, I hid the gun and let him in. He looked at me and said, "Tommy, let's go home." He took me to the airport, and we flew to Washington. I tried to compose myself on the flight, but it was horrible. I felt I was suffocating. My mom was waiting at the airport. "We're taking you to the hospital," she said.

All I said was, "I hope it isn't the psych ward, because I'm not going to the psych ward."

In the waiting room at Sibley Memorial Hospital in Washington, I started to have spasms. My body was having a reaction to Stelazine, the drug that a psychiatrist had prescribed for me a few weeks earlier when I'd first come home from South Carolina to get some professional help. That was right after our game against North Carolina State, which we won 48-0. I played well, too. I had six tackles. But off the field I was lost, erratic. Suicide was always on my mind. Suicide and football. The fact that I could play at all in my condition seems strange to me now. The Stelazine was supposed to reduce my anxiety attacks, but it just seemed to intensify them.

Finally my psychiatrist arrived at Sibley. He tried to explain what was happening to me, and I said, "I don't care about any of that. Give me something to help me now, or it's all over."

All of a sudden two guys in white jackets appeared. "We're just going to take you to the top floor of the hospital," one of them said. "You'll be fine."

We all got into the elevator, and I thought: *One Flew Over the Cuckoo's Nest*. I was in a movie. I was Jack Nicholson. I was Randle McMurphy.

ahead of schedule because I'd called my sister, Dawn, early that week and told her I was sick and needed help. My father flew down on Wednesday, but he really had no idea what bad shape I was in. On Thursday night I went to see my girlfriend, and mentally I was already gone. I'd lost it. I started crying, and I hadn't cried since way back when I was a kid. "Please don't think of me as a coward if I do something wrong," I sobbed to her.

But nothing was funny. I couldn't believe any of it. My mind was on fire.

We got off on the seventh floor, and there in front of us was a big door with a lock on it. I freaked. I turned to my dad and screamed. "What the hell are you doing, man! I told you I'm not going to this place! I'm not crazy! I don't belong here!"

Then the attendants grabbed my arms. I looked at them and said, "No." I was very powerful at the time, my adrenaline was flowing and my mind was reeling. I said to the men, very quietly, "You won't last 10 seconds with me right now." I could have broken their necks like clicking my fingers. They knew it. They let go of my arms.

"Do not touch me," I said. "I'll walk in myself."

I looked straight ahead. They opened the door, and I walked in. The door closed, and my parents and the rest of my life were locked out. In front of me I saw people milling around, some of them blank and silent. Suddenly, everything caved in. This was how far I had fallen. This was how far I'd gone since I'd enrolled at South Carolina four and a half years earlier to chase the American dream.

I often sit and wonder how it all happened, how I let anabolic steroids lead me into this mess. I feel there's something in me—a flaw maybe, a personality trait—that brought me down. Oh, yeah. I take responsibility for my actions. I'm headstrong, and I've got a temper. I can't blame others for my mistakes, certainly not for making me take dangerous drugs. But I still think of myself as someone who started out as just a normal guy, a hard worker, a studier, a kid who loved sports. And I feel part of the trouble comes from things outside of me—the pressures of college football, the attitudes of overzealous coaches and our just-take-a-pill-to-cure-anything society.

As I recover from my steroid use, I find myself sort of acting as my own shrink. I wish I could have amnesia, to tell you the truth. It's very painful for me to reflect on what happened. It's like having to watch game films of yourself where you get chop-blocked over and over. But it's how you learn, too.

Steroids can be taken in pill form, but that can be hard on the liver. With shots the drug stays in your system longer.



I had a normal childhood, I suppose. I grew up in Bethesda, the youngest of three kids in an upper-middle-class family. My dad runs his own window-replacement business, and my mom is a housewife. My dad always wanted us kids to be successful, but he didn't put pressure on us to excel in sports. All my drive was self-motivated.

I started playing soccer when I was seven, but I got bored with it and picked up tennis a few years later. I was pretty quick and I worked hard, and before long I was ranked fairly high in local junior tennis. I had always wanted to play football, though, and in my junior year at Walt Whitman High, I decided I was going to. But my dad wasn't big on contact sports—Mark had blown his knee out playing high school football—so it was a battle for me to get permission to play. Finally my mom signed my release without telling my father, and I joined the team as a split end.

I wanted to play because all the popular guys played football. And I wanted to excel. During that first year of high school ball, I was about 6 feet, 185 pounds, and I did all right as an end. But then our noseguard got hurt, and I switched to that position. I started spending a lot of time lifting weights, and I came back for my senior season weighing about 220. My teammates were amazed at how much I'd progressed. But the reason was simple—I'd worked real hard. I was named all-area, all-county and all-metro, and I knew I wanted to play big-time college ball. But I also knew I was no blue-chipper. Not at my size.

A few schools recruited me, but the coaches at South Carolina showed the most interest. They sent up the defensive line coach, Jim Washburn, and he came to see me in the hospital in the spring of '83, my senior year. I was recovering from having a prolapsed rectum wall repaired, fairly serious work. I was in a lot of pain, but I remember he told me that my bench press of 350 pounds would make me one of the strongest guys on the S.C. team. And he said that after the Gamecocks' annual spring game, the winners always ate lobster and the losers got steak. He was a good salesman.

All the time he was talking, he was checking me out, walking up and down the side of the bed to see how tall I was. I'd said I was 6' 2", but I'm more like 6' 1". He saw the tattoo of a star on my arm and the stretch marks around my pecs from lifting, and I guess he liked those things. Anyway, I wanted to play college ball so bad that I would've played anywhere at all. I'd never been to Columbia, S.C., but I didn't care where the school

was. When they offered me a ride, I snapped it up.

So I showed up in Columbia in the fall of 1983, a naive, easygoing but ambitious 19-year-old, ready to make his mark. The first thing I found out was that Washburn had fed me a line. I wasn't even close to being one of the strongest players on the team. There were a lot of monstrous guys in the weight room. And I found out later that the spring game winners didn't get lobster, either. They got little steaks, and the losers ate hot dogs. Basically, what I discovered was that I couldn't trust this man, my position coach.

I also discovered that Columbia was one of the hottest places on earth. For the first few days of double sessions Washburn ran me and the two other freshman defensive linemen half to death. Then one of the linemen, Ray Bingham, went to offense, and the other, Ricky Daniels, blew out his knee. That left me and Washburn, one-on-one in the heat, until the upperclassmen reported a few days later.

Washburn never stopped screaming at me. I was dehydrated, my electrolytes were screwed up, and my legs cramped all night. I actually prayed for a serious injury. One day I was standing in the huddle, and my eyes rolled up and I just keeled over. I'd stopped sweating, my skin was cold, I was delirious. They packed me in ice and gave me fluids. And the next day I was back at practice. All this—and I was sure they'd redshirt me anyway. I wouldn't even play for a year.

So I held a dummy for the scout team and got knocked around all fall. I didn't like it, but it was no big deal. Already guys had asked me if I wanted to take steroids—they called the stuff "juice"—so I could beef up and fight back. They were big guys, on steroids themselves, and they were trying to help me, but I always said no. I'd smoked pot a couple of times in high school, but I didn't like drugs. And I'd heard stories about the side effects of steroids, which can include cancer, liver damage, heart disease and sex problems. No way was I going to mess with something as risky as steroids. I was going to build myself up naturally.

In fact, I'd decided that I wanted to be a defensive end, and I figured I wouldn't have to build myself up at all. Over Christmas break I ran and ran and ran, and actually *dropped* my weight down to 205. I wanted to be lean and quick as a cat for spring practice. I got obsessed when I put my mind to something, and I was obsessed with being a fast defensive end.

That spring I got the crap knocked out of me. I got pushed all over the field. I also got a lot of muscle pulls in my legs, and Tom Gadd, the defensive coordinator at the time, reacted to that by saying, "Dianabol abuse! Dianabol abuse!" to me. He was referring to a type of steroid, but I hadn't taken any yet, so he didn't know what he was talking about. But neither did I—at least as far as being a defensive lineman was concerned. It turned out that being light and quick meant nothing. I found out the hard way that you've got to be *big* and quick.

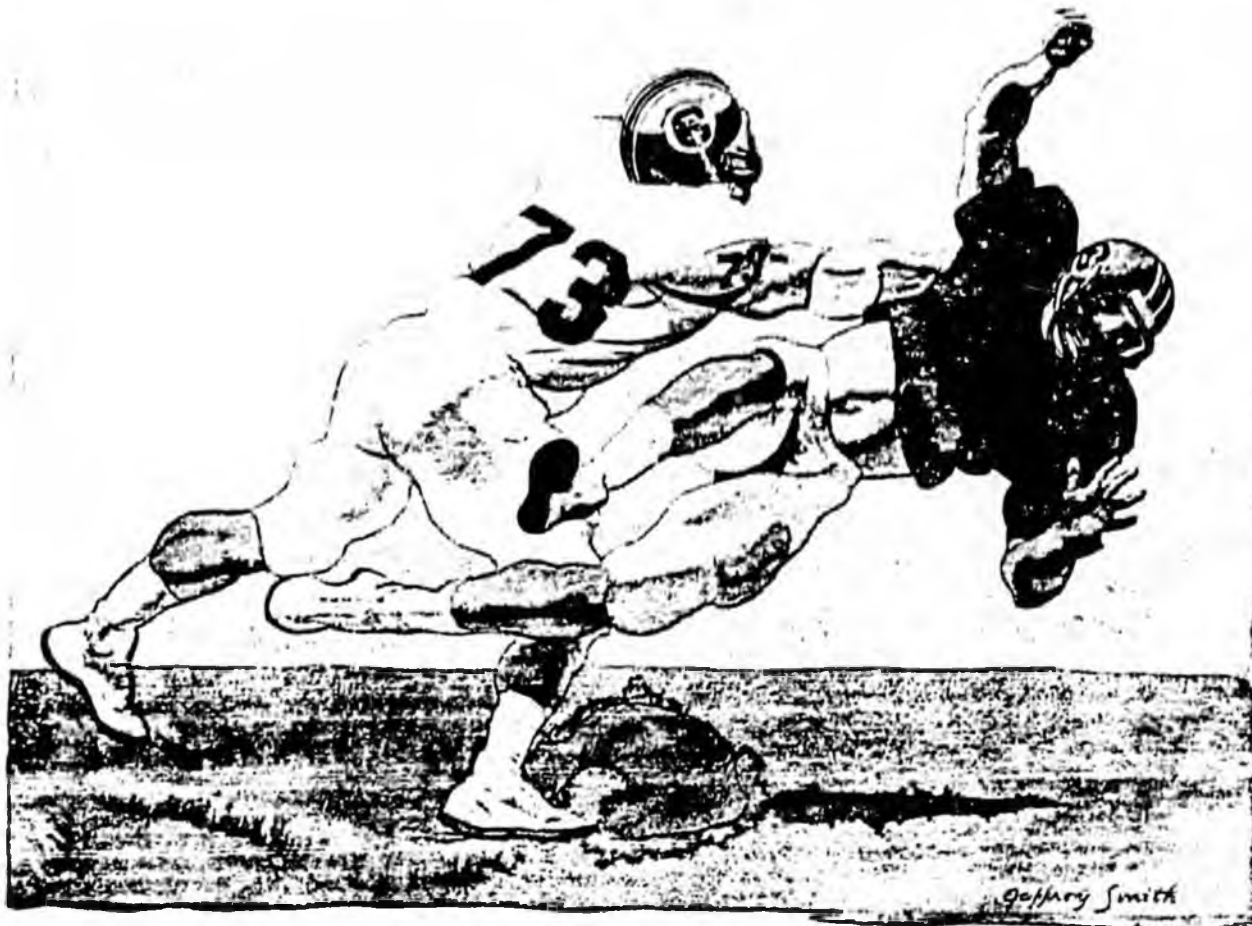
It was bad. Real bad. I finally said to myself, I've had enough of this, and I started looking hard at those guys who were using steroids. They looked fine to me: They were happy, they were going out drinking, they seemed to have normal sex lives, and they were a hell of a lot bigger than I was. Maybe it was time for me to join the crowd.

At that point I was so laid-back that guys on the team were calling me the Mild-Mannered Man from Maryland. I thought I was fairly intense, but I was nothing compared with



As far as drugs are concerned, I'd have to say now that Morrison's smoking was a poor example for the players.

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some of the others. In fact, the aggression level and the intensity of the players were the things that shocked me the most about college ball. There were fights all the time in practice, a lot of them instigated by coaches. They would always let the fights go, too, let guys beat the hell out of each other. If you showed a violent nature, regardless of your athletic ability, it definitely swayed the coaches' opinions in your favor.

Coach Gadd was big on drills that promoted fighting. Gadd was a dictatorial type, a little man with a little mustache, who had never played major college ball. We called him Little Hitler. One of his favorite drills was called Escape from Saigon. It involved three blockers, a ballcarrier and a defender. The defender would try to get to the runner, who was darting around while the blockers beat the hell out of the defender. Sometimes the defender would get his helmet knocked off and the three guys would keep hitting him. He'd be on his knees, dazed, and they'd keep sticking him with their helmets. A lot of guys took a beating in that drill. Gadd did it to get our aggression level up. We did it because if you didn't, you were a pussy, and if you were a pussy, you didn't play. You always hit the guy when he was down. Definitely. Your instinct as a human being was to have compassion. But then you just said, "Oh well, this is football." You suppressed your humanity to succeed.

In another drill one of my friends, George Hyder, was going one-on-one with a player who was very passive, and George

ripped the guy's helmet off and smashed him in the face with it, chipping some of his teeth. It was uncalled-for, but the coaches didn't mind. They liked it.

Joe Morrison, our head coach, might have been the one guy who *didn't* like it. In fact, he was against fighting. But he thought we were pussies if we couldn't handle the August heat. One practice it was close to 120° on the field and unbelievably humid, and guys were passing out left and right. Players were ripping off all their pads and running to get in the little bit of shade under this old dead tree. Morrison went nuts. He said we were mentally weak for letting the heat get to us. "If I had a chain saw, I'd cut that damn tree down!" he yelled.

He would just stand there in the heat in black pants, a black vinyl windbreaker and a baseball cap, smoking cigarettes like crazy, and he'd never sweat a bead. He was unbelievable. He had heart problems in the spring of '85, after my first varsity season, but he still smoked like a chimney all during practices and games. Looking back, I think his smoking habit was kind of a poor example for us, as far as drugs are concerned.

As a team, we must have run and hit in practice more than

I wanted to be lean and quick, but that spring I got the crap knocked out of me. I was getting pushed all over the field.



It was close to 120° and the players were ripping off all of their shirts and pads in the shade of an old dead tree.

He was a pretty big guy—6' 3", 245 pounds—with red hair. He'd played offensive lineman at a small college, and he used to tell us, "I would've loved to play defense, but I wasn't good enough." So our drills were a reflection of what he couldn't do himself. Washburn was hung up on being macho, and he'd say bizarre things to us about manhood and being tough and big and mean. "Ever think about just ripping someone's head off?" he'd ask us. And, I swear, he was serious.

The coaches definitely had the ability to draw out the viciousness in players. On defense, for instance, most of the guys were black—my sophomore year, there were only two or three white starters—and before we'd go up against the offensive line, Washburn would get the black guys together and say, "Those honkies are calling you niggers." Of course, the black

any other team in college football. Gadd was a Lombardi disciple. We had what he called Packer Days, even in the 100° heat, when we'd do conditioning drills that seemed like they'd never end. Guys would just drop from exhaustion. Washburn liked contact drills, including one where two linemen would grab each other's shoulder pads and butt heads until one of them dropped. Washburn would watch us and yell encouragement. He loved it.

guys knew he was just trying to get them riled, but they also knew there were some offensive linemen who were very Southern and antiblack.

Anyway, the coaches wanted us to be as aggressive as possible, and it didn't matter where that aggression came from. That's the thing about football—once you whip up anger, you can twist it, channel it, aim it, just like a water hose. Coaches got me to respond by going after my ego, my pride. If they said I was a bum, I had to prove I wasn't.

So that spring of my freshman year I decided I was going to take steroids to get big and strong and aggressive. I finally broke down. There was no one thing, really, that led to the decision. It was a combination of things. Gadd always preached about the big, violent guys he'd seen in the Western Athletic Conference when he coached at the University of Utah. He made those guys sound like animals, killers, and it made us feel we didn't measure up.

That affected me. I took it as a challenge to my manhood, and I'm sure that's exactly how Gadd wanted me to take it. Then, too, I saw how well the guys already on steroids were doing—maybe 30 of them at that time. There was also the fact that I was young and felt nothing bad could happen to me, combined with the fact that I was part of a drug-oriented society. In addition to all of that, I felt I had the coaches' encouragement. I'm told that Washburn says he opposes steroid use, but he told me, "Do what you have to do, take what you have to take."

Another thing that had gotten to me was trying to compete with the black guys. I hadn't played against many blacks, and they intimidated me with their strength and speed. I'd say that all but a couple of the guys on my team who used steroids were white, and the reason they did was to keep up with other guys on steroids and with black athletes. There's no question in my mind that there's a difference in black and white body types. I don't know why, but I could see the difference in the locker room. And I knew it when I played against blacks. So a lot of white guys take steroids to even things out.

I made my decision, and the funny thing is, I felt good about it. I was looking forward to the adventure of it and the chance to perform at my best. The thing people often don't understand is that college athletes feel tremendous pressure to succeed. Some guys have parents who are pushing them real hard. Other guys are just very competitive and have great pride. Nobody wants to sit on the bench and be a failure.

After I'd made my decision, getting the stuff was no big deal. I had spent a lot of time back home at a gym where serious lifters worked out, and I think by now everybody knows that the majority of bodybuilders and powerlifters use steroids. I had a friend there, and I knew he could get me what I wanted or tell me where to go for it. He got me some steroids, and I told him I also wanted hGH, human growth hormone. He told me where I could get it.

I knew hGH was expensive, but I'd read in a muscle magazine that it was safer than steroids, and I wanted to believe that. I also knew that hGH could cause acromegaly—the en-

largement of the brow, hands and feet that's sometimes called "Frankenstein's syndrome"—but that you'd have to take megadoses for it to happen. Some bodybuilders take \$10,000 worth of hGH per cycle—that's a bodybuilding term for a series of drugs in varying doses—but I only got \$800 worth, enough for 10 injections over eight weeks. Tunnel vision had set in. My attitude was: Just give me what it takes to get big.

Still, I was pretty scared because I'd heard all the horror stories about the drugs. My supplier told me that if I didn't get too crazy with this stuff, didn't abuse it, I'd be O.K. Then we went down into his basement at home, and he gave me my first injection, in the top of my butt. I went right to the weight room and had a great workout. I was pumped, but, of course, it was all psychological.

I had a lot of injections that summer, and after a while the spots I had to hit on my rear end got so callused from shots that at times I couldn't even get a needle in. You don't inject steroids into a vein. It's not like heroin or something. You shoot it deep into a muscle, and it gradually disperses through the body from there. It's very hard to shoot yourself up in the butt, and sometimes when I did, I hit spots that hurt so bad I could barely sit down the next day. Other times I'd shoot myself in the quad, the front of my thigh. It's dangerous because you have to go in an inch or so, and you can cause nerve damage if you're not careful. But if nobody's around to inject you, you have to do it.

You can take most steroids in pill form, too; but you have to take them every day, and certain pills can be harder on the liver. With shots you don't need to do it as often—12 times a month, in my case—and the drug stays in your system longer. At first I was very worried about needles, but after a while my concern went away—mainly because my body was changing so fast.

People who say steroids don't work don't know what they're talking about. You've got to experience it to know what I mean. Your muscles swell; they retain water and they just grow. You can work out much harder than before, and your muscles don't get as sore. You're more motivated in the weight room and you've got more energy because of the psychological effects of the drug.

I went from about 210 pounds to a lean 235 in eight weeks. My bench press went from the upper 300's to 420, and my squat from 400 to 520. I watched my diet and I was really cut—big arms, chest and legs, great definition. I went

back to Columbia in the summer of '84, before my first varsity season, for the Iron Cocks meet, a lifting competition for football players. A bunch of guys who were already on steroids saw me and said, "Aha, so you bent to the pressure."

I said, "Yeah, I've begun the chemical warfare." And we laughed. Washburn saw me and said, "You look great!" He must have known I was using juice.

Besides the muscle growth, there were other things happening to me. I got real bad acne on my back, my hair started to come out, I was having trouble sleeping, and my testicles began to shrink—all the side effects you hear about. But my mind was set. I didn't care about that other stuff.

In fact, my sex drive during the cycles was phenomenal, especially when I was charged up from all the testosterone I was taking. I also had this strange, edgy feeling—I could drink all night, sleep two hours and then go work out. In certain ways I was becoming like an animal.

And I was developing an aggressiveness that was scary. That summer I was working as a bouncer at this bar in D.C., and one night a Marine bumped into a girl I was dancing with.

Words were exchanged, then I followed him to where he was sitting and said, "I didn't appreciate that." He put his beer down and came up hard under my chin with his hands, and a slice off my tongue about an inch long went flying out of my mouth. I didn't even notice it. I saw red. I felt an aggression I'd never felt before. I hit him so hard that he went right to the floor. He was semiconscious, and I got him in a headlock and started hitting him in the ribs and kneeing him in the back. I wanted to hurt him real bad. I could literally feel the hair standing up on the back of my neck, like I was a wolf or something. If I hadn't been on steroids, I would've

walked away in the first place. But I had that cocky attitude. I wanted to try out my new size. I was beginning to feel like a killer. It was like football: a test of manhood between two people—you or me, all the way.

Back at school that fall, when I took the football physical, a doctor said, "Have you ever had high blood pressure and a heart murmur?" I said no. He said, "Well, you do now." I brushed it off. No big deal. I never heard a word about it from the coaches. Nobody seemed to care. I certainly didn't. A lot of guys were using more steroids than I was, and they were fine. Besides, I was in great shape. I ran the mile in 5:45, faster than a lot of linebackers.

I brought a bagful of stuff I'd gotten from my connec-

I'd shoot myself in the front of my thigh. It's dangerous, since you can do severe nerve damage if you're not very, very careful.



tion to school—bottles of Deca-Durabolin, 100 syringes, some vials of vitamin B-12—and I started selling it to teammates. We thought the B-12 would help us get through two-a-days. We wanted it for the energy, the placebo effect, whatever. Our team doctor, Paul Akers, injected B-12 into anybody who wanted it before games. And our orthopedic surgeon, Robert Peele, would shoot up guys who had injured ankles or whatever with Xylocaine, a local anesthetic. So what we were doing wasn't much different from what the doctors were doing; it was

a fight on a recruiting trip and bit somebody's ear off.

These guys were my friends, and they were remarkably aggressive. I admired them because they had a mean streak I didn't have. They got on steroids about the same time I did, which heightened their aggression. One of my teammates hit a guy in a bar one time, and after the guy fell to the floor with his jaw collapsed and some teeth knocked out, the player kicked him in the head. Blood was everywhere. I'd say steroids had something to do with it.

I really feel that under certain conditions some of the guys who were on steroids would have been perfectly willing to beat someone to death. One time during the middle of a cycle George and another guy punched out the windshield of George's car, an old Toyota Tercel, and head-butted the windshields of some others. Then they came and got me and said, "Let's go kill somebody." I knew this was trouble, but I went anyway, for the hell of it. We drove for a while in George's Toyota, then they got out and started head-butting cars, breaking some more windshields. If anybody looked at them funny, they'd intimidate the guy until he ran away.

During two-a-days in August, I started a new cycle, taking Deca-Durabolin to help me keep pumped up. The coaches liked my new size and aggressiveness, and they moved me up to second-string defensive end, where I knew I'd play a lot. This was in 1984, and we didn't have to take drug tests yet, so there was nothing to worry about. Even after the NCAA instituted tests in '86, they were a sham. A lot of guys would just say, "Doc, I can't urinate in front of you," and they'd go into a stall where they'd hidden a vial of someone else's urine, and pour that in the cup. Some guys would pour salt or vinegar into the cup, which was supposed to mask any traces of drugs. Even when guys tested positive, nothing happened to them.

The trouble for some of us was that we couldn't sleep—that's one of the things steroids did to me—so we drank a lot at night because there wasn't anything better to do. I could drink a dozen beers and maybe eight or nine shots of vodka or bourbon in a few hours, easy. And because of the steroids and the booze, I'd get into fights.

Five nights before our first game of the season, against The Citadel, I was in a bar, and I got into an argument with this guy. I told him if he wanted to fight, to come out into the alley, which he did, and when he pulled his arm from behind his back, he was holding a 12-inch deer knife. He swung at me and I blocked it. Then he swung lower, and I couldn't tell if he got me or not. Just then one of my teammates, Woody Myers, came into the alley, and the guy tried to stab him. Woody and I jumped behind a car, but when I looked over my shoulder, I saw that the whole back of my shirt was soaked with blood. I put my finger in a hole under my right arm. The guy ran away and, before too long, the paramedics came. They were shocked at how high my blood pressure was, particularly after I'd lost so much blood. They asked if I was on steroids, and I said yes. At the hospital I told the doctor to stitch me up tight because I had a game that week.



I hit the Marine so hard that he went right to the floor. If I hadn't been on steroids, I would have simply walked away.

all done to enhance our performance.

Back in the spring I'd used some other drugs, too. I snorted cocaine with a couple of other players one night, but it was a bad experience for me. Coke was sort of circulating through the team then. I'd say about a third of the players had used it occasionally. But some guys used it the night before games, and a few drank before we played. That's just how it was.

Then one night some of the guys on the team took microdots of LSD. That was interesting but intense: I don't know how anybody could take it very often. But some of my teammates had done it a lot. My buddy George Hyder said he had taken acid about 300 times. He could ingest anything. He was a very hyper person, and other guys on the team were, too. The word was that one of them got into

**CHAIN**

The coaches were very upset when they found out what had happened, but they told me not to discuss it with anybody. "It's not what we want to talk to the press about," Morrison said. So nobody found out. And I played against The Citadel, my first college game, with a stab wound under my pads.

After a few games our nosetackie got hurt, and I moved from defensive end to nose and played a lot. I did pretty well, but I was still going against guys who weighed 280 or 290 pounds. I ordered some rhesus monkey hormones from back home—two bottles, 20 injections, for \$800—and it came Federal Express. It was supposed to be great stuff, able to build muscle without a lot of the water retention steroids cause. But I didn't get any size off it, so I think it was fake.

I was getting steroids for a lot of guys now through my source. He had a close friend who was a doctor, and he could get anything we wanted. I'd sell the stuff, but I didn't make a profit from it. I knew it was wrong, but I rationalized that the guys wanted the steroids and I could get high quality juice instead of the junk some guys were getting from Mexico and other places, stuff with no labels or anything on it.

By my junior year I'd say about 50 guys out of the 100 on the team were using steroids—almost all the offensive linemen and a lot of other players. And I'm convinced that we weren't much different from other major college teams. Believe me, players can tell. I'd say the majority of recent All-America offensive linemen have used steroids. You can tell what steroid users look like—pink and puffy skin, swollen faces and necks, but very tight skin wherever there's muscle. I'd play against these guys and they'd be huffing and puffing, and we'd look at each other and one of us would say, "How's that blood pressure?" And there's eye contact that says, "Yeah, I know. It's rough out here playing on drugs."

Before the North Carolina State game in '84, I tore ligaments in my right big toe in a pileup in practice. We were undefeated at the time, 7-0, and Washburn said he needed me. I

couldn't push off on the foot and it hurt tremendously, but I wanted to play. So the day of the game I went into the back room with Dr. Peele, Washburn and Morrison. Morrison told somebody to lock the door because he didn't want the referees walking in on this. Washburn held my hand while Dr. Peele injected my toe joint with Xylocaine. When he was done I couldn't feel my foot at all. It wasn't till the painkiller wore off during the bus ride home that I was in agony.

I played in the next two games, against Florida State and Navy, but missed the Clemson game because of problems with my toe and back. We finished the regular season 10-1 and went to the Gator Bowl, where we lost to Oklahoma State.

It had been a successful season for me, so being the kind of obsessive guy I am, I went even harder into steroids. Real hard. During the spring I was taking two cc's of testosterone every third day and 10 Dianabol tablets daily, a huge amount. Washburn looked at me and said, "Wow, what did you take? Everything but the kitchen sink?"

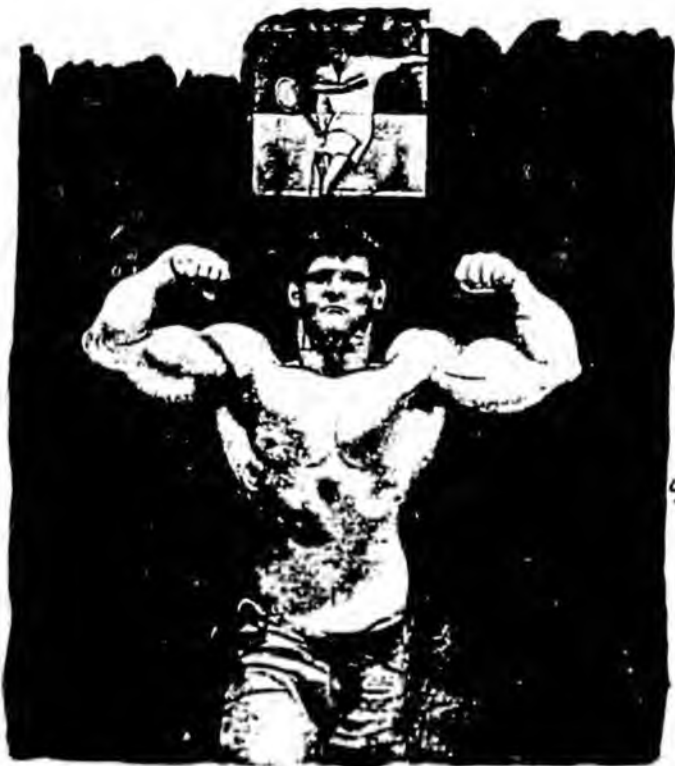
I liked being on the edge; most athletes do. We're thrill-seekers. Athletics itself is a high. Football players will do wild things because it keeps them on the edge. At South Carolina, when we had time off, some of us would take our guns and go out and shoot—at anything—to keep from getting bored. Taking steroids was just another way of living on the edge. And it became a big social thing. Seven or eight of us heavy users would get in a dorm room together and start shooting each other up. Guys would show up with their bottles, and there'd be a lot of chatter: I shoot you, you shoot me. We all enjoyed it. I had boxes of syringes that I got from certain pharmacies in Columbia for 20 bucks for 100. We'd say it was for B-12 shots, but those needles are shorter and you need an inch or so to do steroids intramuscularly. They would give us the longer needles as long as we signed "B-12" in the book.

We never used the same needle twice. I can tell you that. We tried to be careful how we injected each other, too, but sometimes you'd hit the sciatic nerve or something, and the guy's legs would buckle. I mean, none of us were doctors or anything. But we were needle-happy. We would have injected ourselves with anything, if we thought it would make us big.

A lot of times, if we were really getting bigger, we'd increase our dosage to gain bulk even faster—just fill the syringe to the end. We'd occasionally read the paperwork that came with the bottles, trying to figure out what a dosage should be for someone with anemia or a guy whose body can't produce enough testosterone, which is what the stuff is usually used for. Then we'd take 2, 3, 4, 10, 20 times that amount. Sometimes we'd take our needles and pull half a cc from one bottle and half from another, just mix them up. The more the better.

By the fall of '87, my senior season,

there was one guy who was taking so many tabs of a steroid called Anadrol that he developed liver problems. At one point during the summer of '85, there were guys so heavily on steroids that they couldn't make it once around the track without getting back cramps from being so bloated. This alarmed Keith Kephart, our strength coach, so he took all the linemen in a room and said, "I want to know who's on Ana-



Stacking

I was benching close to 500 pounds and squatting more than 600. I weighed 260, and I looked just like a steroid user.

drol. I'm hearing horror stories. This is the strongest stuff around. It can be lethal. Now, who's using?"

A lot of guys raised their hands, but I didn't because I was on other steroids. Kephart wanted guys to cut back on their intake. I don't remember him telling us to stop, but he did say, "If you want counseling, come to me." I really think he cared, but he didn't think he could change us.

It was common knowledge that we were using the stuff. I had bottles of juice all over the place. We threw the used syringes into the waste cans in our rooms. I mean, we even had syringes sticking in the walls. Coaches would walk in and see the stuff, but nobody gave a damn. One of the coaches came in for a room check once, saw a vial with a skull and crossbones on the label and said, "I used to use Dianabol myself. What's this stuff?" We laughed and said, "It's a great new product from Germany. Look at the instructions. They're in German." He just laughed.

Players would stop by my room, as if it were a store, and ask if they could get some steroids. One time, even Todd Ellis, our quarterback, asked George Hyder about steroids. He wondered how much they cost, what the effects were and how long it would take to get them. I wondered what steroids could do for a quarterback. Build up arm strength, I guessed. Anyway, George told Todd he didn't have any. I didn't offer any myself, and I never saw Todd take any. But there was just this sort of no-big-deal attitude about it all.

The spring of '84, I bulked up some more, and people were in awe of my strength. I was benching close to 500 pounds, squatting more than 600. I could do 30 one-armed presses with a 100-pound dumbbell. I weighed about 260, and I looked like a steroid user. I took all kinds of stuff, including Equipoise, a horse steroid designed to make thoroughbreds leaner and more muscular. It was tough on me—I got colitis and was bleeding rectally—so I switched to other stuff. Guys started calling me Quasibloato and the Experiment, because they thought I'd take anything.

My aggression level was so high that I got into an argument with the team trainer at one point during spring practice and went to my locker, put my hand through the metal mesh and ripped the door off its hinges. Then I went back to the Roost and took a baseball bat and demolished my refrigerator, smashed it to pieces, and then ripped the phone off the wall. My nerves were on edge like they'd never been before. At practice one day I got into a fight with Shed Diggs, a linebacker, because he cut in front of me in line for a drill. I threw him down, pulled his helmet up far enough so I could get my fist in there and smashed him in the eye. As he got up, bleeding and humiliated, I felt sympathy for him. But then the steroids kicked in and I said to myself, "All right! You're a tough guy!"

I went home for spring break, and my mom took one look at me and said, "My God! What have you done to yourself?" I tried to deny everything, but my dad looked in my bag and

found two vials of testosterone. He got very upset. He called our family doctor and had him try to convince me to get off steroids. My dad tried to talk me into quitting football and told me that he'd pay for my schooling. My sister called me constantly, trying to get me off the stuff. But I wouldn't listen. "I'm sorry," I said to my parents, "but it's a decision I've made, and I'll try not to abuse the steroids."

I don't know if you can call steroids addictive, but there's a vicious cycle involved with using them. The growth of the muscles enhances the aggression and other psychological changes caused by the drug, and those changes, in turn, make you want to get bigger and take more steroids. Plus, there is a terrible letdown when you come off them. I would be very high and then there'd be this extreme depression. And after each cycle, the comedown itself would get worse, plus, I'd get sick. I got walking pneumonia, bronchitis, exhaustion to the point where I had to sleep 12 to 14 hours at a time. Steroids were definitely wrecking my body.

I was also going through a personality change. I was becom-



I took a bat and demolished my refrigerator, smashed it to pieces, and then tore the telephone right off the wall.

ing a hard-ass, one of the meanest guys on the team. It was a dramatic change, and the coaches loved it. So did I, in a way, because being passive hadn't done anything for me. But I also knew my behavior was becoming erratic, and that frightened me. Images of violence often filled my mind. I'd drive along and find myself thinking about sick things like crushing people to death, tearing off their limbs. I'd be grinding my teeth and gripping the wheel so hard that my arms would hurt.

Because of the tension at my house, I started spending a lot of time at my supplier's place in the summer of '85. Hyder and Myers came up from school, and we sat around injecting our-



One night I pulled a loaded shotgun on the boy delivering pizzas. I thought that was funny.

selves with all kinds of steroids, whatever was there.

One night we all injected each other, then went out drinking and got crazy. George had a pistol and we picked up a friend who had a shotgun, and I drove everybody out into the country in George's pickup. As we went past signs, those guys would blast away at

them. They blew out the spotlight and security camera in front of an estate, and then shot the windows out of a bus parked in front of a church. One of the bullets went through the bus and killed a cow in the nearby pasture, and the cow slumped over the fence and rolled into the road. Blood was dripping from its head. I freaked, but the other guys were laughing. One of them wanted to shoot the cow again. Right then a cop car started

chasing us, but we drove down some paths in the woods and lost the cop.

This hadn't been my way, but it had become my way. Steroids ruled my life.

That fall, my second varsity season, I played pretty well, but we finished with a 5-6 record. The high point for me came when we played Michigan, a team I'd dreamed about playing against since I was a little kid. Ohio State-Michigan, that was what college football was all about. And if I played for South Carolina against Michigan—well, that was pretty damn close.

To get really fired up, I started taking a steroid called Halotestin a couple of weeks before the game. Its only effect, as far as I could tell, was that it enhanced aggression. It should have been called Holocaust, judging by what it did to me. My aggressiveness was out of control. I was cheapshotting people in practice, clotheslining them, ripping scout team quarterbacks' helmets off in noncontact drills. The coaches liked my enthusiasm, but they had to sit me down a few times for being a little too wild. I played great against Michigan, even though we got our butts kicked. Against Georgia the next week, we lost again, 13-6, but I was named defensive player of the game.

I started getting sick toward the end of the season, though. During the game against East Carolina in late October, I had bad chest pains, numbness in my arm and chills, and I had to come out in the second half. I thought I was dying. They cut off my jersey and took me to the hospital in an ambulance. The doctor said my cholesterol level and blood pressure were off the charts, probably because of the steroids. The pain was from angina, a pre-heart attack condition. Still, the coaches didn't seem to notice. My dad told Washburn he wanted me tested weekly for steroid use, but nothing came of it. And me—all I could think of was football. I was obsessed. We players even had a motto: "Bury me massive, or don't bury me at all."

I stopped taking steroids for a while because I'd been so sick, and after the season I had knee surgery. Then, over spring break, I went down to Fort Lauderdale. I was back on steroids and was very big and cocky, and after a few drinks one night, I got into a hassle with two cops in front of a bar. They told me to move, and I told them that if it wasn't for their guns and badges, I'd beat their asses. The next thing I knew, they'd clubbed me across the neck and legs, beat me up pretty good, and taken me to the station. When I went in front of the judge the next day, though, he just looked at me and said, "Trying to be a Fighting Gamecock, huh?" Then he let me go.

Not long after that I had a pain in my side, which I thought was from the beating. But when I went to a doctor I found out I had a swollen liver from the steroids. About this time Dr. Akers asked me if I was on steroids. I told him I was but asked him not to tell anybody. He turned right around and told Morrison, who called me in to find out who else was taking them. I told him I wouldn't talk about anybody else. Morrison looked at me and said, "Don't do it anymore." That was it. He's very quiet, not real communicative. He played for the New York Giants for 14 years, and he's very old school and tough: *You hurt? Put a little dirt on it.* So the whole thing just sort of went away.

Just the same, I vowed to turn over a new leaf. I was going to watch what I ate and if I used drugs at all, it would be very little. I was getting sick a lot, and even though I'd been doing

O.K. academically. I was having a hard time concentrating on school. I'd either be up all night or I'd be listless and sleep a lot. Also, the way my sex drive came and went was bizarre. And when I got drunk—oh brother! One night in my dorm room, I pulled a shotgun on the pizza delivery boy, threw him down and put the gun in his face. It was loaded and I could have blown the kid all over the floor, but I was just fooling around. It was the kind of thing I thought was funny.

In 1986, my third varsity season, we lost some close games and finished a miserable 3-6-2. I moved around from nose to tackle and even played a little linebacker. After the season, though, I developed a tumor on my chest and it grew to the size of a handball. I was in bed coughing up mucus, and I was very depressed and fighting bouts of severe anxiety. Right before spring ball, I started another steroid cycle and, *boom!*, my blood pressure shot right up. I was sweating and had hot flashes. I knew my body was rejecting the drugs, so I stopped taking them.

I went to Dr. Akers and showed him the tumor, and he said, "Don't worry about it, it'll go away." But I didn't trust him, so I went to another doctor, and he said I needed surgery right away. I also had a tumor on my right hand that he said needed to come out. The tumors he said, were caused by steroids, but the athletic department said they weren't football-related injuries, so the school wouldn't pay the medical bills. My dad's insurance paid for the surgery, which was performed at Baptist Medical Center in Columbia in February of '87. As I lay in bed recovering, I began to wonder what this was all about. I was very depressed and I needed time for rehab, but spring drills would begin soon. Since the school hadn't paid for the surgery, it was as if it hadn't happened. *You're fine, get your ass out there, boy*—that was their attitude.

I said, "Screw it, screw all of you," and I quit the team and moved out of the Roost. I was sick, but I still had the desire to play, to excel. I couldn't kill that. I was reading a lot of philosophy, and I started thinking that this mindless aggression and physical self-destruction wasn't what life was all about. But I couldn't quit football before my senior season—I just couldn't come to terms



On the plane to Lincoln I had an anxiety attack, and I had to lock myself in the bathroom to try to calm myself down.

out of control. The night before two-a-days began, I went out drinking with the other players, and we got crazy, head-butting each other, getting ready.

The next morning I had an anxiety attack, a big one. I sat in my room for hours, just trying to hold on to reality. I had another attack a few days later. I didn't think anybody could help me. I had tried to explain the feeling to my parents, but they couldn't understand. They didn't think I was doing steroids any-

more, and so they tried to reassure me. "Don't worry, you're just tired and worn out," they said.

But the attacks got worse and worse. Somehow, I was still a starter. I spent a lot of time in my room because I was so afraid, so paranoid. I'd wake up in the morning and everything was gray—I swear to God—everything had lost its colors. It was the worst thing you can imagine. There was a roaring in my ears, and I saw trails behind moving objects. I couldn't read, because I couldn't concentrate. One minute I would think the mental illness was over with, and the next minute it would come racing back. Thoughts of suicide came into my mind. Every day was torture, and I started saying, "Please, God, let me make it through one more practice." I had to make it through practice so I could play in the games. That was all that mattered. I didn't care about my health, just football. I wasn't going to quit, by God, and I didn't want anyone to take my position. I didn't care if I died, as long as I completed the season, as long as I finished like a man.

with that. So I wrote a letter of apology to Morrison, and he took me back. It was a phony apology, but I would have done whatever was necessary to get back on the team. My sense of self-worth was tied up in the game.

About this time I was starting to battle anxiety attacks that I was sure were caused by the steroids. I can't really describe an attack, except to say that it's like your mind is a car engine stuck in neutral with the gas pedal to the floor, just screaming. There is terror mixed in, and you think that you're going to explode. The anxiety attacks were the worst mental pain I'd ever experienced.

By the end of the summer of '87, though, I was getting a handle on things, feeling better, working out a lot, doing it the natural way. I had vowed never to touch steroids again, but once again, I did. I couldn't stop. Just before I went back to school, I did a shot of Parabolin, yet another steroid. I blew up to 270. I couldn't bench much because of a shoulder injury, but I could squat 650 pounds. I also started to get that edgy feeling again. My mind started racing, and I felt

I had a good game against Nebraska, but I don't know how. On the plane to Lincoln I'd had an anxiety attack and had to lock myself in the bathroom to try to calm down. In the game, though, my technique was almost flawless, and I had a lot of tackles. But I was like a fist, ready to squeeze myself to death.

Then in the sixth game of the year, at home against Virginia, I was overwhelmed with anxiety, almost panic. The crowd seemed like it was closing in. Except for that one shot of Parabolin, I hadn't used drugs for five months, and I kept wondering what was happening to me. I finally just walked off the field in the third quarter of the game and took my pads off and sat on the bench. The doctor asked me what was wrong, and I just said, "I don't feel good."

The coaches let me go home to see a psychiatrist, who agreed that steroids were to blame. That's when I got on Stelazine, which was supposed to help me. It didn't, and I saw another psychiatrist in Columbia, who put me on an antidepressant to go with the Stelazine. One day in class I felt the room start to sway. I staggered out of the class and down the stairs, even though they seemed to be moving. I weaved past people, but I couldn't hear anything. I got outside and I lost control of my bladder and my bowels. I urinated and defecated all over myself. I was praying to God I could make it to my car. Somehow I got there, drove back to the dorm, showered and lay down in bed. That was the end. I couldn't do anything. I couldn't practice. It was over.

My father came soon after that, and I went back home with him. I got out of Sibley in seven days, and after several more weeks at home, I went down to visit the team in Jacksonville, where they were beating their heads in while preparing for the Gator Bowl game against LSU.

The guys looked pretty ragged because they'd been going through two-a-days, but my friends saw me walk in and invited me to eat with them. The coaches saw me, too, but none of them came over to say hello. The players had suggested to the coaches that the Clemson game—the one right after I left—should be dedicated to me. Some of the guys wore my number on their helmets, but apparently Morrison didn't even mention it to the press. He tried to keep it quiet. He never called me in the hospital, either. And neither did Washburn.

When I returned to school the next semester and told Morrison I wanted to live off campus, he said the school wouldn't pay for it. Fortunately, my dad called and said, "Listen, if you don't pay for his housing, we'll go right to the papers

about it." I got a check in the mail real fast. I don't think the coaches thought I was a bad guy. They were just scared that I'd say something about my steroid problem, and probably wanted to sweep it all under the carpet. They didn't know how to handle any of it. It just seems to me that if a guy has given himself to the team for 4½ years, they should be a little more concerned about his welfare.

People ask me if I hate Morrison and the other coaches. I feel sorry for them because they have so little compassion, but I don't hate them. I'm not out to get them—that's not the point of this article. I just want people to know that steroids change you in many ways, and that the psychological changes are the most drastic of all. I've seen so many players become brutal and mindless from steroid use. Look what happened to me.

I love football, but I am worried about the course it is on right now. Most coaches are hypocrites. They don't really care about their players. They only care about winning, and that's because of the pressures put on them—I understand that. But once you start using people as commodities, you've lost your integrity. And it's hard to get that back.

I don't know if our coaches could have stopped our steroid abuse, but they could have helped us act more rationally. They know that they're dealing with 19-year-old boys who need guidance, not pounding and brainwashing and hypocrisy.

I don't want to see another player go through the living hell I went through the last few years, and that's why I'm speaking out on this. I'm embarrassed by what I did. But if I can help someone else, maybe I can help myself, too.

I take no drugs now, not even aspirin. I still have problems with my vision, but the doctor says that should pass with time. The whooshing in my ears is probably there forever. I can't deal with physical stress the way I used to, and I can't exercise too aggressively or I get terrible headaches. My balance isn't what it used to be, and I still feel edgy. I can't work full-time, because some days I have to rest. I'm not well. Steroids screwed me up pretty good. Maybe you have to be a little crazy to play football. But you shouldn't take steroids. You *can't* take them.

And yet, there I was in the weight room at South Carolina last spring, and I could tell a lot of guys were still on the stuff.

I saw an old teammate, a guard, a big country boy who's heavily into steroids, and I said, "Look in the mirror, man. All you're going to see is my reflection."

"I don't give a damn," he said. "It won't hurt me, Tom. It just affects you a whole lot worse than it affects other people."

Maybe that's true, maybe not. God help those who find out. ■

Some of the guys wore my number on their helmets, but neither Morrison nor Washburn ever even called me in the hospital.



STATE OF ALASKA  
THE LEGISLATURE

POUCH Y - STATE CAPITOL  
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907-465-3800

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Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

H. HESS

2-15-89

Original sponsors: Menard, Larson,  
C. Davis, Koponen, et al.

1 IN THE HOUSE

BY THE HEALTH, EDUCATION  
AND SOCIAL SERVICES COMMITTEE

2 CS FOR HOUSE BILL NO. 126 (HESS)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 SIXTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act adding anabolic steroids and their related  
7 materials and substances to schedule VA of the sched-  
8 ular of controlled substances under the Criminal  
9 Code."

10 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

11 \* Section 1. AS 11.71.180 is amended by adding a new subsection to  
12 read:

13 (d) Schedule VA includes anabolic steroids and any material,  
14 compound, mixture, or preparation having pronounced anabolic prop-  
15 erties and relatively weak androgenic properties, including an isomer,  
16 salt, or derivative of the following substances that acts in the same  
17 manner on the human body, that is used clinically principally to  
18 promote growth and repair of body tissues, containing one or more of  
19 the following substances:

- 20 (1) bolasterone;  
21 (2) boldenone;  
22 (3) clostebol;  
23 (4) dehydrochloromethyltestosterone;  
24 (5) ethylestrenol;  
25 (6) fluoxymesterone;  
26 (7) human growth hormone;  
27 (8) masterolone;  
28 (9) methandienone;  
29 (10) methandrostenolone;

- 1 (11) methenolone;
- 2 (12) methyltestosterone;
- 3 (13) nandrolone decanoate;
- 4 (14) nandrolone phenpropionate;
- 5 (15) norethandrolone;
- 6 (16) oxandrolone;
- 7 (17) oxymesterone;
- 8 (18) oxymetholone;
- 9 (19) stanozolol;
- 10 (20) testosterone propionate;
- 11 (21) testosterone-like related compounds;
- 12 (22) ultandren.
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