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NJ Police Chiefs Foundation F. Thomas Mueller Scholarship Award Given to Anne Nelson

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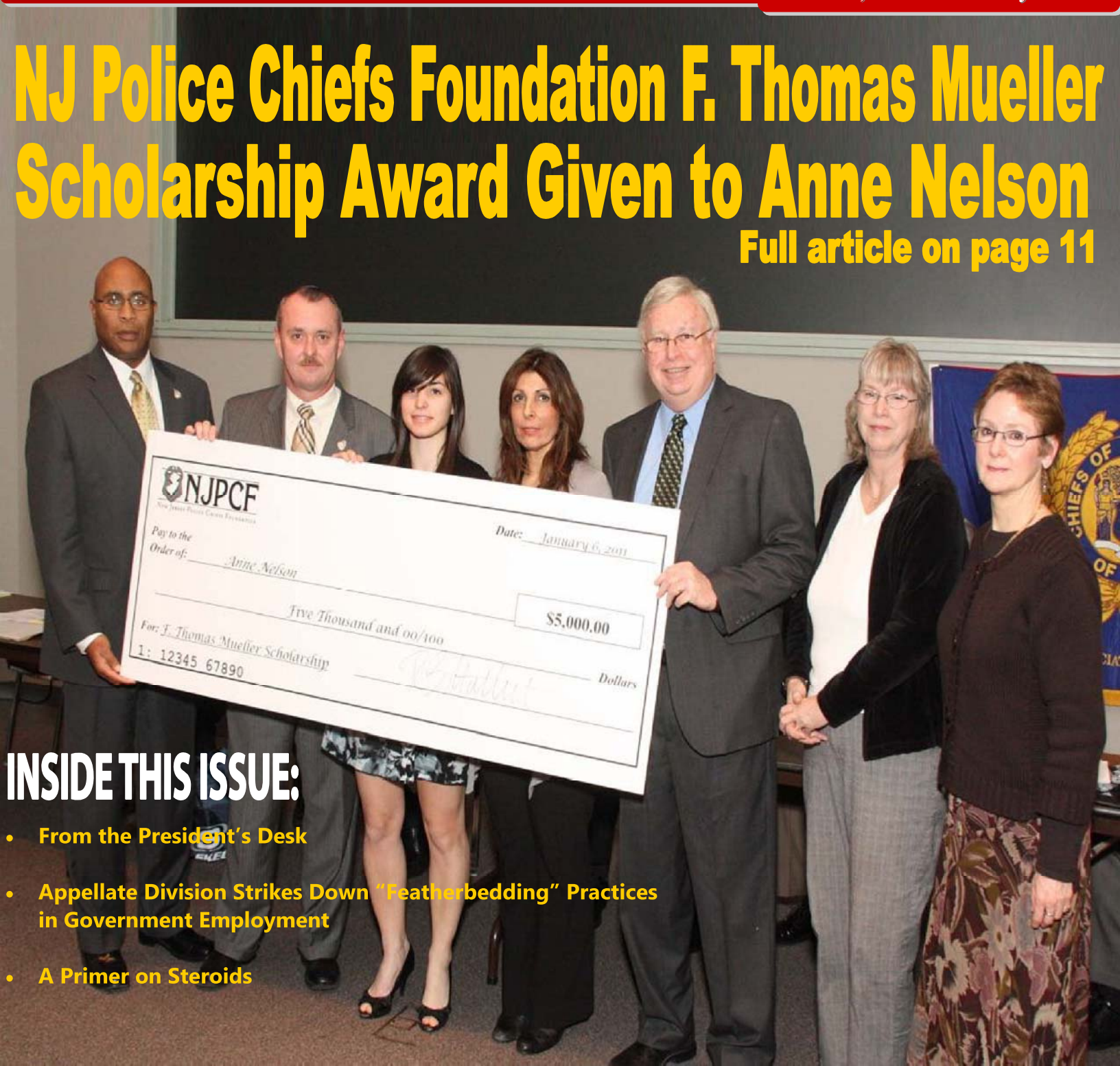

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A Primer on Steroids

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For more than 20 years, numerous reports have surfaced about police officers who used steroids. This has affected police departments across the country including those in Los Angeles, Miami, New York and Phoenix. And now, dozens of departments in New Jersey have been added to the list. In mid-December, a three-part investigative series that appeared in The Star-Ledger revealed that a physician—now deceased—had supplied steroids "to hundreds" of law enforcement officers representing 53 agencies throughout the Garden State.

This news created a large public outcry, triggering discussions on a wide variety of topics that ranged from including steroids in random drug testing of police officers to questioning the use of government health plans to purchase the steroids (specifically, taxpayer money that ran into the millions). The ensuing uproar also prompted state Attorney General Paula Dow to commission a task force to investigate the use of steroids by police officers in New Jersey.

Needless to say, steroids are probably now on the radar screen of everyone in the law enforcement community. Therefore, it's important for police chiefs to gain a basic understanding of this drug.

First produced in the 1930s by scientists in Germany, steroids are synthetic (man-made) derivatives of the male sex hormone testosterone. Popular steroids include methandrostenolone (trade name: Dianabol), nandrolone decanote (Deca-Durabolin), fluoxymesterone (Halotestin), oxandrolone (Anavar) and staozolol (Winstrol). Also of note are the so-called "designer steroids" that are made in such a way as to avoid detection in drug testing. An example is tetrahydrogestrinone (aka "The Clear" and, for short, THG) which gained considerable notoriety during the federal investigation of Victor Conte and his Bay Area Laboratory Co-operative (BALCO).

Steroids have anabolic as well as androgenic properties (thus the technical term of "anabolic-androgenic steroids" or "AAS"). The anabolic (or growth-promoting) effects include increases in muscle mass, protein synthesis and nitrogen retention; the androgenic (or masculinizing) effects include the development of male secondary sexual characteristics such as an increase in facial and body hair and a deepening of the voice. Scientists who develop steroids try to maximize the anabolic effects and minimize the androgenic effects. (For simplicity's sake, anabolic-androgenic steroids will be referred to in this article as steroids).

Steroids can be taken by ingestion, by injection or via a skin patch or cream. (By far, the most common way of self-administration is injection.) Administration of steroids typically involves "stacking" (using two or more different types of drugs at the same time); "cycling" (alternating periods in which the drugs are used with periods in which the drugs aren't used); and "pyramiding" (increasing doses of the drugs for the first half of a cycle and then decreasing doses of the drugs for the second half).

Up to the 1980s studies had shown that steroids were ineffective. This must have been quite amusing to the thousands of Eastern Bloc athletes—most notably from the former Soviet Union and German Democratic Republic—who had been using steroids for many years as part of state-sponsored programs and were highly successful in sports that required strength, power and speed.

Since then, countless studies have shown that steroids are indeed effective. Research has found that steroids increase muscular strength, especially when taken in conjunction with a strength training program. Steroids also increase lean-body (muscle) mass. However, steroids don't decrease fat mass. As a result, body composition is enhanced but mainly though the increase in muscle mass. Upon termination of steroid use, the drug-induced improvements in muscular size and strength gradually diminish. There's no scientific evidence that steroids increase endurance or expedite recovery between workouts.

A multitude of side effects from steroids have been documented in the scientific and medical literature. It must be noted that for ethical reasons, studies often use relatively small doses of steroids for short periods of time. So, studies may very well underestimate the true extent of the side effects. And in "real life," steroids are usually taken in doses that are far more than recommended thus presenting a much greater risk.

Keep in mind that what follows are potential side effects; there's a great deal of variability based on the type of steroid, dosing regimen and duration of use as well as individual tolerances. Also worth mentioning is that while some side effects are reversible with cessation of use, others are not.

Steroids pose serious threats to the liver and kidneys, including the formation of tumors in those organs. There are also significant risks to the

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cardiovascular system. Steroids have been linked to high blood pressure (hypertension) and high cholesterol. (Steroids increase low-density lipoprotein, the "bad" cholesterol, and decrease high-density lipoprotein, the "good" cholesterol.) High blood pressure and high cholesterol are two major risk factors for cardiovascular disease. Moreover, steroids are associated with several heart conditions including a thickening of the left ventricular wall (which makes it more difficult for the ventricular chamber to fill and pump blood).

The reproductive system is particularly vulnerable to steroid use. Essentially, steroids produce feminization of men and masculinization of women. In men, this means testicular atrophy, functional impotency, sterility, gynecomastia (the appearance of female-like breasts on the male physique), a high-pitched voice and prostate enlargement; in women, this means decreased breast size, increased facial hair and body hair, a deepening of the voice, menstrual irregularities (such as amenorrhea) and an increased risk of breast cancer.

Steroids have the potential to produce a wide array of side effects that have a profound impact on behavior. This includes anxiety, euphoria, depression, extreme mood swings, paranoia, auditory hallucinations, delusions of grandeur, sleep disturbances, irritability and an increased libido (sex drive). Perhaps the one psychiatric side effect that's most frequently documented and discussed is an increased level of unpredictable hostility and aggression commonly referred to as "roid rage."

Speaking of behavior, one study found an association between steroids and criminality in that criminal activity increased with the initiation of steroid use. And in a study of prisoners, those who tested positive for steroids were more likely to be convicted of a weapons offense than those who tested negative.

Additional side effects are fluid retention, hair loss, acne, unprovoked nose bleeds and a predisposition to tendon and ligament injuries. Finally, those who inject steroids run the risk of blood poisoning and the spread of communicable diseases—including HIV and AIDS—from contaminated needles along with neural dysfunction as a result of improperly placed needles.

Research has shown that about 30% of the individuals who use steroids will develop a dependence on the drug. The dependency can lead to classic symptoms of withdrawal — including depression and fatigue— when steroids are discontinued.

There's strong evidence that steroid use often leads to multiple drug use. This, of course, represents a big problem and manifests itself in many ways.

In one study, 77% of self-reported steroid users also used at least one other illicit or non-medical drug during the previous year. For instance, steroid users were almost 12 times more likely than non-users to use cocaine. Furthermore, studies have shown that steroid use is associated with opiate use and a higher prevalence of alcohol use.

Individuals who use steroids tend to use other appearance—or performance-enhancing drugs such as human growth hormone. In addition, they may use other drugs in an attempt to control the unwanted side effects of steroids. For example, they may take amphetamines to combat depression and diuretics to avoid fluid retention and reduce blood pressure. (Diuretics are also used to "mask" the appearance of steroids in a drug test.)

Steroids are prescribed by physicians for a number of medical conditions such as anemia, cancer, burn injuries and HIV infection. Another legitimate use of steroids is in testosterone replacement therapy and hypogonadism, a condition in which the gonads (testicles) produce levels of testosterone that are below the normal range of healthy men. The vast majority of testosterone prescriptions are written for men who are 46 and older. To ensure that testosterone is prescribed by a physician for the treatment of hypogonadism—and not something else like the improvement of muscular size and/or strength—individuals should be able to provide medical documentation that their level of testosterone is consistent with that of a hypogonadal man.

Steroids are legal in some countries but not in the United States (at least not without a prescription). Because of the potential for widespread abuse, Congress enacted the Anabolic Steroids Control Act of 1990 which classified steroids as Schedule III controlled substances.

Federal law makes simple possession of steroids punishable by up to one year in prison and/or a minimum fine of $1,000. The penalties increase for those with previous convictions for certain offenses. For first-time offenders, selling steroids or possessing them with the intent to sell is punishable by up to five years in prison and/or a $250,000 fine. Those penalties double for second-time offenders.

Police officers must be educated about the dangers that steroids present to their physical and mental behavior—most notably hostility, rage and aggression—steroids that are taken for non-medical reasons are also a serious threat to the safety of their fellow officers and members of society.

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