

From: John Bandy
Sent: Thursday, June 17, 2004 10:53 AM
To: Chris Compton
Subject: cycling

EPO and Bicycling

By Chad Asplund, MD
Jun 27, 2003, 03:26

Recently our sport has been riddled with scandal revolving around the use of performance enhancing supplements. From the "Festina affair" in 1998, to the 2002 Giro, we now all know what non-negative means, and those accusations are that if you are winning in cycling, you are probably doping. Testing during the 2000 Tour de France revealed the presence of various performance enhancers (drugs and supplements) in the urine of 45% of the competitors that were tested. The most commonly discussed of these performance-enhancing supplements is erythropoietin (EPO). This article will discuss what EPO is, how it is being used, detection tests, and the future of doping in cycling.

EPO is a hormone naturally produced by the kidneys when oxygen supply is low. Thus natural EPO concentrations in the blood increase when a cyclist is anemic, has been training at altitude, or has been exposed to pollution or second-hand cigarette smoke. EPO acts as a signal for the bone marrow to increase the rate at which red blood cells are made and released into the circulation (this can be measured as the reticulocyte count). The increase in number of red blood cells leads to an increased oxygen supply to the tissues throughout the body. This oxygen rich blood then acts as a signal to the kidneys to stop producing EPO keeping the hematocrit within the normal range.

Synthetic EPO has been made by inserting the human gene responsible for EPO into a cell within a laboratory and then stimulating the cell to produce recombinant EPO (r-EPO). r-EPO was developed by pharmaceutical companies for treating patients with kidney failure, or those undergoing cancer chemotherapy. R-EPO assists these patients in raising their hematocrit and oxygen carrying capacity, ameliorating the symptoms of their chronic disease. Early clinical trials showed that r-EPO is capable of increasing the hematocrit (index of red blood cell level) by 3-4% over 3-4 weeks.

It is documented that the endurance process is improved in athletes with an increased red blood cell level, and thus an increased oxygen carrying capacity. This occurs whether the red blood cells are increased via transfusion, or artificially with r-EPO. Improvements in performance are greatest about 3 weeks after r-EPO injection.

Although no direct links have been made between EPO and cycling deaths, anecdotal evidence is abundant. Too much r-EPO can increase hematocrit to the point that overall blood viscosity is increased making the blood like sludge. This thickened blood could cause the heart to work excessively hard, which may lead to a heart attack. Increasing hematocrit also increases the risk in the cyclist for clotting events, raises blood pressure, and resultant iron overload can ultimately lead to organ failure. Evidence has shown that long term EPO use may also possibly contribute to blood borne cancers.

Despite the potentially fatal risks, it is apparent that many professional cyclists may be using EPO to improve performance. Because EPO potentially gives an unfair advantage in competition, it has been banned by the **Union Cycliste Internationale (UCI)**. As EPO is a natural body substance it is very hard to detect by conventional (direct) testing methods. Levels of synthetic EPO can be detected, but the half-life is so short, that r-EPO is out of the system within 6-12 hours. Other detection methods have been focused on abnormally high hematocrit levels. In Geneva in 1997, the UCI implemented an upper level of normal for hematocrit of 50%, and 2.4 for the reticulocyte count. Those cyclists testing higher than these levels are then subjected to the more accurate French urine test, which is an indirect test that looks for specific biomechanical properties of synthetic EPO using sophisticated laboratory techniques (gel electrophoresis).

What is next for cycling? Medical technology, in its wisdom to discover new methods to increase the oxygen carrying capacity for patients with chronic diseases, has given rise to several potentially new performance enhancers. Blood substitutes such as perfluorocarbon emulsions, stabilized hemoglobin, and recombinant hemoglobin can improve performance by increasing oxygen carrying capacity, without yielding false results in current blood tests. Other performance enhancers being used are steroids and growth hormone, which allow for greater lean muscle mass and a faster recovery from maximal effort. On the horizon, genetic engineering may profoundly alter the course of competitive sport by allowing scientists to inject genes directly into the athlete to enhance performance.

SCA 001000

Please note that this article is intended to provide information regarding supplement use in recent news, to include previous Tours. Use of illegal supplements is not endorsed by Roadcycling.com or by me. At the present time, the long-term effects of EPO and other performance enhancers are not known. I believe that it is best to be safe and clean in the long run, rather than victorious now and possibly dead or disabled in the future. It is my hope that the UCI and other governing bodies will arrive at a solution to this emerging problem, and that cycling will return to a fair playing field.

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SCA 001001

From: Chris Compton
Sent: Wednesday, December 7, 2005 10:43 PM
To: matt.smith@sfweekly.com
Subject: article

Matt,

The below two excerpts from your article of yesterday is of interest to SCA Promotions. See my request below the second excerpt.

Sponsorship and bonus-payment agreements entered into by Weisel-controlled companies created a situation in which performance-enhancing drug use could theoretically be construed as a form of financial fraud, defined here as a situation in which a party misrepresents the truth in order to obtain money.

If a Postal Service team member were shown to have doped during the past five years, the prospect for such an investigation could be particularly ominous for the Weisel sports companies where Osipow served as an executive. Starting in 2001, sponsorship agreements between the U.S. Postal Service and these companies included strong anti-drugs language under which the contracts could be thrown out if team management knew of athletes' drug use and looked the other way. Copies of the agreements I obtained had the sponsorship amounts blacked out. Press reports, however, have claimed the USPS paid out around \$10 million per year during the agreement, underwriting Armstrong's Tour victories between 1999 and 2004.

If possible, please send a copy of any sponsorship and bonus agreements which you referenced above to SCA. We would greatly appreciate it. For your convenience, our address is SCA Promotions Inc., 8300 Douglas Avenue, Sixty Floor, Dallas, TX 75229 Attention: Chris Compton

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