

Original article in German:

<http://www.nzz.ch/aktuell/sport/uebersicht/die-blutspur-des-radsports-1.536876>

Translation by: N.M. Faber, Chemometry Consultancy

The blood trail of cycling

Not all lab values suffice for doping bans. But they show the extent of the fraud.

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By Remo Geisser

How sick is cycling? What has been speculated for weeks can be determined quite accurately. The anti-doping laboratory in Lausanne studies blood values of pro-riders on behalf of the International Cycling Union UCI since 1996. The resulting data sets are huge because since 1997, blood samples are taken from various participants in all the major tours. Officially, these are health tests, but in truth, it was intended from the beginning to exclude athletes with conspicuous blood values from racing. This is called a protective ban because the values do not suffice to speak of doping. Such bans are rare today - the athletes and their backers have learned to dope to the limits.

What information is provided by blood values

But the doping analysts know far more than they can say out loud. They noticed that even supposedly clean pro-riders often have other blood values than normal people. Through a series of reference points, a team of the laboratory in Lausanne developed a model to determine the frequency of blood doping. Pierre-Edouard Sottas uses here the medical concept of prevalence. Prevalence is the proportion of people with a given disease (in this case, doping) in a population. "The method is very accurate," says Sottas. And it works with all forms of blood manipulation: EPO doping, own blood and foreign blood transfusion." Today, we can determine with certainty how many doped racers start a tour," says Sottas. With the data he uses, a new doping test will be introduced (see text below).

When in the 1996 Tour de Suisse blood samples were taken in order to develop the future UCI test, EPO was an undetectable miracle drug. Martial Saugy, the head of

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the Lausanne laboratory, says: «At that time, more than 80 percent of the riders was doping.» In other sports, there were no systematic controls. But Saugy is convinced: «What held true in 1996 for cycling could be transferred to all endurance events.» At that time Bjarne Riis won the Tour de France. Today we know: he was the best in a race of blood-zombies.

1996 was also the year of the Olympic Games in Atlanta. Saugy says: «I would give a lot if I could analyze all samples collected from Atlanta with modern methods.» But the IOC does not want a scandal afterwards. Remains only cycling. Sottas and the team of the Lausanne anti-doping laboratory have studied all the major cycling races since the introduction of the blood tests and in the process also determined how quickly the peloton reacted to new controls.

The trend in recent years:

1996: There are no controls; more than 80 percent of the riders use EPO.

1997 to 1999: The definition of a hematocrit limit causes unease among athletes, the number of dopers declines slightly.

2000: Everyone knows by now how to manipulate the hematocrit. EPO is again applied more broadly.

2001: An EPO test is introduced, which has dramatic consequences. «Before the Tour de France 2001 the peloton was practically clean,» says Pierre-Edouard Sottas. In the third week, however, again an increase could be identified - the win was at stake, and obviously they had already recognized the limitations of the test.

2002: At the beginning, the prevalence is still low, towards the end of year, it increases markedly.

2003: In the Vuelta the riders benefit of the lax attitude of the Spaniards. «You can almost speak of completely covering doping,» says Sottas. The reason: EPO in micro-doses and foreign blood transfusions are not detectable.

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2004/2005: A test for foreign blood transfusions is introduced; Tyler Hamilton and Santi Perez are caught. This initially leads to a shock, but then they manipulated with their own blood. Nevertheless, the prevalence declines: around 50 percent of the riders manipulate, but among the best the percentage is higher. The percentages in the Vuelta are again higher than those of other races.

2006/2007: With Operación Puerto, the Spanish blood swamp is drained. The number of dopers is as small as ever since 2001. Less than a quarter of the 180 riders that started in the 2007 Tour de France pedal with manipulated blood. However Sottas says: «Among the top 30 in the overall classification, the prevalence is higher than in the lower ranks.»

On the basis of their data, the Lausanne doping investigators assume that there are no longer teams that systematically manipulate blood. In 2003, that was still the case. One can clearly see how the picture has changed in individual teams. But there are still teams with frequently doped athletes, and it is still the case that in certain countries there are many athletes with abnormal blood values.

Not completely covering

Similar methods as for the detection of blood doping exist for anabolic steroids. The Lausanne lab director Martial Saugy says that the proportion of riders who use for example testosterone, is similar to that of the blood dopers - and very often these are the same people. Less accurate is the picture for growth hormones, because the test introduced in 2006 does not really work. Studies demonstrate, however, that growth hormones are only effective in combination with EPO or anabolic steroids. Furthermore, catches of police and customs show: growth hormones are smuggled in about the same amounts as other doping substances. This gives a clearly different picture than the one lately prevailing in public, namely that of a totally infested cycling. The 2007 Tour de France, decried as Tour de Farce and at the end reduced by the media to doping reporting, was one of the cleanest since long. Even with the utmost care it can be said: 75 percent of the riders were clean. But recent history shows how quickly that can change.