



## Psychogenic urine retention during doping controls: Consequences for elite athletes

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### ABSTRACT

Psychogenic urine retention during doping controls (PURD) refers to an athlete's inability to urinate during a doping control. This paper reports PURD to occur quite frequently in elite athletes, investigates the relationship to the clinical disorder of paruresis (PAR), and investigates its relation to recovery, performance, and self-perception of professionalism and athletic excellence. Furthermore, a scale developed especially for the close description and measurement of PURD is presented. A questionnaire was used for measuring paruresis. The results are based on two online and one paper and pencil study involving 222 German-speaking athletes from various sports. The results indicate that 60% of these athletes have experienced psychogenic urine retention during doping controls, with only 39% of them showing symptoms of paruresis. PURD impacts athlete recovery and self-perception of professionalism and athletic excellence. Suggestions for psychological interventions and recommendations for improving the doping control system are given.

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### 1. Introduction

Sixty-six percent of North-American athletes claim that doping controls are “no big deal” for them (Coombs & Coombs, 1991). This number is quite surprising if one considers that an athlete and a doping control agent stand very closely together in a small space while the athlete has to fill a small beaker with at least 90 ml of urine (WADA, 2009). During this procedure the doping control agent closely observes the athlete's genitals in order to ensure that the athlete is actually delivering his or her own urine and does not add any other substances to the beaker. The procedure might also entail the doping control agent placing his or her head directly in front of the athlete's genitals (Riedel, 2008).

Recently more and more incidents have become public in which athletes describe their inability to urinate during a doping control, even though they show neither physical nor psychological disabilities. “I just can't pee after games. I drink water, energy drinks, until I am full—nothing happens. I usually need two to three hours until it is over” reports Oliver Kahn (German national football goalie, 2007). A sports physician reports that “The others on the team just smile when those two with the problem have to go—they know it will

take one to three hours, no matter what.” (M. M. Schlegel, personal communication, December 13, 2010).

These reports might sound humorous but for some athletes the doping control actually resembles a traumatic event. A 17-year old athlete reported that she had attended the German championship together with a group of athletes from her sports club in a city about 600 kilometers away from home. Her competition had been one of the last that day and afterwards she had been asked to attend a doping control. However, it soon became clear that she was unable to urinate in the presence of the doping control officers. Over the course of three hours she drank more than 6 liters of water and energy drinks. This intake of fluid caused her increasingly excruciating pain. All the while her teammates were on the bus waiting for her to finish the doping control so they could all return home together. None of the doping control officers knew how to handle the situation because letting her go without the urine sample would be considered as a positive test result. The girl was in tears, pleading for a blood test in order to put an end to the ordeal. Finally, the control was called off. The girl was able to urinate as soon as she was unsupervised. Afterwards she felt humiliated and embarrassed especially in front of all of her teammates. After that incident she did not perform well in any further competition during that season and feared controls during each competition. She finished the season far below her actual athletic potential. When she started the next competitive season more than six months after the incident had occurred, she still experienced the same fears and worries. Another athlete reported that she was afraid to win competitions because she did not want to go through the ordeal of a doping control ever

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again (Strahler & Elbe, 2007). Still another athlete, an Olympic gold medalist, quit his career because of psychogenic urine retention during doping controls (A. M. Elbe, personal communication, June 29, 2011).

With an article published in a German sport psychology journal, Strahler and Elbe (2007) presented initial evidence on the topic and indicated that PURD was something very common in doping controls. In their study with doping control agents, 36 out of the 37 German doping control agents reported to encounter the problem regularly and on average in 42% of their monthly doping controls. In 32% of the problematic cases, agents attributed these problems to psychological issues.

Two years later the same authors presented a 47-item PURD questionnaire (PHD-FB) assessing characteristic facets of psychogenic urine retention during doping controls in athletes (Strahler & Elbe, 2009). In the context of their study they were able to show that 56% of responding athletes had experienced PURD, and in 81% of the cases this had meant a time delay of at least 15 minutes. More importantly, they reported that psychogenic urine retention during doping controls is a phenomenon that may be distinguishable from the clinical disorder paruresis (PAR).

Paruresis, also known as shy bladder syndrome, is the clinical diagnosis of a general state of psychogenic urine retention, namely the inability to urinate when other people are around (Williams & Degenhardt, 1954). Triggers for paruretic behavior are (a) the presence of other people, (b) a perceived threat of privacy and (c) the experience of intense emotions like e.g. anxiety or anger (Soifer, Himle & Walsh, 2010). People who suffer from paruresis often adapt their lifestyle to the disorder. They plan most of their activities at a short distance from home in order not to have to urinate in public places. Paruresis is a form of social phobia (Soifer et al., 2010). Its prevalence in the general population has been estimated to lie between 2.8% (Hammelstein, Pietrowsky, Merbach & Braehler, 2005b) and 32% (Kaufman, 2005).

In a sample of 83 elite athletes, Strahler and Elbe (2009) measured partial correlations between the State-Trait Anxiety Inventory-Trait (STAIT-T; Laux, Glanzmann, Schaffner & Spielberger, 1981), the Paruresis-Scale (PARS; Hammelstein & Pietrowsky, 2005a) and the PHD-FB. They found the expected correlation between anxiety and PAR, but not between anxiety and PURD. They also stated that many of the athletes reporting PURD did not seem to show symptoms of PAR nor did they report to have the urination problems in public places. Psychogenic urine retention during doping controls (PURD) therefore seems to be distinguishable from the clinical disorder of paruresis (PAR).

“It is something different, to get undressed in front of the physician, to go to the sauna or to shower at the sports club. I do that voluntarily and can leave if I feel uncomfortable (Riedel, 2008, p.215). Lars Riedel, an Olympic gold and silver medalist, as well as a five time World Champion discus thrower has a lot to say about the doping control system and the athletes having to endure this strict procedure. He repeatedly describes different doping controls in his biography, some of his own and some of his former colleagues, which all have one aspect in common: The perception of being a controlled athlete who is being treated in a degrading manner (Riedel, 2008). From these experiences during the doping control it can be hypothesized that they not only impact the control itself but also have psychological effects after the control. This invasion of privacy is assumed to have effects on micturition, subsequent recovery, performance and on how professional athletes experience their self-perception of professionalism.

The most immediate aspect these negative experiences can impact is the athlete’s recovery level. As mentioned above, one athlete reported that doping controls can last up to three hours impacting the recovery that is to follow, for example, after a strenuous competition. Underrecovery “is the failure to fulfill current

recovery demands” (Kellmann, 2002, p.3) and is caused by “stressors”. The above case examples clearly illustrate that doping controls can be characterized as extremely stressful situations for some athletes. Optimal performance, on the other hand, is the result of a balance between negative stress associated with training, competition and related obligations and a fully completed recovery phase. The daily routine of top athletes, who are all part of the doping control system, is based on detailed and structured time schedules that strive for this balance at the highest possible level (Hoffmann, Epstein, Yarom, Zigel & Einbinder, 1999). Every interruption can lead to an imbalance between the negative, strenuous stress and the recovery phase (Boucsein, 1991).

It can be assumed that a doping control can have very diverse effects on the athlete’s recovery-stress states. Drug tests in general have been not only negatively evaluated. Coombs and Coombs (1991) show that college athletes reported their experiences with drug tests as being interesting (37%), educational (36%), increasing awareness of the negative effects on the body (34%), serving a good excuse towards friends offering drugs at parties (53%) and as boosting athletic (27%) as well as academic (22%) performance. In the same sample there were, however, also reports of anxiety (34%), adversely affected morale (39%), worry about false detection (47%), embarrassment about the situation (47%), humiliation (37%) and upset (27%). These results show how differently individuals experience drug testing.

For one athlete a doping control can be experienced as something very exciting and as a welcome distraction from the daily routine potentially even leading to an enhanced recovery. For another athlete a prolonged doping control, as in the example of the 17 year old who sat there for over three hours and drank up to six liters, leads to extremely elevated stress levels. This athlete’s recovery, performance and her self-perception of professionalism subsequently were negatively impacted by the doping control. Recovery can also be impaired by things as banal as eating carbohydrate rich food two hours later than planned during a densely packed week of multiple competitions (M. M. Schlegel, personal communication, December 13, 2010).

The imbalance between stress and recovery that can result from PURD might not only manifest itself in underrecovery, a relatively short term phenomenon of physical or psychological tiredness (Budgett, 1998); it can take on the form of longer lasting psychological implications. Stress and recovery determine the well-being of an athlete and his or her reaction to subsequent stressors (Kallus, 1992). A stressful doping control can override the strength of an athlete to cope with the situation and leave his or her mind with an aversive blueprint of the situation (Boschen, 2008). During the next doping control, memories of this situation can be triggered by recurring situational cues and elicit unfavorable, physiological and psychological reactions, such as anxiety, anger, an elevated activation of the central and autonomous nervous system, hormonal responses, changes of immune function and behavioral changes (Kellmann, 2002). It is then very unlikely that such a doping control will be successful for the affected athlete causing the adverse memory to become reinforced.

In their paruresis research Soifer et al. (2010) refer to how sensitive the human urination system is toward external shocks. They even go so far as associating the onset of paruresis with an “unpleasant event”, like being harassed by a third person, being rushed by a third person or being unable to urinate during a drug or medical test. Zgourides (1987) points out that the combination of an initial failure to urinate and the subsequent worrying about repeated failure results in an increased activity of the sympathetic nervous system. This further leads to an increased anxiety level that blocks the ability of an individual to urinate. Following this, it can be assumed that PURD leads to an elevated stress level resulting in impaired recovery, whereas impaired recovery could then again

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