

A high performance environment is essential these days when we talk about winning medals at World championship events, Commonwealth Games and the Olympic Games. High performance is essential when we think of our elite athletes and their wellbeing at the High Performance Centre.

The question will always be: Are we on the right track and are we keeping up with changing times and methods in a very competitive environment?

All elite athletes should have easy access to a multidisciplinary team consisting of a sports physician, physiotherapist, biokineticist, sport scientist, biomechanical analyst, psychologist, dietician and massage therapist. Every team member an expert in his field. The team should work closely with the athlete's coach and they should have knowledge of the training and competing schedule of the athlete. This will enable the multidisciplinary team to function as a so called "planning and problem solving team" should the athlete encounter any problems or the need for a scientific intervention and planning arise. There should be weekly interaction between the different role players with regards to training, sport specific conditioning, injury prevention, recovery and

any other factors influencing performance. The athlete and the coach should trust this team and be comfortable with the team in planning and decision making. This team should ideally work with a small group of elite athletes to ensure optimal scientific attention. This will enable the athlete to focus on performance.

A high performance environment should allow elite athletes to have access to any resources they may need in performance and medical or scientific interventions. Data capturing and scientific analyses of training loads and injuries are also important to recognise and prevent certain injury trends and do proper training planning as well as periodization of training programmes. Proper dietary and supplementation education and planning should also be part of this process.

In sports medicine, high performance would not only be for the athlete to have access to the best medical care when he or she is ill or injured, but also have access to preventative medical information and interventions as well as medical procedures to monitor fatigue, overtraining and fitness. Issues like combatting jet lag or preventing traveller's diarrhoea during a hectic travel schedule should be easy for elite



athletes to overcome, because of proper athlete education in a high performance environment.

An elite athlete should have regular blood tests done to monitor possible fatigue and recovery at certain stages of the season. These blood tests would include tests like a full blood count, which consist of different measurements including haemoglobin levels, a reticulocyte count, platelets and a white cell count. These values can tell us certain things with regards to recovery after strenuous training and also the way in which the body responds to an episode of viral or other diseases including a common cold or an upper airway infection. It is also important to monitor overtraining syndrome and chronic fatigue syndrome in all elite athletes.

Studies done over the past few years have found decreased cortisol levels in patients suffering from fatigue. Cortisol levels also differed between men and women athletes, with lower morning cortisol levels found in women than in men. Cortisol helps the body fight psychological and physical stress. These studies also found that in cases of fatigue and chronic fatigue syndrome almost all bodily functions and equilibrium are disturbed. The accurate collection of samples to test for cortisol can be complex ranging from

saliva, urine and blood samples. Other blood tests will include ferritin levels to monitor an iron deficiency, B12 and folate, also TSH to monitor the function of the thyroid gland and glucose levels. Determining IgE levels for possible allergies and tests for liver and kidney functions might also be of use. A Monospot test to exclude glandular fever can also be done if clinically indicated. It is important to remember a holistic approach in the monitoring of the elite athlete. The sports physician should have information on the athletes training schedule, sleeping patterns, psychological stress, eating patterns and any other factor influencing performance.

The athletes at the High performance Centre have had great performances at Olympic Games and at different other international championships over the past few years. At the Sport Science and medical unit we are striving towards high performance excellence and we are planning some specific interventions together with coaches and the High Performance centre in the near future to empower our elite athletes to reach even greater heights and win more medals in Rio in 2016. We definitely have the expertise and resources to achieve this.

High Performance

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