

BACK TO BASICS

HOW GETTING THE FUNDAMENTALS RIGHT CAN AFFECT PERFORMANCE

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Every four years, the world unites in sport to observe the best athletes compete against one another. Although the athletes on the field are the ones we watch, at the Olympic and Paralympic level there is usually a team of experts behind the scenes who are using strategic knowledge and sport science to help guide the athletes to their best possible performance.

The science team behind the scenes is very busy throughout the games, usually working 16 hour days and run off their feet, (read an example of a typical day here). However, contrary to popular belief, the bulk of time and effort is not spent implementing top secret interventions; it is spent making sure the execution of some basic principles are flawless, giving the athlete their best chance to perform to their maximal capacity.

Sport scientists and national sport organizations have come to realize the complex, top secret interventions are only effective when built upon solid foundations. What good is a top secret, complex strategy that gives you 0.1% improvement in performance if you are giving up a significant margin by not taking care of the fundamentals?

AVOID ILLNESS

Colds and flus are most often transferred between individuals through contact of the hands to the mouth and eyes. Athletes are particularly susceptible to getting sick when travelling due to the foreign environment their immune systems deal with and the increased amount of people they come into contact with (7). In fact, the Norwegian Olympic Team was able to cut Olympic illness from 17.3% at the Torino 2006 Olympic Winter Games down to 5.1% at the Vancouver 2010 Olympic Winter Games just by implementing the recommendations below (4).

Here are some tips that will help you avoid illness. For more information on this topic see the Performance Point on Travelling Smart.

- Clean your hands very often
- Avoid touching your mouth and eyes casually
- Don't touch unnecessary objects (handrails, door handles, etc.)
- Avoid shaking hands
- Do not share water bottles, and clean yours often
- Sleep more than seven hours per night (Cohen et al. (3), showed that if someone gets less than seven hours of sleep per night they are three-times more likely to get a cold compared to someone who gets more than seven hours of sleep per night).



Michelle Stilwell PHOTO: Athletics Canada

PRE-RACE NUTRITION AND HYDRATION

No matter what your event is, you will need to make sure you are nourished appropriately to meet the demands of your upcoming competition. If you are competing early in the day you must time your breakfast to ensure your blood glucose is restored, make time to digest, and also be sure you are sufficiently hydrated. You, the athlete, should have a pre-competition meal routine set up based on individual preferences and input from your sport science team (nutrition/physiology). Your pre-race routine is something you usually have direct control over, so do not leave it to chance.

WARM UP

Implementing a sport-specific warm up designed to maximize your performance is one of the most important things you can do. Muscle temperature, muscle pH (acidity), VO₂ kinetics, and a multitude of other factors provide concrete physiological evidence as to why investing in your warm up is extremely important and well worth serious thought and planning (1, 2). Take the time with your coaches and other technical experts in your sport to discuss a complete warm up routine to set you up for competition.



- Know the sport-specific requirements of check-in at major championships. How early do you need to check-in? How long is the sitting period after check-in prior to competition? Practice your warm up routine prior to the major championship with these limitations.
- Timing: if you warm up, then sit still for 45 minutes, you are not likely optimally ready to perform. Have a plan including back up plans for less than ideal scenarios to ensure you are ready to compete at “go time”.
- Gap time: what are you wearing during the gap time between warm-up and competition? If the weather is cool, stay warm and try to maintain body and muscle temperature.
- Priming your engine (heart, lungs and muscles) with sustained intensity in the warm up can lead to significant improvements in performance compared to a low intensity warm up that includes just bursts of activity near race pace (5). By working at or near race pace for approximately 30-120 seconds, you will increase how quickly your aerobic system responds to subsequent exercise, thereby making you more efficient when it comes time to compete, thus improving performance. The metabolic priming effect is maintained for between 20-40 minutes, and therefore can be inserted into your warm up without negatively impacting your race.

RECOVERY

Often you will have to compete multiple times in one day, or in subsequent days. There are two essential components to this acute recovery phase: energy replenishment and restoration of homeostasis (balance in the body)(8). The balance of importance between these recovery components will depend on the demands of your sport.

After exercise or competition, our muscles are highly receptive to replenishing muscle glycogen(6). Therefore the sooner you start the recovery process, the faster it will happen. Have a recovery bottle of fluids and carbohydrates available for immediate consumption during your cool down (~1 to 1.5g carbohydrate per kg body weight).