

Performance Point

Physiological Monitoring

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During the course of preparing an athlete for optimal performance it is important to monitor and evaluate how the body responds and adapts to various training regimes. Physiological monitoring may take place in a laboratory or in the field and can be used to determine individual fitness profiles for athletes in a sport specific manner.

Physiological monitoring can:

- Determine an athlete's specific strengths and weaknesses
- Aid the coach in prescribing training programs
- Establish training zones and monitor progress
- Shape taper strategies
- Assess health status and avoid overtraining
- Compare data with international standards
- Educate athletes

Some attributes typically assessed are: *aerobic power, anaerobic power and capacity, muscular strength, speed, flexibility and body composition.*

Laboratory testing: Provides a controlled environment where the physiologist can replicate exact conditions to standardize results. The specific demands of many sports can be replicated in this fashion (i.e. rowing and cycling).



PacificSport Physiologist, Thomas Zochowski, monitoring blood lactate levels of Canada's World Champion Brent Hayden.

Field testing: For sports whose specific demands can not easily be replicated in the laboratory field testing support can be useful for obtaining physiological results (i.e. in a pool for swimming). With physiological monitoring in the athletes natural training environment the specific demands of individual sports can be assessed and ensure that feedback is unambiguous.

Physiological monitoring is most effective when it is part of a **well-structured** yearly training program. The athlete and coach should have a good understanding of the training and competitive goals that may be outcomes of the monitoring program. Good communication is imperative between the physiologist and the coach. The physiologist should give clear and effective feedback in a timely manner and the coach should be able to understand the data generated in the physiological tests and be able to apply these to the training program model.

In order to standardize results, it is imperative that the athlete come well prepared for the testing session (refer to the September 2006 Performance Point entitled "**Pretest Preparation**" for further information).

Physiological monitoring is only effective if training is modified on a continuous basis based on information returned from the monitoring protocol.

For more information on physiological monitoring, please consult your Canadian Sport Centre Pacific Physiologist.

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