

Recovery strategies:

Immune system

It is well proven that participating in regular moderate exercise reduces upper respiratory infections but performing acute bouts of prolonged, intense exercise [threshold being greater than 2 hours a day at above 70%max heart rate] or heavy volume of training is associated with above average increase risk of infection.

Infection risk is also affected by nutritional status, psychological well being and environmental influences.

Immune function not a direct reliable marker for overtraining

Extremes of cold with or without exercise do not suppress immune function nor does increase URTI. However high altitude suppress cell mediated immunity. Diet has a significant effect on immunity with deficiencies in Fe, Zn, Vitamins A, E, B6; B12.

Psychological stress can produce clinically significant changes in immune function. There is evidence that psychological interventions [unspecified] can improve immune function and reduce illness and injury in athletes.

Gleeson writing in *"Immune Function in Sport and Exercise"* recommends:

- Allow rest between sessions
- Rest days
- Maximum activity 2hours/session
- Periodised training
- Varied training
- If increasing load do not eliminate recovery days
- Diary including recording moods, fatigue and muscle soreness
- Manage rest of life

- Adequate sleep-Gleeson says at least 6 hours – Walker suggests 7+[see sleep sheet]

Diet and CHO

He recommends monitoring –sleep heart rate, sleep disturbance and salivary IGA

He also says low blood lactate in sub maximal exercise [ask physiologists]

Blood cortisol/test ratio not helpful but cortisol response to high intensity exercise is useful as a blunted response immediately post exercise is significant of athlete at risk.

Gleeson advocates avoidance of children, crowds, sharing showers especially immediately post exercise.

Conclusion

The effect of exercising on the immune system in high performance sport is significant and can lead to infection and/or poor recovery. There are some simple and some complex methods of monitoring and similarly with preventative measures.

Recommendation

The institute should encourage basic diary keeping with simple measures being recorded. The institute should continue and expand Salivary IGA measuring.