

Strategies for Reducing the Effects of Travel on Performance

Athletes are increasingly asked to travel to compete at the highest level. With the rise in air travel this has a significant effect on the body's natural biological clock. Over the course of 24/25 hours the body experiences fluctuations called circadian rhythms, for example body temperature peaks in the early evening (1800 – 2000h) and reaches a low point between (0500 – 0600h) in the early morning (Youngstedt and Reilly 1999). When athletes travel from one time zone to another this alters the natural circadian rhythms and can have a negative effect on athletic performance. Air travel can impact athletes in other ways such as sitting in a cramped position for long periods of time and changes their regular training schedule. The following is a brief summary from the literature that will help athletes to minimize the negative impact of time zone changes and sitting in cramped conditions on long distance flights.

- **Mental Attitude** – Adopt a positive mental attitude before and during travel. Use the time to relax, rest and avoid undue tension that can be distracting to athletes. Delays are common when travelling, athletes should try and remain relaxed, focused and not become unduly aggravated because of the delay. Depending on the length of the delay it is important that athletes are kept up to date with any travel changes. Often flights can be cancelled or other problems may arise that may raise tension within the group. Coaches must try to ensure the athletes remain relaxed and understand that this is part of the whole process.
- **Time Difference** – Change watches to local time as soon as they get on the plane and start adjusting eating and sleeping patterns to the new time

zone. For example, the west coast of USA is 8 hours behind the UK this means that upon arrival time is gained and when it is 4pm local time (USA) the body thinks that it should be sleeping as it is 00:00 in the UK. To help adjust to the time difference quicker, 2/3 days prior to flight stay up later by 2-3 hours. This way the body clock will gradually start to adjust to the new time zone and the effects of jet lag will not be as severe. Upon arrival try and stay up to sleeping at the new local time so that the body starts to adapt to the new time.

It has been suggested that it takes 1 day for each time zone crossed, therefore if athletes can adjust quicker the effects of time zone change on performance will not be as severe.

- **In-flight Exercise** – Athletes should frequently get up and walk about to promote bloody flow and elevate heart rate. Static stretching could also be performed to elongate muscles and help over come the effect if sitting in the same posture for extended periods of time.
- **Clothing** – Wear comfortable loose fitting clothing and take a spare shirt to change into on long flights to help feel fresher. The temperature in the cabin may vary so take on board appropriate clothing to keep warm or cool down as necessary. A toiletries bag may also be helpful freshen up and feel cleaner during the flight.
- **Seating** – When booking the flights aim to get your athlete's emergency exit or aisle seats where there is more legroom. Especially with economy seating were legroom is reduced.

- **Sleep, Food and Drink Practices** - When adjusting your watch to the new time zone bear in mind the eating patterns of the destination and try to adjust to them. For example eat accordingly to the time zone at the new destination and change the meals to suit breakfast, lunch and dinner to adapt quicker.

During economy flights meals are typically designed for the average traveller not elite athletes. Advise your athletes that it may be necessary to bring their own food with them to snack on and keep muscle glycogen levels constant. However some countries do not allow you to bring fruit and meat into their country so you may need to discard any leftovers in the airport. Also be aware of any nutritional practices your athletes may have for example, vegetarian or allergies that should be mentioned when booking the flights. Coaches should make sure the athletes eat sufficiently to ensure there have adequate energy levels. However, in periods of prolonged sitting the body does not expend the same energy levels therefore does not need the same amount of calories to balance of the energy eaten against the energy expended. Therefore, while it may be necessary to eat more food than supplied by the airline athletes should not overeat because they are not using up the same amount of energy than in a typical training day. Over eating may cause bloatedness and discomfort especially due to the change in food.

Fluid levels should be kept high because at altitude when flying the pressurized cabin of the plane will accelerate dehydration. Athletes should drink fresh bottled water freely to counteract this also try and avoid fizzy

drinks due to the bloated feeling that may occur. Similarly, avoid excess alcohol and keep caffeine intake to a minimum, both these will speed up the dehydration process and have a negative impact on the athlete.

- **Electrostimulation (EMS)** – this stimulates the muscles to contract rhythmically, produces dilation of the blood vessels assisting the transport of nutrients to the muscles. This can be used when the athletes are sitting to promote blood flow and decrease the possibility of blood pooling when sitting in cramped conditions. Unfortunately specialised piece of equipment has to be used, therefore for most travelling athletes this may not be possible.
- **Massage** – Simply by massaging the limbs and body this will promote blood flow to the muscles and help stretch out the muscles. The athletes could perform this on their own body or increasingly teams have qualified individuals to perform massages. Either way simply by rubbing or applying pressure to the muscles this will help reduce some of the effects of sitting in cramped position.

Conclusion

Long flights and time zone changes are inevitable in elite global sport, coaches athletes and managers must take responsibility to help reduce the negative effects on performance and attitude. Coaches and managers should ensure that their athletes are educated and understand how to cope with the effects of travelling. The strategies above can be used as a general guideline to help prepare for competition abroad. Travel is a necessary component to succeed in your chosen

sport different athletes will have their own strategies to help them cope with travelling. It is hoped that this article will give some useful and practical advice to give to athletes. For greater detail the reader is referred to the references below that cover the area in greater detail.

References

Atkinson, G., and T. Reilly (1996) Circadian variation in sports performance. Sports Medicine. 21, (4) 292-312.

Meir, R (2002) Managing transmeridian travel: Guidelines for minimizing the negative impact of international travel on performance. Strength and Conditioning Journal. 24, (4) 28-34.

Youngstedt, S.D. and P.J. O'Connor (1999) The influence of air travel on athletic performance. Sports Medicine. 28, (3) 197 - 207.