Forgotten edge?

To many athletes get hung up on ‘more is better’ but the key to improvement is not how much training you do but HOW MUCH TRAINING YOU CAN RECOVER FROM.

What is Fatigue?

Is a state of discomfort and decreased efficiency from prolonged or excessive exertion. It can affect people differently.

Causes of Fatigue
• Lactic acid build up
• Type of muscle fibre
• Restricted blood flow
• Depletion of energy stores
• Dehydration
• Rising body temperature
• CNS Inhibition
• Psychological factors

What is Recovery?

Is the process the athlete goes through to return to a state of performance readiness. Recovery involves a restoration of nutrient and energy stores, a return to normal physiological function, a lessening of muscle soreness and disappearance of the psychological symptoms (irritability, disorientation, inability to concentrate) associated with extreme fatigue.

What should Recovery include?

• Cool down
• Replenishment of glycogen stores
• Rest days
• Active recovery
• Fluid replacement
• Electrolyte replacement
• Regenerative techniques

Active Recovery

To hasten recovery after exhaustive exercise, athletes should continue exercising for 10 - 15 minutes at progressively lower intensities to speed the removal of lactic acid from the muscles and blood. Stretching all the major muscle groups should follow this activity. Specific stretching can even aid in the blood distribution to the vital organs and glands. Blood sugar levels need to be replenished immediately following activity. Athletes should begin consuming fluids and carbohydrate immediately after exercise to help the body replace fluids lost in sweat and to replenish muscle glycogen stores.

Fluid Replacement

Fluid replacement is essential. Excess fluid loss during training will reduce the quality of the training and slow recovery. If you become dehydrated it takes 24 - 36 hours to become fully rehydrated (weight considerations). A loss of 2% of body weight can increase perceived effort and reduce performance by 10 to 20%. A loss of 3 to 5% noticeably impairs aerobic performance, coordination, cognitive ability and reaction time (Lovell et all, 2000).

Glycogen Replacement

Research indicates that a 70 kg athlete should consume 50 - 100 grams of carbohydrates (200-600 calories) within the first hour following exercise or 1 to 1.5 g.kg per body weight to optimise the replacement of muscle glycogen stores. The type of glycogen influences recovery as well. High glycemic foods consumed in the first hour results in a faster glycogen resynthesis. Simple and complex carbohydrates within the first 24 hours.

Sleep

Although there are exceptions athletes generally require at least 7 - 8 hours of sleep each night to perform to their best (Ackland, 2001)
Ice Baths

When you get into an Ice Bath for ten minutes the icy water causes the blood vessels to tighten and drains the blood out of your legs. When you get out of the baths your legs are invigorated with new bloody and oxygen. This helps the cells function better and reduces lactic acid build up.

Hot Cold Showers

Hot cold showers do pretty much the same thing as ice baths however alternating between temperatures makes the capillaries vasoconstrict and vasodilate more than once providing a shunting effect, forcing waste products in the muscles away and back to the heart to be expired mostly as CO2. Nutrient delivery to the muscle is also aided helping to speed recovery.

AIS Protocols

Contrast Water Therapy (Spa / Plunge)

Ideally used at the end of a training day- do not use if you have damaged muscles, a very recent injury or bruising.

Shower before use
2 minutes spa
1 minute plunge (Try to relax as much as possible!) Repeat 4-5 times
Always finish on cold (plunge)
Re-hydrate before, during and after session

Cold Water Immersion (Plunge)

Ideally used following a heavy weights session, between training sessions or during the acute phases of muscle injury, soreness or bruising. Try to build up a total of 5 minutes in the plunge pool.

Shower before use
1 minute plunge- (try to relax as much a possible!) 2 minutes out of water (air temperature)
Repeat 4-5 times

Spa

Spa can be used at the end of a day or on a rest day as a relaxation technique. Do not use if you have damaged muscles, a recent injury or bruising.

Shower before use
Do not use spa for extended periods of time (no greater than 10-15 minutes)
Always re-hydrate while using the spa
Stretching and jet massage can be utilised in the spa environment

General precautions

Do not use the spa/plunge facilities if you have any of the following:

- A history of heart disease
- A cold or virus
- An open wound
- Bruising
- Diarrhoea
- Recent injury

SUMMARY

ICE BATHS

- Most effective when taken within 60 minutes of finishing a workout
- Should last anywhere from 5 - 10 minutes but for those who cannot stand the icy water, sets of 2 - 3 minutes are just as beneficial.
- The water should be cold, uncomfortably cold.
- Be sure to move your legs around every minute or so. You will find that your body will warm the water closest to your legs so moving them will ensure the coldest areas keep flowing over your legs.

HOT/COLD SHOWERS

- Hop in the shower and alternate 30-60 seconds of cold water and 2 to 3 minutes of warm/hot water.
- Three to four rounds of this are best
- The coldest temperature your shower will go is usually sufficient as it is the contrast of the extreme temperatures that causes the effect.