



## **MAKING WEIGHT for ROWERS**

### **Introduction**

Weight restrictions exist in several sports including rowing, wrestling, boxing and horse racing. Within these sports there is a long history of athletes using a variety of strategies to 'make weight'. Attempting to lose too much weight in a short space in time can have adverse effects on performance and more importantly, adverse effects on the health of the athlete. Methods employed by athletes in the past include food restriction, fluid restriction, increased exercise load and thermal stress (heat suits, saunas). Additionally, laxatives and diuretics have been abused by athletes. The rower involved in weight restricted categories needs to have a sensible and structured approach to weight control.

### **Challenges of Weight Loss**

Dehydration has been shown to impair exercise performance in a variety of settings. It effects circulating blood volume and therefore has an effect on efficiency of circulatory dynamics. The dehydrated rower has impaired thermoregulatory function and is more liable to suffer heat illness. Using dehydration as a method of weight reduction can thus have serious consequences for the rower.

Pre-event nutrition is critical for optimal rowing performance. Studies have revealed nutritional deficiencies in the diets of athletes trying to make weight. Careful planning is required to formulate a diet to maintain satisfactory nutrition while losing weight.

Cognitive function is impaired during times of rapid weight loss. A rower is more likely to feel lethargic and to struggle with cognitive tasks. This can impact on mental preparation for an event. The rower may also experience cognitive difficulty with other non-exercise related tasks, such as academic pursuits.

Studies in light weight male rowers have shown decreased markers of bone metabolism, even during relatively brief periods of low energy intake. Individuals at risk of low bone mineral density, such as females with menstrual dysfunction, need to be aware of the possible effects of weight loss on bone metabolism.

Every athlete wants to optimise performance so it is worth noting the following. Dehydration plus low energy intake can effect both aerobic capacity and isometric muscle strength. The rower can thus find that they suffer decreased performance with repetitive bouts of high intensity work and in endurance events.

**Clinics at:**  
Point West, 116 Cromwell Road  
Kensington, London.

The Lodge, Parkside Hospital  
53 Parkside, Wimbledon, London.

## **Sensible Weight Loss Tactics for Rowers**

Studies comparing similar weight loss in athletes over brief versus prolonged periods of time, demonstrated no difference in final body composition. However, the athletes losing the weight over brief periods had decreased leg strength and a decline in lactic threshold compared with those losing weight over a prolonged time. The rower therefore needs to begin planning for their weigh-in well ahead of major events. The rower should develop an annual weight management plan, incorporating times of competition and weigh-in dates. This will allow for more structured and gradual weight loss with realistic weekly goals.

Eating several small meals a day, rather than fewer larger meals is likely to result in less reduction in lean body mass, during the weight loss phase.

A high carbohydrate diet, comprising 60-70% of energy intake, will allow the rower to maintain high energy performance while on a weight loss diet. The rower should not however reduce protein intake in order to accommodate the increased carbohydrate. Protein requirements actually increase during weight loss as the weight loss inevitably results in a decrease of both fat and lean muscle mass. The rower should consume 1.2gm protein per kg on a daily basis, during the weight loss phase. The structure of the diet should therefore consist of approximately 70% carbohydrate, 15-20% protein and 10-15% fat.

Low-residue, low-fibre meal replacement foods may help to reduce weight in the 24 hours before weigh in, whilst maintaining a reasonable nutritional intake.

Athletes on a weight reduction diet will reduce their muscle glycogen stores. A low to moderate carbohydrate diet will not replenish their glycogen stores between weigh-in and competition (the recovery phase). A high carbohydrate intake is particularly important therefore, in the recovery phase. A 70% carbohydrate diet has been shown to restore performance to baseline levels over a five hour period from weigh-in.

Rapid dehydration with loss of 5% bodyweight will cause all the negative effects outlined above. It is likely to take the rower at least 48 hours to reverse the effects of 5% dehydration. Athlete deaths have occurred in the setting of rapid weight loss using combined fluid restriction and thermal stress. Adult rowers should not fluid restrict more than 2% of body weight. Rehydration should then involve balanced sports drinks as the salt and carbohydrate content improves efficiency of absorption from the gut and maintains thirst. Concentrated sweet drinks such as soft drink and cordials are less efficient than balanced sports drinks at restoring plasma volume. Post

weigh-in, rowers should aim to drink 1.5 litres of a balanced sports drink for every kilogram of body weight lost through fluid restriction.

It is a truism of all weight-restricted sports that athletes overwhelmingly seek to scrape into a lower weight category, rather than a higher one, for reasons of perceived competitive advantage. The rower who consistently has difficulty making weight has to consider whether they in fact need to change weight category.

### **Strategies to Avoid**

- Fluid restriction of > 2% body weight
- Last-minute panic attempts at excessive weight loss
- Induced vomiting
- Thermal stress with impermeable suits and/or saunas
- Abuse of laxatives and/or diuretics (which may be illegal as well as unsafe)
- Water for rehydration between weigh-in and competition

### **Summary**

Inappropriate weight reduction strategies impair rowing performance and can endanger the health of the rower. A sensible weight reduction program requires an understanding of nutrition and exercise physiology, careful planning and guidance from a suitably qualified professional.

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***References available on request***