

Losing Weight, Making Weight, Rowing Fast

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Introduction

- Many lightweight rowers fail to reach their true potential because of mistakes made when reaching competitive weight.
- Coaches often avoid discussions of making weight
- Dieticians avoid discussions of making weight
- Our goal is to present the theory and practical application of three key issues related to getting to competitive weight for lightweights

Being Lightweight

- Very few rowers sit as natural lightweights
- An Australian study found that a kilogram of muscle mass was worth 10.2s on the water (Slater et al. Br. J. Sports Med.39;736-741)
- Loss of muscle mass is a common side effect of weight loss



Being Lightweight

- Heavyweights who want to move down to lightweight should meet the following criteria
 - Erg scores as a heavyweight should at least be good lightweight scores
 - High enough body fat that they can get to around 59 kg for women and 73.5 kg for men with body fat levels not lower than 12% and 8% respectively
 - Have a long term plan of losing not more than 0.5 kg per week

Energy Neutral Training

- Negative energy balance is necessary for weight loss to occur.
- How we go about creating a negative energy balance can affect the outcome of the program



Energy Balance

- Relationship between calories in and calories out
- Positive energy balance
 - More calories in than out
 - Improved performance
 - Increased muscle mass
 - Adaptation to training
 - Normal growth



Energy Balance

- Most programs advocate the use of exercise as a means of burning calories to create a daily negative energy balance.
- Negative energy balance during exercise can result in up to 25% of energy coming from protein sources – muscle tissue
- As metabolically active tissue is used for energy there is a decrease in resting metabolic rate

Metabolic Rate

		Feb				March		
	Weight	Kcal/day	Kcal/kg		Weight	Kcal/day	Kcal/kg	
1	62.4	1631.5	26.1		60.6	1553.8	25.6	
2	62.9	1792.8	28.5		61.7	1692.0	27.4	
3	67.4	1412.6	21.0		64.5	1274.4	19.8	
4	62.5	1885.0	30.2		61.7	1536.5	24.9	
5	61.9	1775.5	28.7		61.3	1592.6	26.0	
6	57.7	1710.7	29.6		57.3	1550.9	27.1	

Body Composition Changes

Anthro			
	Sum of 8		Sum of 8
1	80		60
2	105		102.5
3	55		51.5
4	97.5		90
5	73.5		68.5
6	40		40

Energy Neutral Training

- Energy expenditure in each workout pre planned
- From 60 min pre to 60 min post all calories used must be replaced
- Mix of CHO and protein
- Negative energy balance created throughout the rest of the day



Energy Neutral Training

		Feb				March				April		
	Weight	Kcal/day	Kcal/kg		Weight	Kcal/day	Kcal/kg		Weight	Kcal/day	Kcal/kg	
1	62.4	1631.5	26.1		60.6	1553.8	25.6		61.7	1788.5	29.0	
2	62.9	1792.8	28.5		61.7	1692.0	27.4		60.1	1572.5	26.2	
3	67.4	1412.6	21.0		64.5	1274.4	19.8		64.4	1540.8	23.9	
4	62.5	1885.0	30.2		61.7	1536.5	24.9		61.6	1936.8	31.4	
5	61.9	1775.5	28.7		61.3	1592.6	26.0		60.7	1761.1	29.0	
6	57.7	1710.7	29.6		57.3	1550.9	27.1		57.5	1846.1	32.1	

Energy Neutral Training

Anthro					
	Sum of 8		Sum of 8		Sum of 8
1	80		60		54
2	105		102.5		88
3	55		51.5		46
4	97.5		90		70
5	73.5		68.5		59
6	40		40		37

Why?

- During and post exercise protein synthesis rates are the highest during the day
 - Adequate energy
 - Adequate CHO
 - Adequate protein
- Protein and CHO intake increases insulin levels which decrease cortisol
- Muscle tissue can be built

Why?

- Prevents potential catabolic affects of exercise
- Subjects report suppression of appetite following exercise
 - Easier to eat less throughout the day
- All subjects had personal best performance in rowing ergometer tests at the end of April there had been no change from Feb to March

Applying the Concept

- Need to know total energy expenditure
 - RMR
 - Exercise energy expenditure
 - Daily energy expenditure

Planning

- Calorie goals need to be calculated for each session the day before the session
- Nutrition has to be planned in advance and nutrients need to be available during the training session

Making Weight

- Done in the final 24-48 hours pre weigh in
- Mostly done through dehydration
- Coming down the morning of weigh in more effective than trying to stay down or coming down the night before



Making Weight

- Lots of individual variation
- Careful planning and practice
- Experiment with different approaches
- Food day of the race not for fuelling
 - A race will only burn about 100–120 kcal
 - 2008 Olympic final Tracy burned about 115 kcal and 28g CHO

Making Weight

- Planning
 - Start from weigh in time and work backwards
 - Different plans needed for morning and afternoon races
 - Set specific goals for night before and morning of weight
 - Need to know how different foods affect water balance
 - High sodium foods increase water retention

Making Weight

- Dehydration
 - 100g weight loss per hour through insensible fluid losses
 - 1.5–3% weight loss acceptable
 - Passive sweating better than an active sweat run
 - Aggressive rehydration in the two hours pre race
 - Water and electrolyte based drinks immediately after stepping off the scale