

# SAFE *and* EFFECTIVE FIGHT PREPARATION

Sports nutritionist and SENr member **Richie Barclay** reveals how he worked with professional boxer, **Danny Carr**, in the lead up to the big fight day

**I**n weight-category sports, it's a major challenge to safely reduce body mass to reach the target weight whilst maximising training and competition performance in the face of reduced energy intake. I've been working with professional boxer Danny Carr since 2015 to help him with this challenge while he reduces his weight to <9st 8lb (60.78kg) to fight in the lightweight division.

## THE BASELINE – 12 WEEKS TO GO

Danny's fights are organised three months in advance, and this was no different for his second professional bout. After his first win, the support team and I were confident that we could get him in better shape and feeling sharper. 12 weeks prior to his fight, we carried baseline anthropometric measurements (height, weight and skinfold thickness) which identified that Danny had to lose 4.5kg to reach his target weight. I then estimated his basal metabolic rate and total daily energy expenditure to give me an approximation of his energy needs, allowing me to develop a diet plan to fit his training and lifestyle demands while losing weight at the required rate.

## PRE-TRAINING NUTRITION

Whilst working with Danny on his first professional fight I learned how to plan and time his macronutrient intake to maximise his training performances. Danny prefers to train on a high-fat meal with a source of protein. A traditional pre-training sports nutrition meal may contain 20-30g protein, 30-80g high GI carbohydrates and 10-20g fat, with micronutrients from fruit or vegetables. However, Danny would complain of feeling lethargic when consuming such a meal and we identified that the high carbohydrate intake may be causing rebound hypoglycaemia, contributing to his lethargy. He would experience this when he ate high GI

carbohydrates one to two hours before training.

Research illustrates the rebound response of blood sugar following both low and high GI carbohydrate feeding in the morning with a greater response elicited following a high GI feeding.<sup>1</sup> As a result, Danny's pre-training meal was switched to an omelette and avocado or a blended shake with whey protein, spinach, peanut butter and almond milk for example. Whatever the meal, it would be a source of fat – 15-20g from nuts or avocado and 20-30g of protein. Furthermore, recent research supports selective training in a carbohydrate-restricted state to drive metabolic and mitochondrial adaptations.<sup>2</sup>

## POST-TRAINING NUTRITION

Post-training nutrition was manipulated depending on the intensity of training. Higher-intensity sessions were high GI carbohydrate (60-80g) and protein rich (30-35g), whereas lower-intensity sessions were lower in total calories and carbohydrate (30-50g) to support his weight-loss goals. Also, Danny consumed four 'hand-sized' portions of protein per day, equalling approximately 2g/kg or 130g/day.

## ONE WEEK TO GO

Fasting, extreme calorie restriction, dehydration and increased exercise volume are all common practices in weight-class athletes to rapidly reduce body weight in the days before a fight.<sup>3</sup> Due to good planning, there was no need to employ drastic strategies as Danny's weight loss was on target and he could continue to eat and train as normal.

## FIGHT DAY

Weighing-in on fight day is a challenge for both athlete and nutritionist. Danny weighed-in at 4pm and was due to fight at 9:30pm. Prior to the weigh-in, he ate two small meals (breakfast and lunch) – a balance of carbohydrate (20-30g), protein (30-35g)

and fat (5g) – although slightly smaller than usual. Carbohydrates were low GI and protein was low fat. He also drank a litre of water on the day before the weigh-in.

After Danny weighed-in, he had a serving of protein with a moderate serving of low GI carbohydrates (80-120g). Danny also consumed a slightly higher carbohydrate intake two to three days before the fight to raise his muscle glycogen stores (muscle glycogen is the primary fuel source during a boxing match helping to maintain exercise intensity and prevent fatigue). He then snacked on high GI carbohydrates and nut butter during the hour leading up to the fight to ensure blood sugar remained stable.

Finally, Danny had a double espresso approximately one hour before his fight. Caffeine is a commonly used ergogenic aid with research supporting improved alertness, decision-making and exercise performance.<sup>4</sup>

## POST-FIGHT RECOVERY

Danny's recovery was simple and practical, with a serving of protein with 50-70g of high GI carbohydrate via fruit, sports drink and a whey protein shake. The aim of the recovery snack is to quickly provide the fluid and nutrients his body needs to rehydrate, refuel and repair muscle tissue.<sup>5</sup>

## REFLECTION

Danny won the fight. He mentioned how "sharp" he felt during the fight, how the 12-week training period was now easier and how he felt "full of energy" during the weight-loss phase.

I was happy with the support I provided to Danny. The most valuable thing I learned is an appreciation that everyone is different. Each athlete responds differently to foods and timings and it is vital for the nutritionist to consider this. Also, I always watch Danny compete but from now I will be observing him in training to get a better understanding of how his diet can better support his training performances. ●



PERFORMANCE  
NUTRITIONIST  
**RICHE BARCLAY**

### SAMPLE NUTRITION PLAN FOR A TRAINING DAY

TIME	TRAINING	MEAL
07:00	Pre-training meal	<ul style="list-style-type: none"> <li>• Omelette</li> <li>• 3 egg whites</li> <li>• 3 whole eggs</li> <li>• ½ avocado</li> <li>• 20g chorizo</li> <li>• spinach</li> <li>• red pepper</li> <li>• water &amp; coffee</li> </ul>
09:00	Fitness and strength session or five rounds of sparring with some interval training	<ul style="list-style-type: none"> <li>• Ad lib water during the session</li> </ul>
12:00	Post-training meal	<ul style="list-style-type: none"> <li>• 150g chicken breast cooked in 1 tbsp. coconut oil</li> <li>• 250g white rice</li> <li>• mixed chargrilled vegetables</li> </ul>
15:00	Pre-training meal	<ul style="list-style-type: none"> <li>• tin of mackerel</li> <li>• ½ avocado</li> <li>• 30g nuts</li> <li>• grilled asparagus</li> <li>• mange tut</li> </ul>
17:00	Technique work, lighter session involving footwork and skills	<ul style="list-style-type: none"> <li>• Ad lib water during the session</li> </ul>
21:00	Post-training meal	<ul style="list-style-type: none"> <li>• 2 large homemade beef-burgers using 10% fat mince</li> <li>• 2 wholemeal buns</li> <li>• 100g sweet potato</li> <li>• sliced tomato and lettuce</li> </ul>

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#### RESULTS

Since the publication of this article, Danny has since fought and won a further four times with the support of Richie Barclay



#### SENr

SENr is the voluntary competency-based register of choice for sport and exercise nutrition professionals. Find out more at [senr.org.uk](http://senr.org.uk)

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