

# CHICKEN BURGERS

## INGREDIENTS:

### Chicken Patties:

1 kg chicken mince  
½ cup grated carrot  
½ cup finely chopped onion  
½ cup diced celery

### Filling:

Hamburger buns, spilt  
English spinach leaves  
Tomato slices  
MAGGI Authentic Thai Sweet Chilli Sauce  
Snow pea sprouts  
Strips of char grilled capsicum

**Preparation Time:** 15 minutes

**Cooking Time:** 10 minutes

**Serves:** 4-6

**Method:** To make chicken patties, place chicken, carrot, onion and celery in a bowl and mix to combine. Divide mixture into 12 portions and shape each portion into a flat patty. Cook patties on a foil-lined grill tray under a preheated grill on medium-high, or on a barbeque hot plate, for five minutes on each side, or until golden brown on both sides and cooked through. Meanwhile, toast the bread rolls. Assemble rolls with English spinach, tomato, cooked chicken patty, snow pea sprouts and capsicum. Serve with sweet chilli sauce on the side.

### Analysis:

Energy	1580kJ (377 Cal)
Carbohydrate	45g
Protein	24g
Fat	11g

From *Survival From the Fittest*, Australian Institute of Sport Department of Sports Nutrition



Schnass & Pabst, 1988).

A likely explanation is that the sudden increase in training stress leads to a temporary increase in the production of free oxygen radicals. Supplementation with antioxidant vitamins may help to reduce oxidative damage until your own antioxidant system can adapt to the new challenge.

It's not all good news though. David Nieman, a prominent researcher in the area, found that high dose vitamin E supplementation (800 IU) can increase oxidative stress during exercise of long duration (Nieman et al, 2004).

**/// A well-chosen diet, rich in high antioxidant containing foods (fruit and vegetables) is an athletes' best defence against the increased oxidative stress associated with strenuous exercise. ///**

So, supplementation with antioxidant vitamins may be useful in certain exercise situations – in excess it might be detrimental. The AIS Sports Supplement Program suggests that antioxidant supplementation maybe useful for athletes at the beginning of a period of high volume and/or high intensity training, athletes moving into hot environments or undertaking acclimatization training, or athletes moving to

altitude or undertaking altitude house training.

## The impact of an antioxidant rich diet - latest research findings

Trent Watson, at the University of Newcastle, recently investigated the differences between a diet rich in antioxidants with a reduced antioxidant diet (Watson et al, 2005). Subjects consumed either their normal diet for two weeks (which equated to a high antioxidant diet and included 8-10 serves of fruit and vegetables daily) or a restricted antioxidant

diet (reduced intakes of fruit and vegetables) prior to undertaking a strenuous exercise test and blood analysis. Not surprisingly, markers of oxidative stress were significantly higher following exercise during the restricted antioxidant diet, however there were no differences at rest between the two trials.

In summarising his findings, Trent concluded "The findings suggest that a diet rich in high antioxidant foods is capable of protecting against oxidative

stress during exercise". On quizzing Trent regarding the subjects' normal diets (high antioxidant diet), he reported that most subjects consumed 5-6 pieces of fruit daily, plus vegetables.

## My Advice

So, what's my advice with regards to antioxidants in your diet and anti-oxidant supplements?

1. A well-chosen diet, rich in high antioxidant containing foods (fruit and vegetables) is an athletes' best defence against the increased oxidative stress associated with strenuous exercise.
2. Athletes that consume low energy diets (i.e. athletes involved in sports such as running, where low body weights and body fat levels provide an advantage) need to ensure a wide selection of foods and focus on nutrient rich foods in order to ensure an adequate antioxidant intake.
3. In essence, an athlete should increase their intake of antioxidant rich foods (fruit and vegetables) to reflect their total energy/dietary intake.
4. Moderate doses of anti-oxidant supplements (vitamin C and vitamin E) may be useful early on in athletes commencing a heavy (not moderate) training program until the antioxidant system can adapt to the new challenge and or environment (altitude).

## References:

Hemilä H (1995) *Int J Sports Med.* 17:379-83.  
Nieman DC, et al (2004) *Med Sci Sports Exerc* 36:1328-35.  
Simon-Schnass I & Pabst H (1988) *Int J Vit Nutr Res.* 58:49-54.  
Watson TA, et al. (2005) *Med Sci Sports Exerc.* 37:63-71.