



Illness and Injury

About

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Requirements above
normal population

What increases risk of illness and injury?

- Insufficient diet to support training levels, training low and inadequate recovery
- Not pre- fuelling and taking on adequate recovery
- Alcohol

Where's the proof that diet can reduce risk of injury and illness?

- Athletes reaching the recommended nutrition intake reduced the odds [of injury] by 64%
- Those who used a carbohydrate-protein supplement daily after physical training through 54 days of boot camp had 33% fewer total medical visits and 37% fewer muscle and tendon injuries than recruits who used a carbohydrate-only control or a placebo.
- Alcohol consumption increased the likelihood of sports related injury, with an injury incidence of 54.8% in drinkers compared with 23.5% in nondrinkers.
- The position statement published in Exercise Immunology Review on the association of immune function with exercise - 'intense training depresses the immune system to a greater extent than does moderate training'

Why?

- If the body does not get enough calories it enters a catabolic state – it eats itself, including muscle. This impairs muscle recovery increasing risk of injury
- Acute bouts of exercise cause a temporary depression of various aspects of immune function that will usually last for 3 to 24 hours after exercise
- Intense exercise in a glycogen-depleted state has a negative impact on circulating stress hormones, leading to decreased immune function
- If the body does not get enough calories it does not have enough energy to mend itself.

To cover

- Immune system
- Injury risk reduction
- Dietary support for muscle and bone injury
- Post training recovery

Immune system

- - vitamins A,C,D,E
- - iron, zinc, selenium
- Prebiotics
 - Prebiotic vs probiotic



Vitamin D

- Not just important for calcium absorption but also the immune system and much more!
- Main source the sun
- Foods – oily fish, eggs
- Daily supplement of 10 μ g
- Informed sport www.informed-sport.com

How much do you need?

- Vitamin A – 1 carrot
- Vitamin C – 2 satsumas
- Vitamin D - supplement!
- Vitamin E – 55ml rapeseed oil
- Selenium – 2 brazil nuts
- Zinc – 300g quinoa/200g beef (men)
- Iron – 200g quinoa/400g oats/1500g spinach/30 dried apricots/640g beef (women)

What meals could you put together?

Injury risk reduction

- You've got to be in it to win it
- Sufficient nutrient availability
 - Protein
 - Carbohydrate
- Recovery is vital

Dietary support for injury

- Work with your physio
- Available energy
 - BMR increases by 15-20% after sports injuries
- Protein
 - 1.5 – 2g/kg/bw
 - 20g with each meal
 - arginine
 - glutamine
- Carbohydrate
 - energy
 - protein sparing
- Fat
 - cell membrane
 - inflammation – omega 3

Plus

- Antioxidants
 - Vitamins A,C,E, selenium
 - Free radicals
- Zinc
 - enzyme
 - cell synthesis
- Creatine

Fractures and breakages

- calcium
- phosphorus
- vitamin D – again!

Summary

- Base diet rich in nutrients that supports the immune system
- Injury risk reduction
 - Sufficient nutrient availability for energy creation
 - RECOVERY
- If injured
 - Sufficient energy
 - + protein for muscle recovery
 - + calcium, vitamin D and phosphorus for bone recovery



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