

EATING FOR YOUR SPORT NUTRITION AND SLEEP

Why sleep is so important?

Sleep is your body's time to rest and recover. Without good quality sleep everything in life can seem much harder and certainly your training, performance and ability to recover properly can be compromised. When you have inadequate good quality sleep it is hard to think, concentrate and generally function on a day to day basis. In short, you are cheating yourself if you don't get enough.

Most people need around 7-8 hours sleep each night,* but this really does vary from person to person. If you are doing regular intensive exercise/training however you will need more than the average person. Some of the top athletes are advised to get more like 9 or 10+ hours sleep per day.** With their intense heavy training load, their bodies will need more time to rest and repair than someone who just sits at a desk all day long.

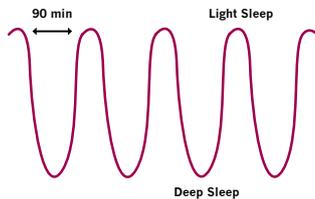
The number of hours that you sleep is not the only thing to consider. Simply being in bed with your eyes closed for 7 or so hours isn't enough; you need to make sure that the sleep you are having is good quality. When you are asleep your body goes through different phases or types of sleep - all of which are really important. The quality of your sleep will depend on whether your body is able to go through all the phases it needs to allow you to wake up feeling rested and recovered. What you eat and drink, the amount and type of training that you do, as well as your pre bed routine can all impact your body's ability to go through all the necessary phases of sleep.



WHAT HAPPENS WHEN YOU SLEEP?

When your head hits the pillow you might not think much is happening between the time your eyes close and the time you wake up – but you couldn't be more mistaken! Sleep is a very active process and at times your brain is as active at night as it is during the day.

When you are sleeping, you go through what are known as sleep cycles. Basically over a period of around 90 minutes you will go from light sleep into deep sleep and then up into a lighter sleep again. At the top of the phase (in light sleep) you often wake up, roll around or move – but unless you have someone snoring next to you, or you have one of those massive alarm clocks with huge red numbers glaring into your eyes, you are likely not to remember having woken up at all.



BOTH PHASES OF SLEEP ARE VERY IMPORTANT AND HAVE DIFFERENT FUNCTIONS:

Light sleep or REM sleep (Rapid Eye Movement)

- REM sleep is a very important lighter phase of sleep although its exact function is not fully understood. Important brain chemicals become inactive, and are allowed to accumulate. When we wake we then have an abundance of these chemicals available that help with our emotional wellbeing, and awareness. It seems to prepare us for waking.
- You are most likely to have dreams in REM sleep.

Deep sleep or NREM sleep (Non Rapid Eye Movement)

- Deep NREM sleep is when your body is in physically restorative mode, and

helps you to feel re-energised and rested upon waking. Inadequate deep sleep can leave you feeling fatigued and groggy.

Napping

As sleep can have such a large impact on your ability to perform at your best, it is vital to see sleep as a priority. If you aren't able to get enough sleep at night, it can be helpful to consider napping during the day to top up on sleep. This can be particularly helpful for those doing large amounts of training. Ideally a nap should be around 10-20*** minutes and no more, so set your alarm. If you sleep for longer than this at one time (say for an hour), you are likely to wake up in the middle of your deep sleep and feel groggy when your alarm beeps.

WHAT CAN AFFECT THE QUALITY OF YOUR SLEEP?

Evening training:

The time that you train isn't always something you can control, particularly if you are involved in a sport where training sessions regularly run in the evening. As training too close to your bed time can make it difficult for you to get to sleep, it can be helpful to create a routine after evening training to help you wind down and relax to maximise your chance of getting a good night's sleep. Here are some ideas:

- When you get home from training or an event, if your mind is buzzing with ideas and thoughts, write them all down until everything is out of your mind and you feel like you have a clear head.
- Sit down, relax and breathe deeply – allow your body to calm and become rested before you jump into bed.

Caffeine:

Having caffeine in your system when you go to sleep won't necessarily stop you going to sleep or stop you from staying asleep, but it will stop you going into your DEEP sleep phase. This is why some people can have a coffee or tea just before bed and are quite sure it doesn't affect their sleep – but sadly, it does.†

Caffeine has a very long half-life which means it stays in your body for a long time. If you have caffeine in the morning, a coffee at say 8am in the morning, 6 hours later (2pm) there is likely to be around ½ the amount of caffeine still in your system, and 12 hours later (8pm) ¼ of the caffeine will still be in your system.

This means that even though you may sleep like a baby for 7, 8 or 9 hours, the quality of your sleep will have been poor, as stimulants have stopped your body going into a deep restful sleep that you need to allow you to wake up feeling rested. So what happens? Well you wake up and probably feel like you need coffee, energy drink or something sugary to get you going, and so the cycle of the day continues.

Caffeine can be useful for some individuals in sport to enhance performance, but as there can be a price to pay for this when it comes to quality sleep, it is best to use caffeine wisely – individual guidance from a qualified and experience sports dietician or nutritionist is ideal.

There is no absolute guideline in New Zealand for the upper level of caffeine to have each day (apart from in pregnancy where the upper limited recommended is 300mg/day)^{††}, but for most people it can be helpful to look at limiting your caffeine intake and keeping it to the earlier part of the day. If you are a highly stressed person, anxious or sensitive to caffeine, less is likely to be best. There are some great alternatives to caffeinated drinks including herbal teas, hot water with slices of lemon, ginger or mint as well as decaf tea and coffee. Be aware green tea still contains caffeine, so opt for a decaffeinated green tea if necessary.

Alcohol:

Alcohol has a similar affect to caffeine – you might feel like it knocks you out and helps you to sleep, but the breakdown products of alcohol also stop you from going into deep sleep. Another reason to make sensible choices when it comes to alcohol.

SLEEP AND YOUR WEIGHT

There is more and more evidence that inadequate sleep can impact on your weight.^{†††} It is thought that fatigue can result in hormonal changes which can have an impact on your appetite and as a result end up affecting how much you want to eat. In other words, tiredness leads to you feeling hungry. In addition, when you are tired from lack of adequate sleep, motivation to train hard is likely to be reduced.

HEALTHY SLEEPING HABITS

1. Aim to get around 7-8 hours sleep each night, for those who are training heavily, look at 9-10 hours.
2. Try to go to bed and get up at the same time each day – this helps keep your body clock synchronised.
3. Get outside every day in natural daylight – this helps your body to regulate melatonin which one of the hormones which regulates sleep cycles.
4. Where possible, try not to do intensive exercise too close to bed time as this can keep you awake.
5. Bed is for sleeping – avoid watching TV in bed or doing work in bed.
6. Make your bedroom comfortable – it's important that your pillow, mattress and bedding are comfortable – you spend a lot of your life sleeping and a good sleep is essential.



7. If you wake up constantly during the night and become anxious: get out of bed, keep warm, try to relax with reading, and return to bed after about 20 minutes, it will help you sleep. Also, when in bed, don't look at the clock. It will only create stress if you know that you have to get up in a few hours.
8. Allow yourself time to wind down before bed. If you have a hundred things running through your mind, write them all down. Slow deep breathing can be very helpful to calm your body and mind.

9. Balance what you drink – too much fluid and you will need to use the bathroom during the night, not enough, you can wake up thirsty.
10. Avoid large heavy meals at night and try to leave an hour or so between your meal and sleeping.

Many thanks to sleep specialist
Dr Alex Bartle for help with this resource.
www.sleepwellclinic.co.nz

* Van Dongen HPA et al. The cumulative cost of additional wakefulness: dose-response effects on neurobehavioural functions & sleep physiology from chronic sleep restriction and total sleep deprivation. *Sleep* (2003); 26 (2): 117-126.

** Quote from abstract at 21st Annual meeting of American Academy of Sleep Medicine (2004, June). Extra sleep improves athlete performance.

***Brook, A; Lack, L (2006) "A brief afternoon nap following nocturnal sleep restriction: which nap duration is most recuperative?" *Sleep* 29(6): 831-840.

† Hammami, M, M., et al. (2010), Interaction between drug and placebo effects: A cross over balanced placebo design trial.

†† <http://www.foodsafety.govt.nz/elibrary/industry/caffeine-info-sheet.pdf>

††† University of Colorado Boulder (2013, March 11) Less sleep leads to more eating and more weight gain.

CREAMY CHICKEN AND SPINACH PASTA

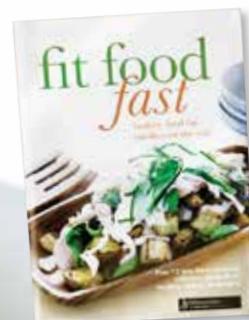
Serves 4

400g fresh or 300g dried fettuccine
1 pkt MAGGI Favourites Creamy Carbonara Recipe Mix
375mL can CARNATION Light & Creamy Evaporated Milk
400g boneless, skinless chicken breast, cut into strips
130g baby leaf spinach

Serving suggestion: serve with a large green salad

- Cook fettuccine following packet directions.
- Combine MAGGI Favourites Creamy Carbonara Recipe Mix and CARNATION Light & Creamy Evaporated Milk in a large saucepan and bring to the boil.
- Add chicken and simmer for 5-7 minutes or until cooked.
- Stir through fettuccine and spinach before serving.

ANALYSIS	per serve
Energy (kJ)	2010
Carbohydrate (g)	65
Protein (g)	42
Fat (g)	6



This recipe is from the *Fit Food Fast* cookbook. For more recipes visit www.tastyrecipes.co.nz.

By Nutritionist Claire Turnbull - www.claireturnbull.co.nz

For more information and to obtain further copies of any of the Eating for Your Sport Nutrition Advice sheets, visit www.nutrition.nestle.co.nz or www.autmillennium.org.nz/nutrition

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