

Sleep – The most important part of training?

Mrs Angela Oliver

The reason I chose to write on this subject is because I feel like it's a bit of a secret sometimes. When we hear about training the first thing that comes to mind is hard work, and getting as much of that in as possible, without realising that the real benefits from our hard work come whilst we are recovering. I'm completely guilty of this and have paid a price for it in my training. Early last year I had to take nearly 5 weeks off any really intensive exercise because I'd spent 8 months not letting my body recover from anything I'd been doing to it and it finally told me ENOUGH!

Nearly two years ago, I started to train Crossfit. I was sure that this great system for strength and conditioning was going to be my answer to feeling weak, overweight and unfit, and help me get stronger and more conditioned for Taekwon-Do. From what I'd seen from friends' experiences and in the media, this new thing was going to help me feel like the super hero that I so desperately wanted to be. And I was absolutely right. I got faster, stronger and happier really fast and my Taekwon-Do started to really improve. I was completely addicted! What no-one had mentioned to me, and what I hadn't seen in the media, probably because I hadn't cared to look, was what can happen to you if you don't give yourself adequate recovery from intense training like this. It's crucial that we as practitioners don't let our bodies get to that point where we actually have to stop training, therefore effectively undoing a large portion of all our hard work. As instructors, it's always going to be really apparent to our students as well, who look up to us and can tell when we don't have as much energy in our teaching as usual. This really has an impact on the benefit that they then get out of their classes. I'll assume that we all charge for our classes so the last thing we want is students paying good money to spend their evening with a tired, grumpy lack lustre coach.

Most TKD instructors will identify with the issue of not getting to bed early on training nights. We all finish teaching after 8 generally, by the time you've cooked and eaten dinner, and then wound down enough to go to bed, it's pretty late, and after a while, if you have early mornings, whether they are for your work or just because you want to get some training in for yourself in amongst your crazy busy life, you are going to have accumulated a pretty hefty sleep debt. That's not a secret at all. The problem that many of us have is the old school attitude that because we are martial artists, that we should be hard enough to just keep going. To deal with whatever we have to do, get smacked around a lot, do press ups in freezing water, run up mountains carrying a backpack full of bricks and then get into the do-jang and do a 2 hour training session even if we are sore/tired/injured. But we know better now, and new generation of martial artists are starting to learn the importance of having enough sleep for our muscles to recover, and when to pull back because we've maybe done a bit too much and we have to recover to be able to be stronger/faster/better. But we ARE still martial artists and even though I agree with the great thoughts on rest & recovery, I also believe that we need to have a higher threshold and level of resilience than your average person. I do believe that if we are preparing for a grading/tournament that we have to push ourselves past our limits from time to time. I also share a common opinion that many of the younger practitioners that have only been involved in martial

arts for the last 5-10 years are maybe not as resilient as the practitioners were a couple of decades ago. I include myself in this lately as well.

My journey over the last twelve months has been to try and find a happy medium. How to train enough to continue to get much better, much stronger and have a mind that holds great strength and resilience, but getting plenty of rest and allowing my body to fully recover from what I put it through.

At one point during this journey I was concerned that I was maybe overtraining, a term that I've heard thrown about the place a bit in the last couple of years. After reading and hearing about amazing athletes who train 12-15 sessions a week, I soon realised my problem was never going to be overtraining, my problem was going to be under recovering, which is a very different thing. There are a number of coaches and athletes out there who actually believe that overtraining does not exist and that there is only under recovering. I've started to join in with this school of thought myself.

It used to be that each time I'd try to write myself a training schedule there would be a bit of a panic trying to actually schedule recovery time between my full time day job, coaching Taekwon-Do three nights a week, personal training sessions with students and clients thrown in and wanting to train myself as much as I could. I thought that recovery meant I had to have a couple of complete rest days each week and I had no idea where on earth I was going to get those. What I have learned since is that our bodies and our minds will perform for us optimally, even if we are working/training hard on a daily basis if we just have a really decent amount of **SLEEP**. The hour figure will differ for each individual but a good general rule is that you need about 8 hours a night. For every hour of training done that day,* add an hour (approximately). This is probably easier said than done for most people, but I like to think of it as a general guideline for me. I listened to a fantastic podcast from a group of athletes/coaches from Faction Strength & Conditioning in Memphis, Tennessee (see http://www.youtube.com/watch?v=oC_e-TgD8-s) where they discussed their opinions on optimal sleep and rest for people who train heavily. I keep in mind that they are discussing Crossfit athletes and weightlifters but hard training for Taekwon-Do is not really that different. Many of our elite do a lot of strength and conditioning training to help their Taekwon-Do, and Taekwon-Do training in itself is very physically demanding, therefore our bodies need just as much rest as a weightlifting or Crossfit athlete would require. The sleep schedule that I envied the most was from the coach that said he slept at least 7-8 hours each night, and was able to take an additional 1-1.5 hour nap every afternoon to aid his recovery from his workout that day. If only we all had enough time to do that, but most of us don't have jobs where this is appropriate!

I heard a long time ago that a 20 minute power nap during the day will completely rejuvenate you, even better than a couple of hours sleeps, so I used to try and grab a bit of a power nap every now and then and think that this would be adequate. After looking into this a bit more fully, I've learned that whilst this is true in a way, the rejuvenation you will experience mostly relates to your brain. If you want to have a nap that really aids in recovery for your body, you need around 90-110 minutes. This is the length of your average sleep cycle. Hence my jealousy of the above

mentioned coach that manages to fit in an extra sleep cycle during the day, a whole extra cycle of physical recovery each day would be fantastic.

*** When I say an hour, I mean an hour of WORK. I'm not including the 20 minutes I've taken to slowly warm my body up and stretch etc., I'm talking about the time I spend with a barbell, practising my patterns at full power or working on improving my flying techniques.**

Sleep Cycles

During sleep, the body cycles between REM and non REM sleep (Rapid Eye Movement). People will normally begin in non REM sleep followed by very short periods of REM sleep, where dreams will occur, and then back to the beginning again. Non REM sleep is broken down into 4 stages as follows (information taken from <http://www.webmd.com/sleep-disorders/excessive-sleepiness-10/sleep-101>)

- **Stage 1:** Polysomnography (sleep readings) shows a reduction in activity between wakefulness and stage 1 sleep. The eyes are closed during Stage 1 sleep. One can be awakened without difficulty; however, if aroused from this stage of sleep, a person may feel as if he or she has not slept. Stage 1 may last for five to 10 minutes. Many may notice the feeling of falling during this stage of sleep, which may cause a sudden muscle contraction (called hypnic myoclonia).
- **Stage 2:** This is a period of light sleep during which polysomnographic readings show intermittent peaks and valleys, or positive and negative waves. These waves indicate spontaneous periods of muscle tone mixed with periods of muscle relaxation. The heart rate slows and the body temperature decreases. At this point, the body prepares to enter deep sleep.
- **Stages 3 and 4:** These are deep sleep stages, with stage 4 being more intense than Stage 3. These stages are known as slow-wave, or delta, sleep. If aroused from sleep during these stages, a person may feel disoriented for a few minutes.

During the deep stages of NREM sleep, the body repairs and regenerates tissues, builds bone and muscle, and appears to strengthen the immune system. As you get older, you sleep more lightly and get less deep sleep. Aging is also associated with shorter time spans of sleep, although studies show the amount of sleep needed doesn't appear to diminish with age.

So in normal person speak, in stage one & two, you are just starting to calm down and you will be very easily awakened. If someone speaks to you or bumps you a little, you'll wake up really easily, and as mentioned above, you may not even feel like you've been asleep. We've all said, or heard someone else say "I just blinked and when I opened my eyes 5 minutes had passed!" and this is very characteristic of this first sleep cycle where you have wanted to rest, been tired enough to rest, but been very easily awakened (possibly because you fell asleep in the palm of your hand at your desk at work!). The "power naps" that people take generally are spent in stages one and two and are a great recovery for the brain but you don't get the hormonal response that can help your body recover from your training that day.

Stages three and four are where the real physical recovery work happens. These deep sleep stages are where you will get the hormonal and physical benefits like a protein synthesis response e.g. gaining muscle mass, repairing muscle tissue that has been broken down in training etc. This is the meal ticket for making sure your body recovers from what you've done to it so that you can train effectively again the next day.

The fifth part of the cycle not yet mentioned is REM sleep. Contrary to popular belief, REM sleep is not your deep sleep. REM sleep occurs as you prepare to come out of your sleep cycle and begin a new one, or wake up. So throughout the night, you cycle through these 5 stages, and the further through the night you go, stages three and four start to shorten and the REM sleep stage lengthens, as you prepare to wake up. So hopefully, if you've slept enough and recovered enough you should be able to wake up feeling decently refreshed. In an ideal world we would all have a great rhythm in our sleep patterns and be able to know that we can go to bed at a certain time, and wake up x number of sleep cycles later (for me it's approximately 5) without an alarm clock, meaning that you wake up at the end of a cycle, instead of being rudely torn from your recovery in the middle of a sleep cycle waking up groggy and still tired.

My own personal experience is that if I can get to sleep between 10-10:30pm then I can naturally wake up between 6am and 6:30am (when the alarm goes off). If I'm asleep much after 10:30pm, then the alarm going off at 6:30am feels horrible and I wake up groggy and sluggish and it takes me longer to feel ready to start my day.

To summarise, **Train Hard, Eat Clean, Sleep Heaps.**