Recovery 101

Get the best from your training by ensuring adequate recovery

Most people train hard but waste potential adaptations by not managing fatigue...

Stop banging your head against a brick wall. Learn these simple ways to help your body get the rest it needs, keep progressing in the gym and stay healthy long-term.

There are many cliche sayings in the fitness industry. Most of them are now a meme. The ones that stand out? 'abs are made in the kitchen' and 'changes happen when you are not in the gym'. I don't think that last one is actually a saying but it definitely should be! **I am not saying don't work hard** when training, work your butt off. Just also make sure your efforts don't stop the second you leave the gym. If you're killing yourself training why waste the effort because of a few simple to create habits?

Why doesn't everyone do these things?

The best do. People at the cutting edge and peak of performance are already using these methods to stay at the top. Join them.

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TRAIN HARD

See my FREE training tips e-book at aasc.london

2

RECOVER HARD

Follow these steps and reap the health and performance benefits

3

PROSPER

Use your gains! Perform, win and enjoy your hard work!

Fine quality H_2O

Everyone knows water is essential to survival but did you also know fat metabolism and muscle growth require water?

Disconnect for better rest

When stressed, the body will not prioritise training adaptations. Switch off to step up.

Spend time in nature

Get out of the office!

“Short term performance measures show mixed results from sleep deprivation”

Sleep quality *AND* quantity are factors in recovery. Research shows that modulation of sleep plays a significant role in injury rates (Milewski et al., 2014) and the performance of key strength and power tests (Skein et al., 2013). It is recommended that athletes (and those very physically active) get around 8hrs sleep a night. My own interpretation of the research is that an unbroken 6.5hrs is likely just as good as a broken 8hrs. However, ideally to perform at your best and have the best chance of training adaptations, I would suggest an unbroken 7.5-8.5hrs. I’ve heard of elite athletes sleeping an average of 10hrs a day but I am fully aware that’s simply not possible for everyone. Work, kids, spouses etc all demand time - some more aggressively than others! I have tried a few different ways to optimise my sleep and this is what has worked for me:

- TOTAL DARKNESS - if you can’t fit blackout curtains, an eye mask can help the depth of sleep
- TEMPERATURE - Studies have shown that the bedroom should be a couple of degrees cooler than the rest of your home. Leaving a window open even during winter has been ok for me but if you live in the city like me it can get quite noisy!
- ROUTINE - we don’t change so dramatically from birth that schedule and routine become a negative thing. I grant you it can be boring to go to bed early every night but it is definitely beneficial for recovery. I aim for bed by 10.15pm most nights. The odd exception means I require a power nap the next day…next point.

POWER NAPS AND MEDITATION

You’re pretty lucky if your working day allows for a power nap. Mine often does so I take anything from 10-45mins depending on my schedule and how much sleep I feel I’ve missed the night before.

The app ‘headspace’ proved very useful for me. Unfortunately I was always asleep by the time the real meditative bit came on!

Seriously though, there is more and more support for mindfulness practice and the use of meditation in improving recovery.

"In general, acute alcohol consumption… may negatively alter normal immuno-endocrine function, blood flow and protein synthesis so that recovery from skeletal muscle injury may be impaired." Barnes, 2014

Alcohol

Alcohol is a tough subject to tackle. I'm no saint and enjoy a drink as much as the next person. Assuming the next person isn't Russell Brand… I digress. Alcohol can be the downfall of many athletes and not just because of the large amount of calories consumed. Research on alcohol is always interesting. Scientists can't just get people drunk and stick them in a gym. Most of the research therefore is on whether drinking after training impairs nervous system recovery, affects sleep and stops muscle repair. Short story; it does if you drink a lot of it (Barnes, 2014 & Parr et al., 2014). Anything that diverts resources from repair and recovery is not ideal for anyone who trains, but life would be less enjoyable if you didn't have the freedom for the odd tipple should you want to. Here's my recommendations on alcohol consumption that won't undo your training efforts:

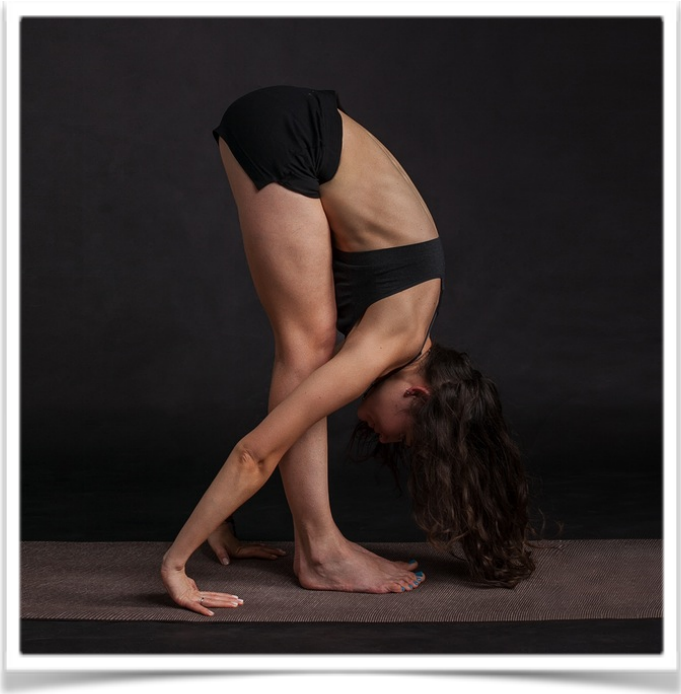
- **Moderate intake appears ok - but what is moderate? It is suggested that 1-2 drinks will have little effect on recovery if you still get a good nights sleep.**

- **Stick to what you know - most people handle drinks better if they know how many will be too many. The aim is to not induce a hangover that sees you running for junk food the next day.**

- **Drink plenty of water - whether or not drinking dehydrates you, it will slow down your consumption of alcohol if you have a water between each hard drink.**

- **Plan your social events away from big training/competition dates - I realise that's not *always* possible but your priorities will determine your actions. If it means a lot to you, abstain temporarily then celebrate when you can.**

Stretching, compression garments, foam rolling & massage



Interpreting a complex research area

- **Stretching has had a mixed bag when it comes to research. Limited evidence suggests a minor effect on muscle soreness but many athletes and coaches will swear by it. My view is that it aids recovery indirectly, through mediating stress and relaxation…**

    - Perform 30-40mins of static stretching for the whole body (each held for 30s-3mins) twice a week along with foam rolling and self-myofascial release (SMR) techniques to see a real benefit. Done in front of the TV or at the gym between clients it is easier than you'd think to get some stretching done. I try not to let it eat into my training time and studies suggest immediately after training provides no extra benefit (Vaile et al., 2010).

- **Compression garments are shown to help reduce muscle soreness, increase rate of recovery improve strength training adaptations (Born et al., 2013).**

    - Compression clothing isn't all the same. Research suggests garments range from 8-40mmHg in terms of pressure and pressure changes from distal to proximal ends. I've tried a range of different brands and can't say I've noticed much difference.

    - "When compression clothing was applied for recovery purposes 12 to 48 hours after exercise, small or moderate effects were also observed for recovery of maximal strength and power performance, recovery of vertical-jump performance, blood lactate removal, reductions in muscle swelling and perceived muscle pain, and increased body temperature."

    - Some of the benefits are thought to be increased body temperature and placebo effects - either way results are positive and of some use. Compression garments have shown effectiveness in both during training studies and as a recovery method. I think worth a try!

FOAM ROLLING & SMR - a good investment

I first read about SMR in a short e-book from one of my professional role models - Eric Cressey - in around 2006. Since then many scientists have attempted to explain the mechanism(s) and form some general guidelines on the use of foam rollers. There is still, a decade on, very little in the way of conclusive proof as to exactly what you are doing when foam rolling. Most experts agree that there is some change in blood flow to the area, which in turn will bring temperature changes and nutrients. There is also pressure (I know it's obvious) which is argued to be insufficient to cause any real change in tissue quality or to 'breakdown' adhesions. Anyone who has had a professional sports massage will know that it takes A LOT of pressure to make significant change here. Regardless, the overall evidence provided by the growing body of research is that foam rolling and the use of massage balls/sticks does improve recovery and mediate soreness. Here are my rules for rolling:

1. Get a few toys - I own a full length roller, lacrosse ball, peanut (more on this later), massage stick and a half length 'Grid'. It gives me a few options as not every body part is logistically possible on just one implement. Some muscles are more sensitive to pressure than others - I can't stand the pain of rolling my quads on the 'Grid'!

2. Make yourself a peanut - two tennis or lacrosse balls taped together to make a peanut shape. This works really well for rolling the thoracic spine and for things like the calves and forearms. Checkout my youtube tutorial on how to do this effectively…

3. Take your time! Although it can be uncomfortable (understatement) it pays to go slow and make sure you can actually relax. Pre-training I go a bit quicker as I want to remain switched on mentally but for recovery, take your foot off the gas and make sure you hit the spots that need it.

Nutrition, hydration and supplementation

Don't try to ice the cake before it's cooked. Supplements are big business but get the basics right first. I have some first hand experience of using supplementation but my advice is always; cook the cake first. If you are eating well, training hard and hydrated, sleeping well and being consistent, supplements may then give you the next edge.

Nutrition for performance is different in some respects to nutrition designed to reduce body fat and gain muscle. My suggestion here is seek out a professional nutritionist and or dietitian if required. There are, however, some well supported rules for those training for performance;

- "There is evidence that protein needs increase when athletes restrict calories or have low body fat… Protein needs for energy-restricted resistance-trained athletes are likely 2.3–3.1g/kg of FFM scaled upwards with severity of caloric restriction and leanness." (Helms et al., 2014)

- "…findings suggest that many endurance multi-sport non-elite athletes do not meet the current recommendations for carbohydrates…" (Masson & Lamarche, 2016). **When your sport/training requires carbohydrate as a fuel source and you have a high training volume, you should not fear carbs! Source and timing become key to promoting recovery.**

- Simple sugars consumed immediately after training are useful for replenishing glycogen stores and promoting protein synthesis.

- **The 'protein window' only really matters if you are training multiple times per day. Research shows that total protein consumption is more important than protein timing for strength and muscle mass increase (Schoenfeld et al., 2013).**

For more detailed information check out my top, go-to resources for information on sports nutrition and supplementation:

- examine.com
- precisionnutrition.com
- renaissanceperiodization.com
- David Dunne - top sports nutritionist

WATER
Aim for 3-4L per day on average

Close the laptop
Set parameters for your phone and computer usage. Turn off before bed.

Regular holidays
Take time off to reignite your passion for training

FEEDBACK

If you enjoyed this free download and think it was useful, please let me know. Hell, let a friend know and share the knowledge!

Supplements

There are a few well supported additions to a healthy diet. The ones that aid recovery are:

Vitamin D - aids immune system function and supplementation when you're deficient can increase natural levels of testosterone. Both of these reasons make it a must take for those wishing to train hard and recover efficiently. Easy to test and cheap to buy, it really is a no-brainer for anyone concerned with performance.

Omega 3's - EPA and DHA are types of omega 3 fatty acids that are found in things like fish oil and many nuts. A balanced ratio of omega 3 to omega 6 (modern diets are usually high in omega 6) can help protect against plaque build up and type 2 diabetes (examine.com/supplements/Fish+Oil/). They also have anti-inflammatory properties helping with recovery from training, in theory.

Vitamin C - "An athlete supplementing vitamin C, on the other hand, can expect to cut the risk of getting a cold in half." (examine.com/supplements/vitamin+C/) - that is enough to convince me!

SUPPLEMENTING MAGNESIUM, IF DEFICIENT, APPEARS TO AID SLEEP QUALITY THUS INCREASING YOUR BODY'S ABILITY TO RECOVER FROM TRAINING.

Curcumin - an active ingredient in Tumeric - is shown to have anti-inflammatory qualities so may provide some benefit to those who train hard enough to damage tissues. During times of injury recovery, managing chronic inflammation plays an even more important role.

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AASC aims to provide complex information in a simple format that everyone can benefit from.

I hope that you found this information useful. Any and all feedback is welcome!

References:

Born, D. P., Sperlich, B., & Holmberg, H. C. (2013). Bringing light into the dark: effects of compression clothing on performance and recovery. *Int J Sports Physiol Perform*, *8*(1), 4-18.

Helms, E. R., Zinn, C., Rowlands, D. S., & Brown, S. R. (2014). A systematic review of dietary protein during caloric restriction in resistance trained lean athletes: a case for higher intakes. *Int J Sport Nutr Exerc Metab*, *24*(2), 127-38.

MacDonald, G. Z., Penney, M. D., Mullaley, M. E., Cuconato, A. L., Drake, C. D., Behm, D. G., & Button, D. C. (2013). An acute bout of self-myofascial release increases range of motion without a subsequent decrease in muscle activation or force. The Journal of Strength & Conditioning Research, 27(3), 812-821

Masson, G., & Lamarche, B. (2016). Many Non-elite Endurance Multisport Athletes Do Not Meet Sports Nutritional Recommendations for Carbohydrates.

Milewski, M. D., Skaggs, D. L., Bishop, G. A., Pace, J. L., Ibrahim, D. A., Wren, T. A., & Barzdukas, A. (2014). Chronic lack of sleep is associated with increased sports injuries in adolescent athletes. *Journal of Pediatric Orthopaedics*, *34*(2), 129-133.

Parr, E. B., Camera, D. M., Areta, J. L., Burke, L. M., Phillips, S. M., Hawley, J. A., & Coffey, V. G. (2014). Alcohol ingestion impairs maximal post-exercise rates of myofibrillar protein synthesis following a single bout of concurrent training. *PLoS One*, *9*(2), e88384.

Pearcey, G.E., Bradbury-Squires, D.J., Kawamoto, J.E., Drinkwater, E.J., Behm, D.G., and Button, D.C. (2015). Foam rolling for delayed-onset muscle soreness and recovery of dynamic performance measures. Journal of Athletic Training, 50(1), pp.5-15.

Schoenfeld, B. J., Aragon, A. A., & Krieger, J. W. (2013). The effect of protein timing on muscle strength and hypertrophy: a meta-analysis. *Journal of the International Society of Sports Nutrition*, *10*(1), 1.

Skein, M., Duffield, R., Minett, G. M., Snape, A., & Murphy, A. (2013). The effect of overnight sleep deprivation after competitive rugby league matches on postmatch physiological and perceptual recovery. *Int J Sports Physiol Perform*, *8*(5), 556-64.

Steiner, J. L., Gordon, B. S., & Lang, C. H. (2015). Moderate alcohol consumption does not impair overload–induced muscle hypertrophy and protein synthesis. *Physiological reports*, *3*(3), e12333.

Vaile, J., Halson, S., & Graham, S. (2010). Recovery review: science vs. practice. *J Aust Strength Cond*, *18*(Suppl. 2), 5-21.