

EXERCISE AS A STRESSOR

Summary

Exercise itself is a stressor, its during recovery when we get stronger

Stress causes fat gain and reduces muscle growth

If we want to lose weight and gain muscle we must stay away from Fight or Flight

I want you to fully understand the reason we're not doing 3 x 50 mins intense workouts a day, I mentioned this in the overview video but want to go into more detail here...

Exercise is a stressor.

Now it (*like fasting, cold water etc*) induces a form of stress known as hormesis.

Hormesis encompasses the notion that **low levels** of stress stimulate or up regulate existing cellular and molecular pathways that improve the capacity of cells and organisms to withstand greater stress.

The key here is low levels. Fasting is a great example of this. A little fasting is great, but if you starve yourself for 6 months, you'll die. Simple.

Exercise is the same, we need to do enough that we provoke what is called the adaption response (that your body rebuilds itself stronger) but not too much that you actually do damage to your body and cause negative stress, which then leads to weight gain etc.

Remember if we take this too far if we exercise too much we cause a stress response and the body only has 1 response to stress...

Cortisol rises, blood sugar increases, insulin is released which **stores fat** and leads to insulin resistance downstream all sorts of emergency systems kick in to ensure our continued survival.

We can look at it like this (and while it's not entirely true it's a helpful analogy). **Exercise is not, in itself, good for you.** During exercise your body is being broken down to fuel your exertion.

It is the recovery from exercise which is good for you. This is the period when the body builds bigger muscles, increases speed, lays down new neural pathways.

So when it comes to exercise what we want to do is find the best way to cause as little stress to the system as possible to allow us to achieve our goals as fast as possible. Thus the more efficiently we can exercise the better off we are going to be. As we are causing

less wear and tear on the body and allowing more time for recovery in-between sessions.

This is all illustrated nicely by the example of what happens to a cave dwelling ancestor of ours when he bumps in to a Tiger.

If he's smart he'll run, run as fast as he can possibly manage. In this moment the body does some pretty amazing things. It recognises that if it doesn't get away from this Tiger NOW then it's time on this planet is at an end. As a result in that split second it shuts down all non essential systems and diverts their power to the ones which will help it escape.

It realises that if it doesn't run as fast as it possibly can it'll never eat again, so it shuts down all digestion processes, voids anything in the bowels to aid this process and make our man lighter and crucially **stops processing nutrients from food.**

It shuts down all sexual function as it realises if it doesn't get away right now it'll never make sweet love again. So all those great hormones we need so much (testosterone I'm looking at you) stop being built.

It diverts all this energy to the muscles, the heart and the lungs and starts to propel our great, great, great.... grandfather away from the hungry tiger.

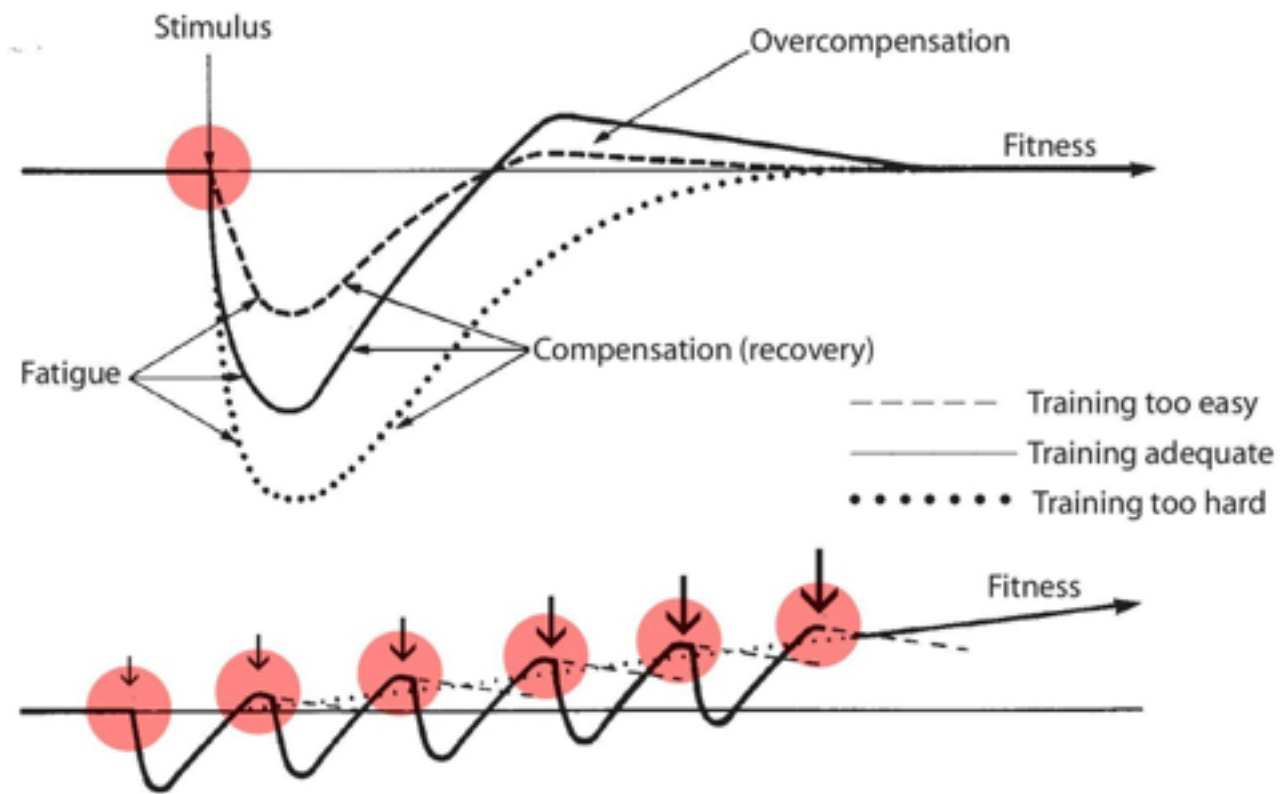
To do this it not only burns through the available energy the body has but once it has used up those stores it starts stripping resources from other places, the gut wall is a great example and one of the first places it goes (*remember how it's shut off digestion*) to get the fuel it needs. It also pushes the muscles themselves so hard that they start to tear and rip.

Luckily this time our relative survives, but to do so cost him all the energy he had, he's quite simply exhausted. The body recognises this as a serious problem, one that it must ensure NEVER happens again.

Maybe next time the Tiger will be a little faster (*or more hungry*) and will win the race. So it sets about not only repairing the damage that was done during the chase but rebuilding it stronger, so that next time it won't have to damage itself to escape.

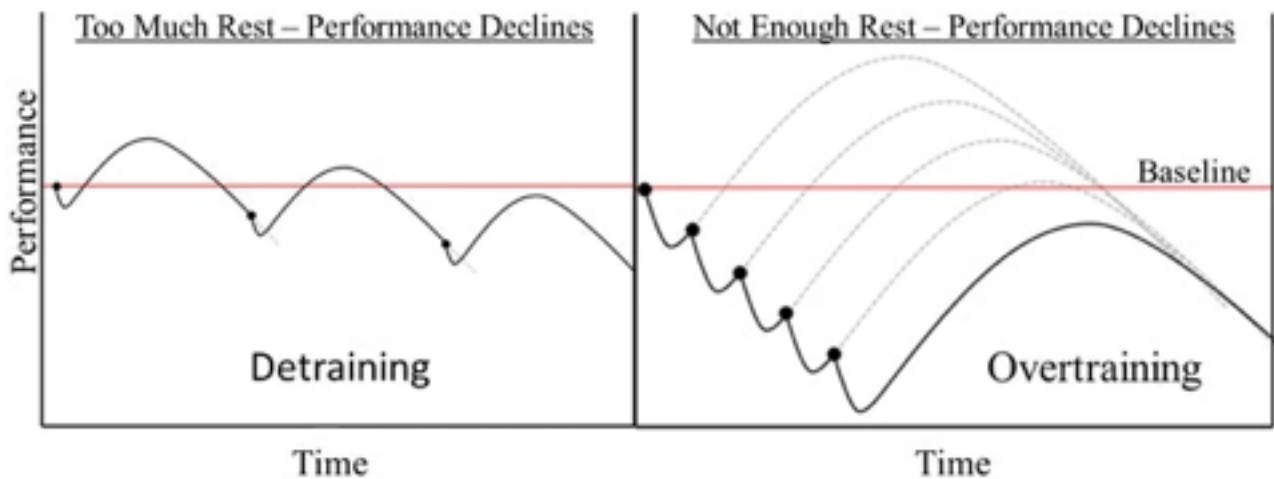
This is called the Adaption Response to Training and it is at the heart of exercise science. It's worth noting at this point that this adaption is not linear, think of it of coming in waves, you may notice huge gains one session and then plateau or even slide backwards for a while...this is normal, you will not be able to add 1kg a day to a lift for a year for example...it just doesn't work that way.

These diagrams will illustrate this better than I can explain:



In this first diagram you can see the person goes to the gym and works out, this is the stimulus. They then take time to recover (the compensation phase) and manage that recovery time effectively by getting lots of sleep, eating well and generally chilling out.

Thus in that recovery time the body rebuilds itself stronger, it overcompensates.



In the second diagram the person is still going to the gym. But on the left hand side they are simply not doing enough or leaving too long between each session or on the right hand side, not leaving enough time for recovery in-between sessions or impairing that recovery time with disturbed sleep, poor diet, binge drinking or something similar... anything that interferes with the bodies natural ability to rebuild itself.

As a result of this you can see over time, performance decreases.

Note, as you train more your recovery time will naturally reduce this is why people who already train can afford to train much more regularly whereas for someone who has never worked out before once or twice a week may be optimal as they get started.

Putting It All Together

This is the reason we focus on movement. Your circulatory and lymphatic systems rely on movement to work. They are responsible for bringing nutrients to and shipping toxins out of the muscles so the best way we can enhance our recovery is to move.

What we are trying to avoid, is OVERTRAINING and stressing the body out.

Remember stress releases cortisol, which raises blood sugar, which releases insulin which stores fat...which will lead to you feeling grumpy, tired **and actually getting fatter and less fit and healthy!**