

EXECUTIVE STRENGTH STRESS MANAGEMENT

*Tame Your
Fears and Take
on the World*

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Module 3:

Your Body & Stress

Chronic Stress

So you've probably realised by now that we have an awful lot of stressors in our modern life. You may even be wondering why you haven't moved to the middle of nowhere and dropped out of society to avoid having this much stress in your life. And you may also be wondering what happens to you long term if you're exposed to so many stressful things on daily basis.

I think we can safely say it's not good for you.

The Stages of Stress

One of the most well-known ways of understanding the progression of chronic stress is through what's called the General Adaptation Syndrome (GAS). Hans Selye came up with this model after an accidental discovery with lab rats. The Rat's Tale of Stress to follow.

Anyway, this is basically how it goes:

First of all we hit the Alarm Phase. You might remember from Module 1 we talked about the Fight or Flight response. Well this pretty much sums up the Alarm Phase. This is only supposed to last a very short time (a few minutes to a few hours) giving us incredible amounts of energy to deal with what should be a stressor ***that has an end***.

After the danger has passed and the alarm reaction is over, we go into a temporary phase of recovery which lasts about 24 to 48 hours. All the hormones that your body has secreted to keep you in prime survival mode in the Alarm Phase drop below normal levels and are much less sensitive to stimulation. This means your ability to handle stress during this time is impaired. To top it all off you'll most likely feel tired and just want to rest with few distractions. You have, after all, just expended a huge amount of energy getting prepared to run from a sabre-tooth tiger.

If we lived in the world our bodies were designed for, this recovery stage would be fine. We could stretch out on our bear-skin rug, munch on the wild berries we gathered before the tiger found us, and stay away from the guy who likes to club us over the head before dragging us away by our hair.

The problem is we don't. The stress of the mortgage payments continues. The stress of maintaining your success continues. The stress of the neighbours dance music playing all night continues. And the bear skin rug, wild berries and peace and quiet never arrives to help us recover.

This brings us into the Resistance Phase. This phase lets your body keep fighting stress long after the fight or flight response has had it. A hormone called cortisol gets involved to make sure

we have enough energy to keep going. It stimulates the conversion of proteins, fats and carbohydrates to energy so that even after your liver and muscles have given up all their goodness, you will still have a large supply of energy available to you. This means that even though you're pretty wiped out from the Alarm Phase you can still deal effectively with stress, cope with emotional crises, perform strenuous tasks and fight infection. Your body is making sure you can maintain everyday functioning at the cost of building and storing for the future. This stage can last a long, long time. We usually feel like we're fine. I mean why wouldn't we? We've got heaps of stuff going on inside that's making energy readily available to us. We probably feel a bit invincible.

The problem is that this is taking a huge toll on our body to maintain it. The longer you stay in the Resistance Phase the worse it is. Cortisol does some great work short term – it speeds tissue repair and is anti-inflammatory but in large doses (over a long period of time) it starts to wreak havoc. Too much of a good thing and all that. What starts to happen is that cortisol starts to suppress your immune system, leaving you more vulnerable to diseases and illnesses including high blood pressure, diabetes and cancer.

Cortisol also overstimulates your cells and they begin to break down. In order to repair or replace them your body needs lots more energy. The problem is that you're using all your energy just keeping you in the Resistance Phase. So your cells start to suffer – and that includes brain cells. Brain cells start to shrink. They do bounce back after the stress has passed but it gets slower and slower to bounce back the older you get. It's a loss of brain resilience. So you can't think or perform as well and your memory starts to suffer. You don't heal as quickly from injury and you tend to feel a general lethargy. Your adrenal glands which release cortisol can't keep up the pace anymore and start to atrophy. We can't make adrenaline or cortisol quick enough for our body's needs. Crazy enough this is usually the phase that we push ourselves the hardest in.

If we keep pushing through this phase and don't give ourselves some stress-free time out or we keep having extreme stress reactions we can move into the Exhaustion Phase. This is what some people call Burnout. There is also a syndrome called Adrenal Fatigue that is like burnout of the body.

There are so many body functions that just don't work anymore in this phase – too many to mention here – but basically you are left with debilitating tiredness. A complete lack of energy. Your hormones are a mess. Your heart is affected through electrolyte imbalances. Your blood sugar levels are all over the show causing hypoglycaemia. And your depleted adrenals don't produce all the things your kidneys need to keep functioning.

This is usually the point where we say things like "I don't understand. I used to be able to do 3 times this work and thrive on it. What's wrong with me?"

This phase is NOT good. AND it takes a LONG time to recover from. My advice – don't go there. Build your stress management IQ and make sure you rest after major stressors.

So now that I've scared you with this terrible tale I'm going to lighten it up a bit with the funny story I promised you.

The Rat's Tale of Stress:

Hans Selye came across this 'phases of stress' discovery by being exceptionally poor at handling lab rats. He had been trying to isolate an extract from the rats' ovaries (discovered by his colleague in a neighbouring lab) and examine its effects. So he set about trying to inject the rats every day with the ovarian isolate. He would come at them with the needle, miss, drop them, chase them around the lab, swipe a broom at them to get them out from under the cupboard, and generally terrorise the poor rats. After months of this he examined the rats and found they had peptic ulcers, shrunken immune tissue and problems with their adrenal glands.

Hans figured he'd seen the effects of the ovarian isolate (he did eventually manage to inject the ratty's) so he did what all good scientists do – he set up an experiment where half the rats got the isolate and the other half got saline injections. If the rats getting the saline solution showed no signs of peptic ulcers, compromised immune systems and shot adrenals then it would be clear that the ovarian isolate was the cause of the symptoms. So he missed, dropped, chased, broomed, and terrorised both sets of rats for another few months. On examination **both** sets of rats had peptic ulcers, damaged adrenals and shattered immune systems. Mmmmm – clearly the ovarian isolate was NOT responsible for these physical changes. More likely fumbly, uncoordinated scientists. So he totally stressed out some more rats under various conditions and came to the conclusion that the physical effects the ratty's were experiencing was due to the impact of stress. Ta- da! Stress is born!

Chronic Stress and Physical Illness

Stress has always been thought to suppress our immune system thereby making us more susceptible to nasties – disease and illness. Recently science has discovered a slight change in this assumption. At first when we experience a stressor our immune system is *enhanced*. This is great for faster wound healing if we're bitten by that tiger. But like all things stress related, when it goes on too long, it has the opposite effect. At first your immune system will return to baseline functioning but after about an hour of being stressed it falls 40 to 70% below baseline. This leaves us very vulnerable to disease and illness.

Some of you may have noticed that the more stressed you are the more colds you get, more stomach bugs, and generally more annoying little illnesses. If you're stressed you are 3 x more likely to succumb to the symptoms of a cold if you're exposed to it.

But it's not just annoying little illnesses that can get through the suppressed immune barrier. All you have to do is look at the health of a 30 year old with AIDS (and a severely suppressed immune system). They often have the same sort of cancers and pneumonias as an elderly

person. Stress suppresses the number of natural killer cells which are the ones that fight cancers. In experiments with rats that have been injected with cancerous tumours and are exposed to stress, the tumours grow much, much quicker. I hope I never come back as a lab rat!

You might even have some latent viruses floating around. These sneaky little buggers hide in your cells until your immune system is down then BAM they start spreading and destroying cells. Think herpes and cold sores and things like Epstein Barr virus and Glandular Fever.

And the effects of stress on health don't just stop at what our suppressed immune system lets through. There is wear and tear on our organs – they're working over-time when we're stressed. A car wouldn't keep running smoothly without some TLC in the form of services and repairs. Same thing with us – we can't keep running at our best if we don't allow our body some time to recover from stress.

So now you see why we need some long-term strategies to manage our long term stress. Even though research says it's better to prevent stress than have to deal with it after the fact, reality says there's a lot of stressors that we just can't do anything about.

So here are some of the techniques that science says do work. Again remember that what works for you may not work for someone else. And what works for you one day may not work for you the next. So try them all and keep a few favourites up your sleeve for the stressiest times.

Diaphragmatic Breathing – this is one of my favourites. It's amazing how many people breathe back to front. Or upside down. I guess it depends on which way you're looking at it. Basically, your belly should go out when you breathe in.

Our diaphragm pushes our inside bits down when we breathe in if it's doing its job properly. So we breathe in and our diaphragm stretches downward to make more room in our lungs and out pops our belly. When our diaphragm releases, our belly should go back to neutral. Lots of us breathe into the upper half of our lungs and this makes us way more stressed.

If I breathed shallow and fast like most people when they're stressed and I did it fast enough I would induce a panic attack in myself. So you can see that this type of breathing (even if it's slower than the panic-inducing rate) would contribute to our stress levels.

Here's how to correct your breathing and get the maximum benefit from belly breathing:

Put your hand on your belly and watch to see if it goes out when you breathe in or in. If it goes in your a back-to-front breather.

Here's the best trick to return your breathing to the right way around:

Breathe out as hard as you can, pushing all the air out of your lungs. Squeeze your tummy muscles tight so you expel that last little bit of air. Then just relax. Your lungs will fill from the bottom up just as they're supposed to. Keep practicing this until it becomes natural to breathe the right way around.

Once you've got that sorted you can start to initiate the relaxation response from your breathing.

Step 1: breathe in normally (sometimes if you breathe too slow you can make yourself more stressed because you'll feel you're not getting enough air).

Step 2: breathe out slowly. Try for 3:1. If you breathe in 1 count then breathe out 3 counts. Doesn't matter if it doesn't happen. You can work up to it.

Step 3: continue until you feel your stress diminish.

Breathing and Talking

Here's another funny little thing about breathing. Apparently we breathe on average 9 to 16 breaths per minute. Panic attacks have an average of about 27 breaths per minute. When we get stressed we often start talking faster and you guessed it – start breathing quicker. And breathing quicker makes us experience more of the symptoms of stress and makes us feel more stressed. So.... slow down the motor mouth, speak at a slower pace if you're a fast paced stress talker and feel your stress drain away.

Relaxation Strategies

There are so many different ways to relax. And most of them will reduce your stress. Some of them will improve your mood and help you handle situations better long term too. Let's start with one you all probably know but don't use.

Progressive Muscle Relaxation – yep this is the one that you either mentally go through your whole body reciting words like relax, or calm, at each area of your body. You might even do the tense and relax thing. So you tense and relax your hand for starters, then tense and relax your arm. The contrast of the tense to the relaxed makes you feel it's more relaxed than if you just tried to relax it. For some people they like to just progressively relax all parts of their body.

I've put a script for this on page 13 of your workbook and I've included a recording for you to follow, preferably not while you're driving.

Meditation

Meditation is something else you can try. There are so many different types. It's really best to try some and see what works for you. For example you can repeat mantra's over and over in your head or out loud – this stops your thoughts going to stressful things.

You can follow your breathing – this takes some practice but is great because your breath generally goes everywhere with you (at least it should unless you're some kind of alien being or vampire – do vampires breathe? They are the living dead. I must google that one) so you can meditate anywhere.

You can try to clear your mind completely of thoughts but I don't think anyone in the history of mankind has had a blank mind for long. I think being able to clear your mind completely is one of those carrot dangles that people tell you to keep you practicing meditation.

You can even do **Meditation for Maniacs**. If you're at a Stress Reduction Course there's maybe a chance you have the 'can't stop and breathe' thing going on. Too much head activity happening to do that. Meditation for Maniacs could involve focusing on the rhythm of your feet hitting the ground when you run, the rhythm of your breath, actually the rhythm of anything – it's better than focusing on the pain and the 'when is this going to be over' thoughts. Maybe it's just me who focuses on 'when it's going to be over' when I'm running.

Mindful walking is another Maniac Meditation – listen to the MP3 to find out how it's done. I'll describe how you do it slow but you can speed it up to suit your own level of speediness. This is very good for calming frazzled nerves and reducing your stress. What's more is it's something you can do at the office, in the supermarket, while your kids are driving you crazy at the mall or basically anywhere that you can stand upright and pace. I love these 'Take Anywhere Tools'.

Exercise

I seriously cannot say enough good stuff about exercise when talking about stress management. Let's face it, when we get stressed our body has said "I'm ready for my muscles to be pumping their little hearts out. Let me at it!" So it just makes sense that exercise would help. We're geared for running or fighting so..... run. This also decreases our chances of metabolic and cardiovascular diseases. Better to run than sit stewing about the stressful things in life.

It's not just that we're doing what we're supposed to be doing when we exercise during times of stress. It's also that exercise does some other really good stuff that protects against stress. For starters we release endorphins when we exercise. They make us feel *goood*. We have a better mood and better overall sense of wellness. This will last anywhere from an hour to a day after exercising so the trick is to keep your exercise regular. The great thing is we also have smaller stress responses when we are faced with stressors if we keep it up.

Then there's the fact that exercise helps carry away the toxic waste products in our brain that can cause foggy thinking. Brains work over-time when we're stressed. That's a lot of toxic waste building up. Exercise also carries more sugar and oxygen to the brain. The brain has a huge sweet tooth. It needs lots of sugar.

Exercise has also been found to improve your sleep, which stress loves to mess with. Have you been waking at 3am? Not feeling particularly stressed but can't get back to sleep again for an hour or two? That's stress! A bit of body moving through the day should work wonders for that.

There are a couple of little things to remember with exercise so you get the full benefit of it.

- Exercise is stress reducing so long as you're enjoying what you're doing. Let rats run on their treadmills voluntarily and their health improves in all sorts of ways. Force them to run and their health deteriorates even if you've got great dance music playing to motivate them.
- Aerobic exercise is better than anaerobic exercise but don't make it so intense that you can't talk. And don't forget to talk slowly.
- Exercise needs to be done regularly. At least 20-30 minutes a few times a week at a minimum.

There's a space for you to brainstorm some fun ways to get your body moving for 20 – 30 minutes at least 3 x a week. It's in your workbook on p 15.

Another Reason to Get Your Body Moving: Stress Makes You FAT

Seriously....you would think that stress would make you lose weight or at least make you lose your appetite. You might remember from Module 1 that when we go into fight or flight mode our digestion shuts down. Theoretically this should reduce our appetite. And for some people that is exactly what happens – they eat less because they're running high on adrenalin. This mostly happens in the early stages of stress – the acute stress phase (nothing cute about it though).

When we go into recovery mode or we're in a state of chronic stress our body releases chemicals that act on our brain and body that change our culinary desires and change the amount of food we want to consume. Did you know that about two thirds of people overeat when they're stressed? Did you also know that there's a strong relationship between increase in work stress and increase in weight gain?

So what happens?

When the stress response (fight or flight) has been initiated our adrenal glands start secreting stress hormones, including cortisol. Cortisol is very tricky. You might remember I mentioned that cortisol is great in the short term but long term it starts to mess with all sorts of things. For example cortisol affects fat cells and the brain, which in turn, affects how much you eat, what

you eat, how much fat you store and where you store it. Cortisol makes you store fat on your belly and that leads to all sorts of nasty health conditions (heart conditions, Type II Diabetes, high blood pressure and premature death).

Belly fat is also called *visceral fat*. Visceral fat is extremely sensitive to stress. It actually has enzymes in it that trigger the release of cortisol which gives the signal that you're stressed which makes you want to eat more. Eating more actually puts more stress on our body which contributes to a state of chronic stress which leads to poor immune function, poor absorption of nutrients and increased risk for heart disease.

The best way to measure your visceral fat is to calculate your waist-hip ratio (WHR). You'll find the calculations and some more information on page 16 of your workbook.

There's also a bit of a scientific theory that says that belly fat actually communicates with your brain to suppress the discomfort of chronic stress. They think visceral fat releases a chemical that lifts your mood even under chronic stress. So your belly fat is encouraging you to keep eating all the things that keep it in place. I guess no-one wants to be obsolete and your belly doesn't want to be going anywhere either. So it makes you crave foods that turn directly to belly fat – carbohydrates and fats. You know pastries, ice-cream, potato chips – all the super-fattening comfort foods. These foods also increase some feel-good hormones like tryptophan and serotonin so it all seems like a good idea at the time. But in the long-term we suffer. The cost of this mood elevation is high when we do it with carbs and sugars and fats. But we can take a 30 minute walk and have exactly the same results without the costs.

So the trick is when you're stressed cut out the comfort food and get your body moving.

An Optional Extra: Moving Your Way to Wellness

This optional extra helps with stress but it may even protect you from cancer and help you perform and learn better at work. Apparently sitting for long periods of time without moving increases your chances of developing cancer. An hour at the gym at the end of the day doesn't help much apparently – it's taking multiple breaks during the day to get your body moving that's the key.

Also, according to a new branch of science called Embodied Cognition we think and learn with our whole body – not just our brain. Studies have shown that kids learn maths better if they're moving and actors learn their lines easier if they're roaming around. So if movement makes kids and actors perform better then shouldn't it do the same thing for us?

Moving also helps with stress too. It might not be full pelt running but surely a bit of jiggling around has to do something good when the fight or flight mode is activated. I also think that using certain strategies and making them fun can give us a bit of a giggle (which I KNOW reduces stress).

Enter Muse Cubes.

Muse cubes are fun dice with movements and sounds on them. You can make them yourself or get a free app for your iphone (search for iMuseCubes). I have both hard copy and app versions.

They'll tell you how to move and what funny sounds to make. If you get the whole office or the whole family involved it's really good fun. Great for a laugh.

I've given you a template to cut out so you can create your own Muse Cubes on p 17 of your workbook and there are some suggested sounds and movements on page 18. Creativity is great for reducing stress so go crazy with decorating them. If you're just too busy give the apps a go.