

CHAPTER SIX

So, we shall describe some of the mental states that precede a relapse into drinking, for obviously this is the crux of the problem. – *Big Book of Alcoholics Anonymous, page 35*

If we could just get to the perfect weight, life would be wonderful... Life would be manageable if only we could stop the compulsive eating. – *OA 12 & 12*

Stress and The Mental Obsession

Stress is another aspect of our mental obsession. Obviously, stress makes us overeat. We all know this from our own experience. It is well documented that both animals and humans increase food intake following stress or negative emotions and we overeat whether we are hungry or not. But why?

What is Stress?

Stress is a physical, emotional or psychological challenge. It can be good, or bad. Examples of good stress (eustress) include getting a promotion, getting married or winning the lottery. Bad stress is perceived as a threat. It happens when we think we won't get something we want or need –It also happens when we think something we already have is being taken from us.

Stress responses are deeply wired into many of our brain systems. The total of all these responses is known as our Threat Response System. This system keeps us alive and was crucial for the survival of our species. It worked quite well for the kinds of short-term, acute

stressors our ancestors faced – like fighting off an animal attack or fighting a rival band of hunter-gatherers. Let's look more closely at how our brains and bodies deal with stress.



The Amygdala

When you perceive a threat, your body interprets and processes this stress in an area of the brain, called the amygdala. The amygdala cooperates with many different brain regions – both consciously and nonconsciously. These regions range from the brainstem to the prefrontal cortex – from the lizard brain up to the thinking, rational part of our brain.

Once the amygdala perceives a threat – then what happens? The amygdala does two major things. First, it causes the stress hormone cortisol to be released. Second, the amygdala activates the sympathetic nervous system (SNS). Both cortisol and the SNS raise blood sugar levels and blood pressure. This gets the muscles ready for fight or flight by providing them extra fuel and oxygenated blood. Both of these reactions are supposed to shut off



just as soon as the short-term stress/threat has passed.

Long-Term Stress

However, we don't live like hunter-gatherers anymore. Now, most of us live in long-term, chronic stressful situations. We perceive threats coming at us from all over the place – our job, our spouse, our kids, the 24-hour news cycle, technology, our finances – on and on and on.

Because we live in these long-term, chronic stressful situations, our bodies and brains unleash a long-term cortisol cascade. Our cortisol becomes unregulated and doesn't turn off. Science doesn't know how or why this happens, but it does. This constant flood of cortisol is a vicious cycle. More stress equals more cortisol; more cortisol equals more stress and on and on and on. This prolonged and near-constant stress response damages our bodies and the consequences continue long after the stress and threatening experiences finally stop.

Individual Differences in Stress

Individual differences in how people respond to stress include genetic differences, perceptual differences and history of childhood abuse and/or trauma.

First, we all have genetic differences. For example, some people secrete a lot more cortisol and some people secrete much less.

Second, how we perceive our stress plays an important role in our cortisol response particularly around the issue of control. Do you think you have some control over your stressful situation or do you think your stressors are completely out of your control? In other words, do you believe that there is something you can do to help yourself or do you feel completely victimized by your situation? The stress we think we can't do anything about has a particularly potent cortisol-raising effect. Step work and emotional sobriety work offered me choices to take control of many stressful situations.

The last individual difference I am going to go over is having a history of childhood abuse/trauma. There is a famous study started in the mid-1990's by the Centers for Disease Control and Kaiser Permanente called the Adverse Childhood Events study or the ACE's study. It is one of the largest investigations of childhood abuse/neglect/trauma and their connection to later-life health and wellbeing. It has over 13,000 subjects and data collection is ongoing.

The ACE's study looked at seven kinds of adverse childhood experiences: psychological abuse, sexual abuse, physical abuse, violence against the mother, living with substance abusers, living with someone who is mentally ill and living with family members who had been incarcerated. This study applies to us as compulsive overeaters/food addicts because adverse childhood experiences increase our risk for addiction, physical inactivity and obesity.





The chronic stress response alters a child's development. When traumatic exposure occurs during critical periods of a child's development, the very core of the child's being is altered. Children survive abuse by accommodating to it. This leads to feelings of fear, distrust, shame, defeat and resignation. These feelings shape our self-concept. We fail to learn things like emotional self-regulation (how we handle and cope with our emotions), a sense of control and the ability to process and integrate information properly. Our brains were in survival mode and our sense of self became altered. The authors of this study asked if we might need to reconceptualize the obesity and addiction epidemics as having their origin in untreated trauma. I don't know about that, but I do believe it is an important piece of many compulsive overeaters' and food addicts' puzzle.

Cortisol

Let's take a look at how cortisol affects obesity, food addiction and eating behavior. Cortisol, the stress hormone, increases blood sugar which increases insulin secretion, which increases fat storage. This means that high cortisol levels contribute to insulin resistance. We know that insulin is the fat storage

hormone, but cortisol doesn't just pack the fat anywhere. It specifically directs fat storage around our organs. This visceral fat is dangerous for our health. This kind of fat is associated with cardiovascular disease and metabolic syndrome (diabetes, high blood pressure and abnormal cholesterol levels). So, insulin makes you fat and cortisol tells your body where to put that fat.

Cortisol leads to excessive food intake – particularly “comfort foods.” When I'm stressed, I'm not eating extra broccoli. I go straight for high-calorie, hyper-palatable foods like ice cream and mac & cheese. Our brain's preferred drug of choice to self-medicate stress is sugar. Here's why – the brain chemical rewards we get from our binge foods actually lessen stress by changing how our amygdala processes stress-related information. **READ THAT LAST SENTENCE AGAIN!** Binge food literally makes stressful or threatening situations **FEEL** less stressful and less threatening. The brain reward chemicals that we get from our binge foods **DIRECTLY** oppose the activation of the threat response system. We eat that crap because it works (at least temporarily) to make us feel better or at least less bad.

However, we only overeat when high calorie binge food is around in our environment. We won't binge on celery because celery doesn't help. Only binge food works. Here is another reason why it is important to keep junk food out of sight. We need to minimize environmental cues. The magic formula to increase stress overeating is the combination of chronic, uncontrollable



stress and the easy availability of high-calorie, comfort food.

Cortisol and Leptin Resistance

Cortisol and related compounds also cause leptin resistance in our brains (hypothalamus). And we know what happens with leptin resistance – it makes us feel like we are STARVING! We also know that insulin resistance and leptin resistance interfere with the lipostat. Remember that the lipostat is the fat/weight thermometer in our brains. As if that weren't bad enough, cortisol and related compounds also increase our levels of neuropeptide Y. Remember, neuropeptide Y promotes hunger and massive overeating.

Cortisol and Feel-Good Chemicals

Cortisol interferes with the feel-good chemicals in our brains. Cortisol messes with our endocannabinoid system. Cannabinoids are a group of chemicals that help regulate mood, sleep, appetite and pain sensation. Cortisol particularly affects an endocannabinoid neurotransmitter called anandamide. This neurotransmitter stimulates a sense of happiness and a feeling of wellbeing. It's called the bliss molecule. Stress alone makes us feel bad enough, but cortisol blocks important feel-good chemicals and makes us feel even worse.

Cortisol and the Prefrontal Cortex

Chronic stress and cortisol kill off prefrontal cortex neurons. Remember, the prefrontal cortex is the rational, conscious, thinking part of our brains.

The thinning out or killing off of our prefrontal cortex neurons has been found to be an important predictor of relapse for addicts. Why? Because loss of these neurons decreases our ability to reason through and control our behavior. Our rational decision-making skills take a hit. We don't have as much conscious control over our behavior. Obese people have been shown to have a thinning of our prefrontal cortexes which indicate the loss of those neurons.

For example, say we are under chronic, high levels of stress and we are confronted with a box of donuts. The loss of some of our prefrontal cortex neurons means that we won't think of other things we can do – like pray or call our sponsor – we will just eat the donuts.

***** We will go over some strategies to help deal with stress and cortisol during the workshop session. *****

