

## CHAPTER SEVEN

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### STRESS AND YOUR BODY



Well, you didn't think we would get this far without at least a little biology did you? We just had a little Psychology, that explained why we behave the way we do. So now we will cover what physically happens to your body during your response to stress. You have learned that it is how you think that affects how you feel. This truth may be revolutionary to you and you feel like running out to tell the world the good news!

Ok, so maybe not. But hopefully what you have learned so far helps you as much as it has helped me, and the many others I have taught over the years. Knowing how to manage stress is important not only for your mental health but as you will see, your physical health as well.

Just like we covered in the last chapter, you are going to have a reaction to every thing that happens to you, whether it is real or imagined – if YOU let your mind rule the situation. The problem is that your body is wired to your mind so it is going to react to whatever your mind tells it to. Just like in the example of the lost car keys. If you let your mind run with the subjective

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thinking that because you can't find your car keys you are going to be late for work; lose your job and get fired, then your emotions are going to respond to those thoughts. Your behavior will then reflect that emotional "reality". This means that your body is going to have a stress reaction, and in this case it would be all for nothing, because the only thing that happened – the REALITY – is that you can't find those darn keys. If you would leave it there, your reaction – if any – will be much more subdued than if you add all the SUBJECTIVE thinking and frightening scenarios on top of it.

Therefore keeping your mind in the HERE and NOW is important if you are going to maintain your composure in those kinds of situation, or in any situation you find yourself in. But what exactly does happen when you react to stress? Let's explore that now.

### **WHAT HAPPENS TO YOU DURING YOUR RESPONSE TO STRESS**

When an event happens and we perceive it to be something we need to react to, certain biological processes take place in our body. As we saw, stress is defined as:

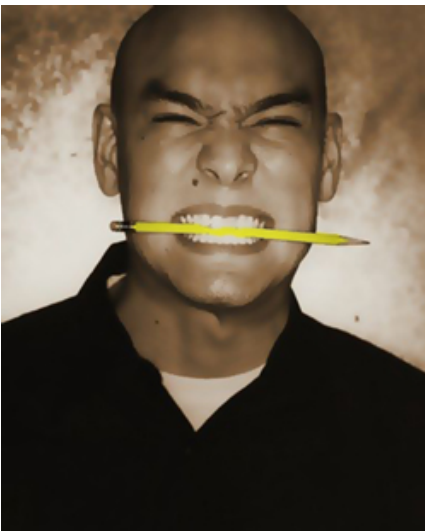
*"A "pressure or force" that is exerted on a body that causes it to cope, adapt and adjust".*

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As to that response it is an adaptive response to a situation that is perceived as challenging or threatening to the person's well being. You react because the situation or even is perceived by you to be threatening or at least upsetting to your "normal" balance. What your body tries to do is to "set it right" again. This is what I've been referring to as "cope, adapt, and adjusting" to stress.

You might know this stress reaction as the "fight or flight" response. Yet way back in the 1930s a Dr. Hans Seyle, known in some circles as "the father of stress", labeled this response the, General Adaptation Syndrome or (GAS) for short – cute huh?

No, not the kind of gas you are thinking of, although some situations can get things stirring in the old belly. No, was simply his explanation of what happens to our body as a result of stress.



### **THE TECHNICAL STUFF**

"The General Adaptation Syndrome", or (GAS), describes the biological process that is caused when we react to some stressor or event that confronts us. It consists of three stages: The

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Alarm Stage, the Resistance Stage, and the Exhaustion Stage. Below is a brief breakdown of each.

### **STAGE ONE - THE ALERT STAGE**

The Alarm Stage goes to work immediately after a stressor is detected as it prepares the body to cope, adapt and adjust. During this stage the following biological reactions take place.

*Your Respiration Increases*

*Your Digestion is slowed*

*Your Heart rate increases*

*Sugar is released from the liver*

*Your Blood pressure increases*

*Adrenaline is secreted*

*Your Muscles tense*

*Your blood gets thicker*

*Blood shifts away from the skin*

Wow! That sure is a lot of things happening at once isn't it? All of these reactions have a distinct and ancient purpose in protecting you and preparing you withstand the stressor.

### **WHAT HAPPENS IN DETAIL**

In a perceived emergency, a part of our brain called the hypothalamus commands the release of hormones (chemical messengers that control various

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body activities) from different places in the body. The main stress hormones are **epinephrine** and **nor-epinephrine**.

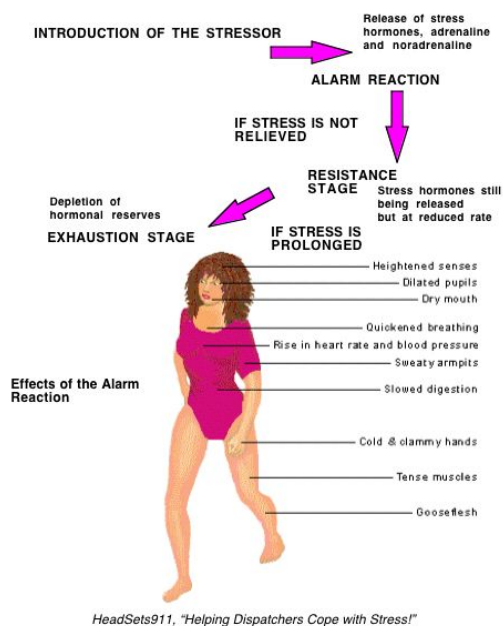
Epinephrine is produced by the adrenal glands, which is located just

above your kidneys; and nor-

epinephrine is produced in many places in the body.

Together, they stimulate a range of physical responses in the body's organs such as the heart and lungs. As your heart rate speeds up, your blood pressure also rises, breathing grows deeper and faster, and blood flow is rerouted from digestion to muscles, and it

### Model of the General Adaption Syndrome



clots faster. Simultaneously, other hormones release stored fats and sugars to provide a surge of energy.

In other words, when you are faced with a stressor all systems are GO! You are alert, your mind becomes more focused, and you are prepared for whatever action you need to take to face the challenge.

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Interestingly, this Alert response is the same as our ancestors had when they faced great dangers such as wild animals and warring tribes. In fact as you look at the reactions you might see that they all have a specific function. For instance, heart rate and respiration increase to provide blood and oxygen to muscles to help them fight the stressor off. Blood thickens and gains more clotting ability so that if you were injured you are less likely to bleed to death. If you have ever seen a serious car wreck or injury you might have noticed the lack of blood no matter how severe the injuries. Now you know why.

Yet today we rarely meet animals that want to eat us, or warring tribes that want to battle us - *unless you count the Road Patrol, or the cliques that sometimes form in Dispatch!* But seriously, even though we don't often face death or real physical harm, the stressors we experience in Dispatching still bring up the same response as if they did.

The real difference between the two examples is that our ancestors, in either standing to fight or run away to avoid death, burned up the energy generated in their Alert Stage. It is quite different when you are sitting at a console or even in your car going home and getting angry at a traffic jam. In our modern world we don't usually expend enough physical energy to burn off the responses we have to everyday stress.

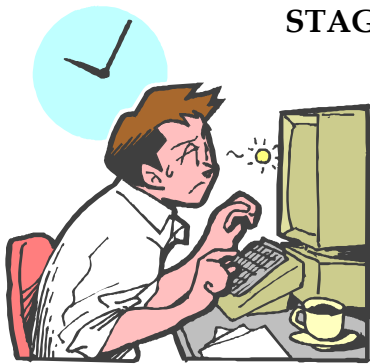
We have also seen that the type of stress you experience in 911 dispatching isn't always "resolved" immediately and in fact can be sustained through repeated stressors. After a while the repeated reactions without resolution or adjustment can wear out your body's ability to withstand future stressors. This is what is known as "Stress Resistance".

## **STAGE TWO - RESISTANCE**

As I said, one of two things takes place during the Alert Stage. Either you stand your ground or "fight", or you take to "flight" and try to get away. Depending on the danger, pressure, or circumstance you may do one or the other or a combination of both. Yet after the situation is dealt with your body attempts to return to normal so that it can be ready for the next round of action. If however, there is no adaptation - no immediate end to the situation - your body will begin to go into a stage of resistance as it attempts to allow you to withstand the duration of the stressor.

Basically the Resistance Stage is a "call for reinforcements". In the resistance stage your body sends a signal to the pituitary gland in your brain to release additional glucocorticoids, which, are hormones that keep blood sugar levels high. The purpose of the resistance stage is to "hold the fort" and keep you going until you cope with, adapt to, or adjust to the stressor.

Most normal stressors we experience on a day-to-day basis are dissipated at this point and your body returns to normal levels. However again, in 911 Dispatching the stress of repeated and prolonged stressors – The Ready Alert Status - can have you constantly flipping back and forth between Stage One and Stage Two. After a while the systems your body uses to fight stress begin to wear out or get “tired”. This is where you enter the third and final stage.



### **STAGE THREE - EXHAUSTION!**

When you enter the Exhaustion Stage all resistance has ceased because your body becomes depleted of its hormonal reserves. This can also result in what we call “burnout”. As I said, with the sustained level of stress you experience in Dispatch makes you very vulnerable to the risk of both physical and/or emotional burnout, unless you learn how to properly adapt to it. But aside from burnout there are other things that can happen to your body over the long-term.

### **Chronic Stress can make you sick!**

Dr. Seyle also noted that it is at the exhaustion stage where “diseases of adaptation” can manifest such as, allergies, hives, ulcers, and heart disease.

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Other diseases may include acute high blood pressure and stroke, and even some forms of cancer.

His findings have been confirmed by many recent studies that show that just as anything has a breaking point, such as the pencil, we too can reach the point where serious degenerative damage can occur when the pressure goes on unabated.

While not all calls for assistance warrant a full-scale stress response, there are the “Officer Down” calls, the “Chases”, “Officer involved shootings”, and other violent and critical calls that we all have from time to time. For the dispatcher these types of calls may last for hours - if not longer - or even more common you might have two or three critical calls going at the same time. Again this is where the stress you experience can become “sustained”, as one critical call follows another, so you can be in The Ready Alert Status most of the time you are on the shift.

So let’s say you are at the console and Officer Smith yells over the air, “I’m in pursuit!” You might jump a little in the air, depending on what you were doing at the time. You key-up the radio, acknowledge the call, and begin the process of handling his traffic, the traffic of backup units, as well as the usual “cluster-cluck “ that follows as EVERYONE tries to talk at once. As you do your



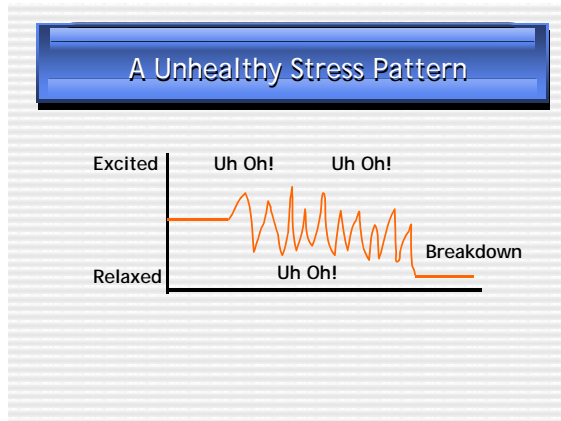
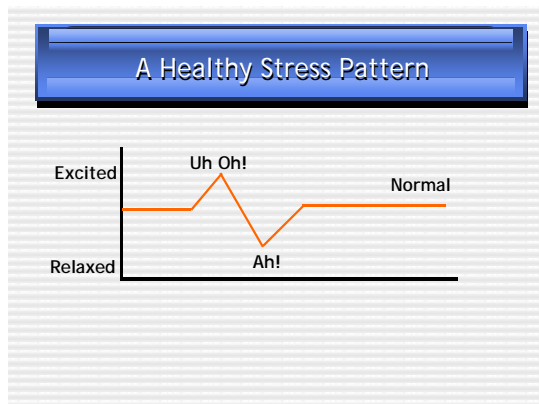
respiration increases, your heart begins to race, all your senses are on the alert. *Who-boy! Another day at the office!*

However, no need to worry at this point, because all of the bodily reactions you are having are good and normal; your body is functioning properly, after all – *it's supposed to respond to stress*. However, if the call you are handling is prolonged, say for hours or more, like a bank hostage situation or barricaded suicide caller, then your response will shift from the normal to the abnormal, from the routine to the extreme. This is why after such a call you feel like a truck hit you. You are just absolutely exhausted, because in fact you are!

That is because the duration of the stressor went beyond what your body could reasonably adapt to. When the Alert stage was finished your body tried to return to normal through the resistance stage, however this wasn't possible as the demand was sustained. In addition, in these types of calls there are many different "Reaction Points", as while you are handling one set of demands, new ones are being manifested all the time, as the situation is usually 'fluid' or ever changing. Each of these reaction points can re-ignite a brand new Alert response. When the duration of this continual re-igniting of the Alert Response exceeds your body's tolerance you will reach the exhaustion stage even quicker.

## NORMAL VS. ABNORMAL STRESS RESPONSES

Take a look at the two graphs below that show a normal stress response vs. an abnormal response.



As you can see there is a marked difference between the two graphs. The “Unhealthy Stress Pattern” is the result of those sustained stressors – The Ready Alert Status” that over time can really take its toll on you, both physically and mentally, but more important as I said before the physical toll can actually cause real sickness and disease.

How is that? Well, in the short term your immune system that protects you against sickness and disease is geared up and strengthened to fight against possible injury. However, when the stress is sustained or chronic the opposite takes affect, as your immune system can actually wear down leaving you open to attacks from viruses, as well as disease.

Because of this you might have noticed you might have gotten sick a whole lot more since you have been a dispatcher. I noticed that for myself and the people I worked with caught a lot more colds and flu's while dispatching. But that is just the colds and flu. What about actual disease?

Well, as I mentioned, in addition to colds and flu, there can be risks such as hives, allergies, ulcers, heart disease, high blood pressure, stroke, and even heart attack. In fact, some studies have shown a link to some types of cancer as well. Chronic Stress can also cause those headaches dispatchers frequently complain about. They are sometimes referred to as "Stress Headaches" or more correctly, "Tension Headaches" that stem from constant tensioning of the neck, head, and shoulder muscles, as well as constant heightening of blood pressure.

Even the headaches and neck pain can increase the stress response because when you are in discomfort or pain, such as a headache, your body also goes into the Alert Stage to defend against the pain, because the pain itself is a stressor on your body. So the process of coping with stress can repeat itself even when you are suffering an effect of the response itself.

You and I know that dispatchers occasionally call out sick on a shift. Most of the time it is prudent because you don't want to bring something into the

center that will infect everyone. However it is important to understand that it is estimated that 75-90 percent of all visits to the doctor are related to stress. This doesn't mean it's "all in their head", but that the culprit is nearly always a body depleted from the effects of chronic stress, the result of a sustained stress reactions.

Therefore learning how to cope with stress is essential, not only to being able to cope with the job, but for the sake of your health as well as for the welfare for the center. You simply cannot ignore stress because it won't let you. You simply cannot afford NOT to know how to cope with stress and we will look over coping strategies in the chapter on "Coping with Stress". But before we get there, we are going to look at a couple of personality traits that have a lot to do with how vulnerable you can be to chronic stress.