

## WHAT IS STRESS?

What pops into your mind when you hear or read about the word stress? For most people, stress is synonymous with worrying about finances, relationships, disliking work or a key life-event such as exams, the death of a loved one, a divorce, moving house, etc. If these are the thoughts that pop into mind, then give yourself a pat on the back because you're dead right. These issues and events certainly create a lot of stress on the body. However there are also more insidious causes of stress that most people don't know about. Did you realise that each time you eat a bit of cake, breathe in polluted air, have a cup of coffee or a glass of wine, work late, take antibiotics or use your mobile phone you are causing your body stress?

So what's the big deal? Well, all these stresses piled on top of one another can lead to big problems, all relating to the body's mechanism for coping with stress and the hormones that are involved. It's a bit like the straws on the camel's back: if you keep piling them on there, at some point the camel is going to break. I suggest that as you read this article you put a tick next to all the aspects of your life that are currently causing your stress so that you get an idea of the total stress load on your system.

### **The Stress Coping Mechanism – “Fight or Flight”**

Suddenly a cheetah springs from its cover in the long grass and begins to sprint after the unlucky gazelle. The cheetah's heart is pumping fast, it needs to breathe more in order to get oxygen into its body to power its muscles and as such, blood is diverted into the muscles and away from the internal organs to maximise its chances of catching the gazelle. The same thing is happening in the gazelle's body because it knows that if it can't get away, it will die.

Meanwhile, a few thousand miles away in England, three youths jump out on an unsuspecting woman who's minding her own business walking home from the pub. She doesn't have time to run, even though she wants to. They attack her and steal her bag and mobile phone. She notices that her heart is racing, that she's sweating profusely and breathing heavily.

After 30-seconds of high speed scrambling and chasing, the gazelle has managed to escape. The cheetah is lying on the grass panting and the gazelle looks round, twitches its ears a few times and starts eating grass again.

The woman in Leeds is in shock and is shaking, but she's ok. She wakes up the next day after only a couple of hours' sleep and opens her post. In there is an overdue council tax bill and a bank statement, which confirms that she won't be able to pay the bill. Perhaps the attackers also used her card last night to buy things. She sits with a cup of coffee (and three sugars), swigs her painkillers and blood pressure medication down, worrying about the bill. She's also dreading

work as she has deadlines to meet and forgot to do some important work for a client. She decides to phone in sick as it's the weekend tomorrow. She notices that her heart is racing and that she feels anxious. She is stressed.

What's the purpose of these stories? Well, as animals we all have a built-in physiological mechanism that helps us deal with stress and it's the same mechanism as the one the gazelle uses. It's basically a survival mechanism and it's known as the 'Fight or Flight' response.

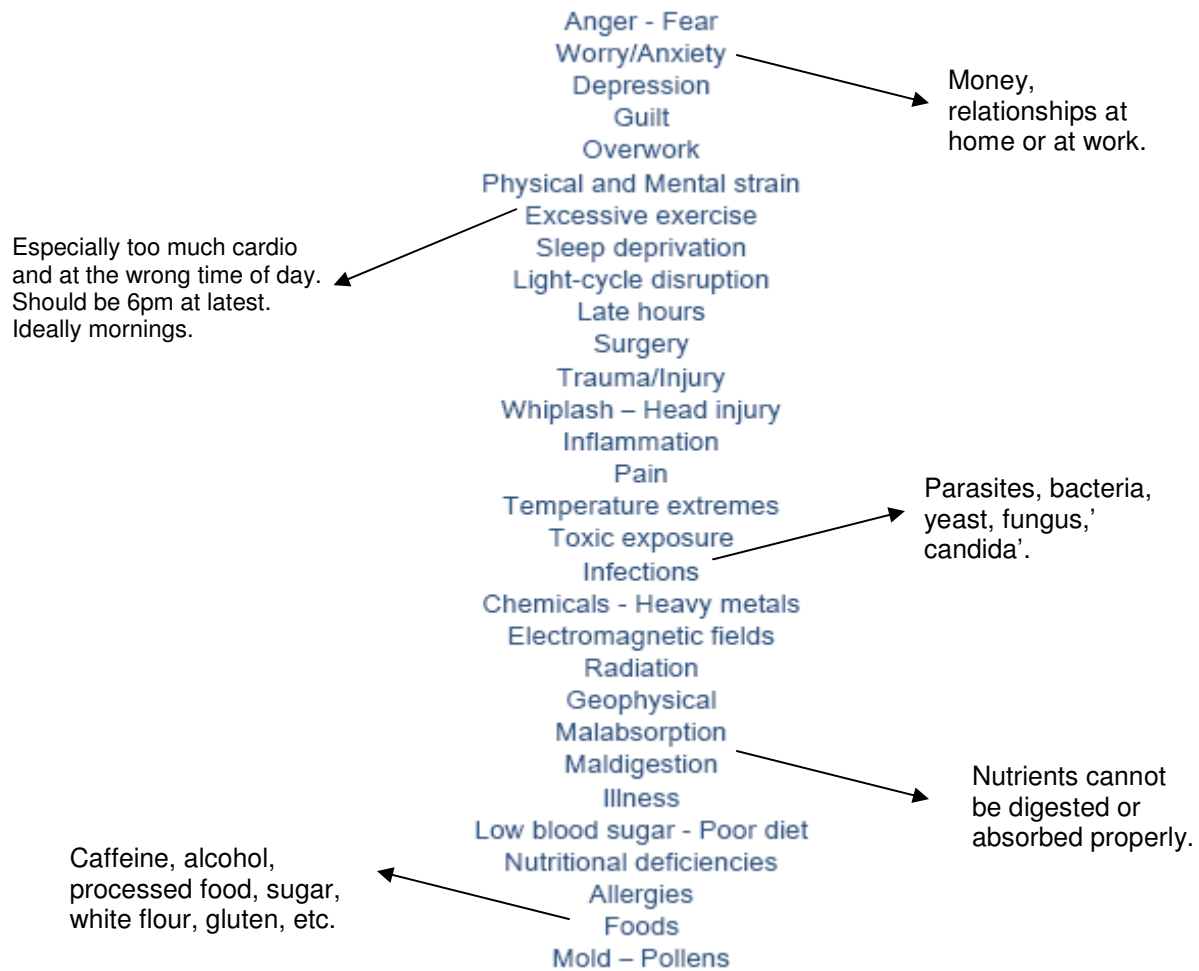
The response to stress is known as 'Fight or Flight' because it is basically a mechanism that is built in to help us survive – to either 'fight' or run away ('flight')!

In the wild, the fight or flight response only lasts for a short time because it ends in either death or exhaustion. In the story above, the gazelle knows the stress is over because the cheetah is exhausted so it can rest assured that it's safe. In this situation the gazelle's body has the opportunity to rest and recuperate, ready for the next bout of 'fight or flight' stress.

Contrast this with the woman who was mugged. She was in a flight or flight situation as she was being mugged. But rather than being able to rest and recuperate, she woke up to more stress and in fact, that stress was there even before she was mugged. This is the big difference. In our modern lives, we are exposed to constant stress. This causes big problems over time. According to many health experts, stress in its many forms is the cause of most chronic illnesses, including heart disease, diabetes, auto-immune conditions and cancer:

As Dr. Ben Johnson, M.D. asserts in *The Secret* "If you put enough stress on the chain, the chain will break". Illness and disease is a mere sign that body has been subjected to too much stress and hasn't been given the time or building blocks to regenerate.

## Potential Sources of Stress



## The Stress Hormones

When the body is under stress, a gland in the brain called the pituitary quickly sends out hormones (chemical messengers) that head for the adrenal glands. These hormones tell the adrenals to make and release lots of stress hormones to help deal with the stress.

The adrenal glands sit on top of the kidneys – like little hats - and churn out more than forty different hormones. For the purposes of this discussion we'll only cover cortisol, which the body's major stress hormone.

## **Adrenal Fatigue**

### **Stage 1 - Stress Overload**

The source of stress is irrelevant to your body: its initial reaction is the same. The adrenal glands make more of the stress hormones cortisol and DHEA. This first stage is called hyperadrenia, or over activity of the adrenal glands. Normally when the stress dissipates – think of the gazelle escaping the cheetah - the glands have time to recondition and prepare for the next stressful event.

However, if your stress levels remain high – think of the lady who was mugged, with her debt, bills, coffee, sugar, medical drugs and deadlines at work - your body will remain locked in this first stage of adrenal stress. If your stress hormone levels remain high for long periods of time, your body's ability to recover can be reduced and the ability of your adrenals to make cortisol and DHEA can be compromised.

Another way to look at this is to think of your adrenal reserve as a savings account. If you continually withdraw money from savings and don't replace it, you are eventually unable to recover financially.

During stage 1 of adrenal burnout many people actually feel quite good. The reason for this is that the stress hormones tend to keep us on our toes, awake and feeling energized. Again using the savings account analogy, it feels good to be spending all that money to begin with, while the bank balance is still high.

Fatigue and other adrenal symptoms are signs that your body's reserve has been overdrawn and your adrenals are becoming exhausted. If the stress continues, the high levels of cortisol and DHEA begin to drop. As the high levels of these hormones can no longer be sustained, a person enters into stage two of adrenal exhaustion.

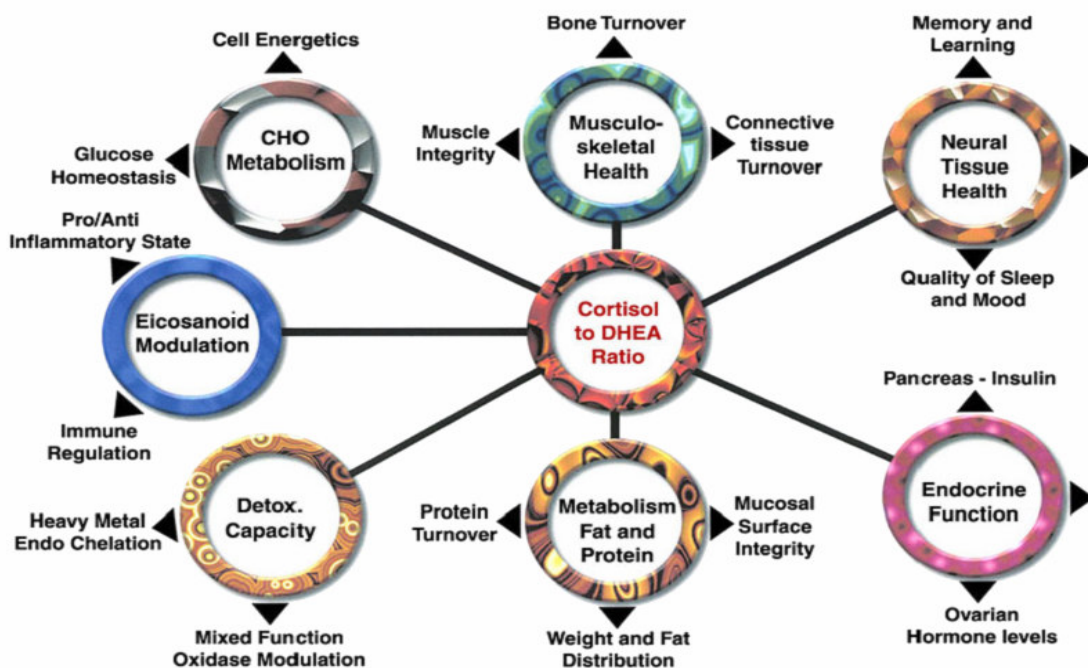
### **Stage 2 – Fatigue**

Some individuals have genetically strong adrenal glands and can maintain good health under high levels of stress for many years. Others may enter into stage two more quickly. Eventually, if we continue to experience excess stress, we enter into stage two of adrenal exhaustion. This transition period usually lasts between six and eighteen months during which the stress response of the adrenal glands is gradually compromised. Under chronic stress conditions the adrenals eventually "burn out." At this point the glands become fatigued and can no longer sustain an adequate response to stress. This condition ultimately leads to stage three or hypoadrenalism, when the bank account has all but run dry.

### Stage 3 - Exhaustion

In stage three of adrenal fatigue the glands have been depleted of their ability to produce cortisol and DHEA in sufficient amounts and now it becomes more and more difficult for the body to deal with and recover from stress. Constant fatigue and low-level depression can appear in otherwise emotionally healthy people because cortisol and DHEA help maintain mood, emotional stability and energy levels. As cortisol and DHEA levels are depressed, people experience depressed mental function. Brain function suffers as these hormones are depleted. Both poor memory and mental confusion can be a direct result of adrenal hormone depletion. Many physical symptoms can be associated with adrenal exhaustion because the adrenal hormones are so important to healthy functioning of the body.

It is easy to see why this occurs when one examines the role of the cortisol and DHEA in different body systems:



From fat burning to thyroid and ovarian/testicular function, to inflammation, memory, learning, detoxification and bones, the adrenal hormones play a vital

role in maintaining balance. Therefore even in the early stages of adrenal fatigue it is not uncommon to see symptoms such as:

- **Excessive fatigue**
- **Neck/back pain**
- **Hair loss**
- **Irritability**
- **Poor immune response**
- **Insomnia**
- **Cravings**
- **Headaches**
- **Depression**
- **Indigestion**
- **Lightheadedness**
- **Lack of concentration**
- **Anxiety**
- **Food allergies**
- **Dry skin**
- **Poor memory**
- **PMS**
- **Loss of sex drive**

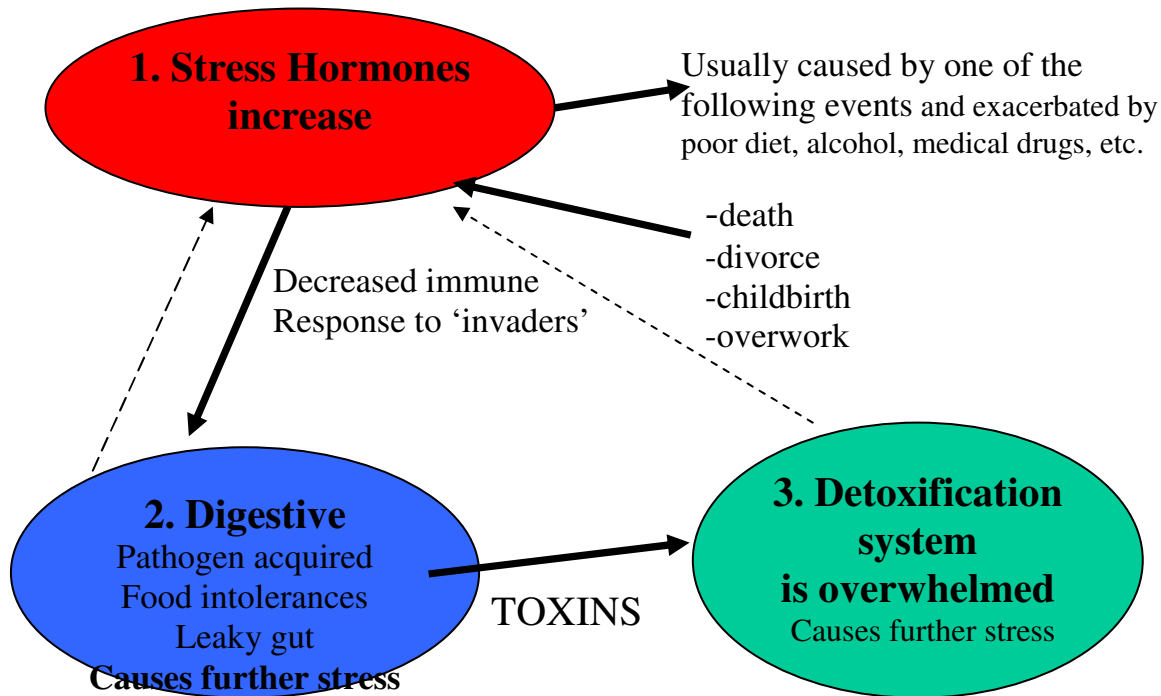
### **The Classic Model of Illness**

In the majority of cases, stress causes people's health problems. Note that points 1-6 can all cause problems in their own right.

1. Any event or accumulation of stress on the body will cause an elevation in stress hormones (cortisol is the main one).
2. In addition to affecting other hormone levels, such as the sex hormones and insulin, the stress hormones lower the ability of the immune system function correctly.
3. If the immune system cannot ward off parasites, bacteria and fungus, chronic infections of the digestive system can occur.
4. If the digestive system is damaged by such an infection, food allergies can start to develop due to leaky gut, a condition where food molecules that don't normally get absorbed into the bloodstream actually do start to be absorbed.
5. A damaged digestive system means that the body will not be able to absorb the fats, proteins, carbohydrates, vitamins and minerals that it needs to stay healthy, rebuild itself and produce energy. Undigested food is toxic to the body and can overload the liver and detox system.
6. If bacteria, parasites, fungi, etc. get into the system, they all create waste products, which are toxic to the body. This can overload the detoxification system and lead to an accumulation of toxins in your body that can cause problems.

This creates a vicious cycle with each of the three main body systems essentially 'stressing each other out'.

### Summary of Typical Onset of Health Problems



### What Can You Do About It?

The first step is to draw a timeline of your life, right through from childhood to the present day. List all the stressful experiences you've had. Examples may be parental separation, surgery of any kind, death of a grandparent, car accident, exams, your job or boss, an infection such as glandular fever or even a tummy bug while on holiday in an exotic place.

You may also find it helpful to use the **Social Readjustment Stress Scale** that I have included at the end of this article. Although the scale was developed in the 1960s, it is a very useful tool for helping you identify and pinpoint stressful events.

Once you have listed your stressful events, think about whether you had any adverse health symptoms around that time or within a few weeks of the event. If you did, it's likely that the stress that you were under affected your body and lowered the function of your immune system. It's also useful to note down any symptoms you had as a child even if they didn't appear to be related to a particular stress event.

## Social Readjustment Stress Rating Scale\*

Circle YES or NO to each event that has happened to you in the past year. Total up the number of questions answered yes.

<u>Life Event</u>	<u>Answer</u>		<u>Point Value</u>	<u>Score</u>
Death of spouse	YES	NO	100	
Divorce	YES	NO	73	
Marital separation	YES	NO	65	
Jail term	YES	NO	63	
Death of close family member	YES	NO	63	
Personal injury or illness	YES	NO	53	
Marriage	YES	NO	50	
Fired from work	YES	NO	47	
Marital reconciliation	YES	NO	45	
Retirement	YES	NO	45	
Change in family members health	YES	NO	44	
Pregnancy	YES	NO	40	
Sex difficulties	YES	NO	39	
Addition to family	YES	NO	39	
Business readjustment	YES	NO	39	
Change in financial status	YES	NO	38	
Death of close friend	YES	NO	37	
Change in line of work	YES	NO	36	
Change in # of marital arguments	YES	NO	35	
Expensive mortgage or loan	YES	NO	31	
Foreclosure of mortgage or loan	YES	NO	30	
Change in work responsibilities	YES	NO	29	
Son or daughter leaving home	YES	NO	29	
Trouble with in-laws	YES	NO	29	

Outstanding personal achievement	YES	NO	28
Spouse begins or stops work	YES	NO	26
Starting or finishing school	YES	NO	26
Change in living conditions	YES	NO	25
Revision of personal habits	YES	NO	24
Trouble with boss	YES	NO	23
Change in work hours, conditions	YES	NO	20
Change in residence	YES	NO	20
Change in schools	YES	NO	20
Change in recreational habits	YES	NO	19
Change in church activities	YES	NO	18
Mortgage or loan under \$10,000	YES	NO	18
Change in sleeping habits	YES	NO	16
Change in # of family gatherings	YES	NO	15
Change in eating habits	YES	NO	15
Vacation	YES	NO	13
Christmas season	YES	NO	12
Minor violation of the law	YES	NO	11

**Total Score:**

150 or less: 37% chance of illness within the next two years.

151-299: 50% chance of illness within the next two years.

300 or above: 80% chance of illness within the next two years.

\* Adapted from Holmes, TH and Rahe, RH Booklet for Schedule of Recent Experience (SRE) Seattle, University of Washington, 1967

If you think you may be suffering from stress related symptoms, please feel free to sign up for a free 15min consultation where we can run through your circumstances and suggest solutions.

**Alternately contact me on 07890 080 126 or email [dave@davehompes.com](mailto:dave@davehompes.com)**