# Yoga Therapy Research Paper

***"Stress, and the Prohibition of Growth and Repair it Induces on the Body"***

***by***

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## Section 1: Medical View of Chronic Stress

## Introduction

I have decided to write this research paper on Stress, and the repercussions it has on our everyday health. I decided to research and write about this condition because I believe it is the underlying to many illnesses and I do not believe people pay enough attention to the stress in their lives and the way in which they can manage it. Stress cannot only inhibit the healing of illnesses but it can induce others. I believe if we can reduce our stress to the smallest amount possible, it might have a profound affect on our health as individuals and as a society as a whole

Stress can be caused by current living conditions, there are people living in war zones, poverty and hardship and therefor cannot be helped. People living in these conditions will of course be stressed, but I do think by trying to reduce stress and process it healthily in their bodies it may lead them to a longer and healthier lifespan.

Another type of stress can be self induced. There are some people who react very strongly to the smallest inconvenience, yet their body receives it as a life or death situation! This can be because that person has actually had a lot of genuine stressors in their life and now are over sensitive to the smaller stressors. Another scenario is someone who works in a very stressful or dangerous job, overexerting our minds and bodies can have a catastrophic effect on our stress levels.

But what can these people do? Living in war zones, living with a badly dealt hand in life, working dangerous and stressful jobs are all apart of our world unfortunately. We have wars and we have land on the earth that does not support the growth of food which contribute to poverty. We need policemen, firefighters, prison wardens, doctors, army personnel, bankers, the list goes on for miles! These are jobs that are not ideal for a stress free life but someone has to do them. Some people may not have the means to change their situation, but maybe they could try and calm the body and the mind for a few minutes each day to begin with? Maybe learn how to calm

their nervous system, in the hope they can try to change the way in which their mind and body perceives stressors.

Under each of the following chapters, I will now go on to describe the different symptoms of stress (b) and the different types of stress we might encounter (a) before going on to describing the possible medical treatments.

# Chapter 1: Post Traumatic Stress

One of the most serious forms of stress is Post Traumatic Stress. In this case the sufferer is holding onto stress from an event or series of events from the past. With some people, at the time of the traumatic incident, the person's body did not process the trauma. So what this means is that negative energy may be trapped in the body from that time. There are many reasons for this; one being that sometimes there is no *time* to process. Maybe it was a situation where the person had to react fast for their own or others safety so unintentionally never gave themself the time to process the stress under which they were under. Sometimes people do not realise until some time after that are still carrying the energy, the fear and the trauma from the incident.

The body's natural physical response to stress is to shake. Particularly the psoas muscle, it shakes and if the body does not process the stress it can stay here and make the psoas muscle tight. The psoas shakes similar to how an animal shakes off the stress from being chased from a lager animal or a hunter. Unlike humans, animals let their natural instinct override any intellectual thought. Once they 'shake it off', literally not figuratively, they put it behind them. The body shaking activates the Parasympathetic Nervous System. Unfortunately people can see shaking as a negative reaction, and try and stop the body from shaking, either they or someone responding to the scene might try prematurely to calm the body down instead of letting nature take its course.

What often happens in the future, particularly with sufferers who endured not just one traumatic event, but a series of traumatic events, have an overactive stress response system. Instead of reacting their sympathetic nervous system in times of genuine emergencies, their sympathetic nervous system is constantly active which can have serious medical repercussions, which I will explain later.

A side effect of post traumatic stress is substance dependency. A lot of sufferers rely on alcohol or drugs to numb their anxiety and to black out which will inhibit them from remembering. Sufferers can also suffer from social distancing. The person can push away close friends and family and will often want to be on their own.

Depression can also be induced, the sufferer often feels alone, unable to see the future, avoidance of places or people that remind them of the event. In these cases these issues need to be addressed before treatment for the post traumatic stress can begin. Studying and adhering to the Yamas and Niyamas could help to give the person guidance.

The next asana sequence is aimed at people who have suffered a trauma and who might not have let their bodies process the stress it endured. The objective of this sequence is to allow the body to go into gentle tremoring. This tremoring will shift any blocked energy in the body. First is a series of asanas to gently warm up the body and open the channels of energy, particularly around the spine and pelvis. Tremoring should be encouraged but not pushed. Allow students to experience the tremoring and pull back if they need to and then go deeper. This would also give them a sense of control that they might not have felt for some time.

## Sequence to Aid the Release of Trauma

1. Lying on back, start with knees bent and feet flat on the ground. Start tapping your feet on the floor, then bring your hands in by tapping them on the floor, then your hand can start to tap on your body.

2. Go on your tiptoes until you find that point where you start to shake. Keep shaking for 1 minute.

3. Come to Malasana then to Tadasana.

4. Release Breath – inhale arms up, exhale 'ha' as we fold.

5. Breath of Joy.

6. Stand in Tadasana and centre ourselves.

7. Moving mountain – arms up on the inhale, mantra on the exhale, 4-6 times.

8. Malasana to hands and knees.

9. Chakravakasana – Om on the exhale 4-6 times.

10. Tiger Stretch – repeat 4-6 times each side.

11. Virabhadrasana 1 and 3, hold 1 minute each.

12. Chair at the wall – 'sitting' at the wall as if we were on a chair, deep breathing, allow legs to tremor if it happens. When discomfort gets to a 7 raise yourself a couple of inches. Go for a maximum of 5 minutes.

13. Uttanasana – let legs tremor if it happens, hold for one minute.

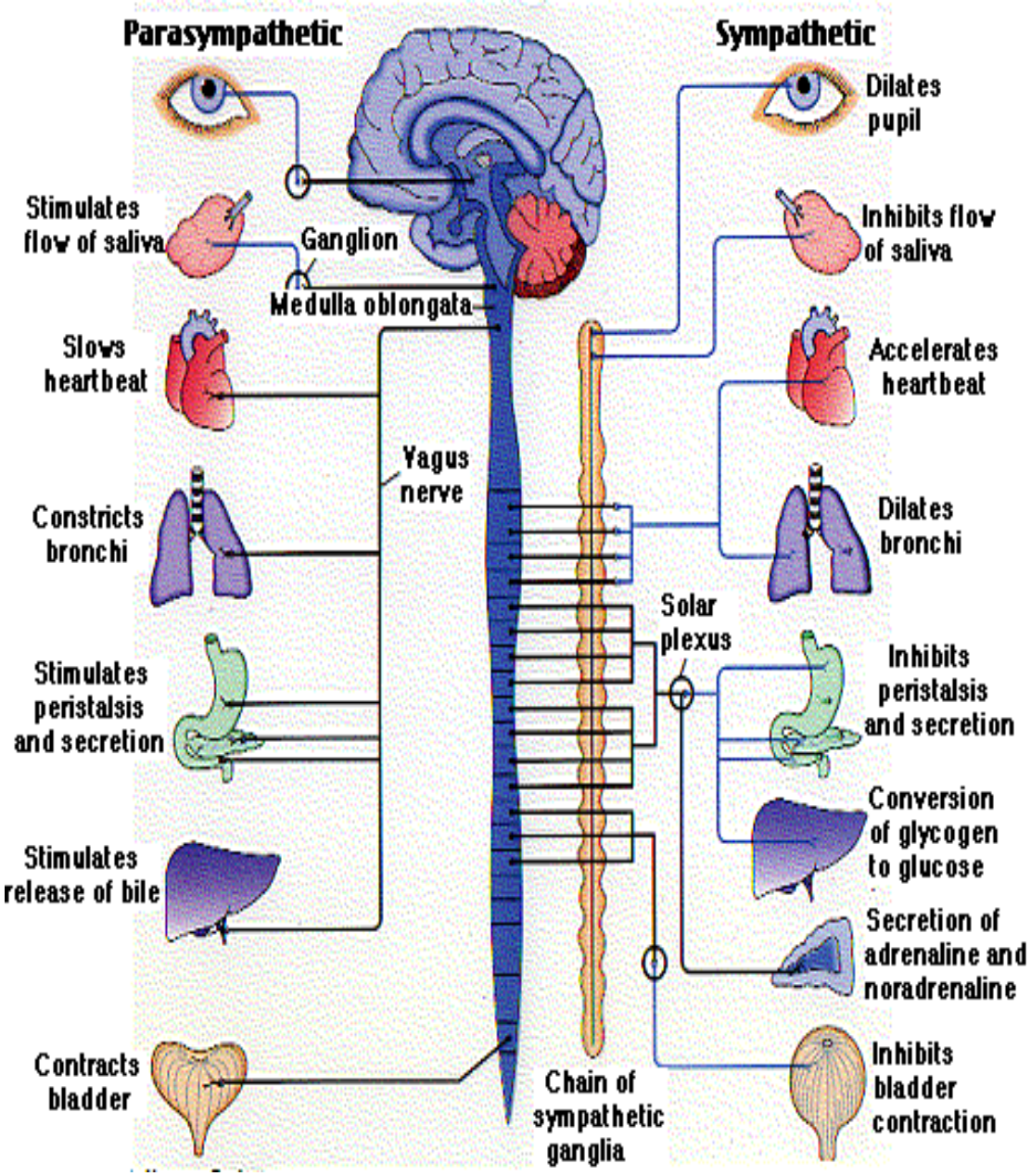
14. Setu Bandha Sarvangasana – try find point where tremoring happens, hold for 2 minutes.

15. Supta Baddha Konasana – hold knees halfway together to let legs tremor, hold for 1- 5 mins.

16. Savasana with calming music and giving option of eyes closed or to leave them open.

# Chapter 2: Stress and how it can overwork the Nervous System

Here is a summary of how the nervous system reacts to stressors*.



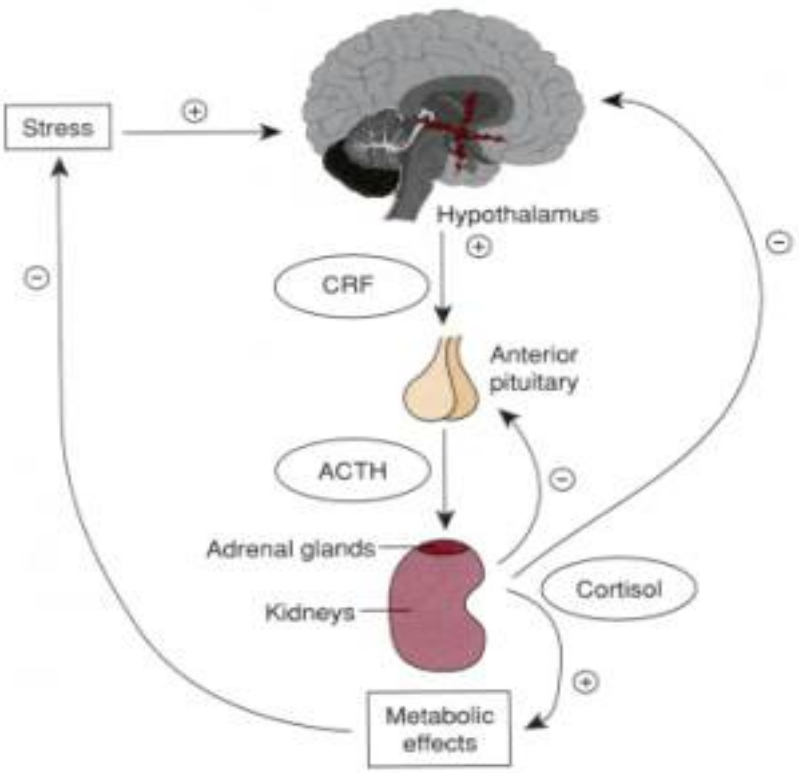
**Source: http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/A/autonomic.gif*

As you can see the Sympathetic nervous system has quite a physical effect on our bodies. This kicks in when our bodies perceive we are in danger. It begins in the brain and branches out from the spine to every organ, blood vessel and sweat gland in our body. Within seconds our brain is signalling to different parts of our bodies. We need our sympathetic nervous system to mobilize us, motivate us and to respond when we need to. We also need our parasympathetic nervous system to relax our bodies when we want it to, as well as to promote growth and energy storage. Both are vital to our survival and the trick is to have these two systems balanced and working in harmony.

So let's see, the sympathetic nervous system dilates our pupils, inhibits flow of saliva, accelerates our heartbeat, inhibits digestion, inhibits secretion, dilates bronchi, stimulates the excretion of adrenaline, inhibits bladder contraction and also plays a part in our reproductive cycle by suppressing reproductive hormones. Therefor it can control all of the systems in our body.

As you can see there is a lot going on. As you can imagine, somebody whose sympathetic nervous system is always working, could find themself feeling the physical and emotional repercussions. They will most likely be inhibiting their body from any growth, repair and if they are not allowing the body enough time to store energy they will shortly run out. Stress affects the endocrine system, digestive system, circulatory system and the immune system. I will go on to explain the effects in the aforementioned but first I will explain the main repercussions of having an overactive sympathetic nervous system from the endocrine system's point of view.

## Chapter 3: Hormone Secretion during Sympathetic Nervous System Activation




Source: http://robbwolf.com/wp//wp-content/uploads/2011/08/HPA_axis.jpg

### Hormone Release

The brain sends signals down the spine via the nervous system and out to organs. Within seconds your brain, after receiving a perceived stimulus or threat, sends signals to our organs to secrete certain hormones. The brain distributes 'releasing hormones', one of which is called CRH. In as less as fifteen seconds CRH triggers the pituitary to release ACTH (corticotrophin). This is what reaches the adrenal gland telling it to release glucocorticoids.

Glucocorticoids are essential for that energy spurt we may need in a situation, but if it has a prolonged release period, it can drain us. Sympathetic nervous system activation leads to anxiety and vigilance in certain situations, however heavy secretions of glucocorticoids, particularly over a prolonged period of

time can induce depression. Glucocorticoids, particularly cortisol, can cause problems in the body if levels are too high or if it is being released in the body for long periods of time. It can inhibit the break down of proteins, inhibit bone formation and allow muscle wastage. It also counteracts insulin, weakens the immune system and damages cells in the hippocampus which can effect our learning abilities and our memory.

In times of stress the pancreas secretes glucagon, the chemistry with the hormones already circulating in the body raise the circulating levels of glucose. The sympathetic nervous system has also released epinephrine and norepinephrine. These hormones all work together to allow the physical changes in our body.

The pituitary releases prolactin, which among other effects suppresses reproduction during stress. It is this reason that women trying to conceive might find it more difficult if they are stressed often, as their hormone balance isn't at the optimum level. Stress itself inhibits the release of the reproductive system hormones oestrogen, progesterone and testosterone so reproduction would be more difficult anyway, even without the addition of prolactin.

The pituitary also releases vasopressin, which is what tells your heart to beat faster to allow a burst of energy. This also brings blood through the heart faster which puts the cardiovascular walls under pressure. The lack of storing energy during the activation of the sympathetic nervous system is caused by the inhibition of secretion of insulin. Insulin is what tells the body to store energy for later.

## Chapter 4: Cardiovascular Stress Response

There are a few ways in which the heart is affected with stress. First of all the heart is told by hormones to beat faster. The heart is also told to increase the speed in which the veins transport blood, it does this by making the veins more rigid. This is putting a lot of sudden strain on the heart wall. So straight away your blood pressure and heart rate have increased!

The circulatory system also decreases the blood flow to certain parts of the body that don't need it, like the digestion system. This is why our metabolic rate slows down when the sympathetic nervous system is in gear. The brain also tells the kidneys to stop urine formation. This is because the body needs the blood to transport nutrients to the working muscles as efficiently as possible so the kidneys reabsorb the water into the circulatory system.

Now let me ask you something. Do you know a certain type of overweight businessman? The one who always seems stressed, red cheeked, out of breath? He most likely has cardiovascular disease. This is what can happen if you don't activate your parasympathetic nervous system enough. If you let every little thing irate you to the point that you activate your sympathetic nervous system, you are over working your heart, kidney, veins and blood vessels, which can lead to cardiovascular disease.

Your heart like anything can be over exerted. If it is used to excess often it will wear out, just like anything with a function that moves. Keeping our blood pressure up too high on a regular basis can cause hypertension. This blood pressure causes the blood to move with more force, thrashing into the walls of your heart, of course you are going to cause damage to the heart wall.

This force can cause very small tears in the arteries. What does the body do when it is injured? It reacts! So the body sends more water and blood to the hurt area to cause inflammation to give the area a chance to heal. Excess blood and cells come to this area may have fatty acids, cholesterol and circulating platelets in it

which could form together and clog. Because of the lesions in the arteries, these bury into any space they can which can cause a blockage. This causes plaque in the heart.

Sometimes the plaque can form in a larger vessel where it may not do any harm. However if stress is causing high blood pressure, it could chip that plaque and what was not troublesome is now a 'thrombus', a mobile ball that can lodge and completely block a smaller vessel. This is how a lot of heart attacks happen. It is for this reason that doctors the past few years have realised that high levels of cholesterol in some people may not cause any harm, it is the high blood pressure creating nicks in the wall and allowing plaque to settle there that is causing the problem.

If your arteries are clogged with plaque, it can also cause another problem, *myocardial ischemia*. This is when the heart itself is deprived of oxygen and other nutrients because of the lack of blood flow. Now if you suffer from chronic myocardial ischemia and your sympathetic nervous system kicks in, your heart will start to beat faster and with more force, thus it will need more oxygen and nutrients. Instead of the arteries dilating to allow for the faster flow of blood, they will constrict. This is going to cause pain in your chest, called *angina pectoris*. If your heart has an insufficient amount of nutrients and oxygen, it doesn't take a large stressor to cause this angina.

It has also been studied that an emotion like anger can double the risk of a heart attack in the first two hours. There have been links made between wars and natural disasters in areas, to heart attack. These heart attacks occurred very soon after the incidents. If someone has damaged arteries, even if they have no history of heart disease, are more at risk of sudden cardiac death. It was this revolution that lead to the increase of venues carrying defibrillators, like casinos in Vegas, bars, venues in New York City and concert venues to name a few.

## Chapter 5: Stress and the Immune System

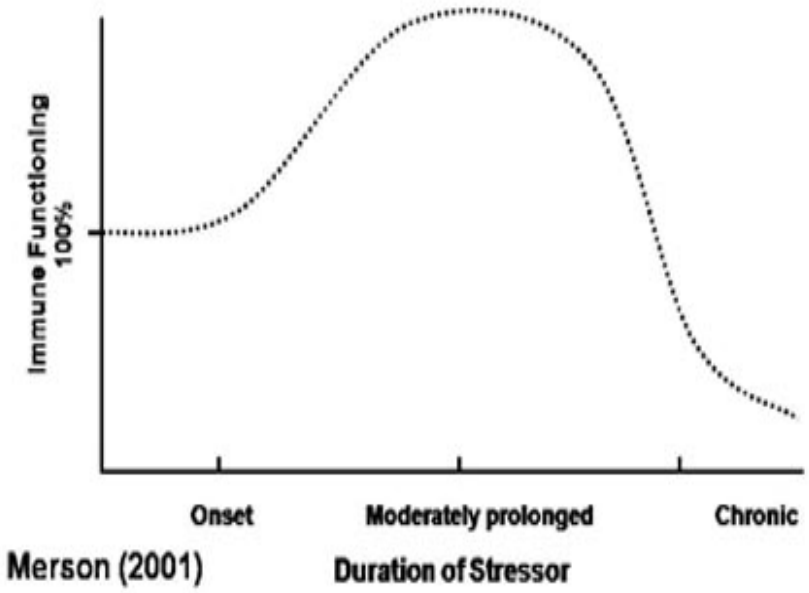
So as we all know, the immune system's job is to defend the body from infection, bacteria and anything that is 'non-self'. It is a very complex system and for obvious reasons, very important to our survival. The main component of the immune system is white blood cells, called lymphocytes and monocytes. These work in different ways in protecting the body that in itself isn't necessary to explain here. There are a couple of ways the immune system might fail, the most obvious is failing to see an infection or disease as 'non-self', the other is by recognising self as non-self and attacking parts of our own body.

During the activation of the sympathetic nervous system, 'long-term projects' are halted in order to divert energy to the 'potential threat'. The reason stress can contribute to a failing immune system, is that it suppresses the formation of these white blood cells, and also kills off white blood cells already in the system. How? The glucocorticoids I have aforementioned in this paper. When the body is under stress glucocorticoids are released, so obviously when the body is in stress mode for longer periods, glucocorticoids are at a high level in the body.

Another effect glucocorticoids have is that they shrink the thymus gland. The reason being is that the thymus gland is mostly made up of white blood cells, and with the production being halted, the thymus stops developing. So with less lymphocytes being produced, and those that are there being taken from the bloodstream into storage, the immune system can fail to recognise potential threat and can kill the body's own cells by failing to recognise it as its own.

Other hormones secreted also suppress the immune system. CRH, ACTH are what causes glucocorticoids to be released. However in the first 30 minutes or so of a stressor, the immune system rapidly fires out the white blood cells it has, this goes on for a short time then the production and distribution of white blood cells declines more and more. Why doesn't the body keep the immune system firing like in the first 30 minutes of the stressor? It'll burn out that's why. Any one system, which is always working at maximum eventually becomes chronically activated. In

the case of the immune system, that means it is so fired up it will start to look at your own body as a disease and it is at that stage people develop an autoimmune disease. Some scientists believe if your body never calms after a stressor, i.e. the immune system fails to lower it's activity after a stressor, you are more at risk of an autoimmune disease.




The above graph shows the results of the below experiment

**Experiment: Source:** McLeod, S. A. (2010). *Stress and the Immune System.* Retrieved from http://www.simplypsychology.org/stress-immune.html

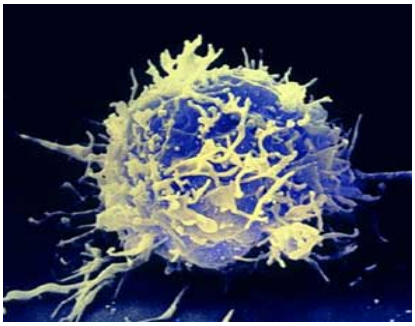
**Aim**: To investigate whether stress of important examinations has an effect on the functioning of the immune system

**Procedure**:

- This was a natural experiment. The researchers took blood samples from 75 first year medical students (49 males and 26 females), all of whom were volunteers.

- Blood samples were taken: (a) one month before their final examinations (relatively low stress), and (b) during the examinations (high stress)
- Immune functioning was assessed by measuring T cell activity in the blood samples.
- The students were also given questionnaires to assess psychological variables such as life events and loneliness.

**Findings**: The blood sample taken from the first group (before the exam) contained more t-cells compared with blood samples taken during the exams.



The volunteers were also assessed using behavioral measures. On both occasions they were given questionnaires to assess psychiatric symptoms, loneliness and life events. This was because there are theories which suggest that all 3 are associated with increased levels of stress.

Kiecolt-Glaser et al found that immune responses were especially weak in those students who reported feeling most lonely, as well as those who were experiencing other stressful life events and psychiatric symptoms such as depression or anxiety.

**Conclusion**: Stress (of the exam) reduced the effectiveness of the immune system.

**Evaluation:** Difficult to unravel the relationship for certain. Does stress cause illness or does being ill make you more prone to stress?

Also many of the studies do not take into account for the other factors which affect people's lives. These can be drugs, alcohol, caffeine, nicotine, general health, diet, physical activity, sleep patterns, age and medication. Although many studies try to control these factors it is very unlikely to gain complete control.

## Chapter 6: Stress and Cancer

There have been studies done to determine if stress can cause cancer, there has been many cases made for, but as many conclude not. However it has been proven that stress and the hormones released with it, kills the body's killer cells that attack disease. From this alone I would agree with the scientists who have tried to put a case forward that stress can aid the spread of cancer, but this is just my opinion.

One thing most scientists agree on is that glucocorticoids aid *angiogenesis.* This is another way that stress and glucocorticoids make cancer very happy. Angiogenesis is when a tumour sends information to the nearest blood vessel and tells it that it needs massive energy supply and therefor it needs a blood supply. This therefor gives the tumour nutrients and oxygen which in turn allows it to become larger and therefor more destructive.

What has been easier to prove, is that stress during the treatment of cancer can have a large effect on the progress of the patient. Psychiatrist David Spiegal of Stanford University did an interesting study. What he had hoped would prove that patients attending group therapy would notice a decrease in their psychological stress, ended up showing a lot more. The study actually showed that in a group of women with a metastatic breast cancer diagnosis, one half had standard medical care and the other half had supportive group psychotherapy. The half that had intensive group therapy had a longer lifespan of 18 months.[1]

There have since been other studies done which did not show any improvement in lifespan, but scientists think there is a plausible explanation. Since Spiegal did his study, it is more widely known that reducing stress can aid cancer recovery; therefor subjects in the sequential studies already knew the importance of stress reduction and were taking other means to do so anyway. I personally

[1] *"Why Zebras don't get Ulcers",* Robert M. Sapolsky, Third Edition, 1994, p177

agree with Spiegal, I think a more positive mind-set and relaxed body and mind can help heal.

According to aforementioned book, it has also been reported that cancer sufferers with higher stress had a lower count of killer immune cells, which we knew anyway, but patients in group psychotherapy were shown to have higher levels of killer cells in their immune system which would help kill tumours, hence the longer life expectancy.

## Stress and Pain

Pain and the body is a very complex entity. The body can tell different types of pain; cut, hot, cold, sharp, dull and even compression. Tissue injury causes cells in the immune system to heal the injured cells. The immune system's cells rushing to the point of injury is what causes inflammation. The brain establishes pain by its intensity. This will determine how we will react. The strength of the pain will also be dependant on what other signals are going up the spine at the same time. For example a sharp pain can temporarily inhibit chronic pain.

Another way pain is interpreted is by the brain. One study examines patients in a hospital, all having had gall bladder surgery. One half needing remarkably less medication than the other, the only difference being is that the half needing less had a view out their window of trees, the other half only had a blank wall to look at. [2]This shows that the emotive parts of your brain alter how you and your brain can alter how you perceive and respond to pain.

[2] *"Why Zebras don't get Ulcers",* Robert M. Sapolsky, Third Edition, 1994, p193

## Chapter 7: Stress and the Digestive System

We can all agree that we feel some response to stress when it comes to our appetites. Some people can't imagine eating a thing during a stressor whilst others are absentmindedly eating everything around them. The differences here are caused by each and everyone's own hormonal reaction to stress.

Let me first explain what happens in the digestive system on a regular basis and the difference of how it functions during an 'emergency'. The body takes in food and converts it into amino acids, fatty acids and glucose. It may use some of these immediately but if the body is not functioning at an accelerated pace, the body transforms them and stores some of these in muscles and organs for later use. Too much storage is what obviously makes us put on weight. There's a hormone responsible for the transformation and storage of these nutrients, insulin.

Insulin pours into the bloodstream from the pancreas when we eat, it even secretes in anticipation of the body eating soon. When the brain registers you are about to eat it sends a signal to the pancreas to secrete insulin in the anticipation of rising glucose levels in the bloodstream.

The secretion of insulin is stopped when the sympathetic nervous system is turned down. This is another example of the body stopping the consumption of energy in one system to bring that energy where it is needed more during that time. It is the increase in glucocorticoids that inhibit the secretion of insulin. Glucocorticoids also stop the transport of nutrients into fat calls. This then counteracts any insulin that has already been secreted and floating around in the bloodstream. This is the second way the sympathetic nervous system stops energy storage.

So the body is stopping energy storage during an emergency, to use the body's energy in a more productive way at that moment. So what does the body need to do? Pull from energy that is already sored in the body. The hormones that

are released with the sympathetic nervous system are glucocorticoids, glucagon, epinephrine, and norepinephrine. These hormones, cause the nutrients in storage to break down from their storage composition into fatty acids and amino acids and pour into the bloodstream.

So as we just saw, stress can cause the secretion of insulin to terminate and immobilize any insulin that is already in the bloodstream. This happening over a long period of time causes Diabetes. Where the secretion of insulin does not happen prohibiting a person from breaking down sugars in their body.

Two hormones that are secreted during activation of the sympathetic nervous system have opposite effects in relation to the nervous system. CRH inhibits appetite and glucocorticoids do the opposite. Before I mentioned that stress can affect people in different ways in terms of their appetite. During a stressor which is short term, storage and appetite were supressed, so the obvious thing to occur when post stressor is that the body does the opposite, so the body stops energy consumption and stores nutrients. Therefor the appetite goes up, this is hyperphagic.

Now look at another scenario, a stressor goes on for some time, say for days. Elevated CRH and glucocorticoids levels have been present for days, even longer. When the stressor passes the body has a few hours of high glucocorticoids and low CRH as the body recovers, this leads to the suppression of appetite.

Another example of an affected appetite I when the stressors are intermittent throughout a period. Frequent bursts of CRH are released during the day meaning glucocorticoid levels are always higher, meaning you are more likely to snack on sugary foods quite often. The different reactions of our appetites are reliant on how our bodies react to stress. Everybody secretes different levels of hormones during a stressor. Which means people recover after a stressor quicker than others, meaning people suffering from the same stressor may prove to have different appetites. Within the same group, not all of their organs may work the

same too.  Some people will secrete more insulin than others, and their liver might be better or worse at breaking down glucocorticoids.

# Chapter 8: Medical Treatments

I have described many ways in which stress has a negative affect on our health. Unfortunately there is no quick fix for stress as such, no 'pill', if there were I'm sure it would be flying off the shelves. But what I will do is highlight some of the medical treatments for the symptoms of stress I have highlighted in same order.

Post Traumatic Stress:

One of the main treatments of post traumatic stress is counselling. Usually in post traumatic stress, the sufferer's mind can get stuck back to the time they suffered the stressor. In severe cases sufferers can go into a psychosis and act as if they are in that situation for any given amount of time. This is very common with survivors of war. Social support groups have proven to help sufferers talk about their feelings at the time of stressor, in the hope that the person becomes desensitised from the stressor. As Post traumatic stress is an anxiety disorder, anti depressants have been prescribed to try and calm the patient's sympathetic nervous system in the hope that the parasympathetic system has a chance to kick in and operate on a regular basis.

Endocrine System:

This is a more complex issue; the secretion of hormones in the body during chronic stress is vast and varied. I will hone in on some ways this can be treated medically in my opinion and from my research. In relation to the reproductive system, the presence of prolactin in addition to the secretion of the reproductive hormones can have a halt the reproductive system functioning properly. These hormones can be prescribed; it is common in women with a lack of oestrogen or progesterone to take medication, which will raise these levels.

In the case of a lack of production in insulin and the inhibition of any present insulin working, insulin can be injected into the body to help with the process of breaking

down glucose. To reduce the heart rate and blood pressure, medication is commonly used. This is usually in conjunction with a change in diet and activity.

Immune System

Again medicine is commonly used to increase white blood cell production and activity. In cases of some cancers and leukaemia, bone marrow transplants are carried out. This involves taking some blood marrow cells from a suitable donor, usually a relative, to boost the white blood cell count in the patient. Medication is also used in other areas of immune system deficiencies.

Digestion System

Medication can be used to try and control the levels of CRH and glucocorticoids in the system that will have an affect on the digestive system. Depression and anxiety also have an affect on our appetites so medication to treat those can also be used to secondarily treat any digestion system problems.

## Section 2: Yogic View

### The 5 Koshas

*Physical:*

In relation to the Annamaya Kosha, there are several things one can do to reduce stress and the symptoms of stress. Firstly in my opinion the food we take into our physical bodies will help our body function to the best of it's ability. Cutting out or cutting down on hydrogenated fats, sugars, alcohol, tobacco, drugs (prescription and recreational), and basically any tamasic foods which slow us down and do not feed our bodies.

Lots of life foods, such as fruits and vegetables will not only aid detoxing the body but will give us more energy and prana. Making sure we get enough exercise is also vital for keeping in shape and keeping our organs toned. Obviously we know yoga is fantastic at achieving this but if we have a client who likes other methods of keeping fit that should be encouraged also. Endorphins are great at reducing stress and sometimes bring euphoria into our day. So whether running, swimming or team sports is what one likes, trying to partake in these regularly will help reduce the stress and the symptoms of stress.

Correctly diagnosing one's dosha is crucial to planning out the best way for them to nourish this kosha. A client's prakrti and vakrti is important for them to consider what changes they may need to make if any to their diet and their lifestyle.
Although pranyama is associated more with the next Kosha, Pranamaya, I think it plays an important role here also. Pranyama can be used to help detox and distress as well as nourish the physical body such as the lungs and other organs.

*Energy:*

The pranamaya kosha when addressed and nurtured can promote great healing. This is the energy Kosha. Using pranyama can increase energy, calm the nervous

system, clear the sinuses, warm and cool the body. All of which reduce the effects of stress. There are different techniques to achieve these results, which I will go on to describe later.

It is also important to recognise any energy blockages that might be happening in the body. This is where working on the chakras to move blocked energy and create more energy will really help in treating stress. Recognising a chakra imbalance can happen when assessing someone's posture and movement as well as the information they give you in regards to their lifestyle, how they are feeling and any mood alterations that happen during any given day. Working with the chakras in this instance can prove very affective.

*Psycho-Emotional:*

This is the 3rd Kosha, the Manomaya Kosha. How someone is feeling and how they process emotion has a huge impact on one's life, in particular with stress. The client recognising their own thought processes and how they digest feelings is crucial for them to lead a balanced life. If someone is holding on to a negative feeling or though, this could affect them in many ways. In their physical body, how they take in life via food or air, how they feel on a day to day basis, being able to relax when needed to, being able to see the positive in life.

Mantras and Nidras would be a great way for them to process their emotions and see a more positive scenario and hopefully be able to bring that back into their own life. Affirmations are also a great way of changing the way in which we think and feel about a particular situation. "Just this is enough", "I have done the best to my ability", "There is nothing else I can do today".

Counselling might be a recommendation to people who struggle with this Kosha. Being able to process their emotion with a 3rd party can bring closure and peace to one's mind.

Obviously meditation would be great to use for emptying the mind and introducing peace into the mind and body. This would greatly reduce stress and the effects of stress if practiced on a regular basis.

*Wisdom:*

The Vijnyanamaya Kosha is about our intuition, our beliefs, our self identity and how we view our position in the world. On going stressors can greatly influence how we feel and how we think about ourselves. Whether we were born into a particular situation which is stressful, or whether we have suffered some form of physical and emotional abuse which affects how we think about ourselves and our bodies, this can carry in our bodies and minds for a long time.

In order to process this and begin to have a more positive view on ourselves, we need to evaluate where the low self esteem came from. Counselling again would be great to begin this process. However, a lot can be done with yoga also. Becoming aware of our body, what it can do, experiencing it as a safe place and enjoying the benefits of yoga are all steps to improving our perception of our physical body. This will also increase our confidence which will enhance our positive view on ourselves.

*Bliss:*

Stress can have a huge impact on this Kosha as it can inhibit concentration and focus. If the mind is overloaded with a stressor and the body is constantly reacting to stress, it is very easy for one to forget the more important aspects of their life. Peace, beliefs, love and compassion.

Encouraging energy to circulate up to the higher chakras would really help relieve any excess negative thoughts and hopefully bring peaceful thoughts and feelings. Achieving this bliss happens when all layers are in harmony, then we can discover our true self.

(b) Healing Programme: Yogic Therapies (4 sessions)

**Sessions 1:**

**Physical Theme: Standing Sequence**

**Spiritual Theme: Grounding, discovering our roots**

Pranyama in Sukhasana:

Belly Breathing: to calm and sooth the nervous system and to feel centered.

Asanas:

- Sukhasana
- Shoulder and neck warm ups
- Seated Ardha Chadrasana
- Seated Chakravakasana
- Pavanamaktasana
- Eka Uttanapadasana
- Roll to sitting
- Malasana
- Chakravakasana
- Ardha Adho Mukha Svanasana
- Ardha Mukha Svanasana
- Uttanasana
- Tadasana
- Virabhadrasana 2
- Parsvakonasana
- Virabhadrasana 1
- Anjenasana
- Plank
- Bhujangasana
- Balasana
- Dandasana
- Paschimottansana

- Pavanamaktasana
- Apanasana
- Savasana (yoga nidra) – yoga nidra encouraging acceptance of ourselves, gratitude for our strength, allowing complete relaxation, imagining a ball of energy at the core
- Meditation: meditating on grounding, imagining our hips on the floor are rooting into the floor keeping us grounded

**Session 2:**
**Physical Sequence: Reproductive system and excretion organs, restoration class**
**Spiritual Theme: encourage healing, developing imagination**

Breathing:
3 Part Breathing: encouraging our breath to the 2nd chakra to bring energy into the body

Asanas:

- Beginning on back
- Pavanamaktasana
- Apanasana
- Reclining Baddha Konasana (15 mins)
- Supported Setu Bandha Sarvangasana (15 mins)
- Supported forward side body twist (15 mins)
- Supported Balasana
- Savasana & Nidra – leading client into a savasana by bringing them through a nidra, encouraging them to think about what makes them happy and safe and to think about this to bring positive feelings into our body, holding onto this feeling during savasana.

Meditation: Meditating with a candle, allowing our gaze for softle focus on the flame and what that might represent for us.

**Session 3**

**Physical Theme: Stimulating the digestive fire**

**Spiritual Theme: Digesting negative feelings and expelling them from our body**

Pranyama:

Agnisara Dhauti: to cleanse the fire elements

Asanas: (Holding each pose for 2 mins approx.)

- Chakravakasana
- Adho Mukha Svanasana
- Uttnasana
- Tadasana
- Sun Salutation A, C, B
- Bhujangasana
- Dhanurasana
- Adho Mukha Svanasana
- 3 legged Adho Mukha Svanasana
- Mayurasana
- Paschimottanasana
- Janu Sirsasana
- Jathara Parivartanasana
- Savasana

Meditation: imagining energy created in your third chakra is radiating outward and upwards.

**Session 4**

**Physical Theme: Opening the chest and relaxing the back**

**Spiritual theme: radiating love and gratitude**

Pranyama: Ujaii Breath – to create energy and warmth

Asana:

- Chakravakasana
- Ardha Adho Mukha Svanasana
- Adho mukha Svanasana
- Ustrasana
- Move between Adho Mukha Svanasana and Ustrasana 3 times at your own pace
- Finish in Ustrasana, move to Ardha Adho Mukha Svanasana
- Plank
- Vasisthasana
- Balasana
- Anjenasana to Virabhadrasana 1
- Dhanurasana
- Balasana
- Chakrasana
- Matsyendrasana
- Upavista Konasana
- Apanasana
- Savasana beginning with a nidra: inviting client to feel the love, gratitude and energy we have created in the Anahata chakra. Remembering this feeling anytime we get sad, lonely or stressed. Allow this energy to carry you.

Meditation: On what makes us feel love, whether it be a person, an activity or a place.

# Conclusion

I have enjoyed writing this paper and I feel I have learned a lot from it. Stress plays an even bigger part in our health than I originally thought as I started to research for this topic. I have seen a lot of myself in some of these symptoms and of many people I know.

I have brought a lot of this knowledge into my teaching also. I find that my students really like knowing the benefits of practicing yoga and how practicing the 8 limbs can really bring our physical health into a much better state as well as our other koshas.

With the 'medical treatment for the repercussions of stress' section in this paper, I have gone completely on research and obviously do not carry a qualification to state they are specifically the treatments for this condition, I have just gone with what seems to be the perceived method of treatments.

For me this paper has brought a lot of personal growth in myself. This research really tied in for me how crucial the non asana part of yoga is for everyone. I have since really differentiated the different aspects of yoga with my students and have highlighted meditation, nidras and affirmations as much as asana, in all my classes and with great results. Many of my students have reported back to me with varying improvements of insomnia, stress levels, anxiety, physical pain and breathing difficulties. This is why I studied Yoga Therapy and I cannot tell you how good I feels to have already, in a short space of time, helped those people live more fulfilled lives.