



HOW STRESS AFFECTS THE BODY

Whether we like it or not, we are all more stressed. I believe it is because we are overloaded and life is more complex. We all seem to have a lot more to do and a lot more complexity in our lives, often juggling many balls. This is usually the case with women as they are often juggling home and family with work. Because we have email, text messages and cell phones, we are able to do a lot more than we used to. We see other people seemingly doing a lot more but we don't know the price they are paying for it.

These stresses can come from the way you think about what is going on around you – are you a “glass half full or half empty” person? A person's personality is usually influenced by genes and childhood upbringing. If you have had a stressful childhood then you might be more at risk of depression and anxiety as an adult.

Some of the things that can add further are the daily hassles of life. These can include peak hour traffic, taxiing the children, too many things to do, worrying about your weight or appearance, etc. In addition to all of this, many women have to work as well as run a household. Experiencing a lack of support in running all of this can create even more stress. Over work is known to cause heart attack.

One of the most important causes of stress in both personal life and work is lack of control. This is where something has happened that you can do nothing about. How people deal with this influences how stressed they feel. On the one hand, we have all seen the hysterical type person who carries on about something they have no control over and then oppositely, a calm and collected person who has done everything they practically can and then decide that they can “let go and move on”.

One of the important things about stress is that many different things can add up and sneak up on you. These include poor diet, too much coffee, too much sugar, health problems, allergies, overwork, not enough exercise, not enough sleep, and possibly then what could finish you off on top of that and completely burn you out, would be a major life event like a death, divorce or debt.

When preparing to deal with an immediate stress, our primitive bodies have a mechanism called the “flight or fight response” that prepares the body for stress in a short term way. This causes increased stimulation of the sympathetic nervous system which prepares us to fight the proverbial tiger in the jungle. This causes dilated pupils, dilated airways, faster breathing and faster stronger heartbeat. Muscle tension also occurs, as well as the release of glucose, adrenaline, cortisol and other stress hormones.

This response is only designed to be short term. However, in our everyday lives, we run our bodies at high gear and as a result, this response does not return to normal in many people, and then ends up causing the following problems:

- Neurotransmitters (brain messengers) and vitamins are depleted.
- Stomach acid is reduced.

- Bowel flora is unbalanced.
- The immune system is affected.
- The hypothalamic-pituitary-adrenal axis (explained later) is affected.
- Creates and increases inflammation which causes disease.
- Depletes hormones
- Breaks down proteins – this includes collagen

It does not matter whether the stress is mental or physical, the messages will all go to the primitive brain and stimulate the hypothalamus. This in turn sends a message to the pituitary gland, which is the master hormone gland. This in turn then stimulates the adrenals glands which are triangular glands that are situated near the top of the kidneys.

The job of the adrenal glands is to regulate blood pressure through mineral effects and also to make stress and sex hormones from cholesterol. The adrenals put out adrenaline, noradrenaline and cortisol to help the body cope with stress initially. However, with long-term stress, the adrenals can get tired and the feedback system to stop the hypothalamus stimulating the adrenals by the pituitary, starts to fail and the person does not know that they are chronically stressed and then they can suddenly run out of steam. That is called “burn out”.

Burnt out people are “wired and tired”. They wake tired, drag themselves through the day, crave sweets, get fatigued in the afternoon then pick up at night and can’t sleep. The cycle continues and they can’t think or function properly and become depressed. Burnt out people have dark circles under their eyes.

If some people are stressed enough, they can develop blood pressure, heart problems, migraine, pain conditions and even rashes and peptic ulcers. Chronic severe stress and acute stress can contribute to conditions like chronic fatigue syndrome and fibromyalgia.

With a busier, more overloaded lifestyle, more people are breathing too fast. Sometimes this can cause problems like fatigue, headaches, irritable bowel, dizziness, feeling spaced out and tingling in the hands, feet and face. When a doctor detects this and can tell it is influencing a person’s health, they can advise them about breathing exercises they can do or refer them to a breathing therapist. This may seem trivial on the outside, but abnormal breathing is another form of stress that drains the body.

Many people know the benefits of exercise which include stress reduction, anxiety reduction, increased energy, improved sleep, increased muscle mass which gives further energy and the burning of calories. The increased oxygenation around the body keeps the body and the skin young and helps nutrients reach the skin due to the increased circulation during exercise. In addition, exercise reduces stress which is a further drain on the body.

One of the first symptoms of stress is not sleeping well and waking up early. After that, fatigue, pain and emotional and anxiety type symptoms start to develop. Stressed people don’t think very well, cannot concentrate, or they have problems with high or low appetite. At work this means that people don’t work very well, might not turn up, and don’t have confidence to do their job properly.

Lifestyle factors like sleep, diet, breathing and exercise are of fundamental importance. Sleep is important because it restores the body and the brain. In fact, learning and memories from the previous day are reinforced during sleep. It is important for each person to obtain 7-9 hours every

night. But it is not just the number of hours but *when* you sleep that is also important. Shift workers know this because they get jet lag symptoms and increased risk of blood pressure, cancer, heart disease and peptic ulcer. Be in bed and asleep by 10:30pm so that melatonin, a natural chemical released by the brain, can increase and give antioxidant, anti-cancer, and anti-ageing, as well as anti-inflammatory effects on the body. Of course, all of this will influence the skin.

There are diets galore out there but the most ideal diet is the one that suits the individual. This is generally a diet devoid of too much sugar, starch and in some people, gluten and dairy. Most people know what foods don't suit them. If you have problems with your weight, diabetes, heart disease, or cholesterol, then no starch and sugar would be the formula for you. If you have hayfever, allergies and sinuses, then you should consider avoiding gluten and dairy (mainly milk and yoghurt). Acne in young people worsens with sugar and starch in the diet.

Eating the right diet helps the friendly bacteria that line the bowel to stay balanced. Once they become unbalanced, the immune system detects this and tries to correct what it sees as a threat in its environment. As a result, it sends inflammatory messengers around the body that can result in weight gain, acne, hypertension, heart disease, stroke, etc. In young people, this can manifest as acne.

So far, healthy lifestyle factors and stress management have been mentioned as a way to look after yourself to keep well and prevent burn out and other conditions. You should also think about the way you think about the events going on around you. Are you thinking in a practical way or are you feeling that some things seem catastrophic?

Are you taking time out for rest and recreation to restore your body and your mind? The exercise will increase endorphins in the body and reduce anxiety. But do you have adequate work-life balance and make sure that you are not working excessively? Medical research has shown that overwork causes disease and heart attack.

Do you sit still for a period of time daily to be in the present moment? Something like Yoga or meditation is relaxing. Research has found that relaxation techniques increase natural killer cells in the immune system which kill cancer and viruses. Relaxation also reduces blood pressure, increases happiness and generally helps health.

If a major life event occurs then getting support around you will help you get through it. Can you list your daily hassles and systematically get rid of them? We know that the daily hassles mentioned earlier are very insidious and 'chip away' at a person, causing chronic stress.

We don't eat an excellent diet all of the time. In fact we know from a New Zealand Ministry of Health survey in 2002 and 2003, that only 32% of men and 51% of women eat two fruit and three vegetables a day. That means we are drained of many vitamins, including vitamin C in the diet.

I think everyone should take a general multivitamin and omega 3 fish oil for their health on a regular basis. Omega 3 fish oil is known to be anti-inflammatory and to help cells work more efficiently. As a result, they have far reaching benefits by reducing inflammation, heart disease, blood pressure, cholesterol, stroke, diabetes, allergy, autoimmune diseases, breast and bowel cancer, osteoarthritis and even intelligence, learning, depression, anger, hostility and the ability to cope with stress. A reasonable dose for a healthy person would be 1000-2000mg. Higher amounts are necessary for stress or disease and checking with the family doctor first would be a good idea.

All of the vitamins are very important for health but we will select a few that are particularly good as a foundation and for general health, stress and the skin.

Vitamin C is well known as an antioxidant, great for the immune system, an antihistamine and of course great for the skin. Clients with Vitamin C deficiency will have bleeding gums and fragile blood vessels. The highest levels are needed for the adrenal glands that help us with stress. Many people don't get enough fruits and vegetables, and even if they do, how long have they been in the fridge and how have they been grown and processed? In addition, any form of stress easily drains the body of vitamin C. Supplementation by mouth is a good idea. I suggest 500-1000mg daily as a normal dose. For illness or stress, I suggest 2000-6000mg daily over 2-3 doses. Some people get diarrhoea if they take too much.

Although vitamin D is named such, it is really a hormone similar to cholesterol which is made by the body in response to sun exposure. Vitamin D regulates 1000 genes and its deficiency is now at epidemic proportions around the world. It is responsible for reducing nearly everything. Its effects include reducing 17 different cancers (including breast, bowel, lung), heart disease, osteoporosis, weight loss, anxiety and depression, colds and 'flu etc. We are typically told that we must keep the sun off the face to prevent ageing. This is still a good idea but some general body sun should be obtained to prevent deficiency of vitamin D. In people with type 1 skin or vulnerable people, it may be necessary to supplement vitamin D orally on a regular basis to prevent a deficiency. A blood test from your family doctor would detect a deficiency.

Zinc is important for over 200 reactions in the body and is well known for its effects in wound healing and therefore collagen production. However it is depleted when there is stress and is needed more when there is infection, allergy and disease. Zinc can be tested by doing the zinc taste test at a pharmacy or health shop to detect whether there is adequate zinc in the body. If the person cannot taste zinc, it is a guide to low zinc stores in the body and then should be taken as a supplement. Your health and skin will benefit.

B- vitamins are good for generating cellular energy. This means the cells work better and do their jobs more efficiently. This plays out in the skin. Various B-vitamins are known to enhance the immune system of the skin and protect it. If someone is particularly sick or stressed, I will often suggest adding a B-Complex to the basic multivitamin and fish oil regime.

Sometimes supplemental probiotics can be quite helpful when there has been infection, diarrhoea, urinary tract infections or even chest infections, antibiotics and drugs. In these situations the body's bowel flora can become unbalanced and contribute to inflammation.