



# Stress: There is a Lot to Learn About

## WHAT IS STRESS?

In early 70s, American sociologist Alvin Toffler had predicted that the rate of change in the world, would accelerate to such a degree that a large number of people would experience shattering stress and disorientation. The effects of change reach into every crevice of life, putting people more and more under pressure. Human biological evolution is lagging far behind developments in technology and lifestyle. Physiological and psychological stresses are emerging as a result of growing deficit between demands and resources. Today, stress is virtually impossible to avoid. Many, who try to avoid stress, land up finding that avoidance strategies frequently generate more stress than reducing it. The goal is to use stress as a positive, stimulating life-force by learning skills to confidently cope with the stressors of life.

Stress is different things to different people. Most people respond to the word stress, in a negative way. They see it as a destructive, debilitating force. However, not all stress is negative. The word **EUSTRESS** has been coined to describe positive stress. Eustress results from exhilarating experiences. It is the type of stress likely to be experienced, when one receives an unexpected promotion or reward. Eustress is the stress of winning and achieving. Negative stress is **DISTRESS**. It is the stress of losing, failing, overworking and not coping. Distress affects people in a negative, often harmful manner. We all experience distress from time to time. It is a normal, unavoidable part of living.



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To a mountaineer it is the challenge of pushing physical resources to the limit by striving to achieve a demanding goal. To a motorist, it can be the hassles of heavy and disorganized traffic. To the student, it can be exam pressure.

## WHAT CAUSE STRESS?

**Stressors Cause Stress!** Stress results from failure to adequately cope with stressors. Stressors could be loud noise, debts, ringing telephones, broken relationships, unrealistic deadlines, discouragement, fear, pain and millions of other things, that impact upon us in the normal course of life. It is impossible to avoid stressors. The only totally stress-free state is death! Stressors will always be there because we live in an imperfect and unpredictable world. We experience stress as the body adjusts to the external demands placed upon it. Our body constantly seeks to maintain stability, and stress is usually sensed as the body readjusts to too much pressure.

We all know that **HOMEOSTASIS** denotes the physiological limits in which the body functions efficiently and comfortably. Stress disturbs homeostasis by creating a state of imbalance. The source of stress may be outside the body or it may originate from within the body in the form of blood pressure, pain, tumors or disturbing thoughts.

Let me explain it to you with an example: All of us have seen a plastic toy, with a heavy round base, that automatically returns to a vertical position if pushed over. The clown retains its upright position because of the heavy bottom. Similarly, Stress is the tension that the body exerts as it seeks to return to a steady-state.

Our bodies are well suited to cope with the stressors faced by our primitive ancestors but our natural biological stress-adjustors are not ideally suited to the demands of modern living. The stressors faced by our



fore fathers were obviously different to the high-tech lifestyle of today. The flight or fight responses are inappropriate today. If we physically run away from our workplace whenever things get too much to handle, it would not enhance our standing among our colleagues. Or if a daughter-in-law punches the MIL on the nose when she gives her a tough time then the resulting fracas will generate considerably greater levels of stress. We, thus, need to develop special skills to deal with special stressors. We are all very aware of specific stressors that affect us. As already discussed these assume many shapes and forms. In addition to the specific stressors there are also back-ground stressors that can have a more subtle but equally damaging impact on us.

**RAPID CHANGE:** Perhaps the most significant background stressor is the ever-increasing rate of change experienced in modern society. Rapid mass communication has changed the way we think about the world, by shrinking distances and giving us a global village view of world events. We are continually witnessing technological change, particularly in the fields of computer science and telecommunications. These changes affect our lifestyle in many ways. Such rapid change generates stress by forcing us to make adjustments in our lives, often in a climate of uncertainty and unpredictability. It is a background stress which is always present, quite like heart sounds while auscultating for breath sounds!

#### **THE CONSEQUENCES OF STRESS:**

What happens within our bodies when we encounter a stressor? The stressor initially excites the hypothalamus and the pituitary gland. The hypothalamus stimulates the pituitary to release ACTH. Once released, ACTH stimulates the adrenal glands to secrete further chemicals that affect various parts of the body. The net effect of this process is that the body becomes charged up on full alert for a FLIGHT OR FIGHT response. This is why we often feel tense and highly-strung when under a lot of stress. Although the body has a feed-

back system to settle us down again, once the crisis passes over, we often stay alert because our thinking continues to trigger off the response. For example, if you have an important appointment to keep, then the thought of missing the appointment and all the patients you have to see before you can leave, may cause you to feel stressed.

Why people under stress often have higher incidence of ailments including regular attacks of colds and flu? Over a long period of time, the stress response begins to take a toll on the body. One of the prime targets affected is the thymus gland that plays a key role in the body's immune system by pumping out millions of lymphocytes and macrophages. Macrophages are weakened by the cortisol, which is released by the adrenal gland when we experience stress. A weakened immune system makes us vulnerable to infection.

Many types of diseases have been linked with stress including high blood pressure, heart attacks, heart disease, peptic ulcers, migraine headaches, pains in the neck, certain types of asthma, many forms of cancer, alcoholism, depression and the overwhelming desire to consume poisons.

Psychological stress does have physical ramifications. We cause ourselves a great deal of harm by stressful thinking. We flood our body with stress hormones and this creates a vicious cycle, making us more and more stressful. Unequivocal evidence has been produced to show that the immune system, which defends the body against diseases, is influenced by mental events.

#### **WHAT IS BURNOUT?**

Too much stress leads to a condition called BURNOUT characterized by emotional and physical exhaustion, whose main symptoms are:

1. Chronic fatigue.
2. Anger at those making demands on you.
3. Self-criticism for putting up with the demands.



4. Cynicism, negativism and irritability.
5. A sense of being besieged.
6. Hair-trigger display of emotions.

A combination of all of these symptoms indicates that stress is wearing ONE down and that it is time to take strong REMEDIAL action.

#### WHAT IS STRESS & WHAT CAN CAUSE IT?

Stress is anything that stimulates us and increases our level of alertness. Life without stimulus would be incredibly dull and boring. Life with too much stimulus becomes unpleasant and tiring and may ultimately damage our health. Too much stress seriously interferes with our ability to perform effectively.

#### MAJOR SOURCES OF STRESS:

1. **Survival Stress:** This may occur in cases, where survival or health is seriously threatened. Here adrenaline is released in the body and one experiences all the symptoms of body preparing for 'fight or flight'.
2. **Internally generated stress:** this comes from the anxious worrying about events beyond our control, from a tense, hurried approach to life, or from relationship problems caused by our own behaviour.
3. **Environmental and Job stress:** Here the living or working environment causes stress. It may come from noise, crowding, pollution, untidiness, dirt or other distractions. Alternatively stress can come from events at work.
4. **Fatigue and Overwork:** Here stress builds up over a long period. This can occur where one tries to achieve too much in too little time, or where one is not using effective time management strategies.

#### STRESS AND ITS EFFECTS:

Diseases, today, can broadly be divided into three major categories depending on the causation. The first comprises all pathological diseases, caused invading organisms – bacteria, viruses, fungi, protozoa etc. Common-

est of these are: influenza, colds, pneumonia, typhoid, malaria etc. The second category of modern classification of disease consists of genetic diseases. These are caused by genetic mutations that develop and are inherited. Some common examples include tay-sacs, cancer and schizophrenia. The final category and most important in today's context, include diseases that are stress related. Modern day killers like heart disease, stroke, hypertension and various mental disorders fall in this group. Stress related diseases are two of the five top reasons for hospital admissions and the leading cause of death in the world. The understanding of stress, thus, is imperative for us Homoeopaths to cope with every day problems in modern society. And while we are at Stress, let us begin by tackling our own stress levels.

#### Examples:

The following examples of what might be described as stress will help understand it better:

1. A boss angry at an employee for something he feels is not his fault. Boss man then further allots a work load that is going to take hours. Poor employee has only one hour before check out time and a very important date after that. He becomes frustrated and his heart rate increases, he notices beads of perspiration on his forehead and his muscles are tense
2. The same employee walking down a lane late at night. The dim glow of the street light barely illuminating his path. He is anxious to get home as he has heard of night time assaults occurring in that area. Suddenly he hears a rustling noise behind him. His heart beats faster, increased perspiration and his muscles tense.
3. Again, he is preparing an important report that is due for a presentation the following day and he has neglected to do his home work. He knows that his long awaited promotion depends on this presentation. As he is frantically attempting to write the paper at three in the morning he suddenly starts feeling the same symptoms that he had felt in the previ-



ous situations.

4. Finally, his long time love decides to marry another person. Every time he thinks of her, he notices the same signs of tenseness. The characteristic perspiring, tense muscles and increase in heart rate have now started worrying him.

Are all of these examples of stress?

We will only understand by improving our understanding of stress.

*Describing in very simple language, our nervous system is divided into two distinct branches; the SYMPATHETIC and PARASYMPATHETIC nervous systems. Sympathetic nervous system is in charge of the reactions similar to those described above ie tenseness and the parasympathetic nervous system is responsible for returning the body to a more relaxed state. Certain body reactions during times when we need more energy to survive (Fight or Flight response) make understanding of stress real easy.*

*A coated tongue, aches and pains all over and a "sick look" are some of the inherent symptoms of illness, irrespective of the cause and are accepted by us as 'the general syndrome of being sick'. Similarly STRESS is a specific set of symptoms that can be caused by an immense number of stimuli. Hence its causes are nonspecific. What is important is that stress is diagnosed by a set of symptoms rather than by a causative agent.*

**DEFINITION:**

Stress in individuals can be defined as any interference that disturbs a person's healthy physical and mental well being. It commonly occurs when body is forced to perform beyond its normal range of capabilities. The results are harmful to individuals under stress, family, organization he/ she works in and the society.

Beneficial stress can help drive some of us to become

Olympic champions; on the other hand harmful stress can drive others to despair and a total wreck. A force so powerful has to be always handled with respect.

**SYMPTOMS**

Several symptoms characterize stress reactions.

- One symptom of stress is an increased heart rate. Its purpose is to supply the body with more energy in order to meet increased demands.
- Another symptom of stress is a decrease in digestive activity. This keeps the stomach muscles from stealing energy that the muscles will need to fight danger or take flight. (effect explained later)
- Physiological changes induced by stress include:
  - a tensing of the muscles
  - a decrease in skin temperature and
  - an increase in perspiration.

These are reactions that also help in preparing the body to either fight or run from a situation. In other words, these are preparations by the body to deal with a life threatening situation. In other words, these survival reactions, in certain cases, may become symptoms.

Now we know our friend in the above examples actually underwent stress. 4 different stimuli and the same stress!

Stress occurs, the way the brain interprets a situation. This is obvious when one looks at the path by which a stress reaction is induced. The symptoms are controlled by the sympathetic nervous system. Whenever the brain feels that the body is being threatened, it sends an impulse that begins the human stress reaction. Under conditions where the extra energy is needed (fight or flight is the answer), this reaction is beneficial, welcome and not even recognized as the extra output from the heart is used for defense. If for example, you were being attacked; more energy must be made available to fight the attacker. But, the stress reaction is not needed during a panic attack and as a result it turns into trembling, sweating, shortness of breath and inability to function.



(e.g. delivery of a speech). This manifestation of stress, however, totally incapacitates someone who needs emotional and mental control.

Is it now clear that the only way to tell the extent or even the existence of stress is to look for symptoms?

## SURVEY

A survey<sup>1</sup>, to assess stress levels, was conducted among high school students. The survey consisted of 85 questions in five general categories.

The five categories were

- physical symptoms
- behavioral symptoms
- emotional symptoms of stress
- stressful attitudes and
- coping resources

The first four categories determine stress level of a subject and the final category determines the subjects' ability to handle stress.

1. **Physical Symptoms:** The data collected showed that the students do exhibit a relatively large number of physical symptoms. Common ones were stiff/tense muscles, headaches/backaches, fatigue, and frequent illness. A lesser reported symptom was chronic pain. These symptoms tend to indicate lack of sleep and overworking.
2. **Emotional Symptoms:** Some stressful attitudes that students said they exhibited frequently include anger, anxiety and an inability to concentrate. Frequent display of anger and anxiety indicate frequent stress reactions. The inability to concentrate can intensify the anger and anxiety which in turn intensifies stress reactions.
3. **Behavioral Symptoms:** The survey showed that the students do not exhibit symptoms of stress through their behavior. Several stress behaviors exhibited by the students included changes in ap-

petite, nail biting and an increase in use in caffeine, alcohol and tobacco.

4. **Stressful Attitudes:** This part of the survey looked at attitudes that might tend to make the brain overreact to situations thus providing increased stress reactions. This showed that the students normally tend to NOT overreact to situations. Stressful attitudes that students said they frequently exhibited included impatience, low self esteem, assuming too much responsibility and excessive drive toward success. These tendencies normally lead to the emotions that the students said they exhibited, and in turn lead to the behaviors that the students said they frequently enacted. This consistency serves as a testimony as to the accuracy of the results.

5. **Coping Resources:** Resources that people can draw on to cope with stress. Logically the greater the coping resources, the more stress that person can handle.

Most frequently used coping resources are

- Good networks of friends as they provide support during periods of stress.
- Supportive relatives
- Happy home life- it gives a safe and comfortable environment providing the student a chance to have to retreat from the stressors. Happiness and joy in an individual's life has the effect of desensitizing stressors, or at the least buffering the reaction to stress. Stress can cause unhappiness in our daily lives but happiness may be the greater of the two forces in that happy people usually are less affected by stress.
- Listening skills as it gives the opportunity for an outside source to supply potential solutions to stressful situations
- Pursuit of happiness in their daily life. This also diminishes the intensity of stress reactions. Happy people get stressed less.
- Attitude is an important factor in the coping process.



## STRESS → STRAIN

Strain is the result of too much stress and it manifests itself in the form of ulcers, illness, heart disease and stroke.

### PATHO-PHYSIOLOGY OF STRESS INDUCED ILLNESSES:

1. Ulcers come from decreased digestive activity. As mentioned earlier digestive activity is reduced during stress reaction, this is actually damaging to the stomach. This damage is due to the hydrochloric acid remaining in the stomach longer, which then, actually begins to digest the gastric mucosa. The end result is an ulcer.
  2. Increased illness is another result of high stress levels. When the body undergoes stress it reacts by an instant increase in immunological defenses. Thus prolonged stress results in the store of WBCs being severely depleted and reduces the effectiveness of immune system making the body is more susceptible to disease. This in turn leads to increased illness.
  3. Heart disease and stroke: When the body undergoes stress Adrenaline is released into the bloodstream. A heart that continuously does extra work (faster rate, increased cardiac output, increased pump pressure etc) is sure to succumb soon. Since heart attacks are the leading cause of death, this makes stress related diseases one of the leading causes of death.
  4. A final effect of stress is its tendency to intensify certain psychological disorders. Examples of this include most psychoses. The causes are still unknown but may be due to chemical changes that occur during stress. Psychoses may also be a method that some people develop to handle stress.
- Due to the above mentioned problems that occur when there is too much stress it is important for people to learn how to deal with stress. In order to eliminate stress related illnesses, just drugs are not enough. Approaches other than drugs are required. The only way to prevent a re-occurrence is through a change in lifestyle. Which we know is easier said than done. This is why stress

related illnesses are difficult to cure.

### WAYS TO DEAL WITH STRESS:

1. **Exercise:** in exercise the body uses the chemicals in the way that they were intended to be used. This then allows the body to relax (the opposite of the stress reaction) and in turn has been known to diminish the reoccurrence of heart attacks. This is perhaps the most effective method of coping with stress.
2. **Meditation:** is another means of coping with stress. Through use of meditation the parasympathetic nervous system becomes dominant. The sympathetic nervous system now is now suppressed which, in turn, shuts off the stress reaction. This allows for the psychological as well as some of the physical parts of strain to be reversed.
3. **Counseling:** In cases with psychological disturbances, psychological treatment can be an effective means of treating strain. The treatment may be necessary for the cure of some problems like psychoses. These are problems that are not cured by using the previously mentioned methods of dealing with strain eg exercise or meditation.

### BELIEFS THAT BUILD STRESS

Ask these questions to your patients, depending on the circumstances especially when they deny that they have a stressor.

#### Perfectionism

- Do you feel a constant pressure to achieve?
- Do you criticize yourself when you're not perfect?
- Do you feel you haven't done enough no matter how hard you try?
- Do you give up pleasure in order to be the best in everything you do?

#### Control

- Do you have to be perfectly in control at all times?
- Do you worry about how you appear to others

when you are nervous?

Do you feel that any lack of control is a sign of weakness or failure?

Are you uncomfortable delegating projects to others?

### People Pleasing

Does your self-esteem depend on everyone else's opinion of you?

Do you avoid assignments for fear of disappointing your boss?

Are you better at caring for others than caring for yourself?

Do you keep most negative feelings inside to avoid displeasing others?

### Competence

Do you feel you can never do as good a job as other people?

Do you feel your judgment is poor?

Do you feel you lack common sense?

Do you feel like an impostor when told your work is good?

'Yes' answers to any of the questions indicate potential road blocks to a stress-free work life. Make them aware of how their stress-building beliefs affect their behavior. Motivate them to replace these with more realistic and less stressful thoughts.

### CONCLUSION:

The category of stress-related disease is in fact responsible for the majority of natural deaths and hospital admissions every year. It is unfortunate that this is also the most ignored category to date. Patients go around heaps of reports and consume tons of medicines without the doctor paying attention to the cause. Merely saying that 'RELAX' is not enough for sympathetic nervous system to quieten down.

Remembering the examples presented at the beginning and applying the knowledge presented in this article one can see that all four examples are stress situ-

ations. It can also be seen that stress stimuli are all around us and a part of everyday life. This is why stress is the leading cause of disease. Looking at stress levels in high school students one can see that high stress levels start at an early age. Extreme exposure to stress can lead to strain and eventually death. For this reason, research on stress is perhaps one of the most important areas in medicine. It is possible that with further research and a better understanding of stress, the causative relationship between stress and disease will be better understood. This will lead to new techniques in medicine that could virtually eliminate heart attacks, strokes, and other diseases whose primary cause is stress.

While explaining STRESS to patients, emphasize:

1. Stress can be a killer. Japanese have a recognized condition *koroshi* – death from stress caused by too much work.
2. Admitting that one suffers from stress is NOT a sign of weakness.
3. Stress is infectious/ contagious. If they don't learn to control it others living and/or working with them are bound to get stressed too.
4. Stress is always a combination of
  - high demands in life
  - high constraints and
  - little support from family and colleagues
5. There are NO fool proof formulas for leading a stress free life but there are techniques for minimizing stress.
6. Family, friends and colleagues spot stress much before you do. Respect their observation.
7. All of us have a habit that comes to fore when stressed eg nail biting in adults, starting smoking by someone who had already quit.

We medicos live in a cocoon of security and fail to realize the stresses our patients are under. We may think that 'he is finance director of his company. Has a Mercedes and a driver in addition to a fat pay package. What stress he can be under?' or 'He is HR manager. Usko kya stress?' (What stress can he

have!)

A table will give a clue to the kind of stresses they may be facing and they may be paying a heavy price for that cushy job.

Depending on the patient's life style & work habits, some or all of the following may be useful guidelines. I keep a list in the clinic and while talking to patients, tick the one pertinent to their case and ask them to try and implement them.

Types of Job	Stressor
Finance	If money is the major product, a high level of stress is a permanent feature. Larger the sum involved more is the stress.
Marketing & sales	Pressures of reaching targets within specified budget & time frame
Technology	IT professionals have to keep pace with the fastest changing face of the industry. They have to fix complex problems. Add to this the insecurity in the job market and the lay offs.
Medical	Where life is at stake, pressures of decision making can be very stressful. Add to this constant updating with enormous information available to patients thru magazines/ internet and the doctor trying to know more than the patient.
Personnel	They are the people who remove workers, announce layoffs, lock outs or a cut in salary. Dealing with trade unions is a perpetual stressor. They have always work with tact and discretion. Keeping up a unnatural front all the time is real stress!
People in public eye: politicians, film & TV personalities	To try and sustain a positive image; keep smiling when a film/ serial flops; look happy and wave to masses when arrested; walking streets with <i>supari</i> on their head; keep telling lies with a smile; maligning others knowing very well that no one believes them. So may stressors.

1. Learn how to spot your stress signals and act on them stat. Let it not cause irreparable damage before you act.
2. Learn to talk about situations you find stressful.
3. Avoid routinely working late and on weekends.
4. Ask yourself if other people find it stressful to work with you.
5. Use travel time to plan your day or read to relax or just switch off; never do extra work.
6. Take advantage of training programmes to learn newer skills.
7. Try to anticipate hierarchy in the organization/ corporate change and be prepared to adapt to it. At higher levels, going down a level in hierarchy or reporting to one more person can really be very stressful, which we medicos fail to understand.
8. It is never too late to learn a new skill, especially if it is all pervading, like computers.
9. When learning a new skill, start slowly and build confidence. Learn ONLY what is useful to you and NOT what is in fashion.
10. Be prepared to change career at least once in a life time, especially if the current one is too strong a stressor.
11. Treat all staff with dignity and respect irrespective of their position in the organization. Attend to all their problems the day you hear from them and not later. They should feel proud and privileged to work for you and not feel "if I leave this job now, I am sure no one will take this s\*\*t job."
12. Do not make major decisions, likely to affect several people, too quickly just to show – 'I take spot



decisions'

13. Do not jump to conclusions and always be flexible in your attitudes as you may not know the whole situation.
14. Relieve pressures by discussing work related problems openly with colleagues and home related one with spouse/ family/ children.
15. List your stressors on a day to day basis and if any pattern emerges. This will help manage them better.
16. Avoid too many failures by setting realistic goals.
17. Never embarrass people in front of others. Do NOT admonish repeatedly for the same mistake.
18. Listen (and NOT hear) carefully to what your children say to you.
19. Overestimate when calculating time of a project especially if you are deciding for someone else.
20. Don't be too vocal about negative opinion of others. Others also may be temped about their opinion of you.
21. 'X' off each job from your list after you have done it. It is advantageous to see a shrinking list.
22. Keep a list of messages that HAVE to be replied to. This way you won't remember in the middle of the night what you have forgotten and get stressed.
23. If some people tempt you to behave badly, AVOID them.
24. Do NOT ignore your problems. Acknowledge them as they arise.
25. Try NOT to be pressurized into making important decisions hastily.
26. Practice yoga/ meditation to relax.
27. Only if have time to follow up, should you offer help.
28. Respect others opinion. Do not feel you always have to be right. NOBODY IS!
29. Before you think of Time Management, learn to PRIORTIZE.
30. Listen to your favorite comedian. Laughter always lightens you up.

31. Learn to say "NO". Most stress situations are created because some one took on some task as he/she could NOT say NO! Remember trying not to offend someone and taking on something that you can NEVER do is.

**HOW PERFORMANCE IS RELATED TO STRESS:** is shown by the two graphs on the next page

**Stress-Related Disorders**

**POSSIBLE PHYSICAL DISORDERS CAUSED BY OR EXACERBATED BY STRESS:**

- Hypertension
- Cardiovascular disorders
- Migraine and tension headaches
- Cancer
- Arthritis
- Respiratory disease
- Ulcers
- Colitis
- Muscle tension problems.

**POSSIBLE EMOTIONAL DISORDERS CAUSED BY OR EXACERBATED BY STRESS:**

- Anxiety
- Panic attack
- Depression
- Adjustment disorders.

**POSSIBLE BEHAVIORAL DISORDERS CAUSED BY OR EXACERBATED BY STRESS:**

- Conduct disorders
- Eating disorders
- Alcoholism
- Hyperchondriasis

