Holistic Approach For Stress Management

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INTRODUCTION

There is a common perception that anaesthesiologists are exposed to stress, having the life of patients in their hands and having to work in different critical conditions in scheduled and emergency situations. The implication of anaesthetist's responsibility in medicolegal cases is increasing and this adds to stress. These factors can lead to impaired health and professional performance. Management of stress is rarely addressed in medical college or in Continuing Medical Education for Anaesthesiologists. So it is necessary to learn stress management so that one can have perfect health and professional performance.

WHAT IS STRESS?

Dr Hans Seley—father of stress theory—defines stress as, "The nonspecific response of the body to any demand upon it. The demand can be threat, a change which requires the body to adapt." The response is automatic and immediate. Stress can be good when it helps us to perform better or it can be bad when it causes upset or makes us sick.

Increased stress increases performance initially, i.e., eustress.

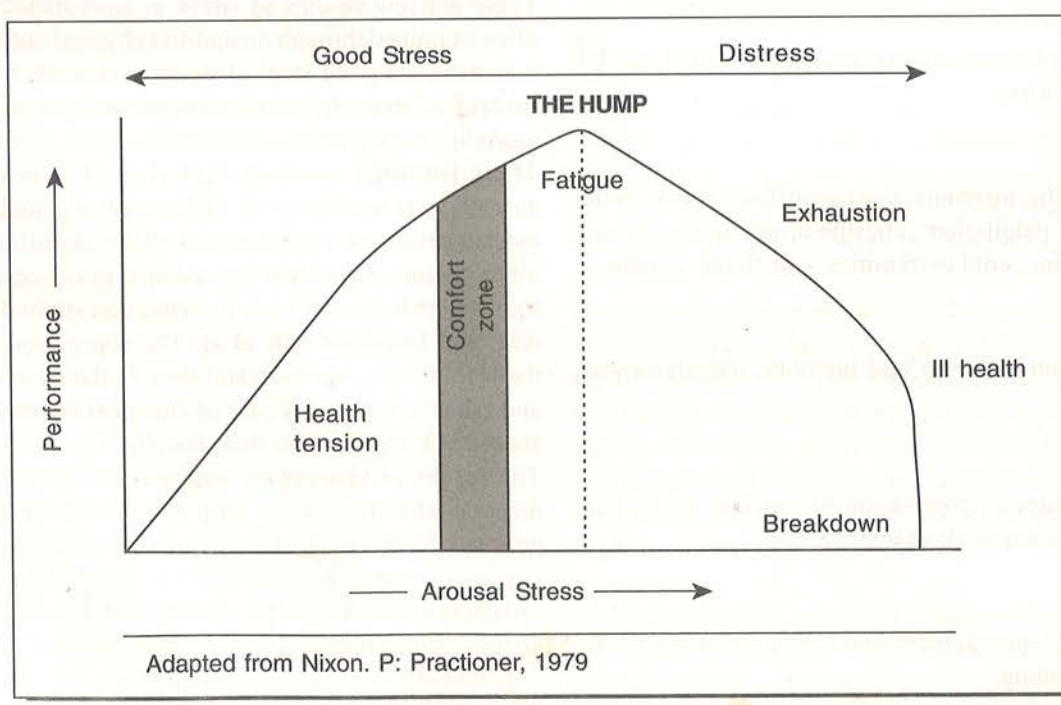


Fig. 1 The human function curve

After peak, more stress results in decreased performance – fatigue followed by exhaustion.

WHAT DOES STRESS REACTIO CONSIST OF?

The stress reaction results from an outpouring of adrenaline, a stimulant hormone, into blood stream.

This with other stress hormones produces a number of changes in body intended to be protective. The result is called "the flight or fight response" because it provides the strength, energy to fight or run away from the danger.

Changes Include

- Increase in heart rate and blood pressure – to get more blood to muscles, brain and heart.
- Faster breathing – to get more oxygen
- Tensing of muscles –to prepare for action
- Increased mental alertness and sensitivity of sense organs – to act quickly
- Less blood to skin, GIT, kidney, liver.
- Increase in blood sugar, fats, cholesterol – to get extra energy.
- Rise in platelets and blood clotting factors – to prevent haemorrhage in case of injury.

WHAT ARE COMMON SYMPTOMS OF STRESS?

Manifestation of stress are numerous and varied but fall into four categories:

Physical

Fatigue, headache, insomnia, muscle-stiffness (neck, shoulders, lowback), palpitations, chestpain, abdominal cramps, nausea, trembling, cold extremities – flushing, sweating.

Mental

Decrease in concentration and memory, indecisiveness, confusion.

Emotional

Anxiety, nervousness, depression, frustration, worry, fear, irritability, impatience, short temper.

Behavioural

Nailbiting, foot tapping, increased eating, smoking, drinking, crying, blaming.

WHAT ARE THE CAUSES OF STRESS?

Stress is a gift of modern society.

General Causes

- Fast life.
- Improper time management—more work in limited time.
- Competitions at all levels.
- Wrong lifestyle—less sleep, overloaded schedule
- Unrealistic thinking, rigid thinking, pessimistic thinking.
- Stressful personality traits—perfectionist, workaholics.
- Changing moral values.

Hurry, worry, and curry are responsible for disturbance of health.

Causes of Stress in Anaesthesia practice

- Moral pressure placed by society for successful outcome in all cases.
- Sense of insecurity if you are in private practice—dependent on surgeons.
- Changing working environment—no control over OT management.
- No control over working time.
- Changing persons with whom you are working.
- Unsatisfied ego, professional dissatisfaction.
- Irregular timings for meals and sleep.
- Impending danger of CPA if something goes wrong.

There are few studies of stress in anaesthetists which is often examined through mental and physical outcome rather than measuring the level of stress in anaesthetists and the sources of stress in work environment. Neil et al studied mortality among male anaesthetists in UK from 1957–83. Their findings confirm that risk of suicide among anaesthetists was twice as high as among social class 1, but suggests that risk does not differ significantly from other doctors. Chemical dependence in anaesthetic registrars in Australia and New Zealand was studied by Weeks AM, and Buckland MR et al. The supervisors of anaesthetic training in Australia and New Zealand were surveyed and asked to report any case of chemical dependence from anaesthetic registrars at their hospital from 1981 to 1991. The results of this survey indicate that chemical dependence is already a major problem. Seeley HF from Postgraduate Medicine University of London conducted survey in UK over few years, and has revealed decreased job satisfaction and increased anxiety and depression in both hospital specialties and general practitioners. Anaesthesia is perceived to be a stressful specialty and there is evidence that certain stress associated conditions are more common in anaesthetists. The middle years apear to be a

danger period. The analogy between the work of anaesthetist and airline pilot is often drawn and the principles underlying the assessment and maintenance could be adapted in anaesthesia. Even minor degrees of professional impairment may put the patient at risk. A postal survey was sent to specialists in Australia looking at aspect of job satisfaction, dissatisfaction and stress by Australian specialist anaesthetists Kluger MT, Townend K. The response was 60% with majority of respondents being males (83%). Stressful aspect of anaesthesia included time constraints and interference with home life. Experienced assistants and improved work organization help to reduce stress. Occupational stress and burnout in anaesthesia was studied by AS Nyssen, I Hansez et al in 2003—measured the effect of stress together with source of stress and job characteristics. Their results were as follows—the mean stress level in anaesthesia was 50.6%, which is no higher than found in other working populations. The main sources of stress reported were lack of control over time management, work planning and risks. Anaesthetists reported high empowerment, high work commitment, high job challenge and high satisfaction. However 40.4% of the group was suffering from high emotional exhaustion (burnout), the highest rate was in young trainees under 30 years of age.

A study was conducted in Govt. Medical College, Nagpur, in 2006 to know stress-induced medical problems in postgraduate students. Hypertension was seen in 4.6% (service candidates), asthama in 5.8%, backache in 15.2%, indigestion in 7%, insomnia 19.1%, allergic rhinitis 17.5%, acidity 21.3%, bodyache 11%, anxiety 12%, changes in behaviour 7%, depression 5.8%.

Stress-induced problems were 54% in postgraduates from different clinical departments (medicine, surgery, gynaec & obstetrics, paediatrics, ophathalmology,) as against 70% in Department of Anaesthesiology. Study indicates that the stress factor is overall increased right from young age. Anaesthesiologists are under more stress, hence stress management is very essential.

DIFFERENT WAYS TO CONTROL STRESS

- Change lifestyle—regularity in meals and sleep.
- Change in routine work.
- Regular exercises.
- Proper time and money management.
- Developing hobbies—painting, singing, reading.
- Relaxation—yoga ,meditation.
- Following proper discipline in anaesthesia management (preoperative, intraoperative, and postoperative period.)

But we know that it is difficult to change the external factors which give us stress. It is beyond our capacity. What we can do is to change our inner equipment so that our response to stress is altered. It will not disturb our health. We should know our inner equipment, then we can adjust it in stressful situation.

Every human being is constituted of physical, mental and intellectual equipment and conscious principle, i.e., spiritual core. Human personality is at four different levels.

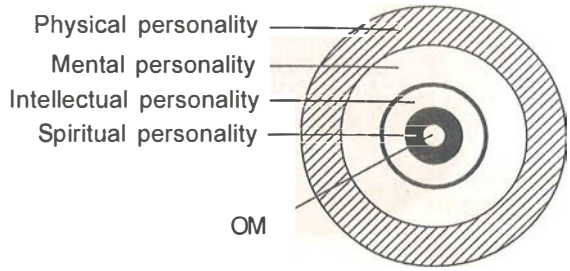


Fig. 2 Personality at different levels

The physical personality is grossest aspect of our personality, which one can see and perceive. Mind is psychological personality. It is the centre of emotions. Intellect is the subtlest of the three. This is the decision making personality. You know what is good and what is bad. The three personalities at body, mind and intellect level together constitute matter, which by itself is inert and insentient. The consciousness is the spirit in us which propels, motivates and causes these equipments to function. Spirit and matter together causes manifestation of life and activity.

For maintenance of good health there should be proper integration of personality at all the four levels. According to WHO, health is a state of individual who is free from disease at physical, mental, intellectual and spiritual level. Doctors mainly deal with physical and mental level, but intellectual and spiritual well being remains neglected.

The core of human personality is the consciousness which is the life centre around which all activities of body, mind and intellect revolve. It remains ever changeless, immovable like an axel in the wheel but causes all changes and movement to occur. When person succeeds in identifying with this changeless immovable conscious principle within him he is no longer victimized by the changing phenomena of perception, emotions and thought.

If we start thinking who am I? Am I physical body which is constantly changing? As a child it was small and with many limitations. In young age one is conscious about looks and as one is growing old one is conscious about health. In old age one is afraid of diseases and death.

One can observe mind. It is happy or unhappy, disturbed or at peace. One can observe different ideas and thoughts in intellect. If simple logic is applied that subject and object cannot be one, subject is pure consciousness

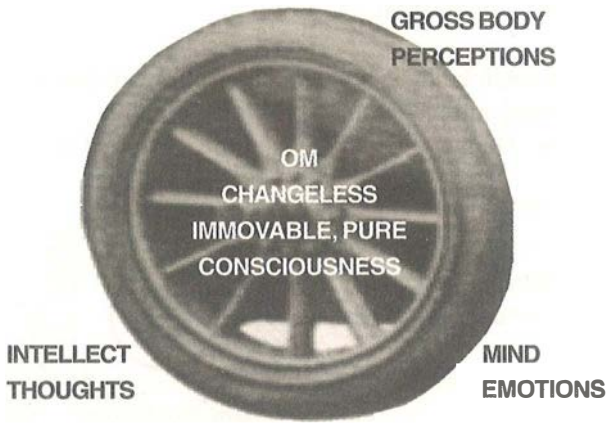


Fig. 3 Holistic approach

and observing all changes in body, mind, and intellect which are objects and one is different from it. Concentrating on real self is meditation. Why my health is disturbed? When mind is tense and agitated our stress hormones are secreted which affect our body. Now everybody is talking about meditation for mental peace. All western medical literature is advocating meditation for all medical problems. Meditation is not easy. If we sit for meditation, more and more thoughts come to our mind. If we decide not to think of certain unpleasant events, we start remembering them more. This mind is like a naughty child.

Arjun in Bhagwadgeeta tells Shreekrishna –
'Chanchalam hi manh Krishna pramathi balvadddhrudam':
O,Krishna mind is restless, turbulent, strong and unyielding.

And Shreekrishna says –
"Asanshayam maha baho manodurnigraham chalam/
Abhyasen tu kauntey vairagye nacha gruhyate"

It is difficult to control mind but with practice it is possible. We cannot control mind but we can control breathing so that automatically mind will be controlled. In 'Upadeshsaram' Raman Maharshi says – "Vayurodhaya liyate manh".

If we stop breathing one's thinking process also stops.

Breathing is a great source of energy. It is possible to live without food for weeks, without water for days but without air we die within few minutes. All the activities of life are bound up in the process of oxidation and reduction. Without 'oxygen' there cannot be life.

It is vital for us to appreciate this truth and it is very important to breathe correctly.

20% of oxygen is breathed during inspiration in lungs. From alveoli it is absorbed in blood. From blood it is carried to billions of cells in the body which receives oxygen. For getting to each cell oxygen it is necessary to breathe correctly. When blood stream in arteries runs short of oxygen, the vitality of cells in the body is diminished.

When breathing is incorrect supply of oxygen is less and carbon dioxide is not eliminated properly. When cells receive less oxygen, organs will not be able to function properly.

So we should learn correct breathing. Rewards with correct breathing are incalculable.

Pranayam is control of breath. On subtle level *pran* represents the pranic energy responsible for life or life force and *ayam* means control. One can control the rhythm of pranic energy with *pranayam* and achieve healthy body and mind. *Pranayam* brings more oxygen to blood. The *pran* is related to mind and mind is related to brain, the brain to soul and soul is ultimately related to that eternal divine force called God. Thus objective of *pranayam* is to stimulate, communicate, regulate and control life force that exists in the body.

In the words of CL Schleich –"From the moment the umbilical cord is cut, the lungs are the placenta which binds man to the cosmic mother."

TO BE ALIVE IS TO BREATHE

Few points to be remembered before starting *pranayam:*

- Stomach should be empty.
- Wear loose clothes which are comfortable so that full chest expansion is possible.
- Slow and complete exhalation is important; unless receptacle is empty it can not be filled with fresh air.
- At the end of expiration abdominal muscles should contract so that residual air is exhaled completely.

Majority of us are not breathing correctly. Only part of thorax moves. Diaphragmatic movements are not enough, so alveoli at bases remain collapsed. During inspiration diaphragm goes down and abdominal wall should come forward. During expiration diaphragm goes up and abdomen should go in.

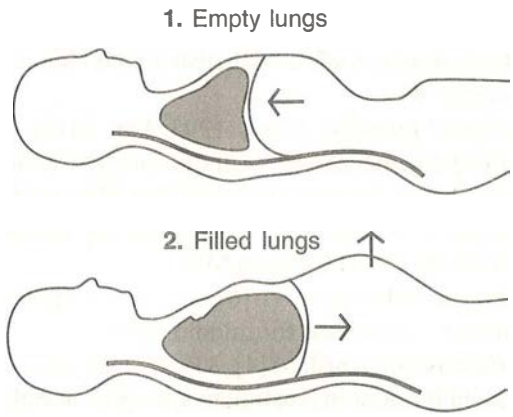


Fig. 4

Pranayam is divided into three types:

- Complete chest expansion – Deep breathing.
- Air movements in both nostrils should be equal *(Bhasrika, Anulom-vilom)*
- Abdominal breathing *(kapalbhati)*

1. We start with prayer to quiet our mind.
2. Deep breathing—*deergh shwasan* (3–5 times). First deep and slow inspiration for 4–8 seconds followed by breath-holding for 2–3 seconds, then expiration which is slow and complete for 8–12 seconds, followed by breath holding for 2–3 seconds.
3. *Bhasrika* – Forceful expiration and quick inspiration by closing one nostril. This is repeated with another nostril (25 times).
4. *Anulom-vilom* – deep inspiration from one nostril and deep expiration from other followed by deep inspiration from second and deep expiration from first. (11 times)
5. *Kapalbhati* – abdominal breathing. Abdominal muscles contracted – abdomen goes in, diaphragm goes up and passive expiration followed by passive inspiration. To be repeated 100–200 times.
6. *Onkar* – 40% *akar* and 60% *makar* after deep inspiration (3 times)

One can learn *pranayam* and *yoga* from *yoga* teacher.

If *Pranayam* is practiced regularly, following stress induced medical diseases can be prevented and if one is suffering from these diseases they can be controlled easily: Hypertension, coronary artery disease, tension, headache, acidity, indigestion, asthma, allergic rhinitis, diabetes, backache.

Several departments at AIIMS have been independently researching people who practice these breathing techniques.

The Neurology Dept. checked EEG and found out more beta waves which help to cure depression, in persons doing *pranayam*.

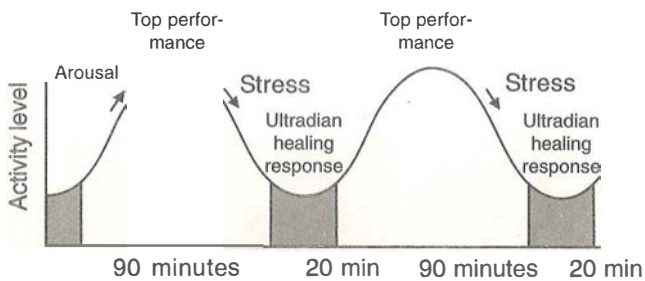
At Endocrinology Dept., blood cortisol (hormone related to stress) was less in those practicing *pranayam*.

The Immunology Dept. noted presence of high levels of natural killer cells to fight diseases.

Andew Weil, MD, says—
"The simplest and most powerful technique for protecting your health is absolutely free and right under your nose."

Study was conducted in general population in 2006 in Nagpur for effect of *pranayam* and *yoga* on stress-induced medical problems. It was observed that more than 65% patients had 75% relief within one month.

Pranayam was taught to the postgraduate students from Department of Anaesthesia, Nagpur. They were told about relaxation technique, i.e., after 90 minutes of work or study they should take 10–20 minutes rest.



Adapted from: Rossi, EL: The 20 minute break. Tarcher-Putnam, New York, 1991, p.12

Fig. 5 The ultradian performance rhythm

After one month it was observed that acidity was decreased in 90% students, concentration was improved in 80% students, and students with asthma had no acute episode; had more energy, less fatigue in 90% students.

CONCLUSION

If *pranayam* is done regularly from young age, stress induced medical problems can be prevented.

For happy and healthy life one has to follow certain disciplines in life. If road traffic rules are not followed there will be accidents. Similarly when we are driving this body-mind vehicle on this life journey one has to follow certain rules.

- Get up early in the morning – practice *pranayam* for 20 minutes.
- Regular exercise -- Brisk walk, swimming – 20 minutes for improving cardiorespiratory reserve.
- *Yoga-asana* and *Suryanamaskar* for stretching ligaments and free joint movements. For 20 minutes.
- Balance diet – avoid fried food & heavy diet. Plenty of green vegetables and fruits in diet.
- Should not remain with empty stomach for more than 3–4 hours.
- Minimum 6 hr sleep in night.
- Do your duties sincerely with devotion.
- Positive thinking. Forget past, do not worry for future. Live for today.

This is the key for healthy and stress-free life.

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