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Opening Extract from
**Yoga & Meditation: A
holistic approach to perfect
homeostasis**

Written by

Dr Yogini Shubh Veer,
PhD (USA). PhD (India) DSc (India)

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PREFACE

Achieving and maintaining homeostasis is the prime objective of every living being. The holistic approach through Yoga and Meditation appears to be the one method which conditions the system, leading to more enduring results, for recovering, maintaining and enhancing this most vital state of homeostasis.

Devised some four decades ago, this yoga and meditation course with its holistic approach has been taught to thousands with excellent results. It has served its purpose and it still continues to attract new adepts. Whatever be the need or creed, there is something to suit one and all.

The course was initially offered as a series of lessons in hatha yoga and Siddha kundalini mahayoga meditation. It was meant for those interested in the metaphysical and spiritual form of yoga. The aim was to bring within reach of a maximum of seekers, this ancient path of holistic living.

Gradually, it turned out that many of those attending the courses had personal problems, either health, family or professional. They were more in search of some relief than wanting to become adepts in yoga and meditation. Hundreds among came for stress related conditions, the curse of modern living. We had to adapt to this reality.

The remarkable results obtained through yoga and meditation are quite impressive, simply astounding. The majority has been cured or got significant relief. Among are cases where traditional medicine had failed. Some extracts from personal testimonies are mentioned.

Repeated requests to have the course published have given shape to this present work. The aim is to allow greater access to this age-old wisdom.

May it serve its holistic purpose!

Dr Yogini Shubh Veer
27th September 2012.

INTRODUCTION

Since the dawn of time Yoga has occupied a unique and exalted position in India. It suffuses the physical, mental, moral and spiritual culture of the country. It is India's most precious gift and unparalleled legacy to humanity. With the advent of modern sages like Swami Vivekananda and Swami Yogananda, yoga has crossed the shores of India and spread worldwide. Yoga has now become a household word for several millions of people.

Today we live in an age where stress and distress are unavoidable evils. The fast moving modern world has turned life into frenzy, giving it a very artificial frame. The gigantic strides in science and technology, while bringing humanity many advantages and tremendous facility, ease and physical comfort has brought in its wake as many ills. Pollution and its consequences, fast foods with malnutrition and obesity are some of the plagues of modern life.

Modern man has escaped the scourge of infectious diseases to fall into the inferno of non communicable disorders. The plague and cholera epidemics have given way to non contagious, non communicable diseases. Stress related disorders, insomnia, anxiety, fear leading to split personalities, HIV AIDS have taken over the field. Human longevity has been remarkably increased, so have conditions like Alzheimer, dementia, senility and schizophrenia. One person in six is a potential schizophrenic. An indeed bleak picture, considering its demoralising and stigmatising corollaries!

Medical technological progress has allowed the discovery of the causes of disease. Billions are being used by the pharmaceutical industry to discover remedies for ill health. An increasing array of diagnostic techniques is available. Yet, modern science is no closer to giving everybody the chance of enjoying perfect health than it was a century ago.

Man has become a slave of gizmos and gadgets in his eternal quest for peace, happiness, comfort and power. Some believe high style living will bring joy, others feel intense physical activity will bring satisfaction. Many dream of wealth and power to turn their life into heaven. Failing to fulfil his growing desires, man

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ends up with an eternal dissatisfaction. He loses his peace of mind. As human beings, happiness or unhappiness, health or ill health, depend to a great extent upon the state of mind. That is why the mind is considered as man's best friend or his greatest enemy.

The philosophy of always doing more, faster, heavier etc leads to exhaustion and imbalance. The repeated strain on the system disturbs the homeostatic balance for which one has to pay a heavy price throughout life. Unknown to him, his constant worry and stress are leading man into a state of recurrent homeostatic imbalance. He has forgotten that he has to take care of his health and his being. To make his situation worse, modern man has forgotten how to breathe properly. Being carried away by the flux of modernism he is hardly aware he is breathing. Leave alone that he has to breathe correctly. Yet health and stamina depend primarily on proper breathing.

The greatest flaw of medicine lies in the principle that health of the body is considered apart from the state of the mind or the spirit. Mental tension and increase of mental disease shows failure of these concepts. The cure of disease or repair of injury have become the norms of medicine. Modern medicine has forgotten that prevention of disease or improvement of the individual's life and wellbeing should be part of the equation.

Man is not a mere social animal. He has yet to discover his true nature and the purpose of life. Man is neither body alone, nor is he body and mind. He is body, mind and spirit. To deny this truth will deprive him the privilege of a perfect holistic life. Man will only achieve an exemplary life when his physical, intellectual and spiritual needs are simultaneously fulfilled. As food and sleep are vital physiological needs, yoga & meditation is a vital spiritual necessity for man's mental wellbeing and spiritual unfoldment.

Neither science nor technology has been able to restore the balance. Giant strides in both have only led to greater imbalance, be it in the distribution of wealth, health, security or anywise. The world still suffers from war and starvation. Total annihilation looms over humanity. No harmony in individual life, no harmony in society.

All over the world in every medical school, the concept of homeostasis has been taught for more than a century as one of the basics of health. It is also taught that health is achieved through balance and regulation of our internal systems and that an inability to maintain homeostasis may lead to disease or even death. Yet, achieving homeostasis still appears a far off dream.

The holistic approach in medicine has gone some way to address these problems. Advocates of holistic health believe that health can be achieved through a combination of physical, mental and social well-being only. There is the tendency to forget that we are not just body, nor body and mind but we are body, mind and Spirit. Unless we allow outlet for all three together there will be a dangerous disequilibrium with resulting homeostatic imbalance. A sound body, a sound mind and an eternal Spirit, each relies on the other for perfect coordination and balance. Unless there is perfect equilibrium among all three, man will be faced with ill health, unhappiness and ultimate disaster.

The ideal remedy lies in the holistic approach that yoga and meditation offer. They approach healing and wellness by focusing not just on the body, but on the individual as a whole, his physical, mental, emotional and spiritual needs. One of the reasons that more and more people are turning to yoga and meditation for relief.

The practice of yoga includes proper breathing and control of 'prana', life force or vital energy. Man depends as much on air and prana as essential means of nourishment as food and drink. Air and prana are the basis of life. Impure air and irregular flow of prana in the body will result into sickness and disease.

Life depends entirely on a proper supply of air. We all know that as long as there is air around us we will stay alive. In the absence of air death will follow. Any anomaly in the supply of air would lead to sickness and disease. The ancient yogis having understood its importance have made deep yogic breathing and control of prana the backbone of all yoga practices. Yogic breathing and 'pranayama', control of prana, both aim at normalizing and regulating the proper distribution of oxygen and prana respectively throughout the body.

The control of prana can cure most diseases or mitigate them. Through the practice of pranayama, the supply of prana to a diseased part is intensified, leading to cure of the affected part. Pranayama keeps the flow of prana in a perfect working condition and ensures an adequate supply to different parts of the body. Pranayama restores the homeostatic balance of the body, allowing it to work at optimum capacity.

Unlike the modern physical exercises where quick movements or considerable strain is involved, yoga combines slow, steady, graceful and easy movements. Postures are performed slowly, within the individual's capability, never over-exerting, without the least strain or feeling of fatigue. One is left with a sensation of lightness, peace, relaxation and general wellbeing.

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Yoga and meditation are ideal for one and all, young or old, strong or weak, sick or healthy, be it from east or west, north or south. For the healthy, yoga and meditation are preventive. They will help maintain good health. For the sick or ailing, they can restore good health. People with a nervous disposition will find regular practice of postures with its deep, yogic breathing, soothing to their highly strung nerves. Yoga and meditation bring sound sleep without pills.

Ageing is retarded, one gets greater power of concentration and endurance, increased self confidence, tolerance and compassion. The body becomes firm, energetic and active, being rid of muscular, physical and mental tensions. There is ease of movement, enhanced mobility. There is self discipline, greater incentive to rid oneself of bad habits. With growing self confidence, there is greater ability to eliminate nervous tension and improve mental poise. The mind always functions better in a state of calmness.

The aim of meditation and yoga is to keep the human being in a state of optimal homeostasis. Meditation and yoga give us right discipline, the holistic way to restore or maintain our homeostatic balance. We are no more guided by our likes and dislikes but rather according to what is within the norms of proper living, through the practice of proper ethics, proper discrimination, proper conduct and proper nutrition. Yoga and meditation will give us a well balanced, well integrated personality and a strong character.

Homeostasis will not be optimally achieved until we are able to holistically muster all our physical, mental, and spiritual resources to improve our chances of survival, to live happy and fulfilling lives, and to be able to create a utopic society: Yoga and Meditation may well be the answer!

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TESTIMONIES

Yoga and meditation have lost much of their spiritual aura. More and more people are turning to their therapeutic effects in the cure of diseases. For the past few decades extensive research has shown the positive effects of yoga and meditation upon the human system.

Some thirty years back, medical research highlighted the importance of yoga and meditation and dietary changes in a healthy lifestyle. It was successfully demonstrated that heart disease could be reversed by introducing the practice of yoga and meditation and bringing dietetic changes in food habits. It brought yoga the recognition that would open the way to the vast potential of yoga and meditation as therapies for healing and transformation.

At the outset this course was being offered for those interested in spiritual advancement. With time, there were more and more people joining, in search of a possible cure for some longstanding and chronic disease. Many had medical problems for several years. Some cases were considered incurable. Left with no alternative we had to face the reality of allowing everybody a chance. They had all tried different therapies, traditional or alternative, without success. Meditation and yoga with its intrinsic holistic approach cured the majority of cases. The others experienced significant alleviation of disease conditions.

In almost four decades of practice, we have never met anyone who knows how to breathe properly. Everyone thinks breathing is natural and spontaneous. Why on earth do we need to be taught or to learn how to breathe? It may come as a stunning surprise that 99% of people do not know how to breathe correctly or are aware that they are breathing wrongly.

All were surprised when they were taught to breathe properly. Within one or two weeks of deep yogic breathing, most of their complaints whether headache, migraine, insomnia, stress, etc had disappeared.

To quote one among those who got immediate results: *“We were made to understand that the practice of yoga and meditation was more spiritual than anything.*

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However, the discipline involved would go a long way to help improve general well-being, bring peace of mind, food habits would be changed, and lastly, yoga postures could remedy physical ills or unknown defects. We were taught yogic breathing and mantra repetition. Within just one week of daily practice I was already another person... Two weeks later when I had my menses it was perfectly painless. I was amazed... After a decade of atrocious suffering I was pain free. It was a miracle!"

She was one among the many who had been diagnosed with infertility. She had been suffering from severe depression consequent to daily family and social harassment.

In some cases, some specialist doctors had even advised hysterectomy, removal of uterus as, according to them, the patients did not have any chances to become mothers. Yoga helped them reestablish homeostasis, regain their health and become happy mothers.

"Within a year of starting yoga, in 1983, we were blessed with a beautiful sturdy baby boy... One year later we were again blessed with a lovely and charming baby girl. Today they are grown up, aged 28 yrs and 26 yrs, and in excellent health... I am in good health up to today and not having any problems. I was so grateful to yoga for having given me back my health... Two of my friends too were blessed with babies. Today their children are grown up, about 22 yrs and 19 yrs old. But for yoga, these two lives would have probably ended in tragedy. Indeed, yoga changed our life and made it worth living and very precious. I wish more people would have the chance I had! How many wasted lives would have been saved!"

There were many other striking cases with amazing results. We have mentioned cases, physical, psychological and mental which cover a wide range of disease conditions. They are some of the thousands who have seen significant changes in their health and life.

To cite, a very serious and advanced case of myelopathy, serious crippling spinal cord disease. The disease could have progressed to quadriplegia, total paralysis below level of the neck. Doctors had advised urgent operative decompression, a very delicate spinal surgery, without any guarantee of success.

Within weeks of doing yoga and meditation his disease process would be arrested. Meditation and yoga have enabled him to lead a normal life these past fourteen years. Let us hear his own words: *"Treating doctors who had predicted complete paralysis of the limbs in the near future, were surprised and perplexed to see my condition improving day by day."* (1998)

"I was examined by a visiting Consultant Neurosurgeon from abroad, Dr P. After

going through my medical records and a physical examination, he shook his head and said: “How is it possible? This guy is stronger than me! His physical examination does not at all corroborate the findings in the records. The MRI shows something quite different!”

“My physical activities are as a normal someone can be. I can walk with all ease several kilometers at a stretch. I still enjoy swimming, driving my car or motorcycle. I do a lot of field work. Today I am 52 years old. Junior officers at work find it difficult to keep pace with me in my daily physical activities. ”

There were many cases coming for relief from ‘slip disc’. After having followed several treatment regimens to no avail they had given up hope of ever becoming normal again. A few had been advised surgery. They were scared and preferred to try yoga, having heard about its astounding results.

“In 1978...I had badly sprained my back....I had recourse to rubbing balms, deep heat spray or bandaging...I went for physiotherapy, for massage session...I was at a loss. Doctors could not help... I had resigned myself to live with the pain for the rest of my life...”

“I was taught a series of postures, yogic breathing and mantra repetition. My case was already quite complicated and I had to be patient for one or two weeks. ...without realizing, one day I woke up and just got up by myself. I did not need to call anyone to help me up... Unknown to me the back pain was gone. I have carried on with the yoga postures which were meant for a lifetime. Since, I never had any health problems.”

To cite another complicated case: *“My neighbour had been suffering from slip disc for some time..... He had to be rushed to the doctor who advised surgery the very next day....”*

“In this condition there was hardly any posture one can do. He was made to perform some standing postures involving the spine and vertebral column, arm and legs. He did the postures with great difficulty....These few postures helped unblock his system. He did not have to go for any operation the next day or ever....He never had any relapse of his problem.”

We had several cases of psoriasis. Some longstanding, severe cases had developed suicidal tendencies. They are now cured and leading a normal life. One particularly severe case says: *“I had been suffering from a serious recurrent skin problem since I was 18yrs old. Ever since my initiation and learning of hatha yoga, I have never had any recurrence of the disease, to date, 20 years already.”*

We have treated several cases of hyperhidrosis with the best of results. Among the longstanding cases, we quote one example: *“I blushed so intensely that I could feel the blood rushing to my face and at the same time a tension would envelope me*

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culminating with heavy sweating. This phenomenon occurred to me almost everyday and I could do nothing to prevent that from happening...”

Meditation alleviated those severe symptoms immediately and he was cured within weeks: *“After each meditation session, I feel very cool and relaxed and with a great sense of pride and well being.”* Today he is a successful executive.

This serious case was on heavy medication and had been advised ECT, electroshock therapy, by his psychiatrist. Within one week of meditation he gave up all medication (1995). He was cured of all his disorders and is leading a normal life. To date he has never needed any medication:

“I suffered from poor health, a failing memory, and insomnia alternating with somnambulism or hallucinations. I used to have weird nightmares and disturbed sleep... Now, the future holds much promise. I am totally cured when I could have been a case for a mental hospital. Today I enjoy a thriving health, sound sleep and an improved memory. I have undergone a complete metamorphosis. I am a new man with a new destiny! Had I not discovered meditation and yoga 17 years back, I dread to imagine the pitiable conditions I would have been grovelling in!”

Many cases of severe chronic allergy or longstanding sinusitis were successfully treated. Patients were of different age groups. Although refractive to normal medical treatment, they were cured in relatively short periods, some in just a few weeks:

“One of my cousins aged 12, had recurrent sinusitis (1980). Consequently, he was always ailing and underweight. Visits to pediatricians and ENT doctors did not help...He was taught simple breathing exercises and some simple yoga postures suitable for his young age. In no time he was transformed. His sinus problem was completely cured. He recovered his appetite and put on weight. Within six months he became sturdier than his elder brothers.” Today, he is tall and well built. He has been symptom free these past twenty years.

Cases of insomnia, hallucinations, chronic headache, migraine, depression, some very severe, used to call by scores. After about 1–3 weeks of meditation they experienced complete relief. Many could have ended as burnt-out cases; some had severe delusional attacks, others had developed alcohol and cigarette addiction. Previous medical and psychiatric treatment was of no avail. Prognosis for recovery was extremely poor. With meditation and yoga their disturbed homeostasis was re-established and they were cured within weeks.

Other cases that have been treated through yoga and meditation include,

Allergy, Anemia, Arthritis, Asthma, Backache, Bronchiectasis, Bronchitis, Depression, Diabetes mellitus, Epilepsy (some severe, longstanding, uncontrolled and refractive to normal treatment), Fibromyalgia, Frustration, Gastric problems, Hypertension, Hysteria, Lack of self confidence, Loneliness, Mental retardation, Obesity, Phobias, Scoliosis, Stammering, Sinusitis, Tendinitis & Tenosynovitis, Urinary Retention, Varicose Veins, Worry and other stress related conditions, among others.

The potential of yoga and meditation as holistic therapies for reestablishing homeostasis and managing or curing different diseases, even severe or life threatening conditions, appears to be unlimited.

These testimonies confirm meditation and yoga as powerful adjuncts in the holistic management of any disease, not only stress linked conditions as is the trend presently.

As someone who has been witness of these ‘miraculous’ cures states: *“I am always keen to recommend yoga and meditation to everyone. It is the best preventive method and has the virtue of keeping you fit, serene and healthy. It is the best blend of spiritual, mental and physical exercise....If only people had more awareness about yoga and meditation and put them into practice, so many complications would have been averted, so many surgical interventions avoided, so much money saved.”*

THE COMPLETE BEING – BODY, MIND & SPIRIT

THE CONCEPT OF HOLISM

Holism means All, Entire or Total. The holistic view stresses that health be viewed from the perspective that humans, as any other living organism, function as complete, integrated units rather than as aggregates of separate or disjointed parts. Consequently, the properties of any given system cannot be defined or explained by the sum of its component parts alone. Rather, the system as a whole determines how the parts behave.

The holistic approach focuses on the causes. In fact, when symptoms develop, it is often long after the causes of the symptoms occurred. The holistic approach in medicine advances that there is more to health than mere symptomatic disease management. Physical health cannot be dissociated from the mental, emotional and spiritual states. The body, mind and spirit are closely interrelated.

Holistic medicine means taking into consideration all facets of the whole person, in the prevention and management of disease. One has to consider the patient physically, psychologically, socially and spiritually. It is rightly believed that there is a relation between physical health and overall ‘well-being’. Well-being is a result not only of our physical state in terms of health or disease, but also on its relation with our psychological, emotional, social, spiritual and environmental state. These different aspects should be considered in treating a person truly as a ‘whole’.

Modern medical practices focus more on treating symptoms and syndromes. However, an increasing number of physicians are advocating a holistic approach to health care, emphasizing prevention as well as natural treatment. A holistic approach means that the doctor seeks information about a patient’s whole background. Maintaining good health should not be limited to taking care of the various singular components that make up the physical body. Other aspects such as emotional and spiritual well-being have to be considered.

Holistic medicine not only treats symptoms but it also looks for any underlying causes of these symptoms. It emphasizes the need to include analysis of physical, nutritional, environmental, emotional, social, spiritual and lifestyle factors.

In truth, medicine was always meant to be ‘holistic’. Even the World Health Organization defines health as follows: *“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”*. A holistic approach is considered good practice and has been strongly advocated, among others, by the Royal College of General Practitioners for many years.

Holistic therapies have been prevalent from time immemorial. In India, Ayurveda, the ‘science of life’ has been practiced for more than 7,000 years. In Ayurveda, wellness and disease are considered to be opposite forces where wellness holds disease in balance. One should strive on achieving balance and harmony of body, mind and spirit to maintain health and keep disease away.

The Chinese developed acupuncture some 4,000 years ago and herbal remedies were also common there. North American Indians also had recourse to herbal medicine. Several ancient western healing traditions were involved in holistic medicine. Hippocrates recognized the body’s ability to heal itself and cautioned doctors to do their part and wherever possible to allow natural healing follow its own course. Socrates promoted a holistic approach to health. Plato advised doctors to respect the relationship between mind and body.

Holistic medicine focuses on how the physical, mental, emotional, and spiritual elements of the body are interconnected to maintain health. Our body responds to the way we think. Mental conditions affect the body. When one part of the body or mind is not working properly, it has been noticed that the whole person is affected. Holistic approaches focus on the whole person rather than just on the illness or part of the body that is not healthy.

Disease and dysfunction result from a disturbance of the body’s harmony and integration. To restore the health of the patient one should seek to restore this lost harmony and wholeness and bring back balance or homeostasis.

HOMEOSTASIS – NATURE’S AMAZING WAY TO PERFECT BALANCE

The human body is among nature’s finest masterpieces. This living marvel has the capacity to protect and repair itself. At the same time it has amazing inherent abilities to adjust and adapt to changing internal and external influences. Its different systems work in perfect unison, continuously striving to maintain a state of balance or equilibrium. This ability to maintain equilibrium within is known as Homeostasis.

‘Homeostasis’ is a combination of two words of Greek origin: ‘*hómoios*’ which means same or similar and ‘*stásis*’ meaning stable or standing in the same place. It is the ability of a living system to maintain a well balanced, same condition; to maintain internal equilibrium by adjusting its physiological processes so as to maintain health and optimal functioning, regardless of external conditions.

Homeostasis is a fundamental property of life and essential for survival. Maintaining homeostasis is absolutely imperative for an organism to stay alive and healthy. Without homeostasis it is not possible for the body to work efficiently and protect itself from harm. To remain healthy, the human body is always striving to achieve, maintain or return to a state of dynamic equilibrium, or homeostasis, both within itself and in relation to its environment. All the systems of the body have inherent regulatory mechanisms that serve to maintain homeostasis.

Homeostasis is one of the most important concepts of physiology and medicine. Both Ayurveda and modern physiology recognize that health is achieved through balance and regulation of the internal systems. According to Ayurveda, the primary cause of disease is imbalance resulting from disruption of homeostasis or immune mechanisms. Hippocrates, the father of modern medicine was inspired from the concept of homeostasis established in Ayurveda, from which he is believed to have drawn much of his inspiration. The modern concept of homeostasis is derived from that of ‘*milieu intérieur*’ expounded by Claude Bernard in 1865.

The term homeostasis refers to functional equilibrium in a system or an organism and to the processes that maintain it. Maintenance of a stable constant

condition is vital for life. Most bodily functions are aimed at maintaining homeostasis. The inability to maintain it leads to disease and often death. The homeostatic system serves to buffer our body from many external changes and stabilizes our metabolism. Nature has provided the body with multiple regulating mechanisms to make homeostasis possible.

The human body is so designed as to heal itself. This can only occur if it is in a state of homeostasis. The body will thus continuously strive to preserve and maintain this balance. Homeostatic balance is the state wherein body systems are operating within a natural and sustainable range of conditions. These conditions have to be maintained within a very narrow range. Any deviation may bring about disease or even result into death.

The body constantly strives to preserve and control homeostasis to keep the body's internal environment healthy. Even when faced with extreme situations the body strives to preserve or restore balanced conditions that protect it from impairment. Regulation of body temperature is a striking example. In sweltering heat the body sweats to keep itself cool. Faced with a cold wave the body will shiver to stay warm. In this way it preserves or restores balanced conditions.

In spite of any external fluctuation, core body temperature is maintained between 37.2 to 37.6 degrees Celsius (99.0 to 99.7 degrees Fahrenheit) and is not allowed to fluctuate by more than one degree or so over the course of twenty four hours. If core body temperature goes below 33 degrees Celsius (91 degrees Fahrenheit) a person is liable to die of hypothermia. If the temperature goes above 42 degrees Celsius (108 degrees Fahrenheit), death from hyperthermia may occur because cellular proteins are damaged and metabolism stops.

Living cells require certain conditions to survive and function optimally. Homeostasis is the body's capacity to control its inner environment physiologically. Changes occur constantly in and around the cells of living organisms e.g. a change in chemical composition inside or around the cell. Organisms must also be able to withstand external environmental changes. These changes require the cell to react. Homeostasis exists to keep the body in balance, despite fluctuating internal and external environments.

The nervous and endocrine systems are principally involved in the ultimate control over homeostasis as they are responsible for the coordination of the working of all body systems. The central nervous system constantly monitors and immediately responds to changes in the body's conditions. If a parameter strays

from physiological limits, receptors detect the change and send signals to the brain. The latter will send a signal to the organ or centre concerned to accelerate or slow down operation. It will trigger a response from the appropriate organ or centre to return the cell and the overall system to the balanced state of homeostasis.

There are two ways to maintain homeostasis; Negative feedback is the most common means for maintaining the body’s stability. The other, Positive feedback is less common but does sometimes occur. Feedback is a self-regulating mechanism.

In negative feedback, when a change occurs in the body, it triggers reactions that reverse or negate the change. The brain will send signals to slow down, reduce or shut off. Negative feedback moves to counter the original stimulus. For instance, if the heartbeat increases for any reason whatsoever, the negative feedback will reduce the heart rate and bring it back to a relatively normal rate.

When body temperature is outside normal ranges, the temperature regulating centre is activated. Once the temperature comes back within normal range, the centre is no longer active. If the body is dehydrated or lacking water, a thirst sensation is aroused by signals from the brain. One is driven to drink enough water to quench the thirst. Similarly, when the body lacks food the brain gives a hunger signal, compelling one to look for food.

Positive feedback follows in the same direction as the original stimulus and will result in the cascade effect; more of the same but in greater numbers. For example, in case of injury where bleeding occurs, a clot begins to form. Positive feedback accelerates this process until the clot is able to stop the bleeding. Positive feedback is not as common as negative feedback. At times it does help maintain homeostasis.

Homeostasis is the state in which all the systems within our body are working in perfect harmony. All parameters are within sustainable limits to ensure optimum health, happiness, in short a fulfilled life. Humans can survive and thrive in the most dire conditions. The body has the natural ability and amazing capacity to adjust or adapt itself to changing internal or external environments. It has self-maintaining, self-sustaining, self-regenerating and self-healing properties.

In ideal circumstances, homeostatic control mechanisms should ward off any imbalance. However, under continued pressure, homeostatic imbalance will result. A state of imbalance in the homeostasis of one or more systems invariably reduces the capacity of the body for self repair or growth. The person will be more

vulnerable to sickness. If homeostasis is not restored, the health will be impaired. Disease will result. Most diseases can be partly attributed to the presence of homeostatic imbalance within the system.

It is possible for the body to operate under a certain measure of pressure for a certain time, without causing undue harm, for instance working for longer hours or overeating. However, we're stressing all systems of the body. If there is recurring imbalance, damage will ensue with corresponding pathologies. The body will adapt to many changing conditions, but there are limits to these conditions. E.g. In case of a heat wave, we cannot excessively lose water without putting our cells, tissues and organs at risk.

There is a range of responses that is considered normal. Reaching or exceeding these limits can be dangerous. If cells are repeatedly pushed to respond beyond these limits, there may be impairment or loss of normal structure and function. These changes may be reversible to a certain extent only. If they cannot be reversed, the cells will degenerate and disease will follow.

Threats to homeostasis may be of both internal and external origin. For instance, emotional stress resulting from physical or psychological causes, pain or infection and external causes as extremes of weather or external trauma.

Homeostatic imbalance occurs when there is some disturbance in the body's internal environment. This may result from abnormalities in the person's organs and the organ's control systems or feedback mechanisms. The balance of input and output of signals, chemicals, and fluids is thus disturbed. When an organism's homeostatic mechanisms become disturbed, it can lead to diseases.

In some cases, as in ageing, the mechanism becomes less efficient and can no longer efficiently respond to stimuli. This causes an unstable environment that can damage the organism and limit biological processes. Pathologies resulting from homeostatic imbalance include diabetes, hypoglycemia, hyperglycemia, dehydration, gout and conditions caused by toxins in the blood, etc.

Proper homeostasis depends on several factors. Proper diet, proper breathing, proper exercise and relaxation, adequate rest and sleep, a stress free mind are among the most fundamental. A person's diet and stress level are major factors affecting health. The immune system is the worst affected by stress. A fragile immune system is unable to cope with or fight diseases. Dealing with stress by getting adequate sleep, yoga practice, exercising and eating wholesome food will help the body maintain homeostasis and health.

The human body has to face many challenges to its maintenance of homeostasis. A poor diet will make the body compensate or become sick. Drugs, alcohol, tobacco and other toxins may over stimulate the excretory functions in an attempt to prevent these substances from accumulating and damaging the body’s cells. Stress and depression can overtax the respiratory, cardiovascular and endocrine systems, thereby weakening their abilities to maintain homeostasis. Inadequate rest or insufficient sleep can exhaust all of the body’s systems, impairing the body’s balance.

Ideally, homeostatic control mechanisms should prevent this imbalance from occurring. Sometimes the body may not be able to restore the state of homeostasis, as in the case of serious disease, cell mutation, intoxication or malnutrition. When the mechanisms do not work efficiently, or the quantity of the noxious substances exceeds manageable levels, external intervention in the form of medication may become necessary to restore the balance or prevent permanent further damage to the organism. However, medication, whether natural or synthetic, will to some extent hamper the body’s natural ability to use its own resources. Although medication may be of assistance, it always interferes with homeostasis. As far as possible, one should have recourse to medication as a last resort.

Constant and excessive stress may have damaging effects on the body, particularly on the cardiovascular system, digestive system and the immune system. There is increased heart rate, high blood pressure and damaged blood vessels. Stress causes the blood vessels to constrict resulting in faulty blood circulation, thickening of blood and defective blood coagulation. Stress increases release of cholesterol into the blood stream. Blood platelets tend to be deposited in the finer arteries further compromising circulation. This will increase the risks of cardiac problems.

During acute stress, blood is sidetracked from the gastrointestinal tract to the muscles, leading to decreased gastrointestinal activity. If the stress is recurrent or prolonged it may lead to stomach ulcers and chronic constipation. Stress will also aggravate existing infections. Although the body tries its best to adjust to constant or higher levels of stress, the resulting strain will weaken the whole organism and lead to illness.

Mental and physical distress upset homeostasis. Disease further increases distress levels which in turn worsen the disease. This never ending vicious circle risks to be fatal, if ignored. With age, homeostatic imbalance becomes more frequent as

the body loses ability to adapt to or fight changes in the environment. The depletion of body resources will lead to more serious health problems.

So, while the human body is an amazing entity with superb abilities to counter insults, healthy lifestyles and choices can go a long way to help. It is vital that we respect the natural laws and observe the proper disciplines for a balanced life, whether in food, sleep, work, leisure to maintain the homeostatic balance.