Presidential Address 2002

The Physician-Neurologist: What do they do? What should they do? And why don't they?

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Past presidents, fellows, members and members of the council: at the outset I would like to thank you for according me the privilege of serving you as your president. The presidency of the Ceylon College of Physicians is a great honour, but it is also a daunting task as I have to follow a few eminent men and women physicians who have been so very successful. Our profession faces many challenges, such as ensuring high standards of medical practice and taking forward issues such as medical education and training. We live at a time when professions and traditions are questioned, and distrusted, and medicine is receiving more than its fair share of frequently adverse media attention. We feel that this is unbalanced and unfair, but our response must be to continue to improve medical care. Education, standard setting, and professional development remain the key means to achieve these objectives. I intend to do all I can to maintain and extend the work of the college, but I know I can only do this with the support and help of our fellows and members here and abroad.

Being a Neurologist myself and having been fortunate to have joined a young medicine department in a university, I have been in a unique position to experience first hand the interactions that take place between specialties. Working mostly as a neurologist and occasionally a general physician and most of all enjoying teaching young bright students neurology, I don't think I can ask for anything better.

It was natural then that this year during my presidency, we should concentrate more on improving the teaching of neurosciences to our younger doctors and in the process we too learn. Doctors are students for life, the day they stop learning they cease to be doctors. Therefore the theme of the college this year would be –

Neurosciences: 2001 and beyond

How will our world be in 2025? The number of centenarians would be twenty times more. Human sperms and ova would be for sale on-line. At least 120,000 babies in the U.S. alone have so far been produced not on a bed but in a petri dish. It would be the era of designer babies. We would be unraveling the mysteries of the human nervous system with the help of the knowledge we have gained from the human genome project. Of the 130,000 genes at least 30% direct the growth and development of the nervous system. Future neuro-oncologist will not be a knife-toting, aggressive skull base surgeon, but a PhD in molecular neuro-oncology. Discovery of the adult human neural stem cell will revolutionise treatment options. Stem cells will be injected stereotactically into areas of the brain damaged by strokes and stem cell will become the ultimate body-repair kit. Growing a new brain would still not be possible though growing specific group of cells in the brain is not. There will be interventional neurologists injecting highly specific capillary growth factors into the thrombosed cerebral blood vessels to ensure angiogenesis and revascularisation to reverse the effects of stroke. It may become possible to transplant islets of langerhan from the pancreas into a CSF reservoir and therefore treatment of diabetes may be the primary responsibility of neurosurgeons.

Will we be able to replace our body? Most parts – Yes. Nerves, blood vessels, bone and cartilage, heart, liver, kidneys can be regenerated from stem cells. Prosthetic limbs will be directly wired to the motor cortex and will be controlled by the brain. The brain has such a wide array of chemical neurotransmitters and their actions can be utilized to treat so many disorders. Brain may become a super pharmacy. Antenatal genetic diagnosis will be commonplace and devastating conditions like Duchenne muscular dystrophy will be treated by gene correction in the foetus. Now it is known that the fruit fly has a gene that increases its life span by 35%. Will we identify this gene in the human?

The terrorist of the next decade will no longer have to be in prison. He will be on parole with a programmed electronic chip implanted in the amygdala. This chip will monitor the electrical activity and when a thought of an antisocial nature occurs, this will be detected and further propogation will be prevented. Neurosurgeons will be able to visualize

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the brain tumours through the intact skin, and skull. He will be wearing special goggles through which the MRI image of the lesion will be superimposed three-dimensionally.

The computer in 2025 will have biological signal sensors with in-built thought recognition software. The pharmacy of 2025 will have tailor made drugs to suit each individual depending on his genetic profile.

Ladies and gentleman, where is all this going to end? Will electronic systems advances result in the death of clinical neurology? Will the surgeons and neurosurgeons of today be an endangered species very soon? Many of us are afraid of the future and cling desperately to the present not realizing that we are already the past. Arthur C. Clarke once said "Advanced technology will eventually be indistinguishable from magic". To face this magical world, what we require in the coming decade is mature heads on young shoulders and not to get carried away by the gadgets. We should never forget we have the unique privilege of trouble-shooting and repairing the greatest supercomputer of all time, the human brain. Science without compassion is blind; compassion without science is lame. In our anxiety to enter the third millennium let us never forget that we are healers first and technologists later.

With that peep into the future, let us now come back to the present and let us look at us. What we do, what we should be doing and at times why we don't do what we should be doing.

When considering the philosophy of clinical medicine four factors help to define and differentiate the physician from others. These include the focus on the diagnosis, care for sicker patients with complex medical problems, a role as consultant, and intellectual curiosity. The term that may best characterize a physician is diagnostician. Making diagnoses is what we do best, what we find most stimulating and enjoyable. We delight in the process of problem solving and believe if one knows the diagnosis, then it is relatively easy to determine the most appropriate management strategy. More simply stated, the known treatments for all diseases are there in books. Thus, we can always look up the treatment and what we need to know is which page in which book to read. These comment are in no way meant to trivialize treatment or management. Clearly these require expertise, skill, and humanism. Rather these comments reflect the philosophical focus of the physician.

Sir William Osler, arguably the finest physician of the last couple of centuries in 1905 best summarized how a physician should practice medicine:

- To do the day's work and not to bother about tomorrow
- Act the Golden Rule, as far as in me lay, toward my professional brethren and toward the patients committed to my care
- To cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man

Sir William Osler in 1903 opening a medical school in Toronto addressing students stated 'The practice of Medicine is an art not a trade, a calling not a business, a calling in which your heart will be exercised equally with your head. Often the best part of your work will have nothing to do with potions and powders but with the exercise of an influence of the strong upon the weak, the righteous upon the wicked, of the wise upon the foolish"

You may find his aphorism a little paternalistic and old-fashioned by today's standards, but you cannot fail to be impressed by the force of his argument that medicine is not simply a science but an art.

Physician – diagnostician

The Physician's focus on diagnostics is consistent with the deductive or scientific approach to patient care we advocate. We are also capable of employing an empiric approach. Depending on the circumstances, problems such as chronic low back ache, headache and dyspepsia may lend themselves to this approach. In addition there are instances when treatment begins before a specific diagnosis is made. For example, when a patient has accelerated hypertension and pulmonary oedema, physician does not wait to determine the aetiology of the hypertension. The process of making a diagnosis is sequential and begins with a thorough history and physical examination. We know that if properly done, the history and examination provide all the information we need to make a diagnosis in 80 to 90% of cases. It is also through the history and examination that physicians learn of their patient's life and values, develop a personal relationship, and establish trust.

After the history and examination, we use the information gathered to develop a list of problems. In this step, we gauge what information is useful, process that information, and determine how many different problems exist. In this way, we determine whether the patient has one problem, an acute problem superimposed on a chronic problem, or multiple problems.

Thereafter a differential diagnosis list can be considered for the detected problems. With a differential diagnosis created, we use a combination of reasoning, epidemiology, and technology to arrive at a diagnosis. Epidemiological information helps determine the likelihood of a particular disease. Technology and tests allows discrimination among the different possibilities. When the diagnosis is not known, tests are chosen that will rule in or rule out the different entities being considered. If, on the other hand, the diagnosis is known, tests may be performed for confirmation and to quantify the severity of the condition. Other tests may be ordered to establish a baseline for following the course of the disease or the response to therapy. With this approach all tests are ordered with a specific intent and resource utilization is optimized. Once the diagnosis is made, treatments can be initiated. With each intervention, we should ask three questions:

- How will I know if my treatment is working?
- How long will I wait to determine if it is working or not?
- What will I do if I find out treatment is not working?

Physicians enjoy the detective work. Understanding how the pieces of the diagnostic puzzle fit together provides the physician great pleasure. Coupled with our focus on diagnostics is our enthusiasm for the "great case". Exactly what characterizes a great case can vary. A great case may be one with multiple symptoms and signs that are classic for a disease, one that is rare, one that is unusual, or one that is difficult to diagnose. Great cases cause genuine excitement for the physician.

This systematic, sequential process of deductive reasoning is crucial if the neurologist is to 1) make the diagnosis, and 2) avoid serious diagnostic omissions. To succeed in this method thinking time is essential. After each part of the process, pause and think and revise your diagnosis if new information is available. Unfortunately, this technique seems foreign to many of today's medical trainees.

Care of complex problems

Our philosophy of deductive approach helps sort out multiple problems and serves us well in the care of such patients. Because of patients with complex medical problems, we tend to spend more time with hospitalized patients and in intensive care units. However we also provide care for the adult patient in a wide variety of settings and deals with most of their non-surgical problems. Our practice of medicine is patient centered, comprehensive, and integrated. We believe we can relate to patients as individuals, respect them as individuals, and care for the full range of medical and personal problems. Accordingly, the physician deals with health maintenance and prevention, acute and chronic conditions, and common and uncommon diseases, in ambulatory settings, inpatient services, intensive care units, extended care facilities, and home health and hospice programs. All physicians develop competence through hospital-based training. Spending time in these settings allows us to appreciate the spectrum of disease severity and learning in these settings translates well into other areas of care delivery. A hospital based physician could easily become a good general practitioner with a little training in the correct attitudes whereas the vice versa may not be true. Therefore in the training of medical students too we must train them well in internal medicine more than in anything else.

Consultant

Our more focused knowledge affords the opportunity to serve as a consultant, another distinguishing characteristic of a physician. Training in internal medicine prepares us for a consulting role. All physicians serve as consultants in some situations. In our capacity as consultants we help direct patient care and, perhaps more important from a philosophical perspective, serve as a teacher. Whereas all doctors teach their patients, physicians value the opportunity to teach other physicians, junior colleagues and students.

Curiosity

Physicians are typically people who are constantly asking the question what. All doctors share in the curiosity of what is the diagnosis and what is the treatment. The physician tends to carry these questions further. What caused the disease? What is the link between the disease and basic biology? What is the mechanism of therapeutic action? Regardless of how it is termed, the links between disease and pathophysiology as well as between the chosen therapy and its mechanism of action are prevalent in the thinking and practice of a physician. The interest in the science of medicine is evident in textbooks of internal medicine, medical journals, and the type of continuing medical programs attended by physicians. We are dedicated to keeping current in regards to the medical literature and new innovations in medicine.

So in summary the scope of all physicians is the compulsion to make a diagnosis, a great satisfaction in solving complex problems, a love of teaching, and an indispensable sense of curiosity.

I am of the view that the good physician is a linkage between competence in medicine and compassion. In the recent past the medical profession has attracted more criticism than usual all over the

world. Paediatric cardiac deaths in Bristol, body part scandals in Alder Hay in the UK, murders of Dr Shipman in the north of England, sacking of the chief of the Indian medical council for corruption are some recent events. A few doctors have behaved badly; some have been incompetent or rude, libidinous, dishonourable, even dangerous. That it is a small minority that behaves in this way tends to get overlooked: the profession as a whole is discredited. Bernard Shaw wrote 'As to the honour and conscience of doctors, they have as much as any other class of men, no more and no less'. As physicians we must make a conscious effort to dissuade such bad unwanted publicity. In this context it would be appropriate to look at some of the attributes of good physicians:

- Good physicians are trustworthy. Patients often assume that all physicians are equally competent and the trust patients have in physicians must not be violated. This places the weight on medical schools, and medical teachers to determine whether proper standards are achieved before certification.
- Good physicians are intelligent, but they must be more than memory experts. The modernists define intelligence as the ability to learn how to learn. Good physicians appreciate the essence of self-education. They are constantly asking themselves questions and pursuing the answers.
- Good physicians have an interest in scientific matters and are greatly interested in how the body works. Physicians of today must know more about experimental design, statistics, Baye's theorem, and the sensitivity, specificity, predictive value, and efficiency of test results. Every story of chest discomfort does not have the same predictive value as a diagnostic marker of ischaemic heart disease, and crepitations in the lungs are not specific markers of heart failure. This knowledge is necessary for the modern day physicians to read and understand medical literature, to use test results properly, and to discuss medical matters with their colleagues. Physicians must be able to think and learn on their own and be able to apply what they learn to improve their patient-care.
- Good physicians are highly motivated people. They care about the welfare of their patients and want to do all they can to help them. Their motivation is stimulated by their innate curiosity and compassion.
- Good physicians need to have good common sense. Common sense in medicine implies that physicians have sound pathophysiological or biochemical base for their ideas and actions. This is very important, for all physicians must know to deal with variations of illnesses that are not exactly similar to those reported in medical literature.
- Good physicians have a sense of pertinence. They can separate trivia from meaningful material.
- Good physicians have a highly developed sense of priority. They can receive all the medical and emotional stimuli that bombard them during a busy day and determine what they should do first, next, or last. This ability is extremely important since we must know which patient needs more attention and which one less.
- Good physicians have good clinical judgment and make sound decisions in complex situations. Rarely is a given diagnosis absolutely certain. We must always consider the probabilities. We all know of physicians who invariably diagnose "zebras" instead of "horses" when hoofbeats are heard on the street. Another important factor is treatability of a disease. Though rare if the condition is treatable, it should be considered in the D/D. eg: Wilson's disease and tremors, hypothyroidism and confusion, pernicious anaemia and dementia. Another consideration is the cost of missing a diagnosis. SDH is not a common cause of hemiplegia but missing it can cause the death of the patient. SAH is not a common cause of headache but missing it can be a fatal mistake.
- Good physicians keep good records.
- Good physicians have considerable organizational ability. To deliver proper patient-care more people are needed nowadays and coordinated action is necessary.
- Good physicians make themselves available. Patients should feel that the physicians want to be available to them and when they are not available proper coverage has been arranged. They know that every human needs rest.
- Good physicians are professionals.

Honesty, integrity, and kindness are other qualities that a good physician must have. But they are the attributes of all good people. It is assumed that good people have chosen to become doctors and that these fine qualities have been acquired in the home and school.

The neurologist and neurologic diagnosis

"The proper study of mankind is man's brain; the ultimate purpose of the practice of medicine is to protect the brain"

– Fred Plum

The changes in the practice of Neurology have been dramatic in the past two decades. Physicians graduating over 20 years ago recollect a specialty with great intellectual challenges but with few therapeutic opportunities. Since most neurological conditions are dealt by non-neurologists (general practitioners, general physicians), medical students must learn the basic principles of making a neurological diagnosis, how to alleviate neurological disability and manage a few common disorders such as migraine, stroke, epilepsy and Parkinson's disease, and when to refer to a neurologist or neurosurgeon. This basic approach is important since many neurological disorders are rare, so rare that general practitioners will not see more than one new case in their professional lifetime and yet some are treatable e.g. myasthenia gravis, polymyositis. Basic neurophysiology, neurochemistry, molecular biology or immunology which take up so much of the medical curriculum are not yet particularly helpful in the world of the jobbing neurologist and the general physician. Of far more use is a little neuroanatomy – much less than we were all taught and slightly more than what we tend to remember, an idea of what is common, some clinical pharmacology, and the fruits of the experience of seeing a lot of patients.

What distinguishes neurologists from other medical specialists?

"The best test of a physician's suitability for the specialized practice of neurology is not his ability to memorize improbable syndromes but whether he can continue to support a case of motor neuron disease and keep the patient, his relatives and himself in a reasonably cheerful frame of mind."

– late Professor W B Matthews

Sorting out neurological symptoms can be at times daunting. Words like fits, faints, blackouts, giddiness may be used to describe the same condition by one patient when another uses the same word to describe a completely different condition. Sometimes we also fall into this same trap and use these terms so irresponsibly. There can be few physicians so dedicated to their art that they do not experience a slight decline in spirits on learning that their patient's complaint is dizziness.

Although the neurologist is really just a subspecialist in internal medicine, there are definite differences between neurology and other medical specialties. The three major distinctions are:

1. In neurology, anatomy, especially neuroanatomy, is of prime importance. Each component of the nervous system is very distinct and made of very diverse subunits with different appearances, functions, and susceptibilities to various diseases. In contrast, most other internal organs are more homogeneous. The parts of the lung, liver, pancreas, kidney all have the same function and structure.
2. The neurological examination when thoroughly and carefully performed is more complex and time consuming than the rest of the physical examination and can even be therapeutic if well done especially in psychological problems if the patient had not been properly examined before.
3. After the clinical encounter, the skillful neurologist is able to arrive at a relatively accurate differential diagnosis more often than in other branches of clinical medicine.

In other medical specialties, for example, haematology, endocrinology, and gastroenterology, laboratory analyses of blood and body fluids and radiologic tests pay a relatively more important role in suggesting the initial diagnosis. How does a haematologist fare without a blood count or a glimpse at a blood smear? How well does a nephrologist do without knowledge of the blood urea, creatinine, and electrolytes and without looking at the urine? How well does a gastroenterologist do without endoscopy or the liver function tests? Neurologists have the potential to learn more with their eyes, ears, hands, and minds without benefit of technology than most other medical specialists. The converse, of course, is also all too true: if neurologists have not hit on the correct site of the lesion and the nature of the lesion after the clinical encounter, they are often hopelessly lost. In neurology, more rides on the clinical encounter and its interpretation than in any other specialty.

The emphasis on neuroanatomy, and the systematic logic of the clinical examination are probably the factors that attract and also distract physicians from neurology. Is the desire to localize lesions precisely merely academic hair splitting or are there practical, pragmatic reasons for needing to know where the lesion is? Have CT and MRI made clinical localization obsolete? Clinical localization is still of paramount importance and its importance has increased in the CT/MRI era. There is some truth in the saying that there are only two indications for a neurologic consultation. That is the imaging positive patient and the imaging negative patient or the CT positive headache and the CT negative headache. If the localization is not accurate the wrong part of the nervous system may be imaged or the wrong test may be ordered.

Early cerebral infarcts are not seen clearly in a CT, and most lacunar infarcts and brain stem infarcts are not seen with CT scanning. If contrast is not given tumours like meningiomas can be completely missed. MRI too may not show clearly brain stem infarcts. Early haemorrhage which is clearly seen in a CT scan may not be so easy to recognize as such in a MRI scan. For SAH CT scan is better than a MRI. CT and MRI don't reveal any lesion in transient ischaemic attacks but sometimes we see CT scan reports giving the diagnosis as TIA. This can be dangerous because it may lead to missing the real diagnosis.

This is so especially with spinal lesions. Lumbar spine X rays continue to be requested for possible spinal cord lesions in patients presenting with weakness of legs without realizing that if the signs are that of an upper motor neurone lesion, it has to be in the thoracic cord which is above the L1 vertebra. I have seen patients with polymyalgia rheumatica with an elevated ESR being imaged extensively before reaching the diagnosis. The site of the lesion often tells what the lesion is likely to be.

Let's consider a patient with weakness of all four limbs. It can be a muscle disease, a neuropathy or even a spinal lesion in the neck. The underlying condition will vary depending on the site and also if the onset was acute or chronic. Sometimes the clinical localization will accurately predict the diagnosis. In a woman with amennorhoea and bitemporal hemianopia the lesion has to be a pituitary tumour. Elderly person presenting with features of lateral medullary syndrome acutely cannot have anything else but an infarct in the medulla.

What are the main strategies the neurologists uses?

These are applicable even to other clinicians.

- The Neurologist always asks what the lesion is and where is it located?

History tells you what the lesion is and the examination reveals where the lesion is.

How does the Neurologist tell what disease is present?

Major clues come from the history.

"If you have thirty minutes to see a patient, spend twenty eight minutes on the history, two minutes on the examination, and no time on the skull Xray or EEG" – Adolph Sahs

The onset of the present symptoms and the course of the illness are the most important data in the history. The art and science of obtaining an accurate history is the hallmark of an excellent physician. Constructing course-of-illness curves is a useful exercise. History consists of –

- The demography of the patient – age, sex, race and locality

  A neoplasm in the brain in an elderly smoker and in a young man has different set of aetiological probabilities. Multiple sclerosis is more common in the UK and North America but very rare in Asia, Africa and Central America. Cysticercosis so common in Central America and rare in North America. Lyme disease is a leading possibility in certain states of North America but not in others.

- The ecology of the patient

  The patient's personal history and previous illnesses - history of lung or breast cancer, history of CAD and PVD

- Family history, Occupation

  In some neurological problems the family history is the most critical part of the history.
  A 40-year-old patient with chorea, a 29-year-old person with progressive gait ataxia beginning in youth, and a 9-year-old boy with limb weakness and progressive difficulty in walking are all highly suspect for familial genetic disorders. Clue will be in a parent, a sibling, and an uncle having a similar illness. We must be aware that relatives may have died, died so young that that fact was forgotten or the patient may have even been adopted.

Errors Made in History Taking

- The inhumane interview

  The interview will fail if it is too hurried; demands precise answers and displays irritation when such are not given; fails to look up from the desk; receives many telephone calls during the interview; gives non-verbal signals of personal unhappiness; and seems to be automated rather than understanding

- The "Flaw" in dealing with the chief complaint

  Sometimes the physician forgets that the patient's chief complaint may not be the same as the patient's most serious complaint, but must deal carefully with the patient's chief complaint as for the patient that is most worrying complaint. An elderly woman may complain bitterly about osteoarthritic pain of her knees but only casually mention the anginal chest pain she had been getting.

- Failure to properly interpret the past history

  Physicians may make an error when they accept a past illness as a fact. We seem to

accept a past history of a rheumatic fever as a fact but demand very strict criteria for the current diagnosis. We must clarify how the diagnosis was made and by whom etc.

- Failure to talk with the family

  Success of the physician in the entire breadth of activities depends on facility of communication. We communicate not only with patients, but also with colleagues, patient's family, and with the public. Most of the communication is verbal and face to face, but much is written. Some medical schools require good language skills for entry to medical courses. Physicians must keep improving their language skills. An excellent way to maintain skills is to continue to read and write. Sir William Osler urged students and juniors to read each night, but not medical material.

- Failure to assess the patient's feelings

  The physician should remember that when the interview is over, the patient will have some perception of the physician. Physicians want to be perceived as knowledgeable and caring. The patient "examines" the physician while the physician is examining the patient.

How does the Neurologist tell where the lesion is?

Generations of students and house officers have learned to dread being asked this question. Having just presented an eloquent summary of a patient's history and examination, they are determined to proceed to an elegant differential diagnosis, when they are interrupted by those three famous words "where's the lesion?

Most important information comes from the examination and then from the relevant investigations.

- Some symptoms and signs are quite specific for certain regions – abnormal speech output characterized by the use of wrong words and poor comprehension is diagnostic of a dominant hemisphere temporal lobe lesion.

- The distribution of the particular symptoms or signs helps localize the lesion – The patient who has tingling in the little finger and the medial half of the fourth finger, which stops abruptly at the palmar crease nearly always has an ulnar neuropathy.

- Combination of findings helps localize a deficit – Loss of pain sensation in the left arm and leg and face on the same side would indicate an infarct in the internal capsule. If the loss of pain sensation was in the other side then the lesion would be in the pons in the brain stem.

- The topography of local symptoms is also helpful in localization – Pain and tenderness in the third thoracic vertebra in a patient with paraparesis almost always suggests an extradural lesion at that location.

Neurologists often diagnose by pattern recognition. Abnormal gaits, facial appearance etc. We match what we have seen with what we see. The wise physician is an eternal student who takes every opportunity to learn.

Medical students – good ones, and junior doctors, to the surprise of many, seem to do as well as, in fact usually better than, seasoned clinicians in arriving at the correct diagnosis in written-up data interpretation and case histories. Given a written protocol containing the facts from the clinical encounter and laboratory tests and having readily available a library and able clinical teachers, intelligent students can deduce the diagnosis in this intellectual exercise. But the most difficult task is generation of the relevant clinical data, not it's interpretation. We all can vividly recall innumerable examples of "being taken to school" by an experienced clinician. The consultant during his ward round in just a few minutes uncovers some new key information from the history or the examination that had been completely missed by the students and registrars despite much longer previous exposure and interaction with the patient. These moments are indeed embarrassing, but instructive.

The secret is the method of approach. Generation of information from the patient is not passive, but involves very active thought from the minute the physician meet the patient. The experienced physician already having in mind one or two particular diagnosis asks the patient questions that will test hypotheses he has in mind. Patients, to make matters worse are naïve about the workings of their own bodies, more so the nervous system. Most stroke patients with a hemiplegia attribute the problem to a local process in the limbs and don't know that the problem is in the brain. If they had the weakness of the leg about a month ago before the weakness of the arm they may not volunteer this information thinking that the two problems are unrelated. If he had a transient blindness of one eye, he certainly is not going to tell you this unless you ask about it. Patients also have this very bad habit of dividing up their bodies into the domains of different specialists. Most patients think strokes, dizziness are problems of the heart and they visit cardiologist and waste lot of valuable time of both parties. Most of our patients still think that any sudden serious illness is due to a heart problem and also when they are not sure they prefer to see a cardiologist, do an ECG and check the cholesterol and if they are normal he wouldn't mind living with the vertigo till some thing else happens.

The key historical feature predictive of disease mechanism is the course of the development of symptoms and signs, the pace of the illness. In Neurology, assessment of the pace of the illness is more feasible than in most general medical illnesses because of the uniqueness of the nervous system. Most other organs have relatively homogeneous compositions and functions. A patient might lose over 50% of the liver and have no clinical effect since the remainder of the liver can adequately manage the metabolic functions. Similarly dyspnoea, adrenal insufficiency, and renal failure develop when a sufficient amount of lung, adrenal gland, and kidney tissue becomes dysfunctional.

To conclude I would like to quote Judge Elbert P Tuttle –

"The professional man is in essence one who provides service. But the service he renders is something more than that of the labourer, even the skilled labourer. It is a service that wells up from the entire complex of his personality. True, some specialized and highly developed techniques may be included, but their mode of expression is given its deepest meaning by the personality of the practitioner. In a very real sense his professional service cannot be separate from his personal being. He has no goods to sell, no land to till; his only asset is himself. It turns out that there is no right price for service, for what is a share of a man worth? If he does not contain the quality of integrity, he is worthless. If he does, he is priceless. The value is either nothing or it is infinite.

So do not try to set a price on yourselves. Do not measure out your professional services on an apothecary's scale and say, "only this for so much". Do not debase yourselves by equating your souls to what they will bring in the market. Do not be a miser, hoarding your talents and abilities and knowledge, either among yourselves or in your dealings with your clients, patients, or flock. Rather be reckless and spendthrift, pouring out your talent to all to whom it can be of service. Throw it away, waste it; and in the spending it can be of service. Do not keep a watchful eye lest you slip and give away a little bit of what you might have sold. Do not censor your thoughts to gain a wider audience. Like love, talent is useful only in its expenditure, and it is never exhausted. Certain it is that man must eat, so set what price you must on your service. But never confuse the performance, which is great, with the compensation, be it money, power, or fame, which is trivial".