Ancient Medical Practices

Ancient Medical practice in India from stone age till today.

These stages can be chronologically represented as follows:

I. The Pre-Vedic Age—Stone Age (c. 10000 BC-1500 BC)
II. The Vedic Age—Age of Reason (c. 1500 BC-500 BC)
III. The Post-Vedic Age - Ayurvedic Age (c. 500 BC.- AD 600)
IV. The Early Medieval Age—Age of Alchemy and Tantras (c.AD.600-A.D. 1300)
V. The Late Medieval Age—Age of Compilations and Stagnation (c. AD. 1300-AD. 1600)

I. The Pre-Vedic Age (c. 10000 b.c-1500 b.c.)
In the earlier days people acted as their own physician. In imitation of animals they treated their lesions by licking, sucking, blowing and covering with mud. During the Stone Age Civilization, tools, formerly employed as weapons, began to be used for making incision, trepanation, blood letting, scarification, amputation and other surgical operations. Methods for the treatment of diseases were based on bath, cauterization by fire, use of a limited number of herbs, diet, massage, and the use of purgatives and diuretics, accompanied by rituals, spells, incantations, sacrificial offerings, prayers and weird dances. Psychotherapy also found an important part of primitive Medical care and consisted of exorcism, use of amulets, magic and witchcraft, besides spells and incantations, etc. Accidental or battle wounds, killing and slaughter of animals, and cannibalism gave man an idea of the visceral content of the human body. Diseases were believed to be caused by external agents like wrath of gods, possession by demons and evil spirits, sorcery and breach of taboo. With lapse of time the influence of planets and stars, and loss of soul were often regarded as a cause of disease. Specific diseases were believed to be caused by specific demons or spirits—the seed of future doctrine of specific infections or germs. With further progress of civilization in the Bronze Age, therapeutic agents like some
fruits, cereals, spices, flowers, mineral and animal substances and isolation of the sick came into vogue. The physicians were mostly priests, prophets, magicians and herbalists.

Diagnosis of diseases was based generally on astrology, dreams and auguries, examination of the liver and urine, magical trance, invoking the tribal god, and divination through chanting of mantras and incantations; and prognosis was based upon dreams, oracles and auguries. The treatment by magic-physicians consisted of: homeopathic magic, based on similitude; direct magic, depending on rituals; defensive magic, using fetishes, amulets and talisman.

Of the Indus Valley people, who settled in India by third millennium BC and built up a magnificent urban civilization, we know little about their concept of disease and its treatment.

Primitive Medicine was empiricism-cum-mystic faith, as scientific Medicine is more or less empiricism-cum-tested belief. While science deals with material phenomena, magic is confined to super naturals. In magic, however, there is always an element of expectation, amazement and uncertainty. It is therefore little wonder that magic Medicine of the primitive man continues to survive even today. The frontier between magic Medicine and rational Medicine cannot therefore be well defined.

II. The Vedic Age (c. 1500 BC-500 bc)
The Aryans, who came to India as nomads, soon settled down to build an agricultural society, dominated by religious rites and sacrifices. Their sacred scripture, the Vedas, which dealt with philosophy and rational thinking about cosmogony, led to a dawn of reasoning. Medicine was developed as an adjunct to religion; for, a long and healthy life was considered essential for religious performances. This led to a change in the concept of disease and its treatment, though yet influenced by mystic faith, magical and religious rites. Instances of these are found in abundance in the Atharvaveda which deals extensively with fasting, offering, charm, spell, incantation, magic,
sorcery, demonology, and witchcraft for the treatment of diseases, along with an increasing use of vegetable products, animal substances and metals as helpful agents. Bath and exposure to sun-rays were also recommended for the treatment of diseases. Interesting instances of treatment of diseases by homeopathic magic based on similitude have been described in the Kausika Sutra: e.g. the treatment of patients suffering from jaundice by keeping a yellow bird tied near the bed of the patient, treatment of dropsy by spraying cold water on the body of the patient, and treatment of a patient suffering from colic pain with the use of an amulet containing the splinter of a spear.

The Atharvaveda classifies drugs into two classes:
(i) üyu syäni (drugs which prolong life),
(ii) bhai saj yäni (those which cure diseases).

The Atharvaveda enumerates several causes of diseases, both external and internal: possession by demons or spirits, wrath of gods, change of season, worms, loss of humeral balance, heredity, contagion and unwholesome food.

The humeral theory of disease finds its first expression in the Atharvaveda, though in a rudimentary form. The three humours vota (wind) abhra (phlegm) and àusma (bile) in their state of equilibrium were recognized as the basic factors for health; and increase and decrease of any one or more of these in the body led to diseases. It gives an elaborate account of the symptoms of many diseases. Measures for personal and public health have also been described in the Vedic literature.

Rudimentary ideas of the physiological processes of digestion of food, leading to the formation of chyle and its circulation through body channels and an improved knowledge of anatomy are found in the Vedic literature.

There is a record of 360 bones, 360 bone marrows, 1,440 cells, 2,880 tendons, the same number of ligaments, 700 vital parts, 100 arteries, 1,000 veins, 72,000 nádis
(channels) emanating from the heart, nine orifices, eight basic elements (astachakra, indicating astadhātu according to Sayana's commentary) in the human body. Most of these numbers have been shown to be comparable to the division of year into days and the parts thereof. In other words, the human body was compared to a solar year. A similar idea is also found in the ancient Chinese Medicine. Man, the Microcosm, with a limited span of body and life was considered as the replica of universe, the Macrocosm, with its infinity of time and space.

Surgery, too, made some progress in the Vedic Age. In place of stone weapons, tools for surgical operations in the prehistoric age, bamboo splinters with sharp edges were used.

III. Post-Vedic or Ayurvedic Age (c. 500 b.c.-a.d. 600)

In the post-Vedic Age, which may be identified with the Buddhistic period of Indian history, Indian Medicine reached to its highest peak of glory on a rational or more or less scientific basis. This is also known as the age of the Ayurveda (knowledge of life). During this period the religion of Buddha or the Enlightened One was dominating the Indian Society. Its liberal and rational ideas, which recognized no caste and creed and welcomed all into its fold, and its freedom from mysticism, restrictions and rigidity of rites and ceremonies, prepared a congenial atmosphere for the growth of a rational Medical system.

In the post-Vedic period Medicine emerged out of empiric-magical practices of the Vedic Age and developed into an empirico-rational system of medical practices, under the influence of highly philosophical ideas of the Sāṁkhya, Vedānta and other schools of thought. As Medicine was considered an adjunct to Vedic religion, it was given the name Ayurveda which was viewed as an auxiliary Veda.

Like the Vedas, Medical profession was confined to the saints, sages and priests, and most of the Ayurvedic treatises are found to deal extensively with philosophy,
sociology, polity, invocation of deities, chanting of hymns, fasting, offerings and penances, side by side with the concepts and treatment of diseases.

The two very well-known Ayurvedic treatises, the Charaka Samhitä and the Sushruta Samhitä, were composed during this period. These incorporated the highest wisdom of Indian Medical practices and formed the basis of all subsequent compilations on the subject.

Ayurveda discusses eight branches of Medicine—Kāyacikitsā (therapeutics), Salahya (the study of diseases of the eye, ear, nose, mouth, throat, etc.), Shalyāpahatrka (surgery), Visa gara vairodhika prāéamana (toxicology), Bhūta-vidyā (psychiatry and psychotherapy), Kaumār abhrtya (pediatrics), Rasāyana (treatment for rejuvenation), Vājikarana (treatment for increasing virility).

The three physiological factors, known as tridhātu (three fundamental elements), constitute the basis of Ayurveda. These are known as vāyu (wind), representing nervous function; pitta (bile), representing the function of the secretory system or metabolic function; kapha (phlegm), representing the function of lymphatic tissues. These three physiological factors are responsible for the condition of the body in health and disease. Their balanced state (equilibrium) in the body maintains bodily health and with their unbalanced state (loss of equilibrium), when one or more of them increases or decreases in the body, disease results. This concept is known as the humoral theory or theory of humoral pathology. This has been elaborately discussed and developed in the Charaka and the Sushruta Samhitās.

Modern classification of diseases into three main groups like neurosis (nervous diseases), biosis (organic diseases) and sclerosis (degenerative diseases) bears resemblance to the three types of diseases produced by the corruption of the three humors, postulated in the Ayurveda.
The Ayurveda, however, recognizes three groups of basic factors distinguished as *dosh* (affected humors), *dhātus* (bodily elements) *malas* (waste products). The last two being the products of the anabolic (*upacaya*) and catabolic (*apacaya*) aspects of the metabolic processes in the body respectively.

The *dhātus* or bodily elements are counted as eight in number, *rasa* (chyle), *rakta* (blood), *rmmsa* (muscle), *meda* (fat), *asthi* (bone), *majjā* (marrow), *shukra* (semen), *qja* (adrenal). These form the corpus of the body, being successive products of digestion of food. The *malas* (waste products) are represented by sweat, urine and faeces.

The direct or immediate cause of diseases, according to Charaka and Sushruta, is an internal one, due to disturbance in the equilibrium of three humors, though there might be several remote causes of external and internal characters, like contact or entry of materials from outside (infections and toxic substances—external), non-observance of call of nature (errors of living—internal), natural decay from old age (internal), seasonal and environmental changes (external), etc. Sushruta has made an elaborate discussion on the origin and classification of diseases.

According to Charaka, diagnosis depends upon: (i) theoretical knowledge and by application of his own trained senses (ii) meticulous observation of the patient's symptoms and complaints, and should conduct a detailed examination of the patient's appearance, voice, abnormalities, intestinal and other internal sounds, blood and other body fluids and bodily excretions and study of the possible causes of diseases, (iii) inferences based on previous experience.

It deserves a special notice that diagnosis by feeling of pulse, though widely followed by the Indian physicians of the later ages, has not been mentioned in any of the Ayurvedic treatises before the twelfth century AD. This method of diagnosis by feeling of pulse was, however, in vogue in Egypt as early as the sixth century BC and in
China in the third to fourth century BC. The Chinese developed it into a remarkably reliable fine technique.

Treatment of diseases included oral medication, eye-drops, gargles, medicinal cigars, nasal medication, liquid unguents, suppositories, enemas, douches, sweating, etc. Ayurveda further laid special emphasis on diet.

According to Sushruta, there are four common basic features in the treatment of all diseased and abnormal conditions: cleansing processes (same odhana), pacification and tranquilization of deranged bodily humors (same amana), proper diet (āMra), observance of hygienic rules and prescribed medical regime (ācāra). Digestion and metabolism have been discussed in Charaka at length.

Embryonic growth or the growth of foetus in the womb from the time of conception to the date of delivery has been described in some detail in Charaka and Sushruta, which do not differ much from that of modern medical texts. Ayurveda made use of almost all natural drugs of vegetable, animal and mineral origin as now current in modern Medicine. Though there is no mention of any injected drug, the Ayurvedic physicians, however, had a modified type of subcutaneous injection in the form of scarification of scalp and application of Medicine to the wound.

Prevention of diseases was as much an aim of Ayurveda as the curative remedial measures. Sushruta has devoted a considerable space for keeping the body resistant to diseases, which deals with detailed hygienic measures.

Measures for public health with directions against pollution of water have been described in the Dharmasāstras of Manu and others. Influence of climate, seasonal changes, and daily variation of temperature on health, have also been discussed.

Surgery also made a remarkable progress with achievements of highest order during this post-Vedic period. Of the two magnum opus among the Ayurvedic treatises—the
Charaka Samhitā and the Sushruta Samhitā—the latter is a complete treatise on surgery and midwifery, in which the scattered facts of surgery occurring in the Vedic literature have been incorporated. It describes eight kinds of surgical techniques: excision (chedana), incision (bhedana), scarification (lekhana), puncturing (vedana), exploration (esana), extraction (āharana), drainage (visrāvasa) and suturation (slvara). Surgery in the Sushruta is characterized by its remarkable operative technique, accurate diagnosis and thoughtful after-treatment. Sushruta has described most of the surgical diseases and discussed their causes, symptoms and complications. Some of the achievements of the Ancient Indian surgery may be noted here as described in the Sushruta: plastic surgery (rhino-plasty and auto-plasty), laparotomy, opthalmic surgery, lithotomy and craniotomy.

It has described 121 varieties of surgical instruments, most of which resemble those used by the modern surgeons. Caustic (Tesara), cautery (agni), cotton pad or lint (piota), silkworm gut (svira), sponge, bandage, irrigator, disinfectants (kesaya), liniments (alepana), and paste or ointment (kalka) have been mentioned as important accessory materials for surgical operations.

The only anaesthetic material mentioned is alcohol. Sterilization of water by boiling, heating in sun, and by insertion of hot bricks has been recommended by Sushruta. Sushruta has strongly recommended dissection of dead bodies for the study of anatomy as an essential part of training for the students of surgery.

According to Ayurveda all treatments have four objectives: purusha (the human patient with mind and body), dravya (drugs, appliances, instruments, etc.), kriyā (medical and surgical methods) and kāla (seasonal and climatic factors, the time and frequency of medication or surgical treatment).

Ayurveda, therefore, does not conceive disease as the affection of an isolated part of the body but as one which influences the patient as a whole, his mind and body together. Treatment is, therefore, recommended in the light of this conception. It thus
approaches the modern concept of disease, which forms the basis of what is known as medical anthropology.

Ayurveda also enjoined elaborate moral and ethical code for the physicians like that of the Hippocratic oath. According to Charaka, friendship towards all, compassion for the ailing, devotion to professional duties and a philosophical attitude to cases with fatal endings are the four corner-stones of medical practice.

The Ayurveda was taught at the monastic universities of Taxila, Bañaras and Nalanda. Establishment of hospitals ( for men and animals), plantation of herbs for their pharmaceutical use) are recorded in the Asoka’s rock edict II.

IV. The Early Mediaeval Age—Age of Alchemy and Tantras (c. A.D. 600-A.D. 1300)
While Medicine in the post-Vedic period was being developed on an increasingly rational basis with the gradual elimination of magic and mystic faith, its progressive march came to a halt with the decline of Buddhism and the revival of Brahmanical religion with growing rigidity of caste system and numerous social bans and bars, as dictated in the Dharmashastras of Manu and others. This led to the revival of priestly and religious therapy, somewhat similar to that of the Vedic Age, side by side with the Ayurvedic system

A new religious cult, known as the Tantric cult, of which alchemy formed an integral part, made its appearance and dominated the Indian society for centuries afterwards with its promise of easy salvation in the present life for the common people. Transmutation of base metals, particularly of mercury into gold, and a search for an elixir of life were the primary objects of alchemy, which also indulged in magic, miracle and mystic rites.
According to Tantras the body can be made non decaying and immortal by the use of mercury and its preparations, by the Yogic breathing and exercises and by the use of gold prepared by the transmutation of base metals.

Though the objectives of the alchemists were found to be impossible to realize, they, however, made some notable contributions by the preparation of many mercurial compounds which were used by the Ayurvedic physicians for treatment of various diseases. Particular mention may be made of: crystalline red sulphide of mercury, named makaradhvaja or svarnasindura, which is extolled in many alchemical Tantras and medical treatises as a panacea for all diseases of the human flesh, black sulphide of mercury (kajjali); mercurous chloride (rasakarpüra); and oxides of various metals, used as remedy for many diseases. These are the gifts of alchemy to Medicine in this period. The great Indian alchemist Nāgārjuna was the most important contributor in this respect and rendered no small service to the cause of Indian Medicine by composing Uttarakhanda portion of the Sushruta Samhitā.

Amongst some important Ayurvedic treatises of this period mention may specially be made of Astäigahrdaya of Vāgbhata (eighth century AD.), Nidāna of Mādhavakara (eighth century AD.), Siddhayoga of Vṛnda (tenth century AD.), and Chakradatta of Chakrapāṇi (eleventh century AD.). But these treatises make no further contribution to the progress of Medicine beyond what is recorded in the Charaka and the Sushruta.

Antiseptic measures by fumigation with burning resins and gums, control of bleeding after operation by the use of astringents, cautery, cold, and tying of the bleeding vessels, as described in the Astāṅgahrdaya of Vāgbhata.

While discussing the properties of substances (dravya) for their selection as drugs, Ayurvedic physicians (Sushruta, Vāgbhata and others) laid a sound basis of materia medica, therapeutics, and pharmacology of Indian Medicine.
Feeling of patient's pulse as a method of diagnosis of diseases was possibly first introduced during this period by Gikitsātiaka (twelfth century A.D.).

In a number of Täntric treatises a fairly elaborate account of the nervous system in human body is found in connection with the description of yogic exercises prescribed for the devotees of the cult. While in the Vedas, the Charaka and the Sushruta, heart is regarded as the centre of consciousness, as was the case with the ancient Egyptians and Chinese, in Tantras on the other hand the seat of consciousness was transferred to the brain or cerebro-spinal system.

Aristotle's view of heart as the centre of consciousness was similarly replaced by Galen who attributed this function to the brain.

According to the Tantras all nādis (nerves) start from the plexus (mulādhārachakra) at the end of the vertebral column (brahmadanda), lying between penis and anus, and ascend along the column through a number (nine) of intermediate plexuses to the highest cerebral nerve-plexus (sahasrārachakra) in the brain. From these plexuses finer nerve cords (nādi) radiate to all different parts of the body. It is stated that the nādis are 72,000 in number, same as recorded in the Vedas, Charaka and Sushruta. The nerve cords of the sympathetic spinal system have been stated to be 700 in number, of which 14 are most important, namely sushumnā in the central channel of the spinal cord along with vajrā and citrini, ida, the left sympathetic chain from left nostril to left kidney, pingala, the corresponding chain on the right, and 11 others. Similar descriptions are also found in the later Upanishads. While Charaka and Sushruta have made no distinctions between nādis, dhamanis and īras as regards their functions, in the Tantras we first meet with a separate system of channels in the body described as nādis which carry the sense impressions to the brain. The nādis of Tantra can thus be identified without any hesitation with nerves. This is the distinctive contribution made by the Tantras to the Ayurveda. At the same time Tantras might be held responsible for the revival of the idea of magic, miracles, rites and mysticism, which led to the stagnation and decline of Ayurveda. It might be of some interest to
note here that both Plato, as well as the author of Hippocratic collection, refer to three thick vessels in the vertebral column in positions very similar to those of susumnā, idā and pingala."

It was during this period that there occurred some exchanges between the Indian and the Arabian Medicine, when some Indian physicians were invited to the court of the Abbasid Khalif, Al-Mamun (c. AD. 927). There they assisted the Arabian scholars in translating into Arabic the great Indian medical treatises, the Charaka and the Sushruta Samhitās. As a matter of fact, the Arabian medical system, which was Hellenic in origin, came to India under the name of Unāni (Greco-Arabic) system of Medicine which is still practiced by Indian Hakims. Several Unāni drugs were thus incorporated into Indian Pharmacopia. Of these camphor sublimate of laudanum deserve special mention.

V. The Late Mediaeval Age (c. AD 1300- AD 1600)
With the influences of alchemy declining gradually, the Indian Medicine remained practically stationary with little new knowledge being added. Several comprehensive and useful compilations and commentaries were, however, produced in this period, which incorporated many alchemical metallic preparations as drugs. Improved methods of diagnosis borrowed from foreign sources and description of some new diseases, not known before, are found in these works.

The Sārangadhara Samgraha by Sārangadhara (fourteenth century AD) gives an account of the feeling of pulse in details for the purpose of diagnosis of different diseases, for examining the condition of health of a person and of his state of mind, as well as for the purpose of prognosis. The nature of the movement of the pulse, its intermittent and halting character, slowness or fastness, weakness or strength, warmth or coldness, steadiness or variability are all regarded as specific indications of patient's conditions, as well as of the nature and cause of the diseases. The Bhāvaprakāsa (sixteenth century AD) of Bhāvamisra, another Ayurvedic treatise of
this period, which is a voluminous compilation, also furnishes a similar description of examining patient's pulse for the diagnosis of his disease and for determining the condition of his body and mind, in addition to that of the technique of feeling the pulse, using the first three fingers of the physician's hand. This technique of feeling the pulse for diagnosis of various diseases was probably learnt by the Indian physicians from their contact with the Chinese. Mention of Phirañgaroga (syphilis), the disease of the Portuguese, and its treatment with calomel and cobcini (cubeb) are found in the above text, as also in the Easapradîpa of the same period. The Basarat nasa muccaya is the most typical production of the period. A large number of so-called well-tried mercurials and minerals, adapted to the treatment of diseases, are described in this text. The Arka prakäsa, a treatise on the preparation of medicinal tinctures and essences, also belongs to this period. It prescribes mercury treated with aqua regia as a remedy for Phirañgaroga. Muslim influence is distinctly discernible in this hybrid production.

During the Mughal rule Indian Medicine came into close contact with that of the Unäni (Greco-Arabian) system and several books on Medicine incorporating the knowledge of both the systems were published by a number of well-known Muslim physicians. Emperor Akbar, a great patron of learning, also invited many foreign scholars and physicians from Persia, Khorasan and Europe to his court and encouraged the development of medical science in India. Many hospitals and dispensaries, and Teaching Institutions of medical science were also established at various places in the country by Akbar and other Muslim rulers of this period. But no new knowledge might be said to have been added to the Indian Medicine or any real progress achieved.

Unani Tibb is the name given to the medical practice brought to India with Islam, which began to have a major impact on India starting with the Afghan invasions of Gujarat in the early eleventh century. The word Unani (sometimes spelt yunani) is an Indian representation of the name ‘Ionian’. Unani medicine is the system founded on that of Galen, and in particular as interpreted in Avicenna’s (AD 980–1037) work Al-
Qanun fi l-tibb. Unani medicine is still very much alive in India today, and it is fascinating to consider that a fundamentally Galenic medicine is still in contemporary practice. As might be expected, Unani medicine and Ayurveda have influenced each other, especially in the realm of materia medica. Although the primary languages of Unani medicine are, of course, Persian and Arabic, there are even Sanskrit texts on Unani. For example, the eighteenth century work Hikmat prakasha was written in Sanskrit by the pious Hindu, Maha deva deva.

Unani medicine postulates four basic humours, as opposed to ayurveda’s three, and Unani medicine is more oriented towards the treatment of patients in hospitals. The major difference between these systems, however, is in their clientele. Broadly, Unani physicians treat Muslim patients and ayurvedic physicians treat Hindus.

**Siddha medicine**

In south India, a system of medicine evolved in the Tamil-speaking areas that was different in certain conceptions from ayurveda. Known as Siddha medicine (Tamil cittar), this was—and is—primarily an esoteric alchemical and magical system, apparently strongly influenced by tantric thought and ayurveda. It is marked by a greater use of metals, in particular mercury, than is the case in ayurveda, and holds particular reverence for a substance called muppu which is believed to hold potent powers, for both physical and spiritual transformation. Taking the pulse is more prominent as a diagnostic procedure in Siddha medicine than in ayurveda, and it has been suggested that Ayurvedic pulse diagnosis which is not common before the late thirteenth century—was borrowed from Siddha medicine. The semi-legendary founders of Siddha medicine include Bogar, who is believed to have travelled to China, teaching and learning alchemical lore. Other legends include stories of a Siddha called Ramadevar ‘who travelled to Mecca, assumed the name Yakub, and taught the Arabians the alchemical art’.

**Astrological medicine**
From the earliest times, ayurveda treated a range of children's diseases as being due to the malign influence of celestial demons who were believed to attack children and to afflict them with a range of symptoms. The Sanskrit word graha was later used to mean ‘planet’, although grahas are clearly described as celestial beings in the Sushruta Samhita, the later evolution of rites for planetary propitiation are clearly aimed at the same types of influence. The literatures of Indian astrology and religious law include texts for pacifying the planets, as well as prog-nostications regarding such matters as pregnancy, the sex of unborn children, the interpretation of dreams, sickness, and death. Private booklets containing invocations for pacifying the planets, as well as prayers and rituals for safeguarding children were not uncommon. As an ancient and influential treatise on law and conduct says One desirous of prosperity, of removing evil or calamities, of rainfall (for crops), long life, bodily health and one desirous of performing magic rites against enemies and others should perform a sacrifice to planets.

A work exemplifying the close relationship between medicine and astrology as therapeutic systems is the Vīra simha valoka by Vīrasimha, composed in AD 1383, probably in Gwalior. It treats the aetiology and therapy of groups of diseases from three distinct points of view: that of astrology, that of religion, and that of medicine.

**The Portuguese and Dutch**

In the first half of the sixteenth century, the Portuguese arrived in Goa. The first medical book printed in India – and only the third book printed in India – was the Colloquies on the medical samples and drugs of India by Garcia d'Orta, printed in Goa in 1563. D'Orta gathered a mass of material from the local physicians, and learned as much as he could of their methods, even competing with them for rich clients. There was a free and fertile exchange of medical ideas between the Portuguese and the Indians for much of the rest of the sixteenth century. But despite this promising beginning, the relationship declined and during the early decades of the seventeenth century the Portuguese introduced restrictions that effectively outlawed Hindu physicians.
The Dutch East India officials showed great interest in the local flora and fauna of the Malabar coast from the end of the seventeenth century onwards. Heinrich van Rheed, who was appointed Governor of the Dutch possessions in 1667, prepared a magnificent series of 12 folio volumes, published between 1686 and 1703 in Amsterdam, which contained nearly eight hundred plates of Indian plants, a work much admired by Sir William Jones.

The British
The British arrived in India at the beginning of the seventeenth century, in the form of the East India Company. The influence of ‘John Company’ grew steadily over the succeeding years until a flurry of battles and political acquisitions at the start of the nineteenth century projected the Company into the position of de facto government in large parts of India. In 1858 the Company was dissolved, and India was placed directly under the British crown. The history of British medicine during this period belongs to the larger context of colonial and imperial medicine and the birth of tropical medicine, but some remarks should be made here about the interaction between British and indigenous physicians.

During the seventeenth century, there were relatively small numbers of English traders in India, and like the Portuguese and the Dutch before them, they faced a completely new set of health problems in India. They were keen to learn from the local vaidya and hakim, and local remedies and regimens were often adopted. Missionaries were particularly active in both teaching and learning from indigenous practitioners, a task made easier by their mastery of local languages. For their part, the Indians were particularly interested in British surgeons since, in spite of the early evidence of the Sushruta Samhita, surgery had passed almost completely out of practice amongst vaidyas. The French traveller Tavernier reported in 1684 that once when the King of Golconda had a headache and his native physicians prescribed that blood should be let in four places under his tongue, nobody could be found to do it,
‘for the Natives of the Country understand nothing of Chirurgery.’ Two hundred years later, Sir William Sleeman observed:

The educated class, as indeed all classes, say that they do not want our physicians, but stand much in need of our surgeons. Here they feel that they are helpless, and we are strong; and they seek our aid whenever they see any chance of obtaining it.

A persistent factor encouraging the British physicians to adopt Indian methods was the sheer difficulty and expense of shipping medical supplies from Europe. When the British Pharmacopoeia was formalized in 1858, the idea of a formal and legally enforceable standard for drugs took hold, and caused many British physicians in India to grow increasingly critical of the crudeness of indigenous drugs. Yet in the 1860s economic pressures forced the Medical Department of the Bengal Presidency to declare that indigenous drugs should be used wherever possible. In the longer term, feelings against Indian medicine hardened, in common with attitudes to all indigenous skills and sciences, and after official government support for Indian medicine ceased in 1835, Ayurvedic and Unani physicians were thrown back on their own private resources for training and practice.

After a period of stagnation, Indian Medicine from which it never recovered until, after the advent of the British, India came into contact with the modern scientific civilization of the West. She then adopted the study and practice of modern scientific Medicine in preference to the indigenous Ayurvedic system. Nevertheless, the indigenous system of Medicine still continues to survive in an isolated condition in its old and antiquated form, swearing by the great names of Charaka and Sushruta. Science can never progress by isolation and conservative clinging to the past. It is, therefore, no wonder that the Indian Medicine has failed to recover from the cultural coma, with which it was seized, and now remains satisfied like the Egyptians with merely worshipping the dead, or like the Chinese adoring the antiquity. But the history of Greek Medicine has been quite different. There was also a cultural collapse for Greek science, including Medicine, after the Greco-Roman period in Europe. The Greek medical knowledge
was, however, recovered through their Arabic translations in the early Renaissance period, and developed on a scientific line by the work of Vesalius, Harvey, Descartes, van Helmont and others.

For, the unsettled social and political conditions prevailing in the country towards the later part of the Mughal rule created an atmosphere not congenial to the growth of science. Though the knowledge and treatises of Medicine of Ancient India were available in later years in the form of commentaries and compilations, there were, however, none to utilize them for further development and evolution of Indian Medicine on a purely rational and scientific basis, divested from metaphysical disquisitions and religious mysticism.

In India, ayurveda had been the main system of professional health care for the bulk of the population for at least two millennia. This even continued under the British Raj, which initially encouraged the study of ayurveda alongside British medicine when medical colleges were founded in Bengal and elsewhere. But with the change of British educational policy, after Lord Bentinck's educational reforms of 1835, and the suppression of ayurvedic teaching in state-funded medical colleges, government support for ayurvedic training ceased. However, ayurvedic practitioners continued to practice, although their training was reduced to the traditional family apprenticeship system, and privately sponsored colleges. With the rise of the Indian independence movement, all indigenous traditions received strong support from nationalists. Since Indian independence in 1947, the Indian Government has oscillated between a commitment to modern cosmopolitan medicine, and the necessity of grappling with the unavoidable fact that ayurvedic medicine is widely accepted in India, especially in rural areas. Furthermore, ayurveda remains strongly identified with Indian nationalistic sentiments.

The Indian Government has sponsored a number of commissions and studies regarding national health care provision, with widely varying outcomes.
The current situation is complicated, but the basic fact is that after much debate over several decades the Indian Government recognizes a place for ayurvedic medicine in its overall health policy. It has become clear, for example, that modern cosmopolitan medicine has not been very successful in penetrating the countryside, and that by contrast ayurvedic practitioners are more likely to work in villages. This view was encouraged by the Rama linga swami report of 1980 which promoted several ideas along the lines of the Chinese ‘barefoot doctor’ schemes, and was accepted as Government policy.

In 1970, the Indian Parliament passed the Indian Medicine Central Council Act, setting up a Central Council for Ayurveda, thus recognizing and controlling ayurveda, and providing for accredited colleges and standardized qualifications.

Today, Government-accredited colleges and universities provide professional training and qualifications in ayurveda. This training includes some basic education in Western cosmopolitan methods, family planning and public health. Graduates of such institutions are recognized by the Government insofar as they may be employed as the third medical officer at Primary Health Centers, and as community health volunteers. Many run successful clinics in urban as well as rural settings. In 1983 there were approximately 100 officially accredited ayurvedic training colleges in India, many attached to universities.

The standard recognized ayurvedic qualifications, and the time taken to acquire them, are:

- B. A. M. S.: Bachelor of Ayurvedic Medicine and Surgery. A 5 1/2 year degree course including six month’s internship. Also known as Ayurved Acharya.
- M. D. Ayu.: Doctor of Medicine in Ayurveda. A three-year postgraduate degree course open to B. A. M. S. or equivalent degree holders only.
- Ph. D.: Doctor of Philosophy. A research degree course of two further years.

However, private Ayurvedic practitioners also prescribe modern cosmopolitan medicines and treatments, often at the insistence of their patients, and this tends to...
happen with varying degrees of impunity. For example, many people regard the injection to be a powerful, almost magical cure for most ailments, regardless of the substance injected. Separate vernacular tracts exist which extol the virtues of ‘injection therapy’, and the physician is often under pressure from his patients to provide injections, even if only of water.

The professors are the drug detail men from the pharmaceutical companies. The junior faculty are the pharmacists / Chemist in the cities. Each pharmacist / Chemist has a continuing class of practitioners scattered throughout the neighboring villages. The practitioner will drop into the pharmacist’s/ Chemist’s shop and say, ‘I am seeing a lot of conjunctivitis these days. What do you have that’s good?’

Government control of indigenous medicine – where it exists at all – continues to be highly pragmatic and based on local political decisions. The idea that ayurvedic physicians deal purely in innocuous herbs, roots, and therapeutic massage is a grossly simplified representation of what really happens in indigenous medical circles today.

Attempts are on foot in some quarters today to resuscitate the Ancient Indian Medicine with its pristine concepts and ideas. In spite of present state of unprecedented progress of the modern scientific Medicine with its astounding achievements in surgery and its discovery of wonder drugs, there is still hope for such project. Scientific progress can thrive only on reason. This is the lesson which the past history of Indian Medicine holds before us and it will be in our interest not to ignore it.

The best service that can be rendered to Indian Medicine now is to explore the concepts and ideas of Ancient scholars and the vast stock of herbal drugs used by them, in order to discover any gems or treasures buried therein and unrevealed to them because of their limited knowledge and technique, though they might have had
a faint glimpse of the same in their own intuitive way. This can only be done by competent scholars trained in modern scientific ways.

Contemporary pluralistic medicine

Today in India, the patient, or indeed the healthy person, may take any of many available paths towards greater health. There exist physicians of Cosmopolitan Medicine, Ayurveda, and Unani, as well as others we have not mentioned such as Homeopaths, Naturopaths, traditional bone setters, yoga teachers, massage and enema therapists, faith healers, famous gurus, traditional midwives and the wandering specialists who remove the wax from ears. The variety is overwhelming, both as a subject of study, and as a subjective experience.

Plastic Surgery In India 2600 Years Old

Shushruta, known as the father of surgery, practised his skill as early as 600 BCE. He used cheek skin to perform plastic surgery to restore or reshape the nose, ears and lips with incredible results. Modern plastic surgery acknowledges his contributions by calling this method of rhinoplasty as the Indian method.

125 Types Of Surgical Instruments

"The Hindus (Indians) were so advanced in surgery that their instruments could cut a hair longitudinally".

MRS Plunket

Shushruta worked with 125 kinds of surgical instruments, which included scalpels, lancets, needles, catheters, rectal speculums, mostly conceived from jaws of animals and birds to obtain the necessary grips. He also defined various methods of stitching: the use of horse’s hair, fine thread, fibres of bark, goat’s guts and ant’s heads.

300 Different Operations
Shushruta describes the details of more than 300 operations and 42 surgical processes. In his compendium Shushruta Samhita he minutely classifies surgery into 8 types:

Aharyam = extracting solid bodies
Bhedyam = excision
Chhedyam = incision
Aeshyam = probing
Lekhyam = scarification
Vedhyam = puncturing
Visraavyam = evacuating fluids
Sivyam = suturing

The ancient Indians were also the first to perform amputation, caesarean surgery and cranial surgery. For rhinoplasty, Shushruta first measured the damaged nose, skilfully sliced off skin from the cheek and sutured the nose. He then placed medicated cotton pads to heal the operation.

Around 800 BCE Sage Bharadwaj, was both the father of modern medicine, teaching Ayurveda, and also the developer of aviation technology. He wrote the Yantra Sarvasva, which covers astonishing discoveries in aviation and space sciences, and flying machines - well before Leonardo DaVinchi’s time. Some of his flying machines were reported to fly around the earth, from the earth to other planets, and between universes. His designs and descriptions have left a huge impression on modern-day aviation engineers. He also discussed how to make these flying machines invisible by using sun and wind force. There are much more fascinating insights discovered by sage Bharadwaj. Medicine, Surgery, paediatrics, gynaecology, anatomy, physiology, pharmacology, embryology, blood circulation. Around this era and through 400 BCE many great developments occurred. In the field of
medicine (Ayurveda), sage Divodasa Dhanwantari developed the school of surgery; Rishi Kashyap developed the specialized fields of paediatrics and gynaecology.

Lord Atreya-author of Charak Samhita. Circa 8th - 6th century BCE. Perhaps the most referred to Rishi/physician today The Charak Samhita was the first compilation of all aspects of ayurvedic medicine including diagnoses, cures, anatomy, embryology, pharmacology, and blood circulation (excluding surgery). He wrote about causes and cures for diabetes, TB, and heart diseases. At that time, European medicine had no idea of these ideas. In fact, even today many of these disease causes and cures are still unknown to modern allopathic medicine. Along with herbs, diet and lifestyle, Atreya showed a correlation between mind, body, spirit and ethics. He outlined a charter of ethics centuries before the Hippocratic oath. Rhinoplasty, amputation, caesarean and cranial surgeries, anesthesia, antibiotic herbs.

While Lord Atreya is recognized for his contribution to medicine, sage Sushrut is known as the "Father of surgery". Even modern science recognizes India as the first country to develop and use rhinoplasty (developed by Sushrut). He also practiced amputation, caesarean and cranial surgeries, and developed 125 surgical instruments including scalpels, lancets, and needles.

Other unique quality of Ayurveda is that it uncovers and cures the root cause of illness, it is safe, gentle and inexpensive, it sees 6 stages of disease development (where modern medicine only sees the last two stages), it treats people in a personalized manner according to their dosha or constitution and not in any generic manner.

Further, Ayurveda being the science of 'life', Atrea was quick to emphasize, proper utrition according to dosha, and perhaps above all else, that there was a mind/body/soul relationship and that the root cause of all diseases and the best medicine for all conditions is spiritual and ethical life. One of the Ayurvedic surgical practices being used today in India involves dipping sutures into antibiotic herbs so when sewed into the person, the scar heals quicker and prevent infection. The modern surgical world owes a great debt to this great surgical sage.
Medical Science was one area were surprising advances had been made in ancient times in India. Specifically these advances were in the areas of plastic surgery, extraction of cataracts, dental surgery, etc. These are not just tall claims. There is documentary evidence to prove the existence of these practices.

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