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Review Article

PHYSICAL EXAMINATION OF CHILDREN WITH SPECIAL REFERENCE TO ANCIENT PHYSICIAN CHARAKA

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INTRODUCTION

"Each of us should strive to rise above the routines of the daily ward round and to see in every patient an opportunity not only to serve mankind in the best tradition of medical excellence, but to add to the store of medical knowledge."

A. Mc Gehee Harvey 1973

A complete physical examination is included as part of every Bright Futures visit. The examination must be comprehensive and also focus on specific assessments that are appropriate for the child's or adolescent's age, developmental phase, and needs. This portion of the visit builds on the history gathered earlier. The physical examination also provides opportunities to identify silent or subtle illnesses or conditions and time for the health care professional to educate children and their parents about the body and its growth and development. Physician should develop technical skill, scientific knowledge and human understanding to acquire complete knowledge for the diagnosis of various diseases. Patient is human, fearful, hopeful, seeking relief and reassurance from physician to get rid of his or her affliction. Physician should be alternative listener, nonverbal communicator, friendly, empathic and articulate. It is important to diagnose the disease by using appropriate techniques and accordingly treat the treatable disease with love and affection. It is better not to treat incurable diseases complete understanding of science is essential to get mastery and supremacy in clinical methods. Improper observation of patient by physician, which have not been thoroughly described and diseases which have not been diagnosed correctly are going to confuse the physician. It is evident that the Charaka in 2000 B C has been given much importance to the examination of children, and their contribution is remarkable. According to Charaka Kumara (child) should be examined after performing

Namkarana Samaskara i.e. on 10th day of birth. This description probably clears that general physical examination should be routinely performed from 10th day of life to full maturity. By regular examination one may easily detect physical deformity, various illness and proper growth and development. This will have prevention as well as further management of disease.

Physical Examination of Child as Described in Charaka Samhita Sharira Sthana 8/51

Charaka mention normal/abnormal physical appearance of the all body part of child for the purpose of success in treatment, because children are delicate in nature and unable to explain their comments. Physical examination are not only necessary for the diagnostic purpose but prediction of longevity of life, future psychological and social status also can be known up to some extent by observing in it way.

Head Examination

Cranium should be without defect, well formed slightly larger than usual, yet not disproportionate to the body and resembling an open umbrella is deemed favorable. Fore head should be large, compact, leveled well knit with temporal bones, equipped with vertical lines well developed furnished with horizontal lines and resembles with half moon. Author's Comment: Changes in the shape and size of the cranium may reflect changes in the intracranial contents. Head circumference and fontanelle size can indicate a congenital disorder or head trauma. Craniosynostosis, or premature fusion of cranial sutures, results in growth restriction perpendicular to the affected sutures and compensatory overgrowth in unrestricted regions. This anomaly may suggest a genetic disorder such as Apert's syndrome or Crouzon's disease. If the synostosis is accompanied by

restricted brain growth or hydrocephalus, neurosurgical intervention is necessary.

Eye Examination

Both the eye should be equal, with well defined parts, with good eye sight and good control over eye ball movement and eye brow should be slightly long, having small interval in-between, equal thick and broad. Author's Comment: Marked lid edema often results in eversion of the upper lid when force is applied to open the eye. Examination should be postponed until the edema resolves. Sub conjunctiva hemorrhages, which are common after vaginal delivery, usually do not represent ocular trauma. Conjunctivitis is relatively common in newborns. Coloboma (absence or defect of some ocular tissue) may involve the eyelid margin, as in Treacher Collins syndrome, or the iris and retina, as in the Charge association (syndrome of coloboma heart disease, choanal atresia, postnatal growth retardation and genital hypoplasia and ear anomalies). Aniridia (absence of the iris) is usually bilateral and is almost always associated with poor vision and nystagmus. Newborns with aniridia or coloboma should have a formal eye examination.

Ear Examination

Well developed, broad, well matched, pendulous, depressed in the back with large aperture. When examining an ear, it is usually preferable to begin with the skin around, behind and adjacent to the pinna. Author's Comment: The pinna should be examined thoroughly, including the top and rear and the entrance to the ear canal it is not usually necessary to use magnification at this stage, although an additional light source might be helpful.

Nose Examination

Straight, with nostril wide enough for large puffs of breath, the tip slightly curved. Author's Comment: Due to congenital deformity, the nose may be unduly long or short, bifurcated, tubular or with a single median eye (cyclopia), saddle nose (depression of nasal bridge) is common in congenital syphilis.

Oral cavity Examination

1. **Lips** - lips should be neither thick nor thin endowed with proper breath, cover the mouth properly and red in color. Author's Comment: Too thick lips are common in acromegaly, myxoedema, cretinism and macrocheilia. Thin lips may be racial (as in American Indians) or familial. A common congenital anomaly is harelip (cleft lip). Early cyanosis is detectable over the lips. 2. **Tongue** - Endowed with length and breadth, smooth, thin and without deformity and pink color. Author's Comment: A large tongue may be due to congenital macroglossia, acromegaly, myxoedema, cretinism, while undue smallness of the tongue may be noted in dehydration, malnutrition etc. Change in color may also indicative of various disorders like anemia, cyanosis, fungal infection etc. 3. **Teeth** - Large and straight. Author's Comment: Normal shape and size may change in various conditions like Hutchinsonian teeth (congenital syphilis), moon molars (deficient development), serrated (malnutrition) and pitted (fluorosis). 4. **Palate** - Should be smooth moderately fleshy, warm and red. Author's Comment: Various anomalies of palate like cleft palate, high arched palate may be observed. **Neck Examination:** Should be not much long. Author's Comment: Much long is common with a

hyposthenic constitution, in states of wasting, emaciation, or cachexia, bronchial asthma, pulmonary tuberculosis. **Flanks Examination:** Should be symmetrical with the shoulders, and must be compact. Author's Comment: Asymmetry may be found in involvement of local muscles, skin lesion and affection of the scapulas. **Chest Examination:** Broad and well shaped. Author's Comment: Abnormalities in shape may be like- pigeon chest in Marfan syndrome, barrel chest in chronic bronchitis and emphysema, funnel chest in Rickets. **Breast Examination:** Should be separate from each other by a wide space. Author's Comment: Less space in between breast found in abnormality of lungs. **Navel Examination:** Should be well depressed and with right whorl. Author's Comment: In ascites, umbilicus may be come transversely stretched, everted or ballooned out. **Nail Examination:** Nails should be strong, curved, glossy, elevated and convex like tortoise shell. Author's Comment: Nail deformities that could be early signs of bigger health issues in children i.e. Blue nails (cyanotic heart disease), Detached nails (onychomycosis), Spoon-shaped nails (iron deficiency anemia).

Body hair Examination: Distinct from one another, soft, sparse, oily with firm roots and dark in color. Author's Comment: Hair growth, nature and color are influenced by genetic factor. **Skin Examination:** Should be Tight and thick. Author's Comment: Loose, thin and wrinkled skin is feature of malnutrition, color of skin is indicator of Jaundice, cyanosis and important diseases of children. **Voice Examination:** Should be loud, strong and deep. Author's Comment: Vocal resonance may be altered during states of disease like lung consolidation, pleural effusion etc. **Upper Extremities Examination:** 1. **Shoulder and vertebral column** - Should be well covered with flesh. Author's Comment: Wasting is seen in malnutrition. Spinal curvature may be present various malpositions like kyphosis, scoliosis, lordosis, spina bifida and other congenital anomalies. 2. **Arms, fingers and hand** - Should be rounded, well developed and long. Author's Comment: Hand should be large and well developed. Deformity in hand is observed in Down's syndrome, Hurler syndrome, Ape hand. Finger should be observed for polydactyly, syndactyly, arachnodactyly and clubbing. **Lower Extremities Examination:** 1. **Buttocks** - Should be well rounded, compact and fleshy neither very elevated nor very depressed. Author's Comment: In severe malnutrition, there is marked wasting of gluteal fat, causing wrinkling of skin. 2. **Thigh** - Thigh should be gradually tapering and well developed. Author's Comment: There are various conditions where shape of thigh is altered i.e. coxavara, coxavalga, genuvarum, genuvalgum. 3. **Calves** - These should be neither fleshy nor void of flesh and ending in ankles. Author's Comment: Shape should be well curved. In pseudo hypertrophy, the calf muscles appear hypertrophic. Venous thrombosis and deep vein thrombosis are other manifestation. 4. **Feet** - Should be convex in shape like tortoise shell. Author's Comment: In acromegaly, normal shape is changed. Talipes equinovarus and flat foot are other complication.

CONCLUSION

The easiest way to prolong life and keep healthcare costs affordable for everyone is to take measures to prevent illness whenever possible. The physical examination is a vital part of preventive medicine for all children regardless of age and sex. This article has traced the stages in the knowledge and

forces that have shaped the ancient physical examination. Ancient physician Charaka knows the importance of physical examination so he provides very descriptive head to toe examination. However there is an effort done by the author to understanding the ancient physical examination of child as per Charaka.

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