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Addresses

THE FIELD FOR PROPHYLAXIS AMONG CHILDREN

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON DISEASES
OF CHILDREN AT THE SIXTIETH ANNUAL SESSION
OF THE AMERICAN MEDICAL ASSOCIATION, 1909

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The passing of the old-time family physician and the threatened usurpation of his position by the specialist, of which frequent plaint was wont to be made some years ago, no longer occupies even the occasional attention of the lay press. Happily throughout the larger part of our country the old relation of the physician to the family is still maintained, though less stress is laid than formerly on the value of a personal knowledge of the temperament and maladies of a child's forbears, since modern thoroughness in history-taking furnishes the essential data.

To-day the well-equipped practitioner of medicine is in truth a many-sided specialist. The temporary eclipse which he may have suffered through the growth of the specialties has left him more than debtor to those who blazed the way through untried paths so clearly that a competent knowledge of the specialties has become the common property of all well-informed physicians.

With this broader outlook, new criteria of diagnosis and new measures of treatment, the responsibility of the physician for the welfare of his patient has proportionately increased, but in few directions has this responsibility advanced so rapidly as in that of the proper management of the child from infancy to puberty. During this period of phenomenal development, the foundations are laid of those factors which make most for success in after-life—a well-developed body, sound health, and a good digestion. In so far as these fall short of the normal, just so far does the individual miss his full effectiveness in the world's work.

We already know that the loss in this country from a single malady, tuberculosis, has been conservatively estimated at millions of dollars, but the monetary loss caused by the sum-total of physical underdevelopment and avoidable illness would, if measurable, startle the imagination.

The mere consideration of this matter would seem to smack too much of idle speculation were it not for the indisputable fact that we are already in the possession of prophylactic measures of every-day medicine which, if conscientiously applied to each member of the community, would produce incalculable results.

Few will deny that the recent victory of Japan was chiefly due to the maintenance of efficiency in her smaller standing army through the application of the

principles of sanitation, which prevented its decimation by disease. What education, better food and better environment have already accomplished in enhancing the effectiveness of the American wage-earners, recruited, as they are, by inundating waves of foreign immigration, is already recognized and can and will be repeated in other directions. So long as it is considered good business policy to study and apply devices which make labor more effective, there is nothing vague or visionary in considering the possibility of applying to the future laborer health-saving devices which will make him physically and mentally fitter for his work.

Since the foundations of a sound physique are laid in infancy and childhood, and if neglected can not be rebuilt, the practical consideration of this question is peculiarly appropriate before this body of children's physicians. In infant mortality, with its enormous loss of potential life and force, we have at the start a concrete problem worthy of our most earnest consideration. We are accustomed in our pride to consider that through cumulative effort not only has the condition of the average infant been improved, but that a material reduction has been accomplished during recent decades in the percentage of infants who die during the first year of life. The researches of Newman in England and of Stowell in this country have recently indicated that, except in certain favored localities, this reduction is not so apparent as we had supposed.

This need not surprise us so greatly if we consider that the overcrowding of our cities, the swamping of our slums with ignorant and inferior classes of immigrants, and an increase in the cost of living out of proportion to the increase of wage, have tended in those centers to enhance rather than lessen those hereditary and congenital weaknesses which lie so largely at the bottom of the conditions which cause deaths in early infancy. When to this is added the steady decrease in maternal nursing, so that larger numbers of infants are exposed to the dangers of artificial feeding, we may readily understand why these factors have not been more markedly offset by the genuine achievements in pediatrics, and more especially by the dissemination of better methods of feeding infants.

The improvement of the antenatal conditions which we have mentioned lies rather in the domain of sociologic endeavor than in that of medicine, but the post-natal factors in early mortality, and especially the unwarranted decline of maternal nursing, offers a field where our influence may be strongly exerted. The medical profession has been partially aroused of late to the fact that women should be urged to nurse their infants, but if the matter is allowed to rest there the work is but half done, for it is further imperative that every assistance should be extended to these women to make the continuation of lactation possible.

A careful study of this problem, which has now extended over some years, has daily convinced me that but a comparatively small number of mothers decline to do their duty, while by far the majority of those who have been unable to nurse, or have prematurely weaned their infants, have been led to make this decision through the ignorance or neglect of their trusted advisers. By this I mean neglect to investigate the actual conditions present, and to correct errors in management, as well as ignorance of the simplest measures which favor a normal secretion from the breast.

In support of this statement, and as bearing on this subject, I may quote from the recently published report of the Special Committee on the Prevention of Blindness in the State of New York, which is significant in this connection as indicating the part played by midwives in controlling the early management of mother and infant in our large cities. The report says:

In Chicago, in 1904, we find 86 per cent. of all births . . . reported by midwives. In Buffalo, N. Y., . . . nearly one-half the births in one year were attended by midwives. In New York City, in 1905, 43,834, or 42 per cent. of the whole number were attended by midwives. For the year 1907, in New York City, there were 68,186 births reported by physicians, and 52,536 reported by midwives. In September, 1908, the registered midwives in the five boroughs of New York City numbered 1,382.

Of the midwives themselves, the report states:

Although they are largely employed, especially by foreigners, no adequate provision, with rare exceptions, is made for the examination of midwives before licenses are granted and registration allowed by the departments of health or authorized boards of examiners.

And again:

Out of 500 midwives visited, less than 10 per cent. (50) could be qualified as capable, reliable midwives.

Yet these women determine the feeding of the infants, and are responsible for much unnecessary weaning.

We can not, however, shift the blame entirely to the shoulders of the midwives. Clinical records show that removal from the breast is countenanced or advised by medical men without adequate investigation or effort to continue the nursing. Dr. Allen's resolution, offered and adopted at the Chicago meeting of this Section, presents this matter with admirable conciseness to the medical profession:

Resolved, That we strongly urge that at least as much thought and effort be expended to render the mother's milk suitable for the child, as is now expended on the subject of artificial food.

We recognize that not only is the development of the nursing child far more likely to be normal than that of the bottle-fed infant, but that its expectation of life and immunity from disease is greatly enhanced. In so far, then, as we can stay this wave of early weaning, we are doing genuinely constructive life-saving work, but our duty to the infant is not completed when we have simply assured its being breast-fed.

In a certain sense no child is so neglected as the child at the breast. Under the assumption that breast-feeding, if fairly competent, is capable of automatically producing the best results for the infant, the breast-fed baby too often passes from observation and is but rarely placed under continued medical supervision. Few parents realize that an infant who is doing fairly well, and only fairly well on the breast, is not attaining the fullest development of which it is capable. It is, therefore,

not unusual for parents and even physicians to be content with an average weekly gain of four ounces during an early period, when the gain should be eight ounces or more, and solace themselves with the belief that the infant who is a pound or two under its normal weight is naturally only a small baby.

Such an infant, if the quantity of its mother's breast milk can not be improved, should, except perhaps in the hottest months, receive supplementary feedings. Supplementary feedings, for the breast-fed infant whose weight is standing still, conserve the breast-milk and turn the balance into satisfactory gains. In similar manner, and with greater certainty, for the infant who is gaining but slowly, a normal gain may be readily inaugurated, and who may say whether the difference between a normal and subnormal development may not be a saving factor at some future crisis? The question is not whether an infant is doing fairly well, but whether it is reasonably receiving all that it is capable of assimilating and transforming into normal growth.

Turning our attention now to the exclusively bottle-fed infant, we find ourselves much better equipped by the clinical investigations and newer methods of the past few years to cope with the difficult case.

The recognition, when they occur, of symptoms produced by imperfect digestion of the fats of cow's milk, and the handling of cases presenting these symptoms with lower fat percentages and malt soup preparations, add greatly to the possibilities of success. While both of these methods seem to allow the use of a somewhat larger amount of milk casein in the infant's food, there is just now to be noted an unfortunate tendency to forget in the employment of a very limited number of formulas what the intelligent use of the percentage system has taught us. Present experience seems to indicate, and doubtless the consensus of professional opinion will eventually declare, that the uniformly best results are to be obtained by incorporating such newer principles in the percentage system, thus maintaining a due regard for the individuality of each infant with reference to his assimilative powers.

Philanthropists who are interested in the distribution of ready prepared modified milk to the poor of our large cities should seriously consider whether they are achieving the greatest good in the best possible manner. Not only are the formulas distributed so few in number and so inelastic as to be unsuited to a certain proportion of the infants, but the system contributes very little to the education of the lower classes in proper methods of infant-feeding. While a commendable stop-gap for infant mortality, these doles of already prepared milk approach dangerously near the futile *panem et circenses* of the Roman Empire, which only served to hasten its dissolution.

Far more productive in its results, and of ultimately greater hopefulness for the offspring of the poor, is the work which is progressing in certain of our outdoor dispensaries for children; for these teach the mothers the right principles of infant-feeding, and through instruction in home preparation and care of the food are slowly but surely overcoming ignorance and tradition, and spreading a leaven which, passed along from neighbor to neighbor, can not fail to produce important results in more intelligent feeding of infants among the masses.

The supervision of the growth and development of the bottle-fed infant during the first two years of life leaves much to be desired. Here, even more than in the

case of the infant at the breast, lies a field for wise effort, for in cow's milk feeding there is no physiologic adjustment of supply to demand. Every pound of normal growth is a valuable asset to the infant. Every period, long or short, during which the otherwise normal infant ceases to progress because of a failure to adjust his food to correspond to his power of assimilation, may have a definite influence on his future welfare.

This supervision can not safely be left to the mother or to the nurse. Especially is this true from the seventh to the twentieth month, when the development of the infant often lags from lack of intelligent direction. It is happily beginning to dawn on the more intelligent lay mind that money is better expended in securing periodical inspection and regulation of the infant's condition and diet than by waiting until disturbing symptoms present themselves before seeking the physician, and the results of the two methods when measured in health, body-weight and power of resistance are not to be compared.

Much as a properly adjusted diet is to be insisted on, diet is by no means the only factor which requires medical oversight. Next to a normal proportion of muscular tissue, the hemoglobin may be conservatively called the most important index of the child's resistance. Unless pallor be marked, it is rarely noted by parents. Fresh air, in abundance and at all hours, is one of the most effective hematinics. A drastic rearrangement of the infant's hygiene may be even more necessary than iron in producing improvement.

But fresh air may be of little avail unless the condition of the respiratory passages allows its free and unobstructed entrance to the lungs. Possibly in no single direction has as much been accomplished for the normal development of the child as by the attention given in recent years to obstructive conditions of the pharynx and nasopharynx caused by hypertrophied tonsils and adenoid tissue. That there is still much to be done, the thoughtful inspection of any group of children or of any school in session will make apparent. Thus far attention is rarely paid to these conditions until they have reached a marked stage. Is it wisdom to wait so long until the damage has been done—to wait for narrowing of the chest, non-expansion of the nasal passages, recurrent bronchitis from catarrhal extension, acute and chronic otitis, and permanent facial malformation, to take place before insisting on operative relief? Valid contraindications are but rarely present to an early operation of adenoidectomy, even before the expiration of the first year, if symptoms of mouth-breathing are present. With re-establishment of free nasal respiration, normal development is resumed, tonsillar hypertrophy is less apt to occur, and its minor degrees tend to remain stationary or to recede.

Through the effective medium of school inspection attention has been called to the deplorable neglect of children's teeth. The baleful influence of dental caries on the child's health is not fully appreciated. Not only do these imperfections militate against a proper mastication of the food, and the putrefying contents of the cavities furnish a favorable nidus for noxious organisms, but, as is now being pointed out by able dental surgeons, the premature loss of the first teeth has a serious effect on the normal development of the jaw and leads to irregularity in the eruption, position and apposition of the permanent teeth, with consequent malformations which handicap the child physically and so-

cially. A normal facies, as well as sound health, is an important asset to the individual who must depend on his own resources to make his way in the world.

Among the organs of special sense, the eye, owing to many evident factors which lead to a prompt detection of any considerable deviation from the normal, has received vastly more attention than the ear. Only in the past few years has this latter organ begun to receive prophylactic consideration during the many infectious diseases of childhood which threaten the integrity of its function. To-day the conscientious physician who would do his full duty must carry with him in his pocket forehead-mirror and specula as religiously as he formerly carried stethoscope and hypodermatic syringe. A working knowledge of the protean appearances of the drum membrane in disease and the indications for immediate paracentesis require some measure of experience, but this is imperative and may be acquired by practice. Only those who have systematically examined the ears of a large number of sick children can realize how frequent is aural involvement, and how important and effective is early paracentesis in limiting inflammation, avoiding chronic suppuration, and preventing the more serious accidents from mastoid involvement. More cases of otherwise inexplicable temperature can be traced to the ear than to any other complication, and these cases can be relieved by paracentesis. There is a growing conviction that prompt paracentesis, by relieving congestion, limits the process and is the more conservative procedure as soon as there are reasonable indications of an effusion into the middle ear.

Instances could be multiplied almost indefinitely in which trained observation and prompt interference by the physician may stand between the child and lasting consequences. There is less glory to be attained by patient prophylaxis and early resort to conservative measures than by later successful intervention when the threatened damage is generally apparent; but the meed of honest satisfaction is the greater for the knowledge that dangers have been forestalled and the normal progress of the child secured. Prophylaxis is and ever should be the highest ideal of our profession, and its silent and unheralded victories are worthy to be ranked even higher than the more evident conquests of therapeutics and surgery. Even more on the physician than on the parent lies the responsibility of safeguarding the child. The army of laboratory workers is constantly putting new weapons into our hands. These focus our efforts when disease threatens, and aid in the reduction of mortality, but in our enthusiasm for new modes of diagnosis and treatment, however important, let us bear in mind that the most effective power for human good lies in prevention, and that to conserve a healthy body is a greater achievement than to cure a malady which has resulted, however remotely, from conditions which our timely effort might have averted.

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The Function of the Ventral Group of Nuclei in the Thalamus Opticus of Man.—Winkler, C., and London, D. M., (Proc. Roy. Acad. Sc., Mathematical Physical Class, Amsterdam, 1908) assert that the ventral part of the optic thalamus is concerned in the main with peripheral sensation. There is reported a case in a woman of 77, who had complete loss of sensibility in the right extremities. There were no choreal symptoms and no intensive ataxia of the right side. The sensibility of the head region was scarcely affected; that of the thorax somewhat diminished. There was found in the left thalamus a small cavity with a well localized destruction of circumscribed ventral thalamic nuclei.