conclusion was reached that the case was one of chronic plumbism producing arteriosclerosis and interstitial nephritis, the feeble myocardium giving rise to the pulmonary edema and to the frothy, pink expectoration which occurred the night prior to the patient's sudden collapse and continued for two days thereafter. He was informed of the extreme gravity of his condition, was put to bed on a strictly milk diet, and, after a thorough elimination by bowels, kidneys and skin, was given potassium iodid to remove the lead from the system; doses of nitroglycerin were gradually increased. Seeing, however, no improvement, subjective or objective, even after doses of 1/20 grain of nitroglycerin three times a day, I discontinued its use and on the suggestion of Dr. G. R. Butler, who saw the case with me, began the use of 1/2-grain doses of erythrol tetranitrate three times a day with the simultaneous administration of 5 drops of the tincture of strophanthus three and four times daily and also short steam baths, with patient in bed, once every one or two days for a week or so. The patient is temporarily improving, is allowed some outdoor exercise and a little more liberal diet, with little fluid, however. The blood-pressure is still above 240 mm.; some albumin and casts are still to be found in the urine, but there were no attacks of angina pectoris recently, no dyspnea or polyuria and the whole of the Stokes-Adams' syndrome is absent.

DR. MARVIN L. GRAVES, Galveston, Tex.: Until we know more regarding the etiologic factors concerned in the production of arteriosclerosis we can do but little in combating it. A great deal of consideration should be given to the character of the life of the individual in ascertaining its relation to high blood-pressure or arteriosclerosis. Dr. Bishop believes that these arteriosclerotic patients with high blood-pressure should be urged to take exercise, but I think a discriminating judgment is absolutely necessary in treating these patients. For instance, arteriosclerosis occurring in a laboring man who has been at active physical exercises all his life should be treated differently from that in a man who has been leading a sedentary life. Under many conditions I do not think it would be advisable to prescribe large amounts of physical exercise for these patients who are afflicted with arteriosclerosis. To order a man who leads a sedentary life, and who eats too much of all kinds of foods, not only the proteid foods but all kinds, to take physical exercise indiscriminately would tend only to work harm. Such men should be kept as much as possible in the open air with properly graduated exercise; the total amount of food they were in the habit of consuming should be cut down, especially the proteids. In doing this, many of these individuals would be relieved. I think that a sharp distinction should be drawn between toxic conditions which produce high blood-pressures and changes in the arteries which cause arteriosclerosis with its increased blood-pressure.

Too much stress is laid on the reduction of the blood-pressure. I have seen, in patients of 45 and 60 years of age, an unduly high blood-pressure—one of 150, one of 200 or even one of 225 mm. Hg—which has been reduced by the enforcement of a rigid diet and the use of nitroglycerin or sodium nitrite, as well as an active purgation; under such treatment one also sees patients who are made worse and not better. I do not believe that we should always try to reduce the blood-pressure to what we consider to be the normal. It is impossible, in my opinion, to reduce to the normal, with safety to the patient, a high blood-pressure which has been maintained for a number of years, especially with arteriosclerosis.

DR. TOM A. WILLIAMS, Washington, D. C.: Arteriosclerosis is a condition which can be prevented but which, when it has occurred, cannot be cured. Many of the early symptoms are cerebral. The guide in the treatment of individuals afflicted with arteriosclerosis should not be what could be accomplished in lowering the blood-pressure *per se*, but the study of the state and condition of the individual which determined his optimum pressure. Naturally, with a very high optimum pressure, time of life will be short. Of the means of treatment at our disposal, the most important relates to the diet.

I believe in a diet which is similar to the Chittenden standard; that is, that 50 gm. protein per day is ample and should not be exceeded in these cases. It is wonderful how well these patients will do when the proteins are cut down, and more especially the proteins that are taken at the evening meal before the lowered oxidation of sleep. Beyond abundance of succulent fruits and vegetables, I do not believe that purgatives should be resorted to as eliminants. They interfere with osmosis and muscle tone of the bowels and hence favor the absorption of substances which make for increased blood-pressure. Both as revulsants and eliminants I favor the use of hot baths and massage, and no expensive apparatus is needed. The efficacy of active exercise in these cases is exaggerated, but not contra-indicated in those cases of arteriosclerosis which might be described as being in the presclerotic stage. It is a very important thing for the patients themselves to appreciate their condition. What is impending unless forestalled should be impressed on them by the physician in order that they may readjust their lives and do what is best for their greatest efficiency in the long run, even though it might result in some immediate loss of comfort or money. These principles of practices have been of great value in my hands, and have made unnecessary recourse to expensive measures like d'Arsonval currents, water cures and the like.

THE MENACE TO THE YOUNG CHILD OF THE COMMON INFECTIOUS COLD *

THOMAS S. SOUTHWORTH, M.D.
NEW YORK

Many of my colleagues are doubtless convinced of the truth contained in my title, and would accept the text without the discourse which follows, for it is scarcely possible that my individual experience has been exceptional or that it has not been duplicated by scores of others. Nevertheless, it has seemed to me proper to put my views in concrete form in the hope that there may result a wider realization and discussion of this problem in all its bearings.

The observations of recent years have taught me to respect the common infectious cold as a far from trivial affliction and one capable of inflicting serious injuries on its victims. Ever since the initial intensity of the influenza pandemic of 1889-90 waned, we have experienced recurring waves of infectious catarrhal colds which have been spoken of generically as influenza, or grip, or simply as colds. In the absence of laboratory confirmation of the exact bacterial cause, the classification of such endemic or epidemic afflictions has not been possible, and the resulting uncertainty has found expression in the loose terminology adopted alike by the medical profession and by the laity.

Mention should properly be made in this connection of the careful work in this country by Wollstein, but since her researches demonstrated the presence of the Pfeiffer bacillus as a causative or complicating factor in only a certain proportion of the inflammations of the respiratory tract among the infants studied, they threw but little light on the etiology of the cases under discussion, save by indicating that such cases may be due to several diverse forms of microorganisms. Nevertheless, since it is well-nigh impossible under the ordinary conditions of general practice to differentiate true influenza from its imitators, and since clinical observation has demonstrated the unmistakable infectiousness of such colds, we are forced to consider them as a whole for the very practical purpose of inquiring whether much

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damage, especially among young infants, is not wrought by them which could be prevented by rational prophylactic measures.

To these infections of the mucous membranes the infant seems to be especially susceptible. When one of these colds invades a household, several of its members usually contract it. While some adults may escape, the majority of physicians will bear me out that the baby or the child of runabout age is almost invariably affected. To such an extent is this true that nowadays when called to see a young child with catarrhal symptoms, I seldom inquire how the patient "caught cold," in the old sense of exposure to draughts or the elements, but ask at once whether other members of the family or household servants have recently had similar symptoms. I am seldom disappointed in my quest.

These infections spread rapidly and with great certainty through the wards of institutions caring for young children. During recent winters in one institution the morbidity from this source has far exceeded that from all other infectious diseases of childhood. As might be expected with children of the institution class, acute otitis media has been very common; pneumonia, less so though not infrequent; while acute suppurative adenitis, considered one of the complications of influenza, has been rare.

Serious as these recognized forms of sequelae are, there is yet another direction in which still more frequent and often irretrievable damage follows in the path of these infectious colds. I refer to their influence on nutrition. This is of somewhat less importance among children of the runabout age, but in any group of bottled infants such infection not only prevents gain but is, as a rule, accompanied by definite loss in weight. We are too prone to look on these colds as local affections when they are, in reality, systemic infections. If accompanied by fever, the former strength of the feedings must necessarily be cut down to avoid disturbances which would be caused by formulas which but a short time before the infant tolerated and absorbed. Even when there is but little fever the margin between tolerance and intolerance, ever narrow in such infants, is no longer sustained—gains cease and the weights go down. It has been my experience that whether the loss is caused by the necessary curtailment of nourishment or by the direct demands of the malady on the tissues, or by a frank disordering of the powers of digestion and assimilation, the end-result is often the same, namely, the demolition of our carefully constructed edifice of nutrition, and a renewed state of malnutrition from which some of the infants may not again be able to rally.

The experience of the ward, to which I first alluded because it is more striking from the number of infants involved, is also duplicated to some extent in private practice. Fortunately we have here to deal with fewer infants suffering from prolonged malnutrition, and even these have, as a rule, the advantage of a more favorable environment. Nevertheless, in conducting any case of difficult feeding in private practice that which we fear most is an intercurrent infection. Excluding the infections of the gastro-intestinal tract, which, if we hold to the former teaching, are largely limited to the hot and humid months, the infant in the home is, as a rule, fairly carefully guarded against the common eruptive diseases of childhood as well as against diphtheria and mumps, since the dangers of such maladies are well understood by the laity.

Not so, however, with the common infectious cold, which, with the sole exception of the regulation of the infant's food, calls more frequently in the winter for the attendance of the children's physician than any other condition or malady. Such colds are an unfortunate handicap in conducting feeding cases in private practice. The outspoken cases with fever are, of course, quickly recognized, but even when they yield promptly to treatment they interrupt the progress of nutrition. When complications ensue, this interruption is often prolonged. Where the cases are subacute, the effects are not generally recognized by the parents. In reviewing the history of an infant showing recent stationary weight, direct inquiries often bring out the fact that the infant has had a cold, the more immediate evidences of which may have largely disappeared. Guided solely by the stationary or downward trend of the weight curve, the food of such infants has often been increased by the mother or nurse, thus precipitating or increasing digestive troubles.

When a group of children in a family becomes infected, we often see established a house infection with, at intervals, recurrent outbreaks, which may extend over a number of months, until the advent of warm weather or the departure of the family to the country. The etiology of these recurrences is not clear. The presence of bacillus-carriers may be readily suspected, but against this theory is the comparative freedom during the summer months, only to be followed by a fresh outbreak of colds as soon as the children return to the city. This experience is so general in New York as to be a matter of common report among parents. Some susceptible children are kept free only by continued residence in the country, but unfortunately suburban colonies and country towns have their own share of infectious epidemics. Nor would I imply that such epidemics are limited to the distinctly cold months. For several years past, sharply infectious colds have appeared at the sea-shore resorts not later than August, and have been carried thence to the mountains early in September.

The amount of injury done young children each year by such colds can scarcely be estimated. Medical literature contains frequent references to the more recently recognized involvements of the accessory sinuses. Aural complications are so frequent that it is to-day a positive relief when called to see a child with rise of temperature and catarrhal symptoms, particularly if the temperature has been persistent, to find the ears normal and to be able to reassure the mother that the necessity for the otologist, single or double paracentesis, prolonged aural irrigations and a possible mastoid operation is, for the present at least, excluded by the findings. Fortunate indeed is the family containing children, one or more of whom have not suffered from acute otitis media requiring paracentesis.

During the prevalence of such colds, the possibilities of infection are excellent if the young child travels by train, rides in public conveyances or is taken to hotels or crowded shops. Numerous regrettable occurrences have been known to me in which disregard of these dangers has led to serious consequences. One instance, which will suffice, was that of an only child, aged 3, previously well, who was brought to the city for the sole purpose of seeing the Christmas display of toys in one of the large shops. This trip was immediately succeeded by coryza, followed by double otitis, double mastoid operation, and finally, sinus thrombosis. The child finally recovered, but paid a large price for a few minutes of unnecessary indulgence.

Children's parties and dancing-schools for the very young come under the same ban. It is indeed an open question whether the greatly increased opportunity for major and minor infections where young children are gathered together in kindergartens does not more than offset the real advantages which they offer. If we exclude exceptional cases in which the discipline or companionship of the home is deficient, I am of the opinion that safeguarding the health of the young child is the more important consideration, and that any home worthy of the name should be able to furnish all the simple instruction and direction of the play instinct which the young child requires.

Assuming that the young child is not subjected to exposure outside the home, there still remains the problem of safeguarding it from infection within the home. Measures which will produce this result are, I know, not practicable in the crowded tenement, nor in those ranks of society where limited means and unfavorable environment make it imperative that the baby or other young children be closely identified with the family circle and inhabit the same rooms. Nevertheless, there are an increasing number of households in our land where the infant or young child has, or may have if need be, its own room and its own attendant. In homes where its welfare is considered paramount, and where neither expense nor personal inconvenience would be allowed to stand in the way, protection of the infant can be secured.

The first requisite is a clear understanding by the parent of the direct and indirect dangers from exposure. Isolation and quarantine of the affected adult member of a household is not always feasible unless the attack is sufficiently severe to confine the patient to bed. Even then the period of convalescence usually renders such measures ineffective. On the other hand, isolation and quarantine of the uninfected infant against the family and the majority of the household, although involving some difficulties, is not impracticable. Indeed, the quarantine of the patient is regularly carried out when circumstances are thought to warrant it, as in diphtheria, scarlet fever and measles. It is even willingly enforced for mumps and chicken-pox, because the visible brand of these maladies and the traditional dread of such conventional types of infection instantly suggest such measures. Yet neither of these two latter affections produces a fraction of the harm wrought by the infectious colds.

In addition to a recognition of the sinister possibilities of what often seem harmless infections, the isolation of the infant calls more for unselfishness on the part of the parents than for anything else. This means that at such times the parent or parents should be willing, if necessary for the welfare of the child, to sacrifice their own pleasure in seeing it and playing with it. As a principle, this seems simple, but it is often the crux of the difficulty in putting such isolation into practice. It is also extremely difficult to secure the immediate and complete isolation, as a matter of routine, of any child in a family of children, when it first shows slight symptoms of beginning illness, yet by such means I have repeatedly carried young children through house epidemics without their contracting the infection, and thus without interruption of normal growth and well-being.

No discussion of this subject would be complete without mention of the occasional causes of infection, foremost among which is the introduction of the casual visitor into the nursery. Why a coughing or sneezing person should insist on seeing the baby, or the maternal

pride of the mother lead her to introduce her child into such an atmosphere in the drawing-room, passes my understanding, unless it be ascribed to sheer thoughtlessness on the one hand and untutored ignorance on the other.

It is a comparatively simple matter for the physician to acquaint the mother with the risks incurred, and to issue orders that no employee or member of the family having the slightest cold shall enter the nursery, and that the direct question shall be put to any visitors before they are admitted. With such clear instructions, many possibilities are averted, the education of the community is furthered, and the immediate responsibility is lifted from the shoulders of the physician.

It requires at least a decade to secure the acceptance of any new measures by a majority of the medical profession, and another to make them the common knowledge of the laity. I know of no text-book which as yet teaches the danger of the common infectious cold, no medical school in which it is impressed on the student, no hospital in which such cases are not retained in the common ward, no health board which has yet dared to limit the right of the individual to spread the infection of his coryza among the public. These may exist unknown to me, and the convictions to which I can lay no claim of priority will in time make themselves felt in these directions.

I do know of enlightened private schools to which parents are instructed not to send their children if catarrhal symptoms develop, but in some of these this appears to be more from the fear that such symptoms may be the beginning of measles than from any other reason. Few other schools exclude the child unless the cold is well marked and attended by other evidences of illness. It is true that the younger the child the more serious, as a rule, are the results of such colds, but they do not fail to take their toll from children of school age, as the family physician and the aurist will bear witness.

Only recently have we begun to appreciate the ravages of these subtle forms of infection. With such knowledge, however, goes the moral obligation to throw off our indifference, to face the question fairly, and to do all in our power to lessen the unnecessary morbidity and the too frequent pneumonia, otitis and lingering sinus infection.

807 Madison Avenue.

ABSTRACT OF DISCUSSION

DR. DAVID E. ENGLISH, Summit, N. J.: Certain cases of common cold are due to infection by the *Bacillus influenzae*. These are the cases that present great prostration afterward. The toxins secreted or produced by the influenza bacilli seriously affect the heart. I think that prolonged prostration which follows the common cold is proof that that common cold was due to infection by influenza bacilli. In these prolonged prostrations I have found only two drugs that do good. One, strange to say, is iron. The other is sodium and caffeine benzoate. I do not mean the mixture in the Pharmacopeia, but the combined salt made by Merek. So far as I know, he is the only manufacturer who makes it. In moderate doses every four hours, I have found this a great help in assisting children over this prostration. The dose is based on a 5-grain dose for an adult. Of course, prophylactic treatment is fresh air and sunshine. Babies who get enough fresh air are not usually affected.

DR. JOHN ZAHORSKY, St. Louis: Next to the nutritive disturbances are the acute respiratory diseases. More than ten years ago I read before a local society in St. Louis a paper on the etiology of colds and acute infectious diseases. I insisted that all acute diseases of the respiratory tube in the young baby and young child are not due to cold or exposure

but to germs caught from somebody else. I have been teaching this for the last ten years. I train my patients so that the mother will keep the baby away from the rest of the household if any of them have a cold. Many of my patients act on that point of their own volition. The school child is a very common source of infection to the young baby. School children are continually bringing new germs. The first baby in a family often escapes colds because it has not this source of infection, but in the same family the following babies may continually have colds because the older brothers and sisters are bringing home infections which are more serious to the younger children. I think the term "grip" should be used. When we speak of grip nowadays, we mean any acute infectious condition of the respiratory tract.

DR. H. M. McCLANAHAN, Omaha: I wish to call your attention to two points: First—and I am a little surprised Dr. Southworth did not mention it—in a series of eleven cases of nephritis, which I reported last year, in five the only etiologic factor was a common cold. I believe we frequently have nephritis as a sequela of common colds. The second point is the infection of the baby from a nursing mother with a cold. I believe that the child can be prevented from taking the cold from the mother if the mother is careful to wear a mask or handkerchief over her nose and mouth when coughing or sneezing.

DR. G. D. SCOTT, New York: It does not seem to me that the cold alone is to be taken so much into account as the condition of the fertile soil, caused by the "cold," in which bacteria can be implanted. In making a clinical study of many cases of "colds," in the Boston City Hospital, the New York hospitals and in private practice, I have found that a large number of the cases have been diphtheritic. These colds cause a fertile soil and the influenza bacillus or the diphtheria bacillus is implanted in the nares and reaches the accessory sinuses, the antrum of Highmore, and causes long-continued suppuration or chronicity.

DR. LEGRAND KERR, Brooklyn: We should not forget in the study of the bacteriology of these cases that in healthy children there is often present the diphtheria bacillus, the pneumococcus, and various other bacteria, and yet the child may remain in apparently perfect health. If we jump at a conclusion in our laboratory work, we shall often assign as a direct cause for these infections bacilli which have no bearing on them until later. That is, they are not the primary cause, but are simply present, as they are present in a large proportion of perfectly healthy normal children. But they become active factors later in the development of subsequent complications and sequelae, because, as has been mentioned, a soil has been prepared for their development. These cases are not prevalent during the heated term; they are prevalent during the winter months, wherever children gather in large numbers. The common treatment is to house the child up at the first sign of any coryza. I believe that is one of the prolific causes of the complications which follow. Whether it is in the winter or in the summer, the child should be protected from complications by receiving plenty of fresh, pure air. This is something which will more certainly and more quickly limit the occurrence of complications than any other treatment that we can employ. It is the avoidance of complications that we seek. Isolation is not enough. These children do well in summer because of the compulsory fresh air they must have, but in winter they are usually housed up. I have within the last few years insisted on the fresh-air treatment of all colds and coryzas. It has accomplished more in the elimination of complications than any other method of treatment. I do not think the temperature of the fresh air has any particular bearing. We know as a physiologic fact that no matter what the temperature of the inspired air as it is taken in through the nostrils, it is circulated through the sinuses and reaches the lung at an equalized temperature, and with a definite amount of moisture. It is immaterial whether the inspired air is at 70 or 40; when it reaches the lung it reaches it at a uniform temperature in any child.

DR. J. P. SEPGWICK, Minneapolis: I think we are all agreed on the importance of what Dr. Southworth has brought forward

and appreciate the character of his work. I know Dr. Southworth is not entirely satisfied with the naming of this condition, and yet I believe that the first step in overcoming it is to correct the false name which has been used for so many years, that is, "cold." Dr. Southworth has partially avoided this by calling the cases infectious colds. He speaks of the children being brought down into the drawing-room, where they are often exposed to infectious conditions. These children are usually "wrapped up so that they will not catch cold" and brought down in fancied security. I think that if we could unite on some term whereby we would leave out the term "cold" and bring out the infectious character of the condition, we would bring about better results.

THE OCCURRENCE AND ETIOLOGY OF CLUB-FOOT*

ALBERT EHRENFRIED, M.D.

Junior Assistant Surgeon, Children's Hospital
BOSTON

I have been interested in running through the cases of congenital talipes entered on the records of the Orthopedic Out-Patient Department of the Children's Hospital during the past five years. The records of this period, under the filing system, are comparatively easy to handle, and previous records offer little detailed information. My figures have to do chiefly with the occurrence of this deformity.

The number of new patients applying for treatment for congenital club-foot during this period was 232, out of a total number of 4,543, or about 5 per cent. of the clinic. The number has increased steadily, being in 1907, thirty-one; in 1908, forty; in 1909, forty-six; in 1910, fifty; in 1911, sixty-five. This includes all types of congenital deformity, and care has been taken to exclude cases of contracture secondary to paralysis or scar-tissue formation, deformity from trauma, and doubtful cases of all sorts. The majority of the cases have been under my observation.

During the year 1911, 16,931 babies were born in Boston. Of these 1,662 died before reaching the age of 6 months, approximately the average age at which infants are brought to the hospital, and may therefore be eliminated. Of the sixty-five new cases of congenital club-foot which appeared at the clinic during this year, seventeen were in babies born in the city of Boston. If we accept the estimate that of all the cases of club-foot occurring in Boston in which the patients live long enough to be treated, nine-tenths appear eventually at the Children's Hospital, we can conclude that club-foot appears in this community, roughly speaking, once in every 816 births.

The incidence of club-foot has been variously estimated at one in 646 (by Chaussier 100 years ago), one in 1,903 (by Lannelongue fifty years ago), and one in 2,000 (by Little thirty-five years ago). Rudaux and de Lorier¹ give statistics for another purpose which show that club-foot appeared eighteen times in approximately 20,200 births at the Beaujon Hospital in eleven years, and nineteen times in approximately 20,900 births at the Clinique Baudeloque in ten years, or once in 1,110 births. The proportion of club-foot to the total number of anomalies and monstrosities, according to their figures, was one in ten.

* Read at a meeting of the Orthopedic Club, April 25, 1912.

1. Rudaux and de Lorier: The Influence of Syphilis on the Production of Anomalies and Fetal Monstrosities, *Ann. de gyn. et d'Obst.*, September, 1911, p. 496.