Undoubtedly, however, there is just now an unprecedented multiplicity of institutions and agencies dealing with children, and we all know that "too many cooks spoil the broth."

An attitude of observant neglect towards a child is most certainly an important and necessary feature in healthy development when coupled with what our far-seeing American ambassador in London told us the other day was the strongest Anglo-American bond of union—namely, a rich supply of common sense.

The existence of facilities for assistance through manifold agencies encourages a tendency not only to lack of discrimination and a loss of focused view on the part of parents, but also, not infrequently, acts as direct incitement to wander from one possible source of aid to others. Departmental medical work has extended from routine advisory examination to the treatment of disease, and there has been great development in the notification, segregation, and care of large groups of cases in connexion with controlled institutions. Thus has arisen in some respects overlapping, and even competition, in supervision, and so far as medical instruction is concerned some degree of difficulty. The present time is, of course, a period of transition, and it is essential that in future the voluntary and the controlled hospitals should mutually co-operate and ultimately form a complementary whole, subserving the interests and needs of all classes of society.

Such would form a co-ordination within what may be termed pure medicine, but beyond this is growing the recognition of need for a wider co-ordination in the completion of medical work. There is fortunately an ever-increasing spirit and practice of harmonious co-operation between medicine and education—the two are becoming closer and closer linked.

"THE WHOLE CHILD"

Modern medicine teaches that health and disease in childhood cannot be considered apart from a purview of all the activities going to form the life of the child, and that scholastic education and life at school have very important bearings on general well-being. The doctor recognizes the claims of education not only in providing nurture and a means of development of intrinsic value, but he has also come to recognize that education, when suitably modified and arranged, is frequently of very great assistance in furthering the purely medical welfare of the child. With knowledge of the various forms and types of education now offered must come active search for the best in any individual case, and not only close collaboration with the educational authority, but the proffering of expert advice. The calls on medical knowledge regarding many environmental factors in the life of the child are increasing in latitude and in importance, particularly with respect to psychological relations and reactions, and in order to give authoritative advice and assume just responsibility the doctor requires expert knowledge and special training.

It is being appreciated that prophylactic paediatrics is the basis of sound health and virility in the nation, and that each individual child requires special individual attention. Useful advice from a medical practitioner can only be obtained when he or she has received a full course of training in what is really a very large and distinct subject. Thus he must learn not only something of the special characteristics of children in health and disease and of the special applications of modern medicine to them, but also something of the scholastic, mental, and general environmental factors which powerfully influence their development and health. At present the bulk of medical graduates receive no such comprehensive training, and there are still various internal medical influences

which militate against putting this into practice. But such development surely will come, and the path to it is already blazed.

Along with proper instruction will come a readjustment of avenues of approach to the subject of child care and a more intimate collaboration of all agencies for the welfare of children. The need for this is great—the opportunity seems at hand. With lack of recognition that the medical care of children in health and disease is a great complete subject there has resulted in the past much difficulty in control and confusion in the practice of child care in the mass. Even through such times of difficulty the beneficial results of the enormous amount of attention devoted to the welfare of children by the State, corporations, associations, hospitals, etc., and by private individuals and parents has been marked. But it has been incomplete through divided responsibility, and it has often been so incoordinated as to involve unnecessary energy, thought, worry, activity, and expense.

Surely now we can look forward to the dawning of a morrow when paediatrics will be recognized as a unit of the first importance in medicine, and when pessimistic wailings with regard to the future ability and stamina of the nation will be conclusively refuted.

TRANSITORY ARTHRITIS OF THE HIP-JOINT IN CHILDHOOD

AN INVESTIGATION OF ARTHRITIS OF THE HIP IN NINETY-SEVEN CHILDREN

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The desirability of an early and exact diagnosis of arthritis of the hip in childhood is beyond dispute. From time to time we see children with the clinical signs of arthritis of the hip—a limp, limitation of movement by spasm, and perhaps pain; but with only a few days' history of trouble, no signs of general illness, and a normal x-ray appearance of the joint. We probably see such children earlier than we did in the past as a result of better education of the public as to the serious possibilities of joint pains and limping in children, and an increased watchfulness of school and public authorities. These children must be watched and investigated carefully, for the possibility of an early tuberculous infection must always be borne in mind.

If seen among the out-patients in the orthopaedic department at St. Thomas's Hospital, the practice in recent years has been for such children to be admitted to the ward for observation. Some of them become normal within a few days, are discharged, and remain normal. On the other hand, if the signs persist the child is transferred to the country hospital at Pyrford. At Pyrford the child is treated under open-air hospital conditions, with such local treatment to the hip as seems indicated for each individual, simple rest in bed in most cases, and traction on the joint or fixation with abduction and traction on a hip frame when the symptoms are markedly persistent. All such children are regarded as being possibly tuberculous until proof of some other condition becomes manifest, or until they settle down completely. The period for which they are so observed varies from a few weeks to several months, according to individual progress. They are regarded as "observation hips." Certain others, sent to Pyrford under like conditions by

other hospitals and by county authorities, are also placed in this class, though most of these will have been sent with a definite diagnosis of tuberculosis, and presumably certified as such.

Previous to 1922 most of the cases thus sent from St. Thomas's to Pyrford would have been accepted as definitely tuberculous, but in the last ten years the number of "observation hips" has increased yearly. Some of them do turn out to be tuberculous. The percentage cannot, unfortunately, be ascertained from past records, since, when the diagnosis has finally been made, they have passed into the records as "tuberculous arthritis of the hip," and in some cases no record has been kept of the fact that there was at one time any real doubt as to the diagnosis.

The figures for the years 1929, 1930, and 1931 for those in which the signs were sufficiently persistent for them to be sent for observation at Pyrford are as follows:

Total number admitted as "observation hips" ...	25
Number finally proving to be tuberculous ...	3
During the same three years the number admitted as tuberculous in which the diagnosis has remained acceptable has been ...	21
The outcome and final diagnosis of the above twenty-five "observation hips" was as follows:	
Finally proving tuberculous ...	3
Subacute pyogenic arthritis ...	1
Pseudocoxalgia ...	1
Chondroma of acetabular roof ...	1
Finally settling completely with a return of normal function—that is, some form of transitory arthritis ...	19
Total... ..	25

It is clear, therefore, that in a large proportion of these "observation hips"—actually rather over 75 per cent.—the condition is transitory. In the last ten years there have been at Pyrford altogether thirty-four such "observation hips" that have settled down completely. During the same period there have been admitted to Pyrford fifty-six children with early tuberculous arthritis of the hip. In other words, besides these fifty-six, there have been thirty-four which might at one time have been regarded as splendid "cures" of tuberculous disease, and it is probable that it is the inclusion of cases of this type with those of true tuberculous arthritis that makes the statistics of the end-results in tuberculosis claimed even to-day by some authorities so favourable, and so much at variance with the results obtained by others.^{1 2}

REVIEW OF CASES

An attempt has been made to follow up these thirty-four children. A complete "follow up" with clinical and *x*-ray findings to the end of 1932 has been possible in twenty-two instances, the average time since discharge from Pyrford being three and a half years. The twenty-two children are made up of seventeen boys and five girls, the average age at the time they first came under observation being 8½ years. Two of these children, a boy aged 13 and a girl aged 14, had hysterical contractures of the hip. Both had been sent to hospital by county authorities as tuberculous. Under appropriate treatment both recovered completely. One girl, aged 8, proved to be a congenital syphilitic, and later, when the hip had cleared up, developed a transitory arthritis of the knee associated with periostitis about the lower end of the femur, and ulceration of the palate. Recovery on appropriate treatment was complete. This child illustrates well the necessity for a routine Wassermann test whenever the diagnosis is uncertain. The inclusion of children with hysteria and congenital syphilis in this series exemplifies a failure of diagnosis, but serves to show the type of mistake that may arise if we accept too lightly a diagnosis of tuberculosis.

All the remaining nineteen children, when first seen at an average age of 7½ years, had limitation of movement at the hip-joint by spasm, and a limp. The average period of persistence of symptoms before admission to hospital was five weeks. In only seven had pain in the hip been a cause of complaint. In only six was pyrexia present when they were admitted to hospital, and in only one did this persist for more than four weeks. The average time during which muscular spasm persisted after admission was six weeks, the longest being eleven months, but the majority showed some slight limitation of full range for a further period varying between one and three months. Thereafter there has been no return of symptoms in any of the nineteen, nor is there any resulting *x*-ray abnormality. These children have all been on full school and games since leaving hospital, and those that have left school are now at work when they can obtain it. The average period since discharge has been three years. In the examination of several of these children years after the cessation of all signs of the arthritis, the thigh on the side once affected was found to be half to three-quarters of an inch less in diameter than the thigh on the other side. Presumably this frequently occurs when wasting has been present for a time during a period of active growth.

AETIOLOGY OF TRANSIENT ARTHRITIS

In these nineteen cases it seems we are dealing with a true transitory arthritis of uncertain origin. It is interesting to speculate upon the underlying causative factors. The possibilities are as follows:

A. Trauma.—In no instance was there a history of definite and closely related trauma, but in four cases there was a vague story of a fall weeks or months before. No *x*-ray evidence of bone injury was present in any. Trauma might play a part without bone injury visible by *x* rays in three ways: (1) traumatic synovitis—the result of confusion or strain; (2) traumatic osteochondritis—from injury to articular surfaces; and (3) juxta-epiphyseal strain—a term used fairly frequently by some writers, but not easy to define unless it is taken to imply the incipient stage of a slipping of the epiphysis, as in adolescent coxa vara. The age of these children—the average was 7½—was not one at which adolescent coxa vara was likely to occur, and there was no *x*-ray evidence of this condition. Trauma, therefore, may have played a part, but in the absence of a history is unlikely as a predisposing factor in the greater number.

B. Infection.—This might be either (i) a low-grade infection entering the blood stream and localizing primarily in some part of the joint, presumably most often an epiphysitis, or (ii) a metastatic infection from some other focus. Slight pyrexia occurred over a few weeks in six cases, but in the majority the temperatures were normal. Blood examinations were not carried out. Any primary infection of the joint must have been of very low grade, as no destruction took place and recovery was complete. With regard to a metastatic infection we have more suggestive evidence. One boy, aged 11, had septic tonsils, and had had a sharp attack of tonsillitis shortly before the onset of symptoms in the hip. Probably this was a metastatic infection from the throat. Another child, a girl aged 7, had had both measles and scarlet fever immediately before the hip became troublesome, and a boy aged 9 had just recovered from measles.

Arthritis of the hip is recorded after measles, influenza, pneumonia, and typhoid, and, according to the Metropolitan Asylums Board Reports from 1901 to 1909, some transitory joint symptoms occur in 3.5 per cent. of all cases of scarlet fever.³ It is probable that the catarrhal condition of the nose and throat commonly associated with the acute fevers of childhood may have been the

site of an infection of low virulence, and that metastatic spread from this caused a transitory infection of the hip-joint in these two children.⁴ One boy, aged 6, with fixation of the right hip-joint by spasm of all the muscles about the joint, developed an acute appendicitis in a retrocaecal appendix two weeks after coming under treatment. It is possible that this was a misdiagnosis, spasm—in part voluntary—of other muscles being added to spasm of the psoas due to irritation from a grumbling retrocaecal appendicitis. Fixation of the hip-joint by psoas spasm is, however, generally easy to differentiate from the fixation by spasm in an arthritis, and it is possible that this was rather a low-grade metastatic infection of the joint from the infected appendix, especially as the joint symptoms were already improving before the onset of the acute appendicitis, and did not again increase with the attack. Following appendicectomy recovery from the appendicitis was uninterrupted, but slight limitation of movement at the hip with a limp took two months to disappear. One other boy, aged 6, had had some illness lasting only a few days, called at the time "rheumatic fever," a month before the onset of pain in the hip. None of these children showed anything to suggest that they had ordinary "rheumatic fever." No other joints were affected, and there was no evidence of cardiac lesions. To exclude possible omissions of observation, a search was made of the x -rays of all these cases for an osteochondritis of the ischiopubic junction or an osteochondritis desiccans of the femoral head. No evidence of either condition was found.

Excluding, therefore, the four children with some history of trauma and the five with a possible distant infective focus, we are left with thirteen in which we have no hint of the origin of the lesion. On the whole, an infective process is the most likely, and the most probable form of this would seem to be a transient epiphysitis never sufficiently localized and well defined to show changes in the bone in an x -ray film.

ARTHRITIS FROM ADJACENT INFECTION

In a general consideration of transitory arthritis of the hip there is one other type which must be mentioned. This is the arthritis associated with a well-developed and localized infective cavity in one or other bone close to the joint, without a true spread of infection to the joint itself. Reactionary joint symptoms are present, probably the result of synovial effusion, and before the cavity is well defined by x ray the clinical picture is that of an "observation" arthritis; but if the course of the infection is favourable the cavity will become well defined and will later heal soundly, and the joint will again become completely normal. Probably many of these infective bone cavities in children are tuberculous, and are potential centres for the spread of infection to the joint itself. The likelihood of such a spread early in the disease depends largely upon the situation of the focus. Should it lie in the acetabular roof or the upper part of the femoral head (see A in Fig.) the trauma of weight-bearing will lead to an early spread to the joint, and it is probable that many cases of tuberculous arthritis in childhood originate in this way. Thus we frequently see, in cases of tuberculous arthritis which are becoming quiescent, localized foci in the acetabular roof becoming outlined by the deposition of calcium, though in the early stages their outlines were lost in the intense calcium absorption and their presence perhaps not appreciated. When the focus lies on the under surface of the femoral head and neck (see B in Fig.) the outlook for the joint itself is comparatively good. Under treatment the cavity may heal soundly and the joint become once more normal, though subsequently a coxa vara deformity is very likely to develop. In one of our cases there was no sign of this deformity until, after sound healing, weight-bearing had taken place for over eighteen months.

In the ten-year period under consideration there have been seven such children, under treatment at Pyrford with such localized bone infection, probably tuberculosis, at the under-

side of the head and neck of the femur. Two of these were watched as "observation hips" before the cavities could be defined by x rays, but have not been included among the thirty-four already mentioned. Treated as tuberculous arthritis of the hip on conservative lines, six of these escaped without joint infection. The seventh escaped joint infection for the time being, but a year after discharge developed an

area of destruction in the acetabular roof with subsequent spread to the joint. It would be desirable to eradicate this area of infected bone to prevent a possible spread to the joint. Whether this can be done surgically without encroaching on the joint depends upon the exact limits of the bone abscess, but drainage via the trochanter and neck of the femur should be possible, and may restrict spread of infection to the joint itself.

It seems, therefore, that a transitory arthritis of the hip-joint in childhood is common. There must be many that are never brought for examination, whereas all children with tuberculous arthritis come sooner or later, so that we cannot truly gauge the comparative frequency of the two conditions by comparing the numbers treated in hospital.

DIAGNOSIS

A transitory arthritis is the most difficult differential diagnosis from a commencing tuberculous infection of the joint. Clinically the two may be identical, and remain so for days or even weeks. The x -ray is negative in a transitory arthritis—except in the type due to a well-defined neighbouring bone focus—but a negative x -ray does not absolutely exclude tuberculosis. As a matter of fact the x -ray is seldom absolutely negative in tuberculous arthritis when first brought for examination. Of the fifty-six children coming under treatment for early tuberculous arthritis of the hip at Pyrford in the last ten years, there was only one whose x -ray at that time was absolutely negative. All the others showed bone atrophy about the affected joint, most of them with loss of the joint space as well, and many with bone destruction already progressing.

It is perhaps needless to point out that in an early arthritis with only slight bone atrophy a really good x -ray, showing both hip-joints for comparison, is essential, and interpretation of the plate is useless unless made by one accustomed to the appearances in early tuberculosis. With a completely normal x -ray, however, the odds are heavily in favour of an "observation hip" being a transitory arthritis rather than tuberculous. The earliest stages of a virulent pyogenic epiphysitis or pyaemic joint may show a negative x -ray, but the differentiation of these from a transitory arthritis of the type we have been considering cannot be long delayed on both clinical and x -ray grounds. It is unnecessary here to discuss in detail the differential diagnosis between a transitory arthritis and pseudocoxalgia. The clinical examination, combined with the x -ray picture, is usually conclusive. Very seldom will the x -ray in pseudocoxalgia be so near to the normal that differentiation from a transitory arthritis will give rise to difficulty. All doubtful cases of arthritis in childhood must be watched very carefully and treated with the

respect due to an arthritis that is likely to be progressive. Time alone will then solve all doubts of the diagnosis. In the meantime, they must be considered in a class by themselves "for observation."

SUMMARY

Fifty-six of the ninety-seven cases proved to be tuberculous.

Thirty-four were suffering from a transitory arthritis only, without any abnormality being shown by x rays at any time.

Seven had a transitory arthritis as a reaction to a localized bone infection near the joint, without true joint infection.

A transitory arthritis without x -ray changes is common in childhood, and is frequently diagnosed wrongly as tuberculous.

Sometimes it may be traumatic in origin, but more often it is infective, the infection being often secondary to a focus elsewhere in the body.

The prognosis of this transitory arthritis is excellent. A follow-up of twenty-two cases for an average period of three years has been given.

A transitory arthritis is the most difficult differential diagnosis of tuberculous arthritis of the hip in childhood. Its differentiation from tuberculous and other types of arthritis is discussed.

I am indebted to Mr. W. Rowley Bristow for permission to describe these cases, all of which have been under the care of the orthopaedic department of St. Thomas's Hospital.

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DYSPEPSIA AND ITS SURGICAL SIGNIFICANCE

BY

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It can scarcely be said that the present position of surgery in relation to the dyspepsias is either defined or satisfactory, nor is it likely to improve until the surgeon is given a clearer interpretation of the physiological eventualities which culminate in distortions of the metabolic processes. Symptomatic classifications, together with chemico-physiological abnormalities, provide the therapist with material to work on, but the surgical craftsman requires further information if he is to restore function to normal. He must know the changes that result in symptoms, and why these changes take place. When he has determined why, he is in a position to decide whether or not surgical intervention is of avail. It is not enough to correct the changes and trust that the reason for their being may disappear.

In this article I purpose to set out, shortly, my findings when I endeavoured to discover why changes in the mechanical metabolic processes take place, and where surgery may be applied as a corrective.

INVESTIGATION

To study the behaviour of the intestinal tract in chronic dyspeptics I adopted the simple method of x rays and opaque meals. In old-standing cases the changes seen proved very constant. In cases of short duration the changes were less marked, or only intermittently present. As I became familiar with these changes they were to be

seen not only in simple dyspepsias, but also in cases complicated by peptic ulceration.

The stomach varies from the hypersthenic type to the completely asthenic. Its rhythmic propulsive action remains constant, but changes from forceful in the former to tired and sluggish in the latter. The ultimate purpose of the stomach, that of evacuating its contents towards the duodenum, is to a varying extent thwarted by disturbed pyloric function. This difficulty is at first overcome by increased tonus in the stomach, but frequently this tonus later fails and evacuation is rendered slow. The chemical balance on either side of the pyloric sphincter clearly ceases to be its controlling factor. The duodenum may appear normal or become distended. There is delay in the passage of contents along the small intestine, and barium is held up in the lower ileum. Dilatation and often prolapse of the caecum is present, most marked in cases of long standing.

EXPLANATION OF FINDINGS

From evidence collected and given in the *British Journal of Surgery* (1932, p. 634), I think it is clear that these stomach and bowel changes seen in the chronic dyspeptic are due to abdominal sympathetic activation. Such activation results in junctional sphincteric spasm, or hypertonus, with relaxation and delay in the remainder of the bowel. These changes reduce bowel activity, and thereby protect any lesion within the peritoneal cavity.

If one realizes that in the majority of dyspeptics the departure from normal in bowel function is due to sympathetic excitation it then becomes imperative to elucidate the various causes of this excitation. In the aforementioned article I have shown that inflammatory lesions in relation to the abdominal peritoneum are causal agents, and experimentally it has been demonstrated by Alvarez, Mahoney, and others that chemical irritants to the peritoneum produce similar results. Further, I have noted that mechanical irritants such as intraperitoneal bands may result in a like syndrome. Lastly, it would appear true that chemical changes in the blood composition, septicaemias, and toxæmias may produce abdominal sympathetic excitation, not by any direct action on the nerve centres or trunks, but reflexly by their irritant and congestive effects on the abdominal peritoneum.

In investigating cases I have found the primary causes of sympathetic excitation in dyspepsia, in order of frequency, to be: (1) appendix disease; (2) disease of the uterus and appendages; (3) dental disease; (4) intra-abdominal bands and adhesions; (5) abdominal adenitis, with and without mesenteric contractions; (6) renal insufficiency; (7) nasopharyngeal sepsis, or other source of chronic sepsis. Finally, there is a small group of cases where I have failed to demonstrate any lesion, and I class these as being due to primary sympathetic instability or to some endocrine abnormality.

CLASSIFICATION OF DYSPEPSIAS

With this interpretation it now becomes possible to separate dyspepsias into two main groups—primary and secondary. The primary dyspepsias are medical, the secondary are entirely reflex, and, apart from certain ones that are renal in origin, are therefore surgical. The secondary dyspepsias, for diagnostic purposes, I subdivide into: (1) reflex septicaemic dyspepsia, and (2) reflex abdominal dyspepsia.

Reflex Septicaemic Dyspepsia.—I use this term merely because it suggests that the reflex sympathetic upset has resulted from a general condition. The principal reasons for the presence of this general toxæmia or septicaemia appear most often to be dental and nasopharyngeal sepsis, renal inefficiency or insufficiency, and any other source of chronic sepsis. The method by which the abdominal