the diet is the most important matter in the treatment of acute nephritis, and that it must not be too rich in proteins and salt. My demands as regards diet from both these points of view have been stringent. My custom is to give for the first days (ordinarily four or five days) only a combination of cream, milk and water, or only cream and water, and only after the elapse of this time to give also foodstuffs consisting largely of fat and carbohydrate such as bread, butter, porridge, and other oat-foods, later also green vegetables, and at last also eggs in moderate amount. From a psychological point of view I have found it opportune, if the symptoms do not pass away in a short time, to go back again and begin the same cycle—first only cream and milk; later, cereals and butter, etc.

During the whole treatment I try to diminish the amount of salt very greatly (the bread baked without salt, the butter without salt, the porridge and potatoes boiled without salt, etc.). I have followed these rules, even when the patient has not suffered especially from oedema, and even if oedema had never occurred. In the analyses of urine we have indeed sometimes found so small amount of NaCl as 1.1 gram.

I believe that during the years when the cases mentioned in this paper were treated (1911 to 1919) I have gradually come to a more rigorous position relative to my demands for reduction of the amount of proteins and salt in the diet. I have found that the issue of acute nephritis latterly has been better, and I have asked myself if the more rigorous reduction of the diet can have been the cause of the better results in the later cases. I can only raise this question, but do not here venture to give an answer.

The modern conception of the different forms of nephritis says also that the kidneys in the case of acute nephrosis have only lost their faculty to eliminate the salt but not the urea. In consequence, authors have proposed in cases of acute nephrosis not to reduce the amount of proteins. As is evident from what I have here said, I cannot follow such a rule, because I am of opinion that one cannot by means of clinical researches make the diagnosis that only the tubuli are affected, and, in consequence, prudence commands us to *diminish to the greatest possible degree the demands which we put on the functions of the diseased organs*, here as always in the treatment of diseases of the internal organs.

TREATMENT OF THE TUBERCULOUS CRIPPLE AT THE HOSPITAL FOR CHILDREN, LEASOWE.

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In view of the criticism advanced by Mr. E. D. Telford (BRITISH MEDICAL JOURNAL, October 25th) to the effect that the national scheme for the cure of crippled children, proposed by Sir Robert Jones, F.R.C.S., and Mr. G. R. Girdlestone, F.R.C.S. (BRITISH MEDICAL JOURNAL, October 11th), falls short of the best in its provision for the treatment of the tuberculous cripple, it may be of interest to many to know what is being done for these tuberculous cripples at the Hospital for Children, Leasowe, Cheshire.

When in 1912 the interim report of the Departmental Committee on Tuberculosis was published, in which the local authorities were urged to draw up a complete scheme for the extermination of tuberculosis in their areas, the Council of the Liverpool Invalid Children's Association, with the co-operation of Dr. Hope, M.O.H., secured a Treasury grant of £90 a bed towards the cost of erection of a hospital of 200 beds for the treatment of surgical tuberculosis, on a site of 14 acres at Leasowe, on the Wirral peninsula. The remaining funds were raised by voluntary subscription, and the building was commenced in 1913. In July, 1914, 100 beds were available, and the hospital was completed in 1916.

In choosing a site for a hospital of this nature the climatic requirements of the diseases to be treated had to be borne in mind. Dr. Jaques Calvé of Berck-sur-Mer, in his pamphlet on the importance of maritime hospitals in the treatment of surgical tuberculosis, states that cases of surgical tuberculosis need an open, barren, flat shore, exposed to the full force of the winds, with a fresh and equable temperature, moderate humidity, and abundant sunshine, where the tonic and equable action of a sea climate is exerted to the full.

The hospital at Leasowe, built within 300 yards of the sea and fully exposed to the winds which sweep from the Irish Sea across an extensive tidal area, is ideally placed to meet the climatic requirements.

The hospital is built on the block-pavilion principle, each block consisting of two stories, with twenty-four or thirty beds on each floor. The wards face due south, and

are light and airy, with excellent cross-ventilation. On the southern aspect they are provided with large glass folding doors which open on to roomy sun-balconies. On these balconies the beds are placed in all except the severest of weathers; thus the children enjoy every available hour of sunshine.

Before being admitted to the wards the children are kept under observation for three weeks in single-bedded cubicles, constructed on similar lines to the wards. This serves a threefold purpose: first, by using the folding doors a gradual acclimatization is secured; secondly, the risk of the introduction of infection is minimized; thirdly, the possibility of superadded pulmonary infection can be investigated. In the wards the majority of the children rapidly become accustomed to the open-air life, and although, as a glance at the section plan will show, the wards cannot be heated, they do not appear to feel the cold, and make light of what is often a hardship to the nursing staff.

There is, however, a type of case which requires extra warmth in the winter. Calvé describes them as the nervous, excitable, irritable, and febrile types; for these special accommodation is provided in the warmed ward (D on plan).

The most marked results of the open-air life are shown during the first months of stay in hospital; on admission, pale, irritable, and restless, with a poor appetite, they soon become rosy-cheeked and contented,

the appetite improves rapidly when, under carefully selected local treatment, pain and discomfort have been relieved.

Heliotherapy is described by Calvé as an integral part of a marine climate, and is recognized to be one of the more important principles of open-air treatment. Exposure to the sun is practised whenever possible at Leasowe. Even in winter on sunny days local exposure of the diseased part is practised, but from April to October more radical measures are undertaken, the aim being to expose the whole body to the action of the sun's rays. From May onwards on sunny days nearly all the children can be seen naked in the sun save for their bathing slips. The results of this exposure are encouraging; the health of the children improves with the spread of pigmentation as the parts are successively exposed; locally the discharge from sinuses becomes less offensive and the granulations more healthy as the surrounding infiltration disappears.

The results are most marked in cases of tuberculous glands of the neck, where abscesses and deposits of tuberculous debris often clear up without interference.

A' Balcony; B, ward; C, corridor; D, warmed ward; I, kitchen; J, passage to administrative; K, pantry; L, linen; M, bathroom; N, dressing room; R, emergency stairs.

On account of the prolonged stay in hospital and the enforced recumbency, a stern but kind discipline has to be maintained to ensure the happiness of the children, and in this the three and a half hours per day school tuition which is given has been of great help. In giving exercise to their minds and an occupation to their hands it proves a powerful aid to cure.

The details and technique of the local treatment are beyond the scope of this paper. It is carried out on conservative lines, and its aims are the preservation and restoration of the diseased parts. All cases of tuberculosis other than pulmonary are admitted, the majority being those with bony, articular, or glandular foci. With the exception of peritoneal cases no experience of visceral lesions has been gained.

Eighty per cent. of the cases admitted are discharged under the heading of "Disease arrested," but the degree of cure of necessity varies with the type of case. In the bony and articular types the convalescent stage of the treatment is prolonged as long as possible in order that the disability may be overcome. In cases where the deformities are severe corrective operations are performed.

It must be recorded that the type of case admitted has improved during the five years that the hospital has been opened, and that cases with marked deformity and long-standing sinus formation are not so common as formerly. The result of this is that the average duration of stay has been shortened, and the degree of cure has improved. With the spread of knowledge of surgical tuberculosis a still further improvement is hoped for.

The following statistics are deduced from the cases discharged during 1918:

Discharged, disease having been arrested—			
Tuberculous spine	Average stay, 617 days	19	122
Tuberculous hip	" " 729 "	25	9
Tuberculous knee	" " 438 "	6	9
Tuberculous osteitis	" " 319 "	22	10
Tuberculous glands	" " 209 "	25	17
Tuberculous peritonitis	" " 162 "	25	
Discharged as improved			122
Discharged as incurable			9
Discharged with infectious disease (subsequently readmitted)			10
Died			17
Total			167

It is impossible, however, to draw any conclusion from these figures as to the length of stay in hospital necessary to bring about cure or cicatrization, as many of these cases had been under treatment for some time before admission. The time which must elapse before a diagnosis of incurability can be made is in many cases a long one, and in view of the almost certain prospect of cure in early cases must be regarded as valuable time lost. By discharging all cases as soon as a diagnosis of incurability is made, and by giving preference to all cases of early disease over those which exhibit complications, the greatest good is done to the greatest number.

The hospital at Leasowe is linked to the Liverpool Health Committee's scheme for the extermination of tuberculosis, through the Liverpool Child's Welfare Association, which has access, through the courtesy of the Medical Officer of Health, to all cases of surgical tuberculosis reported, and which, through the channels of its Almoner work in the out-patient departments of the Liverpool hospitals, is in possession of valuable information about the home conditions of these children.

From the offices of this association in Liverpool the cases are selected according to urgency, priority being given to cases of early disease. Again, through this executive body, the cases are followed to their homes after discharge from hospital, and much valuable information is gained by this after-care work and supervision, in confirming the diagnosis of cure and in watching the progress of these cases in after-life.

Although 80 per cent. of the beds at Leasowe are allocated to the Liverpool Health Authority, beds have been allotted by the council of the hospital to other health authorities, and thus the hospital serves a wider field.

An additional twelve acres of land has been acquired adjoining the hospital, thus providing for future extension.

Mr. Telford in his letter pleads for the erection of large hospitals, such as that at Berck-sur-Mer, in the best

climatic situations we have, and proves, to his own satisfaction, that these cases do not do well during the winter months in the neighbourhood of Manchester. It would therefore appear to be advisable that a concentration of the national effort against surgical tuberculosis be made and larger hospitals be built in those areas where it has been proved that these cases do well.

SUPERIMPOSITION OF A RETROGRADE UPON A DIRECT INTUSSUSCEPTION.

BY

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The following example of a rare form of intussusception still seems worthy of record, even though its presentation for publication has been unavoidably delayed:

In November, 1914, I was asked to see in consultation a male child aged 2 years. The mother stated the child had been ailing for five or six weeks. During the earlier part of this period he had been fretful and sickly, with occasional vomiting and diarrhoea; latterly, and especially for the last twenty-four hours, he had been unable to retain any food. She added that he had passed faeces recently, and that no blood or slime had ever been seen in his stools.

The child was very emaciated and the muscles were so weak that his head fell helplessly backwards or forwards, to the right or to the left, as gravity dictated, according to the position in which he was carried. The abdomen was very distended; the child did not vomit while under my observation. He was obviously in an exhausted state and allowed abdominal palpation without much resistance and without appearing to suffer much pain. The temperature was 97° F. and the pulse 140.

Abdominal palpation revealed what appeared to be an isolated, firm rounded mass in the left upper quadrant of the abdomen, and a soft, less well defined mass in the lower abdomen, mainly in the left lower quadrant, but also to a less extent palpable in the right lower quadrant. (Fig. 1.) This soft mass could be more definitely detected by bimanual examination, one finger in the rectum and the other hand on the abdominal wall. The rectum itself, as far as the forefinger could reach, was empty.

I was unwilling to make a dogmatic diagnosis in my own mind as to the cause of the obstruction, looking upon the length of history as being against a diagnosis of intussusception, as was also the absence of blood in the stools, and being inclined to regard the apparently isolated, firm rounded mass as being an enlargement of mesenteric lymphatic glands. The child was admitted to the Manchester Royal Infirmary and I operated as soon as possible after admission.

Operation.

An incision was made through the left rectus muscle. The first piece of viscus which presented in the wound was a Meckel's diverticulum about 2½ in. long, quite free and unattached at its distal extremity, blown out like a glove finger, and obviously having no causative connexion with the intestinal obstruction. The small intestine was much distended. Further examination showed that the trouble was an intussusception of a very peculiar type (Figs. 2 and 3). The total length of the intussusception *en masse* before reduction was, as nearly as I can estimate it, between 10 and 12 in. long. The proximal 3 in. of the mass was firm and distally limited by a cuff-like edge from the remainder of the intussusception. It was this portion which could be so distinctly felt in the left upper abdominal quadrant by palpation. The distal 7 to 9 in. of the intussusception represented the soft swelling which could be felt in the lower abdomen.

It was at once evident that there was a retrograde intussusception superimposed upon the proximal 3 in. of a direct intussusception 10 to 12 in. long. The retrograde cuff gripped the proximal portion of the direct intussusception so tightly that it was apparent that before the latter could be "milked" back the former would have to be reduced. This was no easy matter. The "milking" manoeuvre was useless in order to effect the reduction of the retrograde portion, and reduction was effected by squeezing the forefinger between the free edge of the retrograde cuff and the ensheathing layer of the direct intussusception, and exerting a gentle and carefully graduated "shoehorn" lever manoeuvre. By this means the retrograde cuff, which was tightly gripping the main direct intussusception, was successfully reduced, and as soon as this had been effected the direct intussusception was "milked" back with ease.

FIG. 1.—A. Hard rounded tumour.
B. Soft indefinite tumour.