

The conclusions which the writers have drawn from their cases of tendon transference is in accord with the experience of many other surgeons, viz.:

That tendon transference is a procedure which offers with a minimum of risk a chance of great benefit. In none of the cases reported were the patients not benefited by operation, either by an improved position, or gain in functions. The immediate result in all was favorable, and the ultimate result in a number of cases surprisingly good.

A comparative study of the writers' cases previously treated by simple tendon transference without periosteal insertion and of tendon shortening of the relaxed tendons with the results gained by the careful employment of silk strand elongation of efficient muscles and periosteal insertion into selected and mechanically favorable points on the foot and tibia, demonstrates the superiority of the newer over the older method.

The strictest aseptic and antiseptic precautions are demanded. All of the operations herein mentioned were performed not only with all aseptic details as to the patient, instruments and dressings, but with the use of gloves and masks by the surgeon, his assistants and the assisting nurses.

The amount of benefit finally gained in function and correction of disability is in favorable cases so great as to justify an expectation of equal benefit in all cases. Even in extensive paralysis something can often be done to improve the condition.

#### THE SEASHORE TREATMENT OF THE TUBERCULAR ARTHRITIS OF CHILDREN.

BY ALBERT H. MILLER, M.D., PROVIDENCE, R. I.

TUBERCULAR arthritis is essentially a disease of childhood, 85% of the patients who have applied at the Rhode Island Hospital for treatment for this condition having been under fifteen years of age. The course of the disease is chronic, its duration, for years, attended with the formation of abscesses and discharging sinuses and usually terminating fatally from tubercular meningitis, tubercular peritonitis, or some other intercurrent disease as the immediate cause of death.

The treatment of these cases has consisted of immobilization of the affected joints by braces or plaster casts and of various surgical operations for the removal of pus and diseased bone, or for the correction of deformities. Although this treatment has been efficient in diminishing the deformities of those patients who have survived, it has had little effect in lessening the suffering and fatality of the disease.

It is urged, with some appearance of reason, that an attempt to save the lives of patients with tubercular joint disease is opposed to the law of the survival of the fittest, and that these children should be allowed to die rather than to grow up deformed, to pass on their tubercular taint to succeeding generations. Opposed to this argument, is the fact that these crippled children suffer tremendously, not only the acute pain of burrowing abscesses and of muscular spasm, but also

the constant discomfort from restraint of motion. Whatever our ideas may be as to the value of their lives, we must unite in believing that any time spent in freeing their distorted little bodies from suffering is time well spent.

Following the lead of the Children's Island Sanitarium at Marblehead and the Sea Breeze Sanitarium at Coney Island, the Rhode Island Hospital, in the summer of 1906, first opened the ward for the seashore treatment of the tubercular arthritis of children. The entire expense of the work was defrayed by the late James A. Garland, whose death cast a shadow over the last weeks of the summer's work. The Garland ward was located thirty-five miles from the city of Providence on Conanicut Island, in Narragansett Bay, where an old hotel, with good bathing facilities, was converted into a temporary hospital. This institution was open from the middle of July to the first of October.

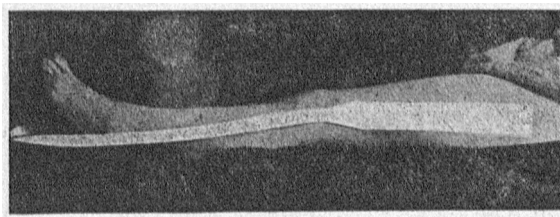
There were 32 patients, 11 of whom came from the wards of the hospital in Providence. A great deal of care was taken in the selection of the patients. They were children under sixteen years of age, who were afflicted with tubercular arthritis and belonged to the following classes:

First, cases of extreme severity.

Second, patients living amid improper surroundings with insufficient nourishment.

Third, cases steadily failing from any cause. There were 20 boys and 12 girls. The average age was nine and one quarter years. The youngest was fourteen months old. In 14 cases, the hip was affected; in 9, the spine; in 7, the ankle; in 1, the knee and in 1, the shoulder. The duration of the disease had been from six months to eleven years. The average duration had been three and one-half years. Every patient had at some time been in the hospital for a period varying from one to thirty months. Twelve children had a total of 25 suppurating sinuses.

Realizing the influence of bad surroundings and improper food in the development of the disease, the treatment was largely hygienic, drugs being used only in an occasional emergency and no operating being done at the summer branch. Fresh air day and night, sea bathing, an abundance of nutritious food and freedom from restraint, both mental and physical, formed the basis of the treatment.



Seashore treatment of tubercular arthritis. The simple extension straps employed.

From sunrise to sunset, the children lived out of doors and the windows of their sleeping rooms were never closed. All the patients bathed in the salt water, as many as possible bathing every

day. The bath, which usually began at two in the afternoon, lasted for half an hour. The bathing was the feature of the day's pleasures.

Patients wearing hip braces bathed twice a week. Extension was made by two strips of ZO adhesive plaster two inches wide, one on the outside extending from the great trochanter to the knee and the other from an inch below the perineum to the inside of the knee, each terminating in a strip of one inch webbing which reached to the foot-piece of the brace. This arrangement of the extension, which could be removed and replaced every third day without irritating the skin, was free from the objection of pulling on the knee. On the bathing day, the brace and extension straps were removed and the patient bathed in the sea water. Every precaution was taken

applied, which remained until after the next bath. On the days when the patients did not bathe in the ocean, the wound was cleansed with salt solution and a fresh pad was applied.

The diet comprised cereals, bread, crackers, meat, fish, vegetables, fruit, simple desserts, several eggs a day and two quarts of milk for each patient. Meals were served five times a day: at seven and ten o'clock in the morning, at noon and at three and five o'clock in the afternoon. Except breakfast on the piazza, meals were served picnic fashion on the lawn, on the beach, or wherever the children happened to be at the time. The patients developed astonishing appetites.

Every thing possible was done to make the patients happy and contented. Only a few rules were made, but these were rigidly enforced.



Seashore treatment of tubercular arthritis. The patients shown above comprise ten tubercular hips, six spines, five ankles and one tubercular knee.

against movement of the affected joint while the brace was off, and as soon as the bath was over the patient was dried and the brace and extension were replaced.

Patients with plaster jackets were allowed to wade every day. Patients in bed were bathed every day on a frame or in a basket which was wheeled into the water.

Surgical dressings were done after the bathing hour. No chemical antiseptics were applied to the wounds. Drainage tubes and gauze packing of sinuses were not allowed. The soiled dressing was removed, the surface dried, and a sterile pad

The affected joints must at all times be kept quiet. With this exception, activity was everywhere encouraged. The patients played games, held baseball matches, wrestled, swam in the ocean, and had as good a time generally as any group of well children could enjoy.

This treatment was so radical a change from accepted orthopedic ideas that, day by day, the effects were carefully watched. The results were so good as to leave no room to question the wisdom of the methods used.

Eleven patients had come from the wards of the hospital; 12 had come in beds or wheel chairs;

13 on crutches; and 7 walking unaided. At the end of two and one-half months' treatment, it was necessary to return only 2 to the hospital wards; 2 were in beds or wheel chairs; 18 on crutches; and 12 walking unaided.

An increased mobility with loss of sensitiveness was noted in the affected joints. The gain in weight averaged  $2\frac{1}{2}$  lb. per month. The greatest gain was 7 lb. in one week.

Of the 25 discharging sinuses, 11 were entirely healed. All sinuses were improved and several healed soon after the return from the summer hospital. Eight bed sores on one patient were entirely healed.

It was interesting to watch the condition of the patients during the winter following their first outing. They uniformly continued to improve for a time after returning to their homes. No one of the sinuses which had healed broke out again. In most cases the improvement continued, but two patients began to fail after a few months and in the spring of 1907 were in practically the same condition as a year before. The cause of this failure was directly traceable to the surroundings and insufficient nourishment to which they were subjected.

With a plan of treatment so different from the accepted orthopedic practice, the results obtained are so far superior to those to which we have been accustomed that even our limited experience seems to have demonstrated as true the following principles:

1. Fresh air and an abundance of food, combined with sea bathing and freedom from unnecessary restraint, bring about a continuous, uniform and rapid improvement in all cases of tubercular arthritis of children.

- (a) Orthopedic restraint should be applied only to the joint affected. Otherwise, activity should be encouraged.

- (b) The beneficial effect of sea bathing more than compensates for any theoretical injury done by leaving off orthopedic apparatus for a short time daily.

2. Tubercular sinuses which are bathed in sea water daily and which have no other treatment save a protective dressing improve with surprising rapidity.

In most of the cases of tubercular arthritis, the patients are so improved by the summer treatment that they can safely return to their homes for the winter. A few cases require treatment during the whole year.

In preparing this paper, I have drawn freely from the report of the committee, consisting of Dr. Halsey DeWolf, Dr. J. M. Peters, and the present writer, who had charge of the Garland ward in the summer of 1906. The work is now being continued for the second year at the Crawford Allen Memorial, a branch of the Rhode Island Hospital, situated eighteen miles from Providence, on the west shore of Narragansett Bay.

An oil portrait of Dr. John Guiteras has been hung in the eastern amphitheater of the medical laboratories of University of Pennsylvania.—*Jour. Am. Med. Asso.*

## Clinical Department.

### TWO CASES OF HEMORRHAGE FOLLOWING THE REMOVAL OF THE TONSILS.

BY E. A. CROCKETT, M.D., BOSTON.

For about eight years I have been using, for the removal of nonadherent large tonsils, a Farlow tonsil snare, threaded with No. 5 steel piano wire, and in adherent tonsils it has been my practice to dissect off the tonsil with a Leland tonsil knife and then apply the snare as in the non-adherent type, removing such fragments of the tonsil as might remain with the tonsil punch. Prior to this method, I have been using either the tonsillotome or a long throat knife or scissors, and under this method of operation have had a number of severe hemorrhages, which several times succeeded in alarming me, but which always checked under pressure for a few moments without exsanguinating the patient.

Until last spring I had never seen a hemorrhage of even ordinary severity follow the use of the snare, and in addition have seen the tonsil more completely removed than by any other method of operating which I have ever employed, and have been accustomed to say that a severe hemorrhage was impossible to be obtained by this method.

About a year ago, I began threading my snare with a steel wire two sizes larger than the No. 5 formerly used. This wire makes a loop much easier to apply to the tonsil, but it does not apply itself so flexibly to the tonsil to the exclusion of other tissues as does the No. 5. I noticed, as soon as I began to use it, that the snare bit deeper into the tonsil fossa than I had been accustomed to see, but still I had no trouble until the first of the two cases reported to-night. It seems to me possible, although I am not convinced of it in my own mind, that this hemorrhage may have been caused by the use of this nonflexible wire. At any rate, I shall use in the future the No. 5, until I see some reason to change my opinion.

**CASE I.** The first was a boy about eight years old, who had two large nonadherent tonsils and a large central adenoid. The child was evidently in perfect physical health and there was no history of hemophilia. The two tonsils were very easily removed, anterior and posterior pillars were not wounded. After removing the right tonsil, I remarked to my assistant that the tonsil was removed unusually successfully, that the cavity remaining was unusually deep and that I could see a small spurting point from the upper anterior face of the posterior wall of the cavity. The spurting point was small and was about the size of the vessels cut in a mastoid operation. I held a sponge against it for about three or four minutes and then, the bleeding having apparently ceased, proceeded to remove the adenoid. The last thing before I stopped the operation, I wiped out the right tonsil cavity and could see no sign of hemorrhage.

About three hours after the operation I received a telephone message from the hospital saying that they thought that I had better come at once. As I was in the middle of my office hours, I asked Dr. Powers to go around first, as he was nearer, and I followed as soon as