taken by placing a piece of paper at the side of the leg, the sole of the foot being flat on the floor.

FIG. 5.

a walking shoe in six weeks, and was discharged from the hospital, and three months later was in the position indicated in the photograph, and able to walk about

In Case VI. the patient suffered a good deal of pain for a week, and on the removal of the plaster a slough was found on the side of the ball of the toe and also on the dorsum of the foot. The appliance as indicated in Figure 2 was used, and the patient went about with crutches. He began to use

FIG. 6.
Drawn from cast.
August, 1883.FIG. 7.
From photograph.
January 1, 1884.FIG. 8.
From imprint of sole of
foot.—January 1, 1884.

freely without appliance, crutch, or cane, having taken care of his foot himself during that time, he being seen medically but six times, chiefly for observation. The treatment was perhaps hurried unnecessarily, and an earlier removal of the plaster would have prevented the sloughs appearing. These, however, did not in any way prevent the continuance of treatment.

The patient's foot was very resistant, and at the time of operation all possible force was required after tenotomy to press it into a normal position. The patient was fifteen years old, and had been walking on a deformed foot all his life.

Case VIII. was the most resistant of the series, partly because the foot was small and force was there-

FIG. 9.
From photograph.
September, 1883.FIG. 10.
From photograph.
January 1, 1884.FIG. 11.
From photograph.
January 1, 1884.
Wearing appliance.

fore with difficulty applied. Three sittings were necessary to straighten the left foot; a small slough appeared, and the spur appliance was used. The right foot was straightened in one sitting.

The length of time required in the treatment of the above cases varied. In the cases where the feet were the least resistant the plaster bandage was removed in from three to four weeks, and walking shoes applied immediately. In Cases II., V., and XIII., the whole active treatment occupied but a month, after which time the patients were left to the parents' care and not seen by the physician, although directed to wear the walking shoes for a year. Case XIII. was seen a year afterwards, and the feet found to be in a perfectly satisfactory condition. The same may be said of Case V., seen three months after discharge from the hospital. Where greater resistance was encountered, longer time was needed; Case VI. was seven weeks under active treatment. Case VIII., the most resistant of the cases collected, was four months under constant observation. In both the plaster bandages were removed on account of sloughs, and the spur appliance used until the feet were in a condition for a walking shoe.

It should be born in mind that the method of treatment by extreme mechanical force is not to be used except in extreme cases, and in cases where a speedy result is desirable. It is not claimed that equally good results cannot be obtained by other more gradual methods. The writer, however, believes the method to be safe, to save time and trouble, to give perfect results.

A CASE OF "WASTING PALSY" (PARTIAL).¹

BY GEORGE M. READ, M. D., DORCHESTER.

MR. A., American, married, merchant, aged fifty-two years, five feet ten inches high, ordinary weight 160 pounds, gave a good family history, and said of himself that, aside from occasional slight attacks of "indigestion," he had always been well till within a year. For thirty years business had confined him closely, and he had been on his feet almost constantly during the day, standing much of the time at his desk. Less than a year previous to first consulting me (February 5, 1883) Mr. A. thought his left lower limb showed fatigue more readily than usual, and found it necessary to sit at his desk. Later an ordinary walk became fatiguing, and he was aware of sensations of "coolness," and "prickling" in the weak member, with occasional muscular "twitchings" as the limb became tired. Within a month the patient had thought the left extremity smaller than its fellow, and in consequence sought medical advice. There has been slight oedema of left foot. Mr. A. has never had a chancre nor suffered a blow or fall at any time. Special senses and sexual function unimpaired; appetite poor; bowels constipated; micturition natural.

Weight at time of first interview 145 pounds. Inspection showed a man of tolerable muscular development, but with a small amount of subcutaneous fat. The left lower extremity was noticeably smaller than the right. No external signs of syphilis. Physical examination revealed nothing abnormal about heart or lungs. Pulse 76; temperature normal; tongue furred; breath offensive; stomach and intestines slightly distended by gas. No tenderness on pressure over any portion of the

¹ Essay by William Roberts, M. D., London, 1858.

spinal tract. Left upper extremity somewhat better developed than right, but patient is left handed. By measurement the left lower extremity was found smaller in circumference by five centimetres than the right, the comparison being between several points both above and below the knee. Muscles of nates apparently unaffected. Left foot slightly oedematous. Patient stepped from chair, stood, and walked well with his eyes shut. The cutaneous sensibility on the affected side seemed a bit increased. Use of the induced current proved the muscular contractility unimpaired.

Urine normal in amount for twenty-four hours; light colored; specific gravity 1025; neither sugar, albumen, nor casts.

Here is a case in which the only prominent symptoms are diminution in size and loss of power in one lower extremity, the functions of which, aside from this loss of power, are unaffected. In forming a diagnosis the history allows one to eliminate palsy from lead and atrophy resulting from continued rest or following injury to a nerve. One at first thought might confound this with a case of *tabes dorsalis*, but here the power of muscular coördination is unimpaired; the trouble is confined to *one* lower extremity, the cutaneous and muscular sensibility is undiminished, no history of pain or bladder affection, and the diminution in size of limb has followed closely the loss of power, the only other prominent symptom in this case.

It is seldom that "wasting palsy" attacks primarily and exclusively the muscles of the lower extremities. In a tabulated report of fifty cases of (partial) progressive muscular atrophy in but six did the disease make its appearance in the muscles of the lower extremities. Granting the diagnosis correct, we have here an unusual form of a comparatively rare disease.

The subsequent history of this case, covering eight months of treatment, is as follows:—

Mr. A. underwent, at the hands of a competent attendant, a thorough course of massage and galvanism, enjoyed daily surf bathing during the three summer months, lived as entirely in the open air as weather permitted, and confined his exercise within the point of fatigue. His diet consisted of easily-digested meat, strong beef soups, fruit, and plenty of milk and cream, a glass of sherry daily. Internal medication, small and increasing doses of sol. potass. arsenitis.

At our last interview (September 20th) Mr. A. showed a marked improvement in his general condition; tongue clean, appetite good with fair power of digestion. Has gained seven pounds in weight. Uses cane less, and is able to walk one or two miles without fatigue. The sensations of coolness and twitching of muscles is less. The puffiness of left foot is gone, and actual measurement shows a present difference in the circumference of the two limbs of but three centimetres +.

After eight months' observation, with the assurance that the disease has not progressed, but, on the other hand, shows a tendency toward amendment, a prognosis of permanent arrest with possible recovery seems not out of place.

The patient is advised to continue the treatment by massage and galvanism, live in the open air, and exercise with discretion.

Of eighty reported cases where the result is mentioned fifty per cent. have terminated in arrest, amendment, or recovery. Other general conclusions drawn from these cases are that the disease has its primary

seat in the muscles, nerve changes following later when the muscular fibres have to a large extent disappeared.

Under the microscope "the striped elementary primitive fibres were found to be completely destroyed, the sarcous element being diffused and, in many places, converted into oil globules and granular matter, whilst the sarcolemma or tissue of the elementary fibre was broken down and destroyed."¹

"Inherited proclivity," syphilis, exposure to cold, and muscular exertion are supposed to play a part in the ætiology of wasting palsy, though many cases occur in which none of these conditions have been present. A disease of adult life, more prone to attack males than females, showing a marked preference for the muscles of the upper extremities. The never-absent phenomena are "destruction of the muscular substance with consequent loss of power."

The treatment giving the best results is that generally recommended in the case reported.

PLASTER SUPPORTS.

BY W. T. BROWNE, M. D. (HARV.), JEWETT CITY, CONN.

THE object is to produce fixation with a material which shall be easy of application and easy of removal, being cleanly, light, durable, cheap, and ready for use as soon as one is done applying it. This may be attained by the use of plaster of Paris in the following way, for a support of the spine for instance:—

Take three, four, or five pieces of plaster gauze as wide as the support is to be, and long enough to go around the body and lap ten or fifteen centimetres each way. Lay these on another piece of the same length and eight or ten centimetres wider, and stitch them all together in the middle of their length, so that the seam shall extend up and down the front of the completed support; rub cosmoline into this seam in as narrow a line as possible. Hold the layers of gauze up to the body, so that the seam shall come over the sternum and the widest layer next the body, and cut out where they come under the arms and in the groins. It is not necessary to be very particular about the cutting, as the edge can be easily turned over the required amount after the plaster has been applied and before it has set.

The patient, having on the usual thin undershirt that fits well, and without any pads, is suspended in the usual way.

Eight hundred or one thousand grammes of plaster are now mixed with water to the consistency of cream, and while an assistant holds the gauze up to the body, the first layer is brought down smoothly and rubbed with plaster, then the next, and so on till all have been laid and filled with plaster; then turn the edges of the widest layer over the others, thus forming a binding and a smooth edge.

The plaster may be put on with a brush or with the hand; I prefer the hand. It requires about fifteen minutes to apply the plaster, so it should not set quicker than that.

Such a support is cleanly, for the edges being bound are not liable to crumble.

It is much lighter than when put on with rollers, as

¹ Meryon, *Med.-Chir. Trans.*, vol. xxxv., p. 76.