A new mode of treatment of congenital talipes : also a new mode of amputation at the ankle-joint / by I.N. Quimby.

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A NEW MODE

OF

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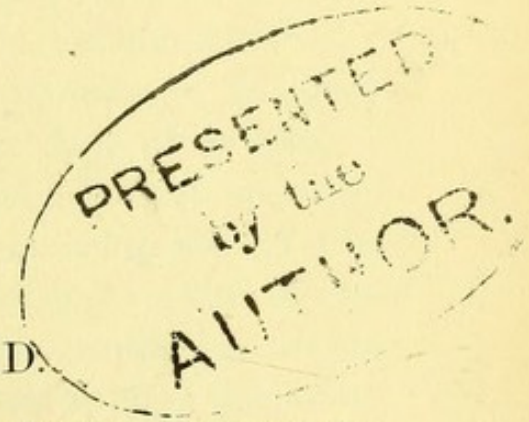
ALSO A NEW MODE OF

Amputation at the Ankle-Joint.



BY

I. N. QUIMBY, M.D.

Formerly Surgeon to Hudson County, New Jersey, Hospital; Member of the American Medical Association, the Hudson County Pathological Society, &c.

JERSEY CITY:

PANGBORN, DUNNING & DEAR, PRINTERS.

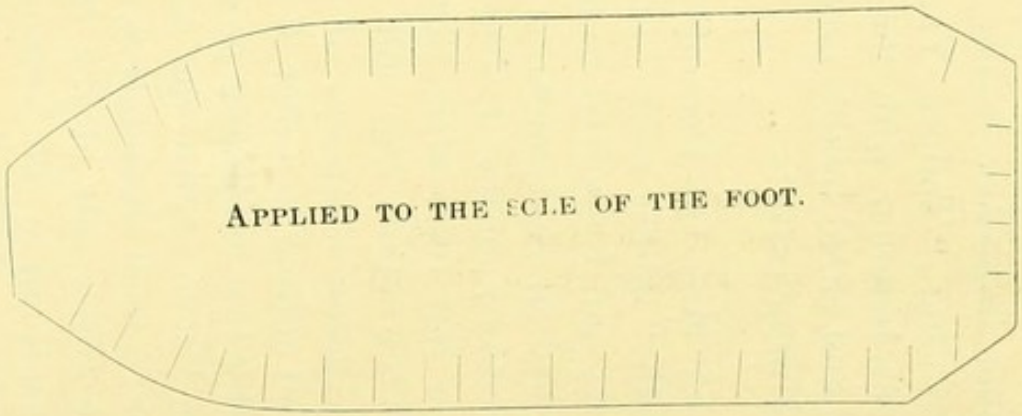
1875.

A New Treatment of Congenital Talipes.

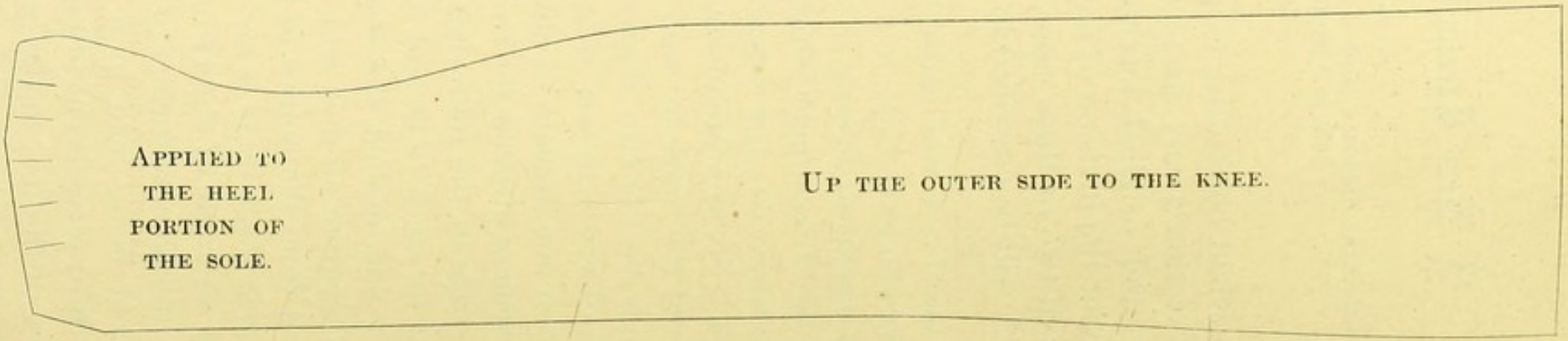
Read before the American Medical Association, in the City of Washington, May 3, 1870, and printed from their transactions.

I would be pleased to present to the American Medical Association a very hasty and rather imperfect sketch of a new and original method of treating "Talipes Varus" without the division of any tendons, together with the history of two or three cases, treated and cured by this process, which will be described in the following cases:—

Case I.—I was called to attend Mrs. Q., December 5, 1864, who gave birth to a child with "talipes varus" of the most aggravated form, in both feet; and I resolved to try a method of treatment which I had had in contemplation for some time, viz., the stretching process by means of adhesive strips. So, as a preliminary step, a few days after birth I ordered the nurse to wash and rub the child's feet and legs twice a day for two weeks, with a lotion composed of two parts of water to one of alcohol, and adding to a pint of this solution one drachm of alum. After this hardening process had been continued for two weeks, I then applied the adhesive strips in the following manner: I used three pieces, one being cut so as to fit and cover the entire sole of the foot. This being applied, the second piece is cut in the form of a parallelogram an inch and a half wide, and long enough to extend from the hollow of the foot to the knee, on the end of which piece there is an expansion of three inches, which forms an angle of eighty or ninety degrees, so as to extend from the plantar surface of the toes to the hollow of the foot, the foot being held in a proper position by an assistant. The third piece is cut of sufficient width to extend from the hollow of the foot to the heel, and extending up the leg to the same height as the other. A roller bandage is then

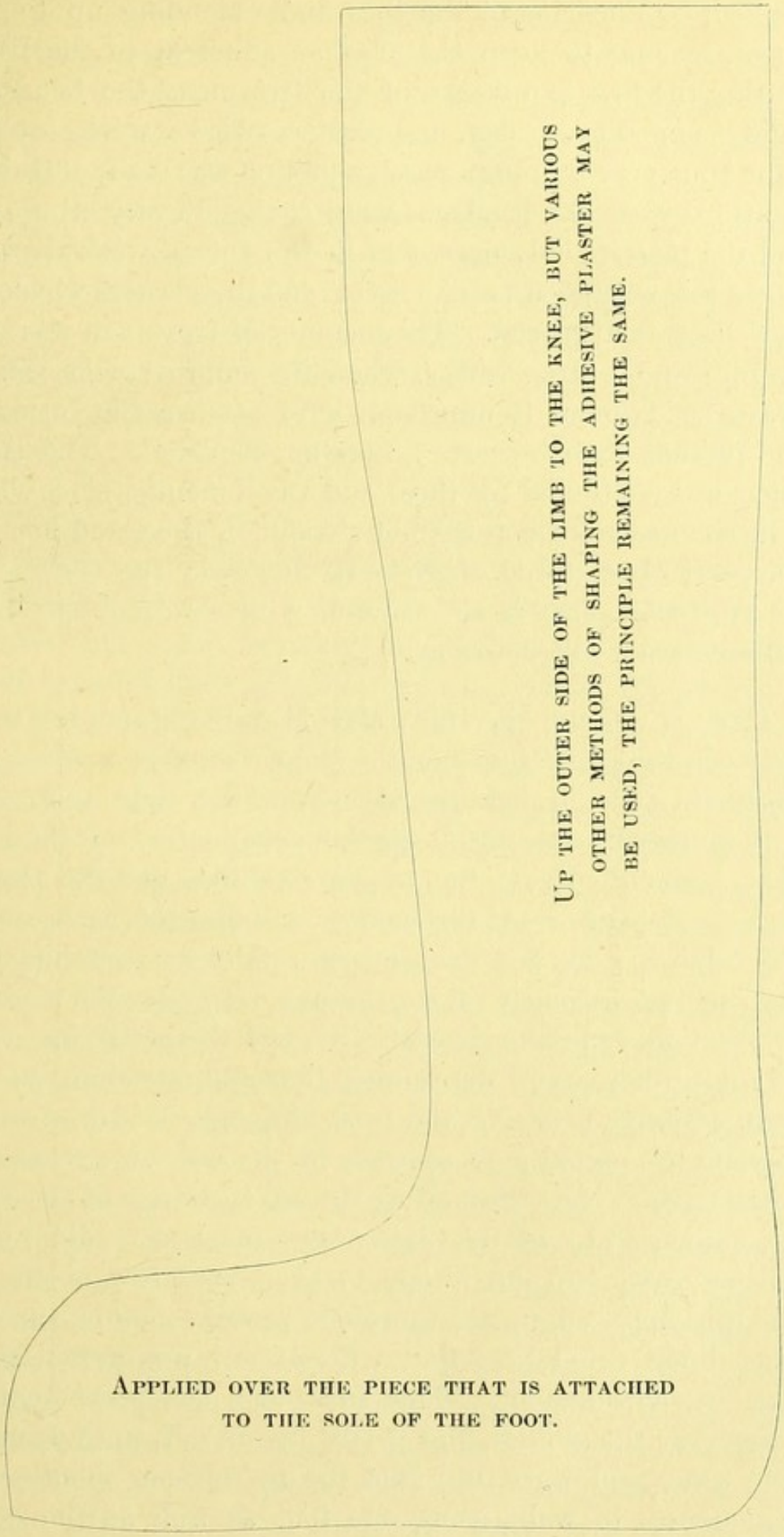


APPLIED TO THE SOLE OF THE FOOT.



APPLIED TO THE HEEL PORTION OF THE SOLE.

UP THE OUTER SIDE TO THE KNEE.



Up the outer side of the limb to the knee, but various other methods of shaping the adhesive plaster may be used, the principle remaining the same.

Applied over the piece that is attached to the sole of the foot.

applied, commencing at the toes and extending up to the knees, serving to keep the plasters adherent to the limb. During the first two weeks of the treatment the bandages were changed every day, and plasters twice a week—at the same time very thorough passive motion was made. During the third week the bandages were changed every other day, and the plasters only once, and in the fourth week the bandages were changed twice a week, and the plasters whenever they became displaced. This manner of treatment was kept up for two or three weeks, when the improvement was so great that I found it unnecessary to remove the bandages and plasters except as they became displaced. The treatment was continued for three and a half months, since which time she has worn nothing but a common shoe, and her feet are perfectly restored, there being not even the turning in of the toes, which is so common with children who have suffered from this deformity.

Case II.—June 15, 1867, Mrs. M. brought me her babe, between three and four months old, with a very marked and obstinate type of "talipes varus" of the right foot. My first impression was, after careful examination of the case, that I should divide the tendon Achilles and the plantar facia, and so informed the mother, and directed her to return the following day for that purpose. But in contemplating the yielding tendency of the human frame under constant application, especially in early life, and the gratifying result of my former case, I determined to try the stretching process with adhesive plaster in this case, although it had advanced beyond the period most *apropos* for its use, viz., at or soon after birth. Notwithstanding the advanced age of the child, I commenced to use the plaster very much as I did in the former case, and am happy to say, that after about five months' application, and thorough passive motion, the foot was almost wholly restored without any diminution in its size or development. This treatment has been kept up mostly by the mother, and partly by myself, until the present time, and now the child (being thirteen months old) commences to walk, using one foot as well as the other.

This is the end of the treatment, for as soon as you can get the child to stand squarely on the sole of its foot, nature (and the weight of the child) will complete the cure without any aid from science. I would like to call especially the attention of this Association to this case on account of its aggravated type, the advanced age of the child before the treatment was commenced, its perfect restoration, and the space of time occupied in its cure—showing clearly, that if it can be accomplished in a child of three or four months old, it can, without contradiction, be accomplished in a child when the treatment is commenced two or three weeks after birth.

Case III.—Mrs. H. gave birth, April 25, to a child with "talipes varus" in left foot of ordinary type, and on the fifth day after birth I applied the plasters, and found but little difficulty in bringing the foot into its normal position. Of course I have not had the time yet, in this recent case, to know positively what the end will be, but have not the least doubt, in my own mind, but that I shall have perfect restoration of the foot in the short space of from three to six months. I was led to try this experiment from observing, that after operating on weak and scrofulous children after complete restoration of the feet, there is most always weakness of the ankle-joint, together with partial atrophy of the limb, following the operation—and the same result may be found in healthy children—a defect which they will carry with them through life, and which I think is attributable somewhat, or perhaps altogether, to the delay in the treatment, to the division of the tendon and the plantar facia, and to the confinement which is necessary to keep the foot in its proper position. The necessary pressure has a tendency to impede circulation and retard development of the limb, which must be avoided if we would restore the proper function of the foot. One of my own children was also born with "talipes varus" in both feet, and not being pleased with the idea of waiting six months or a year—which is the custom of most surgeons—before anything was done for the deformity, and then using the knife, was to me rather

unsatisfactory. I thought there should be some more philosophical way of meeting this difficulty; so, after using various means, I at last found it in adhesive strips, to my gratification. I would like to call the attention of the medical profession to a few important points regarding this method of treatment.

1. That the assertion is erroneous, made by many eminent writers on orthopædic surgery, that if the deformity is due to muscular contraction, it cannot be cured without tenotomy.

2. The rule, as is practiced at the present day, of waiting from three to six months, or a year, before treatment is commenced, thereby allowing the tendons and ligaments to become more firm and unyielding, and the deformity more marked, is a waste of the most valuable time in the patient's life for the cure of this malformation, and may make all the difference between perfect and partial restoration.

3. That the feet can be completely and perfectly restored, however aggravated, when taken at the early period of from three to four weeks after birth.

4. The space of time required for restoration is not so long, and, besides, all the cumbersome shoes, with steel splints, elastic bands, etc., are dispensed with.

5. The utility of this treatment is such that it is not confined to a few expert surgeons, but every medical man, however remote in his rural practice, can use it with benefit to his patient; and if the deformity is, as asserted by some, due to defective innervation or motor paralysis, the adhesive plaster will act in a double capacity by giving mechanical support, and slightly stimulating, by its application, the cutaneous surface of the innervated muscles.

6. Again, it causes less suffering to the little patient, and is not so liable to cause irritation, ulceration, or sloughing of the integument, which is sometimes the case with other methods.

7. During the time of treatment by this method, the foot and limb are very little, if any, confined; and if the deformity is in one foot only, after the plasters and bandages are applied, the mother may have the great satisfaction of

dressing one foot the same as the other; or, if both feet are deformed, shoes or socks, adapted to normal feet, may be worn while the child is under treatment, and the deformity be concealed from all obtrusive eyes.

NOTE.—Since the commencement of this method of treatment, now nearly five years have elapsed, in which time I have treated many other cases by this method, with all the good results that could be desired. Since reading my paper before the American Medical Association, eminent surgeons, such as Prof. A. C. POST, of the New York Medical University of the City of New York, and others, have adopted this method of treatment in preference to all others, even when the age of the child has advanced to seven or eight months. And if the child has advanced to such an age as to preclude this method of treatment, then the tendon Achilles may be simply divided and the treatment carried on as above.

A New Mode of Amputation at the Ankle-Joint.

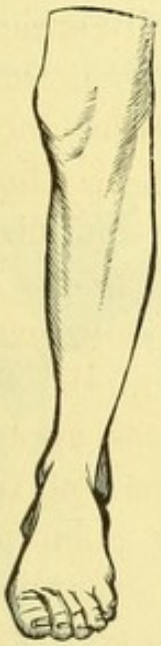
Read before the American Medical Association, in the City of Washington, May 3, 1870, and printed from their transactions.

I was called by Dr. Craig, May 18, 1866, to see Michael Donohoe, æt. 10 years, who had been run over by a city horse-car, the wheels passing over his foot high up in the instep, nearly severing the foot from the leg, with the exception of the astragalus and os calcis, the former being partially dislocated. The soft parts were terribly lacerated and contused, and a portion of them carried away. After a careful examination of the case, we determined to perform an operation that I had performed before with satisfactory results, viz., make a curvilinear incision across the dorsum of the foot, commencing anterior to and a little below the internal malleolus, and terminating at a corresponding point a little below the external malleolus, and then uniting the two extremities of the dorsal section by an incision across the sole of the foot, forming an anterior and posterior flap, similar to the operation performed by M. Pirogoff, of Rus-

sia. After forming the anterior flap and turning it back, I then dissected out the astragalus from its attachments, being careful to keep close to the bone. Then forming the posterior flap from the sole of the foot, I made a careful dissection, exposing the anterior half of the calcaneum; this being done, and the soft parts being well retracted by an assistant, the saw was applied so as to remove the anterior half of the bone by an oblique incision from above downward and from behind forward. The sharp edges of the remaining portion of the bone were then rounded off, and the *sawed surface was applied directly to the articular surface of the tibia, without removing any part of the cartilaginous surface.* After stitching up the flap in the usual way, a strip of adhesive plaster was applied, three inches in width, extending from the upper portion of the gastrocnemius muscle to a corresponding point on the anterior surface of the leg, passing directly over the os calcis, so as to keep it closely and pretty firmly in apposition to the articular surface of the tibia, which was kept there until union between the bones had taken place. The adhesive plaster, and the manner of using it as recommended by Dr. H. G. Davis, I regard as a very important auxiliary in the treatment, as it effectually prevents the retraction of the gastrocnemius muscle and the gaping of the wound. In the present case the patient was able in six weeks* to bear some weight upon the stump, and in two months could walk quite well; and in three months was going to school, running and playing with the rest of the boys, with but very little apparent inconvenience, and without any artificial assistance from crutch or cane. As there are some *new and important facts* developed in this case (such as the placing the *sawed surface* of bone directly in contact with a *cartilaginous surface*, and obtaining *union* by the *first* intention), and as this is the third operation I have performed, with like results in all, I thought it proper to call the attention of this learned Association and of the medical profession generally

* The case was seen at this stage by Prof. A. C. Post, who was very much pleased with the result, and recommends this method of amputation in young subjects.

to the *advantages of this amputation over any other at the ankle-joint.* The advantages of this operation are: First, that the relations of the tibia and fibula, and of their cartilaginous surfaces, are not in the least disturbed, and there is



Cast of sound limb four years after the operation.

Cast of amputated limb four years after the operation.

on that account a better chance for the growth and development of the limb in young subjects. That the limb continues to grow and attain its full development in exact proportion and equally with the sound limb, is proven beyond contradiction by the two casts that I here present. The operation in this case, as above stated, was performed May 18, 1866. The two casts which I here present were taken under my direction on the 28th of April, 1870. One is a model of the sound limb, the other was taken from the limb on which the operation was performed, and it is obvious that the one is as well developed as the other. The second advantage of this operation is that the vascular relations of the principal flaps are much less disturbed by dissection, and there is therefore much less danger of sloughing or tardy or imperfect healing of the wound. The third advantage is that it gives a more perfect stump, better adapted to bear all the weight of the body than those resulting from Syme's or Pirogoff's operation. Fourth, the

shortening of the limb does not exceed half an inch to an inch, consequently he can wear an ordinary boot by lacing it to the limb above the stump, and stuffing the distal extremity of the boot with hair or wool; or if he prefer to wear an artificial foot, such an appliance can be well adapted to it. The fifth advantage is that this operation will not be followed by osteo-myelitis or periostitis, which may be the

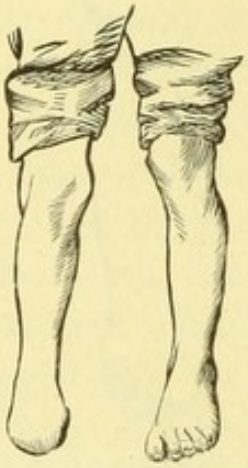
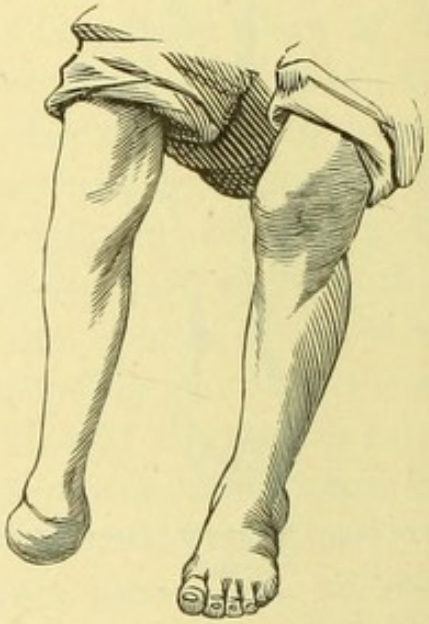


Photo taken from life two months after the operation.



Photos taken from life four years after the operation.

case with those operations where the malleoli together with a thin slice of the bone is sawn off. It is a well-known fact that inflammatory action, such as osteo-myelitis or periostitis, does sometimes follow Syme's or Pirogoff's operation, especially in young subjects. Sixth, that the operation can be done in one-half of the time of either of the operations to which I have referred, and with less dissection around the ankle-joint; consequently there is less danger of injuring the plantar arteries, and union by the first intention is more likely to occur. Seventh, I believe that the plan, generally adopted by surgeons, of removing healthy cartilaginous incrustations before adjusting the soft parts to the bone, is not founded on correct principles, and that there is no reason for apprehending any injurious consequences from placing a sawed section of bone in contact with cartilage.