An operation for paralytic calcaneo-cavus / by Robert Jones.

With the author's compliments.

An Operation for Paralytic Calcaneo-Cavus.

BY

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AN OPERATION FOR PARALYTIC CALCANEO-CAVUS.

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The literature of flail ankle is copious and conflicting, and that type known as paralytic pes calcaneo-cavus is, of all others, the most intractable to treat.

It may involve complete paralysis of the calf muscles, or only partial, and be accompanied by paralysis of some or all the other muscle groups. The heel is depressed and often continues in the line of the tibia, the posterior aspect of the os calcis becoming the inferior, while the hollow foot is dependent upon the depression of its anterior part at the midtarsal joint. (Fig. 5.) As the toe drops sometimes below the level of the heel, the general surgeon often commits the serious blunder of dividing the tendo Achillis and so cuts his only ally adrift.

Mechanical treatment is woefully depressing, and I think the most serious attempt from the operative side has been made by Royal Whitman.

Recognizing that from the upright position of the heel the body weight is erroneously deflected, he makes a long external incision from behind and above the external malleolus, below its extremity and terminating at the head of the astragalus. The peronei tendons are divided well forward and deflected ; the joint is opened and the foot displaced inwards. The astragalus is then enucleated. Sections of bone are removed from the outer surface of os calcis and cuboid. On the inner side the susten-

taculum tali is removed and the calcaneo-navicular ligament separated. The cartilage is removed from both malleoli. The foot is then displaced backwards as far as possible so that the external malleolus may cover the calcaneo-cuboid juncture while the inner is forced into the depression behind the scaphoid. If

FIG. 1.—Before.

FIG. 2.—After.

the peronei are active they are fixed to reinforce the Achillis tendon. The foot is then fixed in plaster in the attitude of equinus.

The operation I suggest as being both simple and effective

FIG. 3.—Before.

FIG. 4.—After.

is the following—but should not be performed in children below the age of eight.

(a) Calcaneo-cavus where the calf paralysis is complete. (Fig. 1.) The operation is to be done in two stages, four weeks intervening.

Stage I.—Divide the plantar fascia if contracted and wrench with hand or instrument.

Make an incision down to bone about three inches in length

FIG. 5.—(X-ray of Fig. 4.)

on the inner side of the foot; the center of the incision being opposite the angle of convexity.

FIG. 6.—Before operation.

With periosteum elevator separate the soft structures from the tarsus above and below from the inner to the outer side.

Remove a transtarsal V-shaped section of bone. (Fig. 9.)

If there be valgoid deformity let the section be wider on the inner than on the outer side. Suture, and obliterate the cavus deformity by extending the foot which is now bandaged to the

FIG. 7.—After first stage.

tibia, the calcaneus deformity being apparently much increased. (Fig. 10.)

Stage II (four weeks later).

Make a longitudinal incision at back of heel, the center being

FIG. 8.—Operation complete.

opposite the ankle-joint. Open the joint and take a wedge from the astragalus, sufficiently large to be accurately obliterated when the foot is brought to right angles. Denude tibia and fibula of cartilage. (Fig. 11.)

The foot should be brought to right angles and fixed immovably until union is complete. (Fig. 12.)

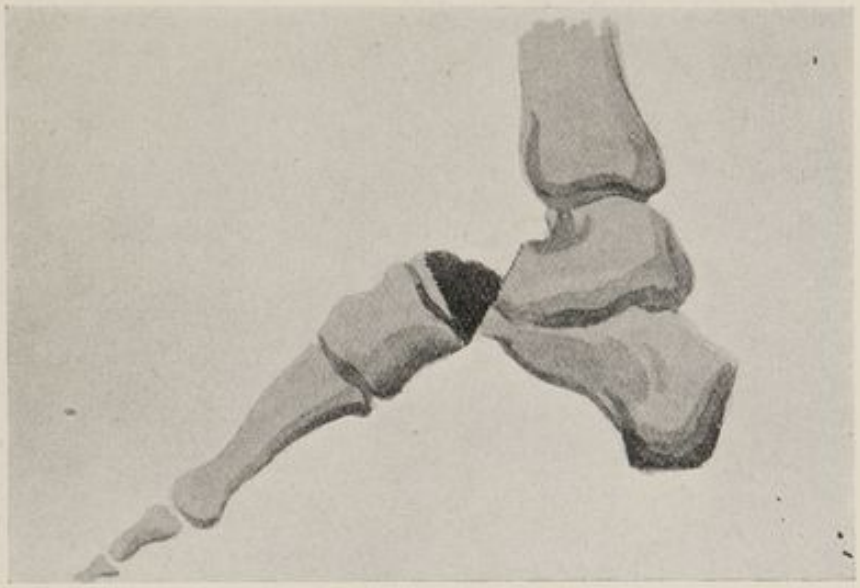

FIG. 9.—First stage.

(b) Calcaneo-cavus where some power remains in the calf muscle. (Figs. 3 and 4.)

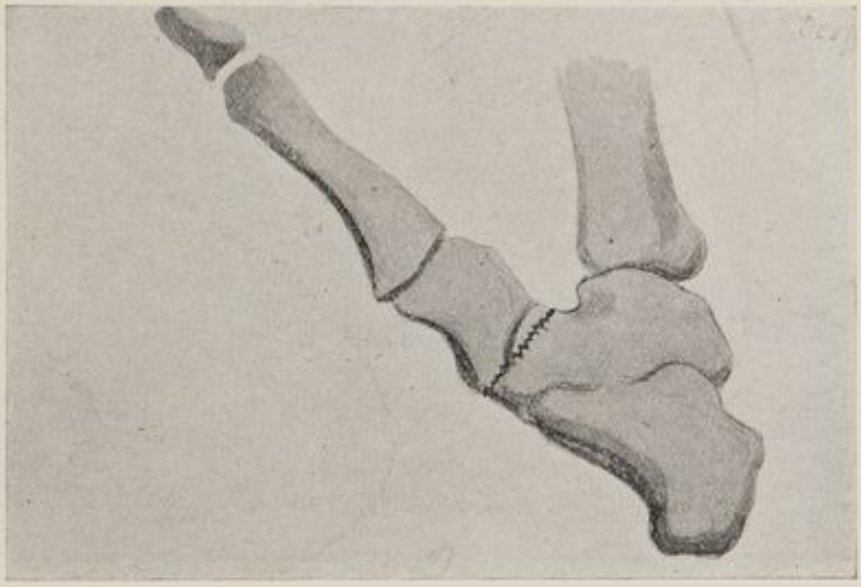

FIG. 10.—First stage.

Stage I as before.

Stage II.—Shorten the capsule. Shorten the tendo achillis;

remove a skin flap and after three weeks, massage the gastrocnemius. In this case it is not advisable to remove bone.

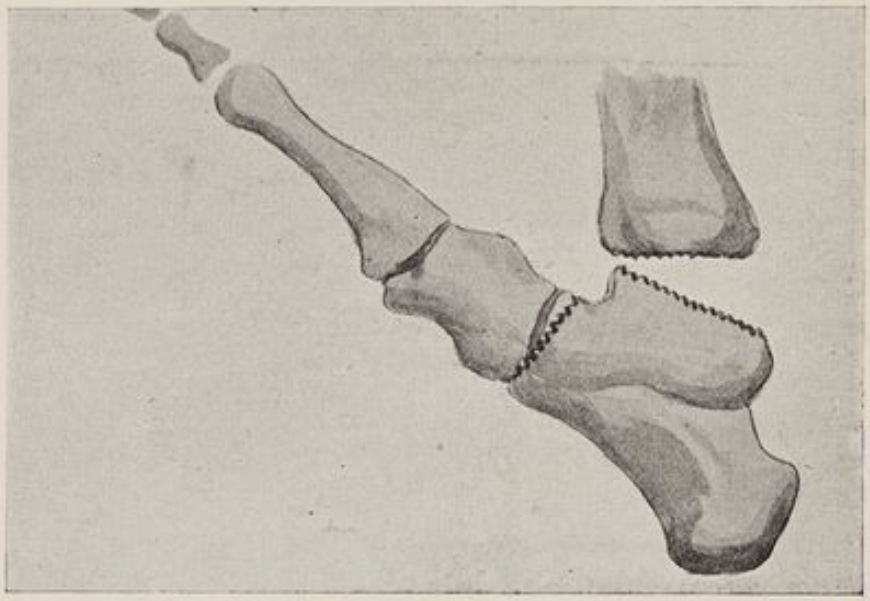

FIG. 11.—Second stage. A month later.

In older subjects it may be necessary when removing a wedge to incise the outside as well as the inside of the foot.

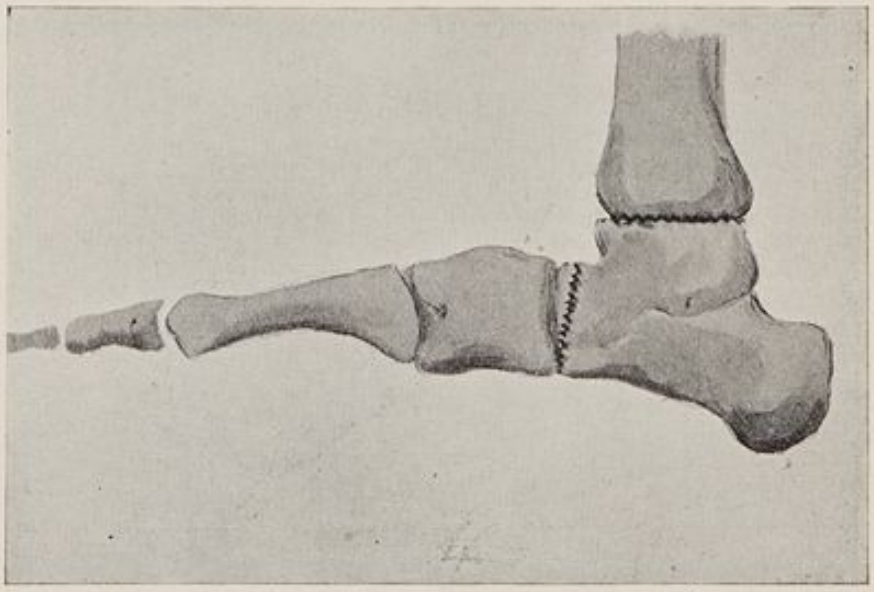

FIG. 12.—Second stage. A month later.

For some weeks after walking has commenced the foot should be protected against strain.

Figs. 6 to 8 show the X-ray appearances in the various stages.