climates is liable to become a systemic disease, and any organ of the body may become involved.

DR. HAROLD N. COLE, Cleveland: We have all seen cases of blastomycosis which did not seem to respond to any of the remedies recommended: arsphenamin, copper sulphate or any of those things. We have tried foreign proteins in some cases and the results are striking, accruing within twenty-four hours. I have seen the cutaneous picture change over night after an injection of 75,000,000 bacilli; in five days we give another dose of 125,000,000, and in another five days we give 150,000,000. A very severe reaction results, the local picture changes, and the condition seems to react more easily to other remedies after this treatment has been given. We have used the typhoid bacillus in this work.

DR. CLEMENT R. MARSHALL, Memphis, Tenn.: I am very glad to have heard these reports of cases, especially those with involvement of the epididymis, because in the literature it is very rare to find cases in which the epididymis was involved. One case was reported by Riley in 1903, in which both sides were involved, and another was reported by Hill, in which the right side was involved; so whether the left side is more liable to be affected or not, I cannot say. In the cases spoken of today, there was not the local involvement as in our case, but an invasion of every organ; so I think that our case is unique, in that it went along for years, and then suddenly involved the epididymis without other visceral metastases. Dr. Cole's treatment with foreign protein should be tried out thoroughly. The treatment with potassium iodid has not been very satisfactory in the systemic cases.

Clinical Notes, Suggestions, and New Instruments

IMPROVED METHOD OF TREATING OBLIQUE FRACTURE OF THE TIBIA

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The problem in treating oblique fractures of the tibia is in maintaining the reduction of the fragments—in other words, traction. The physiologic position is that in which the desiderata are most easily maintained and the objectionable muscle action is best avoided. Sixty degrees' flexion

Fig. 1.—Details of apparatus for use in treating oblique fracture of the tibia.

of the knee and 90 degrees of ankle is the position of choice. It is impossible to hold the foot by hand in the correct position while applying plaster.

There is at present no apparatus that offers the following requirements: With flexion of the knee and dorsiflexion of the ankle, (1) to overcome overriding from muscle pull; (2) to obtain countertraction as well as traction; (3) to prevent

rotation of the lower fragments; (4) to control eversion and inversion of the foot; (5) to control angulation and lateral displacements, and (6) to permit free application of plaster on obtaining all these corrections and to maintain the corrections in the plaster.

I have therefore found it necessary to devise a fracture frame as in Figure 1. This frame is portable because it is

Fig. 2.—Apparatus in use.

readily assembled. It holds the thigh flexed at hip and knee. A large upper sling around the thigh wound on a steel tube turning on a ratchet allows take-up after partial stretching. A foot piece to which the foot is firmly bandaged permits all motions: rotation, inversion, eversion and traction. The foot is fastened to a sole plate by a muslin bandage, as in Figure 1. Two hands alone are required. The first tour of the bandage passes from the top of the plate behind the heel and back again, supporting the foot, and preventing it from becoming displaced posteriorly. The second tour is around the foot and plate; the third, to and fro across the ankle, fastening in the grooves cut in the plate posteriorly. By cutting the first turn at the top, one may remove the plate entirely from the finished cast and apparatus, freeing the foot from all constricting bandages, as each tour of the bandage also encircles the plate. The plate is held in a slide attached to a ball. The ball and socket joint at the heel, allowing all foot positions, is readily and firmly fastened by one screw.

Traction at the fracture site can be gradually increased without disturbing the arrangement at either end. Antero-posterior and lateral pulls at any level can be added. The limb is held free to allow application of the splint without disturbing the patient. When completed and hardened, the thigh sling is removed from the frame and the foot plate from the lower part. The upper sling temporarily causes pressure on the artery and inhibits circulation. This apparently has an anesthetic effect, and no objectionable sequences have been observed. Any amount of pull can be obtained in the frame, but I consider from 5 to 10 pounds enough in the cast. One should allow from ten to fifteen minutes to overcome the muscle spasm and accomplish the stretching, and during this time gradually take up on the adjustments before beginning the application of the plaster bandage, which should include the thigh and entire foot. Anesthesia is unnecessary in setting these fractures. No undue pain is caused in handling patients; in fact, relief from pain is experienced.

While the parts are thus securely held in traction, the patient will relax his muscle spasm, and the hands of the operator are free to manipulate the fragments. It is simple to determine when the position is satisfactory without waiting for the roentgen ray. The bones are palpable subcutaneously. There is a tendency to posterior displacement of the lower fragment, owing to the quadriceps action above

and the ankle flexors below, which must be guarded against. The entire dorsum of the foot presents a surface large enough to stand from 5 to 10 pounds pressure when held securely. The posterior surface of the thigh is adequate for counter-traction. These surfaces are at right angles to the pull, and the parts cannot slide by and cause relaxation. The large surfaces used distribute the tension.

Compound fractures, which are so frequent at this site, can be treated in the same way. Nor does the presence of secondary traumatic lesions, such as multiple or comminuted fractures, lacerations, infections or nerve lesions, give a contrary indication.

I have used this apparatus for five years, and am encouraged by my results and those of others with it to present it. 261 Central Park West.

A NEW HEAD REST FOR SUBOCCIPITAL CRANIOTOMY AND CERVICAL LAMINECTOMY

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Flexion of the head with obliteration of the folds usually found in the occipital and cervical regions is essential in order to obtain the best exposure in either suboccipital

Fig. 1.—Head rest for suboccipital craniotomy and cervical laminectomy, as shown here attached to table. By means of piece *a*, any degree of flexion or extension needed may be obtained. By sliding *b'* through *b*, the head piece may be moved backward or forward; similarly, by sliding *c'* through *c*, the head piece as a whole may be lowered or raised. *A*, metal, and *B*, canvas head piece, either of which may be used by sliding *b'* through *b*.

craniotomy or cervical laminectomy. We have sometimes found that sufficient flexion is not produced by the head rest, and traction by an assistant has been necessary. If a retractor is used it is usually applied in the region of the external occipital protuberance where only a scant purchase is possible, and if the retractor slips the tissues are likely to be stripped from the cranium or torn. Such traumatism where the corners of the incision come together is unfortunate, since it is the weakest part of the wound and, unless the tissues at this point are brought together accurately, leakage of cerebrospinal fluid may be favored. In order to obtain flexion and better exposure of the suboccipital region without addi-

tional traction, and also free an assistant, the head rest here described was devised.

A principle is used which is generally avoided in any anesthesia, namely, forcing the chin backward. By forcing the chin back, flexion of the head is obtained, the folds of

Fig. 2.—*A*, position of patient ready for suboccipital craniotomy or cervical laminectomy: obliteration of folds of neck and exposure of suboccipital region. A sterile towel is pinned through the scalp and to head piece, thus walling off all of head and making position of head more secure. *B*, position to permit approximation of wound in suboccipital craniotomy. *C*, canvas head piece, and position of face as seen from below.

the neck are obliterated, and an excellent exposure of the suboccipital region is gained. With the face down position this procedure does not cause any embarrassment to breathing or any other untoward sign.

A head piece should fit any facial and cranial configuration; this is not as practicable in a solid metal head piece

Fig. 3.—Position obtained with head rest: obliteration of the folds in the cervical and suboccipital region.

as in a more pliable material. To meet this, a canvas face piece is attached to the head piece. Canvas is self conforming, adapting itself to any shape of head, pressure is evenly distributed, and no special soreness has been noted, even