

cases that extension made with the cast on is very much more comfortable to the patient than traction made on the foot without the plaster cast.

DR. JOHN RIDLON, Chicago: I wish to utter a word of caution against putting on a plaster boot and making traction on it. The heel very easily becomes sore from the constant pressure used in making traction on the plaster boot and maintaining it by the plaster boot and a fixed point of the bone. When a patient complains of the heel or the dorsum of the foot, the matter should be at once investigated. I had the misfortune in one case to have a necrotic spot produced on the heel as big as a silver dollar, which took four months to heal. It is a beautiful way to make traction; but the padding must be very thick, and great care exercised lest necrotic spots appear.

DR. J. D. GRIFFITH, Kansas City, Mo.: We must be, and are, exceedingly interested in all this fracture work. We must remember that the public to-day expects 500 per cent. more than it did thirty-five or forty years ago. We are now not only more liable to complaint from the public, but also to be cautioned by the attorney for the patient that we shall be brought up before a judge to decide whether or not the fracture was properly treated. Nowhere in the body do we get into more trouble than in fractures between the foot and the knee, with the exception of the ordinary common Colles's fracture; and this is the place where the individual feels the pain. He will then hunt up a shyster attorney to bring suit on account of the pain in the foot after a fracture of the tibia or fibula. The roentgenogram, which he has succeeded in getting in plate or picture from the other man, shows that he has not a perfect line in one position or the other. If he gets hold of the wrong one, or the worst one, this will raise a row. Every now and then, in making this forced traction that Dr. Peckham speaks of, on the Bradford frame or in any other way, we do not always know the condition of the patient's musculature and ligamentous structures as we should. I was unfortunate in one case, in which, while making this traction, the following day—or shortly afterward, within two or three hours—there was a sharp, acute, synovitis of the knee-joint. I made up my mind that in this case, although the fracture was at the juncture of the lower and middle third, I had made traction enough to frazzle or nearly tear in two the lateral ligaments of the knee; and it was six or eight months before the patient could put weight on the knee without pain. I came near getting into a lawsuit over this case, hence, this word of caution. This is an exceedingly interesting phase of the subject; because we are continuously advancing, and our education of the people is now such that they quickly learn every thing that we should do.

DR. F. J. CORRON, Boston: I agree entirely with Dr. Albee. Dr. Peckham's work is interesting, not only in general, but also because it is the way by which we can avoid non-union in the lower half of the leg, which has been annoying us for so long. Frequently cases of non-union have been observed after the use of Lane plates, and a good many cases have occurred without previous plating. It seems to me that it depends on poor reduction; and that our way out of the difficulty depends on careful mechanical work, so as to get an exactly true position and to obtain primary healing, even in this poorly nourished region of the body. This is the only way to avoid the cases that come to us in such large numbers later on.

DR. F. E. PECKHAM, Providence, R. I.: So far as Dr. Orr's method of treatment is concerned, I distinctly stated in my

paper that while this is my method, the other may be equally good. I cannot use Dr. Orr's method so well as my own because I am not sure of my alignment after the foot is encased in plaster. This statement that these cases must be clinically in alignment also answers Dr. Baldwin. I think that he must have misread the roentgenogram, because these fractures are in alignment clinically, and the weight-bearing of the patients is all right. Dr. Ridlon's caution is well given. I have sorrowed for the same reason that he has. I had a case of a bad slough on a heel; but I have found that with the thickness of the felt that I am now using, I have, so far, been able to avoid such accidents. Nevertheless, that is an important point. The heavy gray felt seems to overcome this difficulty.

ANKYLOSIS OF THE ELBOW

WITH REPORT OF FOUR CASES TREATED BY
ARTHROPLASTY*

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Ankylosis of the elbow is probably more objectionable than ankylosis in any other joint in the body. Elsewhere, while stiffness is objectionable, there is, nevertheless, an advantage gained in obtaining stiffness in a good position, more particularly in the hip and knee joints. In the hip, for example, we try to get extension and abduction, realizing that flexion and adduction are deformities interfering with function. In these joints, the end-results of arthroplasties are not so certain. In the elbow, however, there is no position in which ankylosis will not interfere with function.

Ankylosis is in the main the result either of infection or of trauma. The former may be caused by various organisms. When the onset is sudden and the course severe, the causative agent is usually the pneumococcus, gonococcus or streptococcus. Ankylosis may, however, result from a polyarticular arthritis, of insidious onset and progressive course. In the former, the resulting ankylosis is usually bony; in the latter, at least at first, it is fibrous.

Following trauma the ankylosis is commonly the result of a dislocation fracture with wide displacement. The ankylosis result is in this case due to mechanical interference. The hematoma formed at the time of the trauma organizes, forming considerable exuberant tissue; ankylosis finally resulting is fibrous.

Various methods have been tried to remedy this ankylosis. Wolff attempted to correct the deformity by removing all the exuberant tissue. This method has usually been attended by poor results, owing

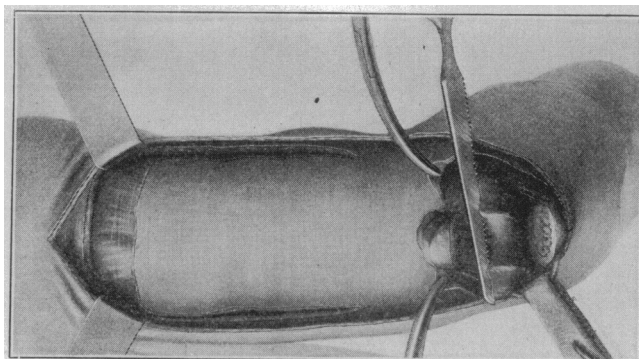


Fig. 1.—Arthroplasty (Murphy). Skin and fat dissected to either side. Fat flap below skin to triceps elevated. Ulnar nerve dissected out and retracted by gauze. Olecranon tip sawed through and pushed up. End of humerus being sawed off.

* Read before the Section on Orthopedic Surgery at the Sixty-Fifth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1914.

* Because of lack of space this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints.

largely to the inaccessibility of the part and difficulty of approach.

Various foreign substances have been used by different men to separate the parts. Gluck used ivory pegs, Pupovac magnesium sheets, Baer¹ chromicized animal membrane. These have been found unsuccessful and have been largely abandoned. The inabsorbable

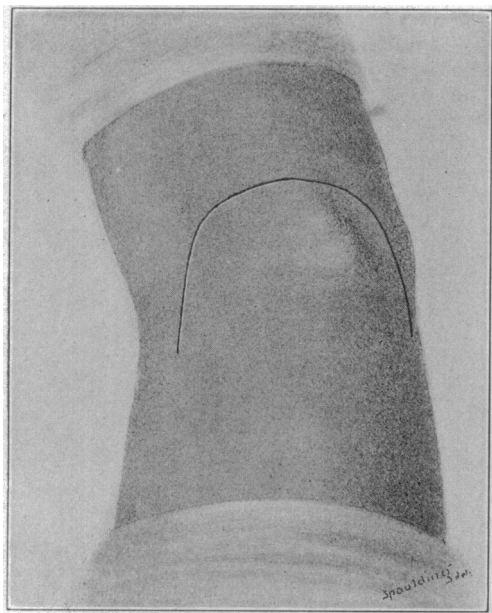


Fig. 2.—Line of incision.

material acts as a sequestrum and later gives rise to irritation. The Baer membrane has not been successful in my hands because of reankylosis after the rapid absorption of the membrane.

The interposition of soft tissues was first used in a case of temporomaxillary ankylosis in 1893 by Helferich,² who interposed part of the temporal muscles.

In the elbow the first operation on record is that of Quenu³ in 1902, who resected extensively the inferior end of the humerus and the superior end of the forearm, and detaching the anterior ligament and doubling it with a few fibers from the brachialis anticus, fixed it against the bony surface of the humerus with three sutures to the fibrous posterior parts, keeping the parts in plaster fifteen days. He reported a good functional result.

Murphy¹⁰ first used his fascia method in October, 1901, on a knee joint. A large layer of fascia lata with a thin layer of muscle tissue attached was dissected from the outer surface of the vastus externus, with its base below and anterior. A small flap of fascia covering the vastus internus was dissected free and placed between the patella and the femur. He first mobilized the elbow by this method in 1904 in a case of ankylosing arthritis. A pyriform flap of deep fascia was dissected from the posterior surface of the triceps. The flap was $4\frac{1}{2}$ inches long by 2 inches wide at its upper end and received its blood supply from a broad pedicle which remained attached to the muscle and fascia just below the level of the olecranon. After the bony parts had been remodeled, the fascia was drawn down and turned onto the joint around

the inner margin of the olecranon. The proximal portion of the flap covered the trochlea and lined the olecranon depression and the lesser sigmoid cavity, while the distal portion covered the external condyle. Subsequent events showed that the flap was not carried sufficiently high on the anterior surface of the humerus to permit adequate flexion of the joint. Five months later, the patient could pass his hand through an arc of 5 inches. Pronation and supination were about one-half normal. His second case was reported two months after operation. The hand could be moved actively through an arc of 3 inches and the elbow forcibly flexed to an acute angle and extended to 160 degrees. Pronation and supination were approaching normal.

I believe from my experience thus far that there are certain objections in dealing with the fatty tissue used by Murphy, such as embolus, fatty necrosis from poor circulation and as happened in Cases 1 and 2, skin necrosis due to the use in the flap of the tissue holding its blood-supply. I, nevertheless, report these cases, citing my fat and fascia method in the first two and the transplantation of fascia lata in the third and fourth, a procedure much more surgical in appearance and with development in technic I am sure more satisfactory in final results.

CASE 1.—M. R., woman, aged 34, referred by Dr. Hussey of Holyoke. Family history negative. She has had attacks of rheumatism for the last thirteen years, affecting ankles, elbows and knees. These were affected nine years ago, and were operated on one year later. The right wrist was attacked five years ago, the left wrist and knee six months

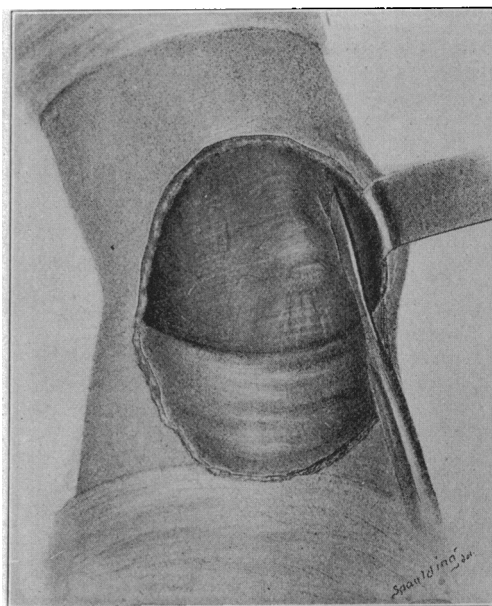


Fig. 3.—Dissecting out ulnar nerve.

ago. Examination revealed a well-developed and nourished woman. Heart and lungs negative. Right knee ankylosed with scars on either side. Both knees slightly flexed. Right ankle, contractures. Ankylosis with some contracture of the Achilles tendon. Right elbow ankylosed in about 125 degrees. Left elbow, motion good with exception of 10 degrees limitation in extension. Patient was admitted to the orthopedic service of the Carney Hospital, Sept. 6, 1910, and received rest, compression strapping for the knees, and spiral strapping for the feet, together with aspirin and flannel bandages. Under this treatment very slight improvement took place in

1. Baer: *Am. Jour. Orthop. Surg.*, 1909-1910, vii, 1.
2. Helferich: *Verhandl. d. deutsch. Ges. f. Chir.*, 1894, xxiii, 504.
3. Quenu: *Bull. et mém. Soc. de chir. de Paris*, 1902, xxviii, 724.
10. Murphy, N.: *Tr. Am. Surg. Assn.*, 1904, xxii, 313.

the knees and feet. In October, on account of the swelling and bogginess of the left knee, an arthrotomy was advised.

October 19, ether operation, Dr. MacAusland. Incision about 4 inches long, on the inner side of the left knee, extending through the fascia and capsule into the joint. The synovial fluid was thickened and viscid, and a large lipoma

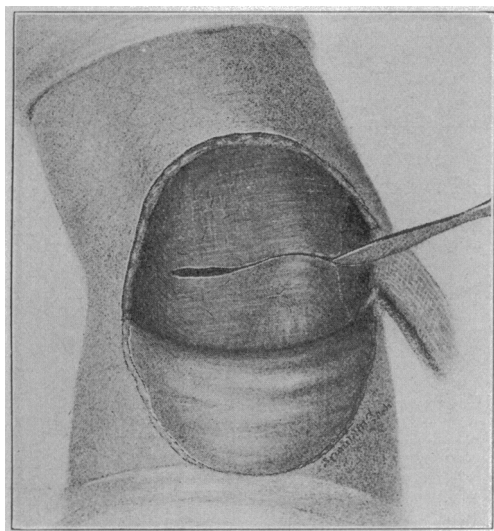


Fig. 4.—Cutting through muscle and fascia to joint.

present in the anterior part of the joint which was removed as well as many of the small fringes, and the joint washed out with salt solution. The incision was closed in the usual manner. Daily manipulations followed this operation, beginning on the fifth day, and an uneventful recovery took place as regards the knee.

As the right elbow was stiff and in a very ungainly position, an arthroplasty was advised. Nov. 9, 1910, ether operation, Dr. MacAusland. An incision was made extending from just below the right shoulder down the back of the arm

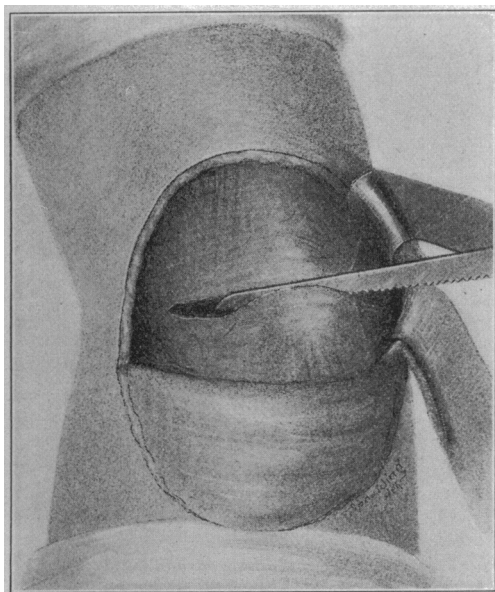


Fig. 5.—Sawing through olecranon tip and end of humerus.

to about 3 inches below the elbow joint (Fig. 1). The skin was dissected off at each side, and a large flap of fat and fascia just above the olecranon process freed. The right elbow joint was then opened by a transverse incision across the olecranon and through the capsule. The end of the humerus was excised and the radius and ulna rounded off

with a file, making an artificial joint. The flap was then turned from the back of the arm to the inside of the joint and sutured there by heavy catgut, and the olecranon process with the triceps tendon was put through a slit in this fascia and united to the ulna by heavy chromic catgut sutures. The skin was closed with interrupted catgut, and silk-worm-gut.

Nov. 10, 1910, the right hand was considerably swollen and painful, for which pressure and hot fomentations were applied. The skin on the upper part of the arm became somewhat necrotic from poor circulation and later sloughed.

November 21, the stitches were removed.

November 23, dry dressing, wound cleaned.

November 30, passive motions started daily. First attempt was made at motion, when 30 degrees were attained.

December 7, doing well; gaining motion gradually.

Dec. 24, 1910, massage to hand, forearm and shoulder.

Jan. 11, 1911, about 30 to 40 degrees motion in flexion and extension obtained. Heavy granulation tissue.

January 18, discharged from the house. Dressings to be done at home.

Feb. 28, readmitted to the house for manipulation. Normal motion was obtained.

March 13, 1911, discharged to continue with massage, manipulations at home. Since this time patient has been seen

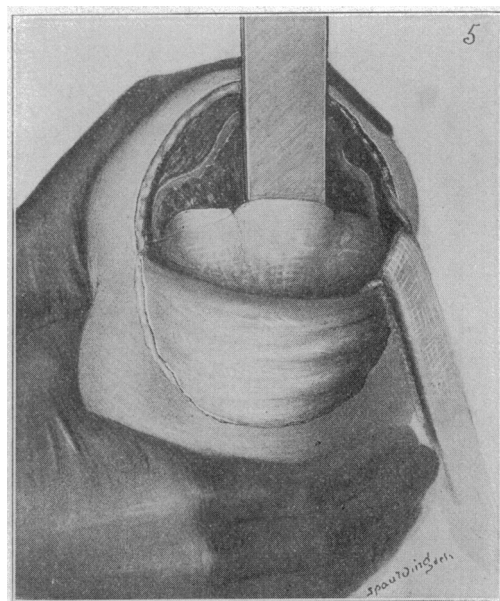


Fig. 6.—Splitting off tip of olecranon with chisel.

in the out-patient department. There is practically no lateral mobility, and the end-result is perfect function.

CASE 2.—F. P., woman, fell and injured elbow, March, 1908. The injury was treated as a sprain and put in splints for about a week. The elbow was discolored and swollen. Liniments were prescribed for the stiffness with no effect. She was able to go back to work in the course of a few weeks, having only slight pain and stiffness, but as time went on, the motion shut down. She received osteopathic treatments for a month without any result. In 1908 she attended the hospital clinic, where roentgenograms were taken, and the arm kept under observation for six weeks. During this time the elbow seemed to be stiffening more and more. Patient entered the orthopedic department of the Carney Hospital, Nov. 17, 1908, and at that time had about 30 degrees motion, but was unable to flex the arm beyond a right angle.

Nov. 18, 1908, a 4-inch incision was made between the external condyle and the olecranon, and posterior displacement of the epiphysis of the humerus was found which, with the callus present, prevented extension. The projection of the humerus forward prevented the flexion beyond a right angle; as much as possible of the exuberant bone was removed.

Nov. 20, 1908, the second day after operation, she had a great deal of swelling and pain in the fingers. The plaster cast was therefore removed. Patient had lost all motion of the fingers owing probably to the forcible manipulation and the large amount of swelling. The plaster was unfortunately allowed to remain on for three days and a paralysis developed.

Dec. 2, 1908, patient was seen in consultation with Dr. Bullard, who considered the case one of Volkmann's paralysis.

Dec. 3, 1908, received daily massage and baking.

Feb. 9, 1909, entered the orthopedic service of the Carney Hospital and was recommended to have a manipulation under ether.

Feb. 10, 1909, ether manipulation, Dr. MacAusland. The right forearm was forcibly flexed and extended through an arc of about 60 degrees, during which the adhesions were felt to break up.

Feb. 14, 1909, the patient has gained about 15 degrees of motion but complains of some pain in the elbow and shoulder. From the time of the first operation, Nov. 17, 1908, until April, 1909, she could not move any of the fingers and there was no rotation. The first sensation of life came in the arm with a slight twitching of the fingers, April 2 and 3, 1909. She received daily baking and massage and passive movements from this time on. Gradually, through the summer months,

which became septic, requiring, one week later, his entrance to hospital as the sepsis had become general. Five incisions were made in the left hand, two in the left wrist, one close to the left elbow joint, and one in the left hip. All had drains put in. A student in the hospital opened a swelling near the right elbow and cut into the joint. At the end of

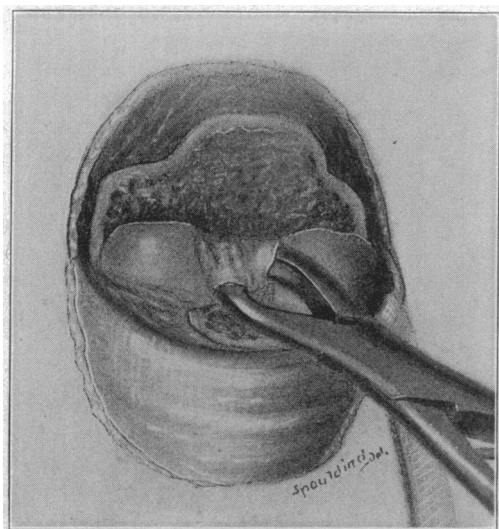


Fig. 7.—Cutting out with rongeur forceps bit of olecranon tip left in humerus.

she gained entire control of all the muscles of the forearm and fingers, although she had only a few degrees of motion in the elbow. This illustrates a splendid recovery from the Volkmann's paralysis, due, probably, to the efficient baking and massage, but, unfortunately, on account of sensitiveness of the elbow, there was not so much motion as before operation, so that an arthroplasty was thought advisable.

In December, 1909, the patient entered the orthopedic service of the Carney Hospital, and at this time an arthroplasty of the elbow was done according to method described in Case 1.

The circulation of the skin above the original site of the flaps became somewhat diminished and there was a small amount of sloughing. Wound was dressed each day, and about the fifth day daily movements were attempted. In the course of a month, massage and baking were again taken up, and continued until May, 1910. The result is that the patient has full motion of the arm in flexion, and extension to within 15 degrees of straight, and has a perfect functional hand, in spite of the slight limitation in extension, and uses the arm daily, being employed as a stenographer.

CASE 3.—D. W., man, aged 42, referred by Dr. Shea. Case operated before New Hampshire State Surgical Club. March 25, 1911, he received a contused wound of left thumb,

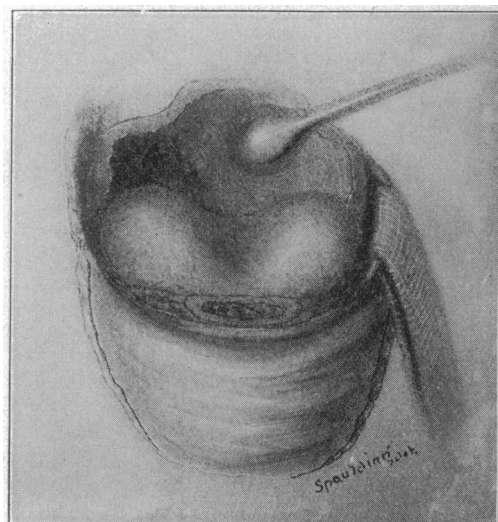


Fig. 8.—Scooping out ulna and radius with curet.

twenty-one weeks the patient was discharged from the hospital with bony ankylosis of the right elbow and with but a few degrees of motion in the left elbow. Both joints were slightly flexed. The left wrist had a sinus which still drained a little and he had little motion in the fingers, being unable to flex them to a right angle with the palm of the hand. He was

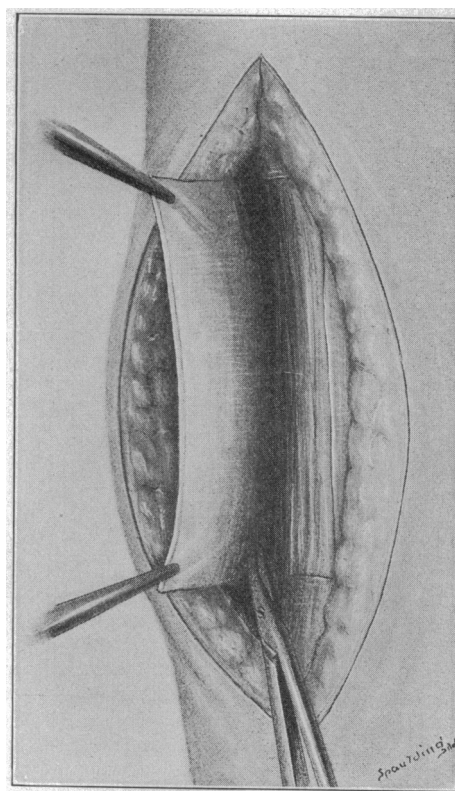


Fig. 9.—Cutting fascia lata from thigh.

unable to feed himself or to touch his head with either hand. He entered St. Joseph's Hospital a few weeks later and was operated on in March, 1912.

Operation was performed by Drs. MacAusland, Shea and Wallace. After the usual preparation and the application of a tourniquet, a U-shaped incision was made, beginning on the lateral aspect about 3 inches above the elbow joint, and passing over the middle of the olecranon to a corresponding position on the opposite side (Fig. 2). The skin and superficial fascia was dissected up to a base line at the end of the incision and then retracted. The skin and fascia were then dissected a little on both sides and on the forearm end of incision. The ulnar nerve was dissected out of its sheath, and gently retracted with gauze (Fig. 3). A straight incision

the joint surfaces should fit accurately before the fascia is applied, but the joint should not be too loose. Only sufficient bone must be removed to give free motion. If too much of the ends of the bones is removed, a flail joint will result, giving the operation no advantage over an excision. When this mortising was completed, the fascia flap was dissected out of the right leg.

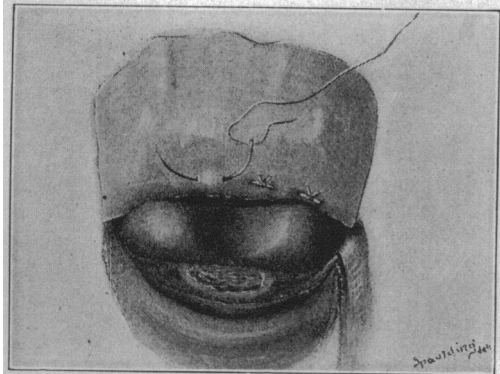


Fig. 10.—Sewing fascia lata to elbow joint anteriorly.

was made extending from one lateral aspect of the condyle to the opposite, crossing midway on the olecranon (Fig. 4). As the capsule and fascia were adherent the incision was made down to the bone over the condyle so as to elevate *en masse* the tissue which would serve as a new capsule. The olecranon was then sawed across and separated (Fig. 5). Owing to the extensive bony ankylosis, even with extreme force the joint could not then be broken open so that it was necessary to saw directly across the line of the old joint. When about three-fourths through the joint, it was possible to fracture the remainder (Fig. 6). There was no doubt of its being a bony ankylosis.

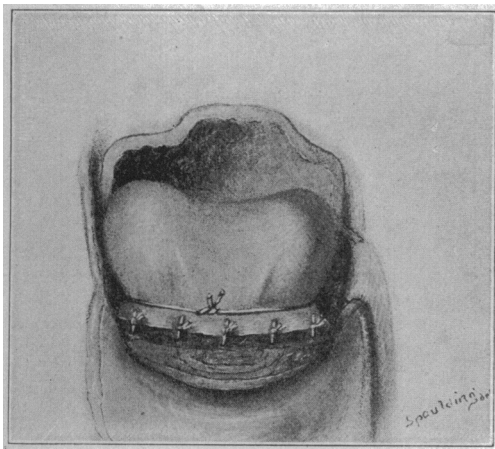


Fig. 11.—Fascia sewed over humerus; tied with kangaroo suture.

The capsule and fascia and ligaments were dissected back so as to allow the lower end of the humerus to protrude out of the wound when its square edges were snipped off with a rongeur forceps and a new trochlear or intercondylar surface formed (Fig. 7). A shoemaker's rasp was used to file this extremity as near like a normal humeral end as possible. A piece was then removed corresponding to the olecranon fossa in the normal humerus (Fig. 8). After this was cleaned, the corresponding surface of the olecranon was curetted so as to take the new humeral head. This modeling of the joint I do largely with a saw and file. To insure good function,

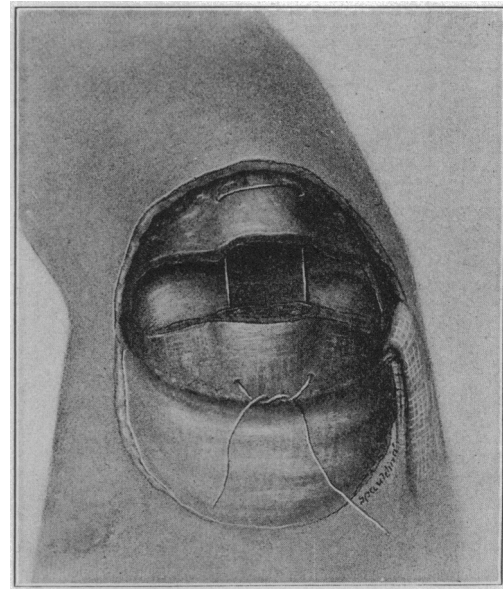


Fig. 12.—Kangaroo suture through ulna and olecranon tip.

A 5- to 6-inch incision was made on the outer side of the right thigh a little below the middle, extending down to the fascia lata. A piece was dissected out (Fig. 9) about 5 by 4 inches and the wound closed. This fascia, free from all fat, was placed about the new humeral condyles by attaching it

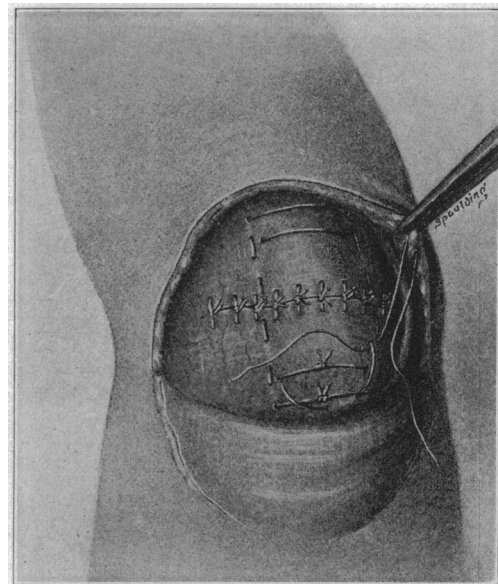


Fig. 13.—Stay sutures.

first to the anterior capsule of joint (Fig. 10) and then tying it about the condyles so that all rough surfaces were covered and a purse-string suture was applied (Fig. 11).

The fascia ligaments and old capsule were then sutured with chromic catgut. The olecranon was sutured with double chromic catgut (Figs. 12 and 13). The skin was closed with silkworm-gut, and a voluminous dressing applied with the arm at a right angle. Arm and forearm were placed on pil-

lows with heavy dressings but no splint. Passive motion was begun on fifth day. Primary union took place of the wounds of the elbow and thigh. Passive motions were continued and increased, but at the end of six weeks it was found that the patient could not use either biceps or triceps muscles and he had lost all power from long disuse. However, after several weeks he educated the muscles by counting and attempting contraction at the same time and finally was able to flex the forearm himself, since when improvement has continued.

Result: He has full motion in flexion, extension and rotation now, and is able to feed himself and to do chores about the house, and put on his own clothes.

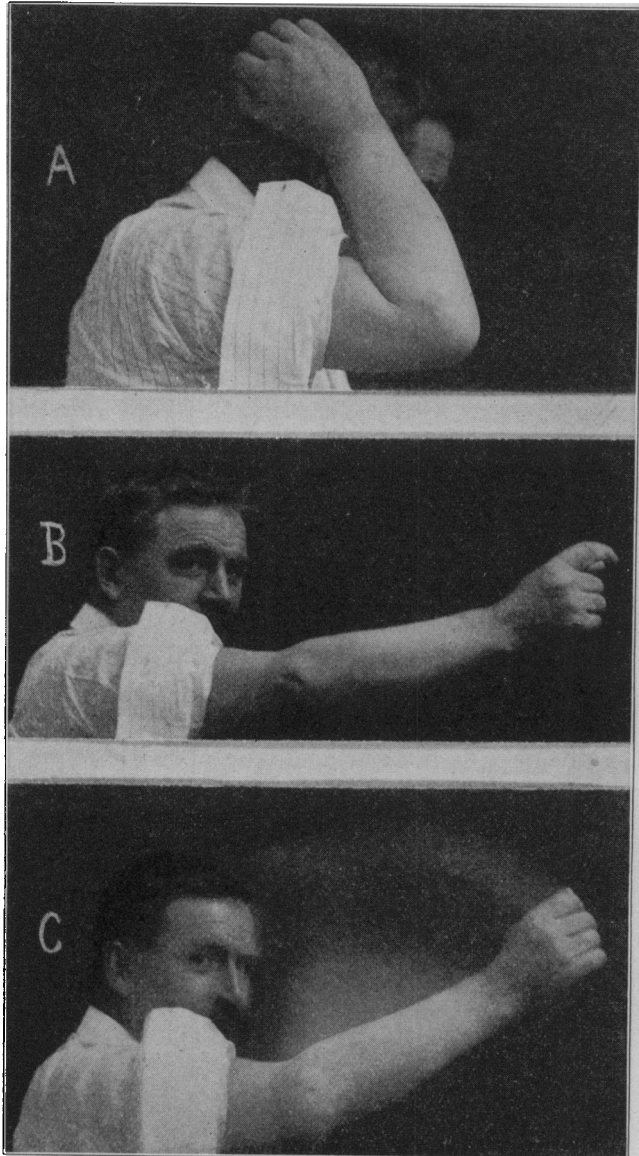


Fig. 14.—Ankylosis of the elbow: *A*, voluntary flexion following arthroplasty; *B*, voluntary extension following arthroplasty; *C*, voluntary flexion and extension following arthroplasty.

Previous to operation, May, 1912, he was entirely helpless, unable to care for himself in any way. The first duty for every probationer in the hospital was to "feed D."

For the foregoing detailed report, I am indebted to Dr. A. W. Shea, Nashua, N. H.

CASE 4.—E. S., woman, admitted to the Carney Hospital, Aug. 11, 1913, for immobility of the right elbow and right knee, of six years' duration. The patient states that while on a vacation she went in bathing while menstruating. Within twenty-four hours she was taken ill with a fever,

accompanied by pain and swelling in all the joints. She was placed under treatment in her home without relief. At the end of eight months, the pain and swelling disappeared from the left shoulder and elbow so that she was able to feed herself. She remained in bed for twelve months. The symptoms continued to subside on the left side until at the end of the third year she was able to get about with a cane. As the fever continued to subside and the pain and swelling disappeared, the patient had pretty good motion in all the joints except the right elbow and right knee, in which pain and stiffness continued at the end of the fourth year and motion was out of the question. This condition remained up to the date of admission.

Aug. 14, 1913, roentgenoscopy revealed ankylosis of elbow joint and of patella to femur. Urine examination revealed specific gravity 1.015, acid; albumin 0, sugar 0.

Aug. 20, 1913, operation on right elbow by Dr. MacAusland, as in Case 3. Light plaster cast applied.

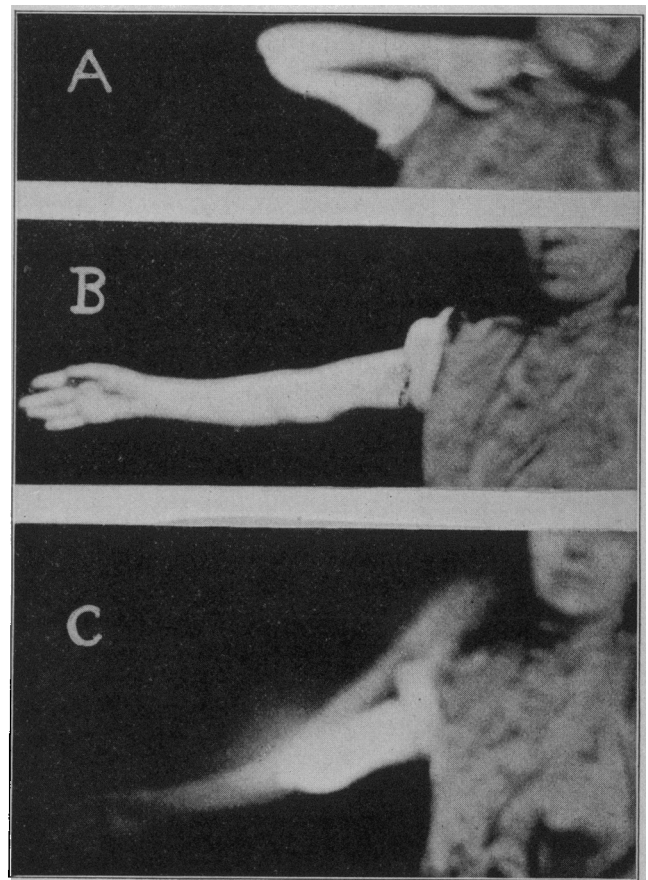


Fig. 15.—Ankylosis of elbow, six months after arthroplasty; *A*, voluntary flexion; *B*, extension and use of arm; *C*, voluntary flexion and extension and power of biceps.

August 22, good recovery; slight pain.

August 27, cast split for dressing.

September 1, wound healed by first intention, except for slight discharge from upper border.

September 4, manipulations daily; motion good.

September 10, arm can be extended completely, and flexed 15 degrees beyond a right angle.

September 15, traction for extending and flexing the arm.

September 20, massage and motion continued.

October 1, active motion possible.

October 15, manipulation of elbow under ethyl chlorid by Dr. MacAusland.

Patient now has perfect flexion and extension and no pain. Excellent functional result.

240 Newbury Street.

ABSTRACT OF DISCUSSION

DR. GWILYM G. DAVIS, Philadelphia: Dr. MacAusland has done these operations by means of posterior incision. Dr. John B. Murphy advocates lateral incisions, and I have done it by means of two lateral incisions. It is perfectly feasible to do it with flaps. With the two lateral incisions we do not get great exposure of the parts; and it is extremely difficult to work. If it can be shown that no trouble occurs, for instance, in obtaining the union of the olecranon, which has been incised and detached, so to speak, the greater accessibility afforded by this operation renders it more desirable than the one by means of lateral flaps.

DR. CHARLES A. PARKER, Chicago: Will Dr. MacAusland state his opinion with regard to rotation in these cases?

DR. W. R. MACAUSLAND, Boston: First, answering Dr. Davis' question with reference to the non-union of the olecranon, I would say that this problem has arisen in one case. In Case 3, I did not think I was getting motion quickly enough so I gave an anesthetic and manipulated the joint. I suddenly felt the olecranon tear and could distinctly feel a separation. I paid no attention to it, however, but put on a voluminous dressing. Patient now has good motion in the elbow. I think a fibrous union resulted which is just as serviceable as a bony union. With reference to rotation, in two of these cases there was bony ankylosis between the ulna and radius, to which I paid no attention. The ankylosis still remains. I question whether in future procedure I should not go down and make a space in that joint, placing a piece of fascia between the surfaces. The patients, however, have perfect use of the arms in this present procedure, and none of them have the deformity of extreme pronation. The arm is supinated one-half, and, so far as I can see, has perfect function, with no motion between the radius and ulna. Had I found the type of extreme pronation existing, I might have considered an attempt to get motion between the radius and ulna or excise the head of the radius.

A NEW TYPE OF ANKLE FRACTURE*

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It seems a bit late to come forward with a new fracture, but in fact the lesion here in question has never been adequately described in print,¹ and has apparently escaped the notice even of those who deal with fractures habitually.²

It is in fact one of the common and typical lesions at the ankle, and its best claim to interest is because it is a lesion that every one must have seen, interesting not from its rarity, but from the very fact that it is common, that it is usually overlooked, and that unless reduced it results in serious disability in many instances.

I have been talking about the lesion for years, until some of my house-officers at the City Hospital, wearied by long insistence, have come to refer to it as "Cotton's fracture."

The characteristic point of the fracture under consideration is backward dislocation with the *splitting*

away of a wedge, large or small, from the back surface of the tibia at the joint—a wedge that is displaced backward with backward dislocation of the foot.

This wedge carries the posterior tibio-astragaloid ligaments; foot and tibial fragment move together, up and backward.

Fracture of the malleoli is associated with this luxation; usually the malleolar fracture is not unlike that of Pott's, though sometimes the internal malleolus and

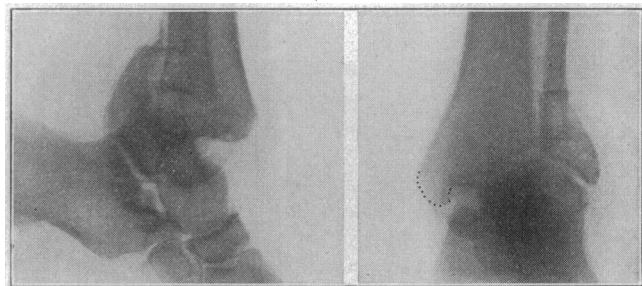


Fig. 1.—Type lesion, more than average total displacement of the foot backward, and in this case outward as well. This is a case that would have resulted in hopeless disability had reduction not been done.

the posterior tibial edge of the joint are included in one piece that is split away in a spiral line.

As a rule, however, the posterior tibial fragment is separate, though associated with fracture of both malleoli.

There are no autopsy specimens, I believe, and no operative results on record, of cases opened up in the early days after the injury.

As a rule both malleoli are broken; hence the confusion with Pott's fracture!

It has long been recognized that certain cases of so-called "Pott's fracture" were complicated with a backward luxation of the foot. What has *not* been recognized is that nearly all of these cases are not really Pott's fractures at all!

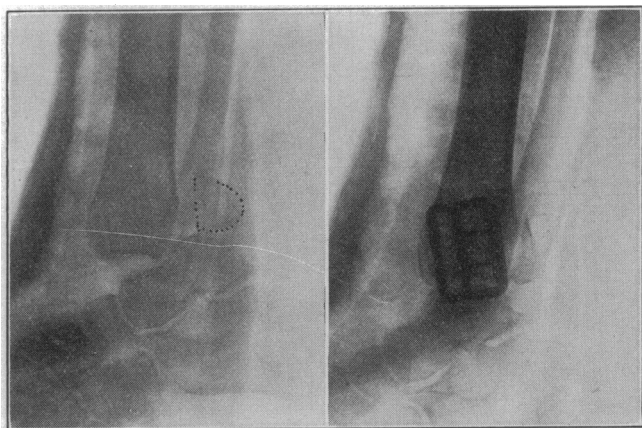


Fig. 2.—Type lesion, with extreme backward displacement. Dotted lines in the left-hand illustration show the wedge broken off the back edge of the tibia, as yet unreduced. The illustration to the right shows reduction of this fragment to an approximately normal site, a reduction incident to the correction (complete in this instance) of the great total displacement of the foot backward. In the second view the fragment seems much smaller. This must be the result of a change in the angle-bearing of this fragment in relation to the roentgenogram.

Of all the cases of ankle fracture I have seen in the last seven years, there has been but *one* of posterior luxation in which the fracture lesion here described has not been present—only one case of real posterior dislocation with Pott's fracture.

* Read before the Section on Orthopedic Surgery at the Sixty-Fifth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1914.

1. The article by Speed in Surgery, Gynecology and Obstetrics for July, 1914, which does describe such cases had not been printed at the time this paper was read.

2. I put the matter on record at a clinical meeting of the Boston City Hospital, and in my Dislocations and Joint-Fractures, W. B. Saunders & Co., Philadelphia, 1910, 540 et seq. (Figs. 951, 955, 956, 958, 977, 992, 1001, 1018, 1026, 1056, 1059, 1061 and 1067). Stimson records a couple of old cases belonging in this class (Fractures and Dislocations) and Brackett, E. G., of Boston (shown March 2, 1910), and Darrach, W., of New York, have each shown plates of single cases (not published).