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RECENT ADVANCES IN TREATMENT
OF FRACTURES OF THE
EXTREMITIES.

Abstract of an Address before the Altoona Academy of
Medicine and Surgery.

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[Reprinted from the *Pennsylvania Medical Journal*,
Pittsburg, Pa., May, 1898.]

Surgeons have recently made notable advance in the investigation of fractures by the employment of the Roentgen rays, which, by means of the fluoroscope or photographic plates, show the exact condition in obscure cases of fracture. In other instances, fractures which were supposed to have been properly reduced have been shown by the use of the Roentgen rays to be still the seat of deformity.

Another improvement is the freedom with which obscure fractures may be investigated by aseptic incision of the soft parts,

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which discloses the exact nature of the bony lesion.

The treatment of fractures has been much improved in recent years by the more extensive adoption of plastic splints made of gauze and plaster of Paris. These should substitute, to a great extent, the manufactured splints of metal and wood, which instrument makers sell at a high price, for use upon fractured limbs which they seldom fit. It is possible to properly pad a wooden splint or successfully adjust a metal or felt one to the injured limb. It is, however, far better to make a splint out of plastic material, like gauze filled with gypsum, which will absolutely correspond with all the inequalities of the surface of the patient's limb.

Ambulant splints, which permit patients with fractures of the leg to get out of bed and walk upon the injured member at a comparatively early period, are also the result of the advance in fracture treatment that has come by study of the imperfections of older methods. The employment of massage during the entire period of treatment of a fracture will be found to lessen the rigidity of muscles, stiffness of

joints and inflammatory infiltration around the seat of fracture, which so often retard the patient's full recovery of function. Massage should be used with discretion, but may be employed with much satisfaction to the patient every time the splint is removed for the inspection of the seat of fracture. The desirability of this method of establishing a healthy condition of the soft parts makes it desirable to remove the splints much more often than used to be thought necessary.

Tenotomy of the tendon of Achilles, to prevent displacement, due to muscular spasm, in fractures of the leg near the ankle, is another accessory of treatment often neglected. Tenotomy will also probably be found of avail in some cases of fracture of the olecranon, and perhaps in other regions where muscular contraction leads to difficulty in maintaining reduction of fragments.

The surgeon should not forget that where accurate coaptation of the broken bone cannot be readily accomplished, an aseptic incision will add practically nothing to the patient's risk. Such an incision not only gives a better understanding of the condi-

tion of the parts, which may be essential to proper treatment, but permits disentanglement of fragments of bone from lacerated muscles, thereby averting non-union of the fracture. It also permits the use of wire or cat-gut sutures in cases demanding such direct methods for maintaining apposition.

It is probable that few surgeons, and perhaps almost no general practitioners, realize how easy it is to keep a fractured bone in position when the surgeon sees the exact line of break. Much of the deformity of many fractures would be overcome and the anxieties of the period of treatment lessened, if the medical attendant, after finding the line of fracture, simply drove a nail through the soft tissues into the broken bone in such a manner as to hold the pieces together. It is not improbable that the time is near at hand when many fractures will be treated by some such direct method. Ordinary wire nails or long tacks made aseptic can be driven through aseptic tissues into the bone without disadvantage. This can be done in closed fractures as well as in open ones. An ordinary straight surgical needle does very well for this purpose. If necessary, an ordinary bradawl may be used to drill the bone.

Refracture or osteotomy of deformed union after fracture should be used much more frequently than it is. It is probable that much of the difficulty in fractures about joints comes from imperfectly apposed fragments. Investigation of such cases by free incision and the use of nails or sutures in the bone to hold the fragments in proper position would probably lead to more perfect restoration of function than is usual in fractures involving the joints. Many surgeons, who fearlessly investigate fractures associated with wounds, experience unreasonable hesitation in making aseptic incisions down to the seat of fracture in obscure and troublesome cases.

The recent advances here outlined in the treatment of fractures of the extremities have brought about the following results: The restoration of the patient, to a condition of health permitting him to transact business, in much less time than formerly; the establishment of this desirable end with little or no pain during the period of treatment; and the much less frequent occurrence of troublesome ankylosis after fractures involving joints.

