

In our Orthopedic Clinic advice is constantly being sought by compensation insurance injury cases who have received inadequate treatment from the insurance surgeons. These are usually fractures, sprains and joint injuries, to which superficial treatment only has been given, and the patients realize that they are unable to resume their former occupations, though they have been discharged as cured by their doctor. Being unable to pay for service, they apply to the Orthopedic Clinic for relief instead of going to the general surgical clinic because they have learned that the orthopedic treatment helps them to get back to their work earlier.

It is only by doing the work that comes to us as carefully and conscientiously as we can that we can help to put our specialty on a high plane and keep it there. The day when the laity and the medical men thought of orthopedists as masseurs and brace-makers is past.

FRACTURES OF THE LOWER EXTREMITY OF THE RADIUS*

BY WM. T. HENDERSON, M.D., F.A.C.S.,
Mobile, Ala.

A very important reason for bringing this subject before the profession is the frequency of this fracture since the invention of the internal combustion engine, and secondly the reduction of this fracture and the application of a proper fitting splint.

It is quite well known that if this fracture is properly reduced a splint is unnecessary except for the comfort of the patient. But the hand must be held in the correct position until healing takes place in the annular ligament, injured by the dislocation of the ulna, and for this reason a proper fitting appliance is necessary to bring about the best results.

There are two fractures of the lower end of the radius which are of frequent occurrence, one known as Colle's fracture, which this famous surgeon failed to describe properly, and the other known as the reverse Colle's, in which the broken end of the bone is found upon the anterior

surface of the radius. The latter is produced by falling upon the flexed hand while pronated, in contradistinction to the Colle's, where the end of the bone is found upon or inclines to the posterior surface of the radius. One is produced by over-flexion of the hand and the other by over-extension of the hand on the arm. There is a fracture of the lower end of the radius, known as chauffeur's fracture, which is also produced by indirect force, or over-extension of the hand on the arm. This has been erroneously described as being the result of direct force, as by the crank of the automobile, in back-firing, hitting the chauffeur on the back of the wrist. Such a thing is doubtless possible, but from my observation and information of the history of these cases they are produced by the chauffeur bearing down on the crank when the back-firing occurs, thus over-extending the hand on the arm while the arm is in the prone position. Fractures of the lower end of the radius may be comminuted as well as compound or impacted, but there is little difference in the character of the treatment when once reduction has taken place and the proper retaining splint has been put in position. The use of the splint which I recommend in these cases facilitates the treatment of the open wound in case of a compound fracture.

The typical Colle's fracture, as described by this surgeon places the line of fracture three-quarters to an inch above the radiocarpal joint. We make little distinction in the treatment of the case whether it is the epiphyseal end of the bone which has been separated or the fracture line is one-half inch above the joint. Reduction is first necessary under an anesthetic before we can hope to obviate the "silver-fork deformity," which is so often present in those who have recovered from an injury of this kind.

One of the most important things in the treatment of injuries of the lower extremity of the radius is first to ascertain whether or not a fracture exists. So many of these cases are passed up as sprains. They are really sprains, and too frequently sprain fractures, which are overlooked by the doctor only to leave, after healing takes place, a characteristic silver-fork deformity. For the purpose of diag-

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nosing this condition I use a machinist's calipers; and where the distance between the styloid processes of the radius and ulna in the injured side is greater than the distance between the styloid processes of the radius and ulna in the opposite side, there is fracture. The great strength and the peculiar attachment of the carpo-radial ligament on the anterior surface of the wrist, the wedge-shaped arrangement of the carpal bones, especially the cuneiform, the scaphoid and the semi-lunar, which articulate with the radius and make the joint, the cancelous bony tissue in the lower end of the radius itself, all contribute their share toward producing a fracture in this location.



Fig. 1

We have in the forearm two bones running parallel to each other and of approximately the same length, the lower end of the ulna articulating with the ulna notch near the lower end of the radius. Whenever we have a fracture of the lower end of the radius we have shortening of the radius, because the fracture is produced by a blow upon the palm of the hand, either from the crank of a gas engine, or by a fall upon the hand while it is in a prone

position. And whenever you get shortening of the radius, the ulna must go somewhere. It goes inward, because a wedge is driven in between the radius and the ulna, and you get broadening of from one-quarter to three-quarters of an inch. And this can very readily be demonstrated by measurement with the calipers.

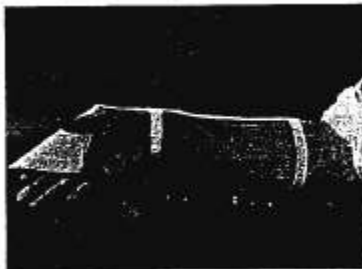


Fig. 2

We desire especially to call the attention of the profession to this simple means of diagnosing a fracture that is too often not diagnosed. And we recommend that in every case where the distance between the styloid processes of the radius and the ulna in the injured hand is greater than



Fig. 3

the distance in the well hand, that either be given the patient and the impaction be broken up. It does not make any difference how slight the fracture may be. If there is any impaction there may be no crepitus and still the wrist by actual measurement is broader in the injured

arm, and if the radius is shortened the ulna, which articulates with the lower extremity of the radius, must go somewhere. The answer is, it goes inward. And when the ulna is driven inward (or toward the body when the arm is in the correct anatomical position) the wrist is broadened at the point of injury.

We are not suggesting the use of the calipers in lieu of the x-ray, or in any manner disparaging the value of the x-ray as a means of diagnosis in this class of fractures. But in localities where the x-ray is inaccessible we do recommend the calipers as a simple and accurate means of diagnosis.

There are several other signs of fracture of the lower end of the radius described in text books on fractures, and I do not want to ignore these symptoms, but so far as I have read there is no author who calls attention to the difference in measurements between the styloid processes of the radius and ulna in the different arms in fractures in this locality. Any fracture of the radius in which there is no displacement of any part necessarily would not be followed by any dislocation or displacement of the lower end of the ulna, and hence there would be no necessity for any treatment, as there would be no broadening of the wrist.

A most conspicuous sign of old fractures which have not been properly treated is the prominent protrusion of the end of the ulna when the hand is in the prone position. And, to recapitulate, where there is shortening of the radius, there is dislocation of the end of the ulna from the ulna cavity, and consequently broadening of the wrist. Then, broadening of the wrist following an injury means fracture and not sometimes a sprain for which it is so often treated by anterior and posterior splints. And I wish to emphasize again the importance of etherizing the patient, since too frequently a doctor is not strong enough to break the impaction which is too often present, because the natural resistance of the muscles have also to be overcome.

The proper application of a well-fitting splint, such as I exhibit here, is, I believe, the best method of bringing slight traction on the broken end of the radius and at

the same time returning and retaining the end of the ulna in the cavity of the radius, which is made for its reception.

This appliance is made of plaster of Paris bandage, woven back and forward upon itself until the proper thickness is acquired. It is then removed from the even table on which it is made, just before it hardens, and is moulded to the particular arm for which it is intended. You will notice that the end is swept over the hand instead of being allowed to proceed straight. This "lucky curve" serves to retain the wrist in the pistol-shaped position, while the forearm is in a position midway between pronation and supination. It will also be noted that when the hand is bent laterally, or toward the ulna, when the forearm is in the mid-position, the end of the ulna at once falls into its cavity, thus allowing healing of the capsular ligament, which had been torn when the injury was received. This simple plaster splint prevents at once any movement in the supine or prone directions, thus retaining the end of the ulna in position, and at the same time lends itself admirably to considerable movement of the fingers, thus keeping free from involvement in the after-coming callus, the tendons on the flexor and extensor surface of the wrist.
259 St. Francis St.

PREPAREDNESS AGAINST CANCER

BY JOSEPH C. BLOODGOOD, M.D.,
Baltimore, Md.

Cancer Week.—During this period the medical profession under the direction of the American Society for the Control of Cancer proposes to disseminate correct information which every one should possess for his protection against death from cancer.

The Menace of Cancer.—This danger now needs no signal post. The majority of the adult population of this country knows that cancer is one of the most common causes of death in men and women. What is not known and should be known is that in many parts of the body cancer can be prevented, and in all parts it can be recognized so early after its beginning