

FRACTURES OF THE CARPAL BONES, WITH PARTICULAR REFERENCES TO THE SCAPHOID

BY

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AUTHORS' ABSTRACT:

The material submitted comprises 119 cases of intra-articular fractures of the scaphoid and 27 fractures of the other carpal bones.

One hundred *fractures of the scaphoid* were followed up with a view to the functional result, and 98 with a view to the radiological result. The average follow-up period was 8.4 years.

This study revealed the decisive importance of immobilizing the fracture immediately after the accident. Union occurred in 23 of 25 cases immobilized within a week of the accident.

The sooner immobilization takes place, the shorter the union time (minimum 16.3 weeks—maximum 94 weeks).

When there was delayed union, drilling by Beck's method had a favourable effect in 4 out of 8 cases, whereas 2 cases of obvious pseudarthrosis were unaffected.

It was found that if pseudarthrosis was already present when the fracture was diagnosed—in 29 cases of this material—union did not result, even from prolonged immobilization.

In the writers' opinion the main cause of delayed union and pseudarthrosis formation is inadequate immobilization; the position of the scaphoid in both rows of bones and the great excursion of the fragments in movements at the wrist makes a very accurate and prompt immobilization necessary if union is to be obtained. Moreover, fractures in the proximal third of the bone seem to unite less readily than those in the distal two-thirds.

In the cases with union the functional result was perfect in 29, good in 12, and poor in 4. As to the pseudarthroses the result was perfect in 6, good in 22, and poor in 14.

As regards the 18 operated cases the results correspond to those obtained in the pseudarthroses.

A total of 27 cases of *fractures of other carpal bones*, comprising separation of chips off the scaphoid, semilunar, pisiform, and cuneiform, union was present in all the cases radiographed—and the functional results were perfect, except in 2 cases. Some of the cases had immobilization for a few weeks—others had no treatment.

DISCUSSION

Novotny, Bentzon, von Rosen.