

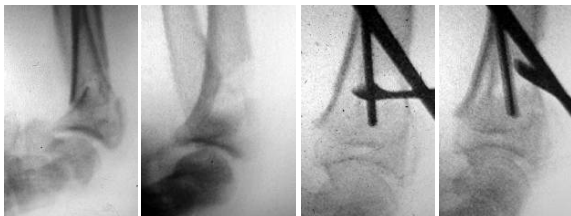
## Distal Radius Fracture and Injectable Cement : Usefull or Not ? Prospective Continue Study of 48 Cases with Minimal Follow Up of 3 years

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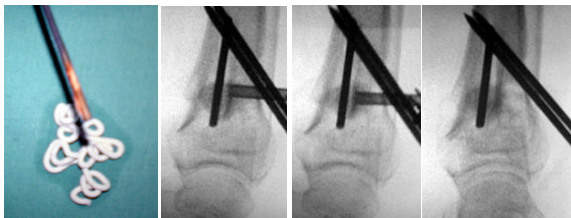
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**INTRODUCTION:** The purpose of the study was to evaluate the feasibility of Norian SRS bone cement injected into a distal radius following reduction and stable fixation in preventing shortening and loss of pronation-supination.

**METHODS:** Between 1998 and 2000 48 patients with a mean age of 65 (54-82) sustained distal radius fracture (AO classification stage A in 26 cases, B in 15 cases, C in 7 cases) with metaphyseal comminution. Functionnal and radiological outcomes of the wrist (O'Brien scoring, Gartland and Werley scoring, DASH) were evaluated with a mean follow up of 46 months (36-56) by a surgeon not involved in treatment. Fixation was performed in 34 cases by pins, in 14 cases by dorsal plate, in 2 cases by external fixator.



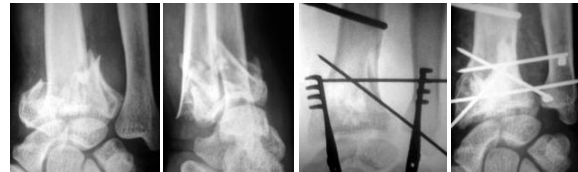
*Fig 1 : Reduce the fracture and the volar cortical wall, locate the comminution, and pack the comminution*



*Fig 2 :The injection of the cement is performed under X Ray control to fill the void without intraarticular or volar injection.*

**RESULTS:** 4 patient lost of follow up and 5 mal union were excluded of final evaluation. 3 RSD were pointed on the 39 evaluated patients. O' Brien scoring reached 84/100 (54-

100), Gartland and Werley scoring reached 4,6 (0-11) with 89% excellent and good results, DASH reached 23,6 (5,8-62,7). Ulnar variance changed less than 2mm between postoperative time and maximal follow up in 88%. There were no clinically adverse effects but one case of volar extrusion of injected Norian was pointed with resolutive evolution. Bone substitute was always in place at the longest follow up.



*Fig 3 : Male, 42 yo...*



*Fig 4 : ... Follow up 4 years*

**CONCLUSIONS :** Adams, Pogue, Mc Queen pointed the biomechanical and clinical advantage to fill the void secondary to the comminution to avoid the shortening of the radius. First cases reported by Kopylov and Jupiter, and prospective series of Kopylov, Sanchez Sotello and Cassidy proved the interest of an adaptative injectable cement in case of comminution. Injectable bone substitute allows to maintain the ulnar variance in competition with bone graft or bio ceramic.