



REPAIRING FRACTURES ALTERNATIVE WAY USING FLEXIBLE STEEL WIRE.

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INTRODUCTION

Fractures of the metacarpals and phalanges are the most common fractures of the upper extremity and occur most between the ages of 11 and 45. Swanson aptly stated, "Hand fractures can be complicated by deformity from no treatment, stiffness from overtreatment, and both deformity and stiffness from poor treatment" (2).

Albin Lambotte (1866-1955), in 1907 published the book "L'Intervention opératoire dans les fractures" and surgical treatment to fractures began (4). As surgical osteosynthesis material developing improved results their using cost got higher. Despite implant material evolution some fractures treatment seems to lack good resulting options. As early as 1978, Lister reports that *has difficulties to use AO Method to some hand fractures, and it's not always possible to use screws to achieve compression to small bone fragments* and describe a cerclage technique (5).

An alternative way to treat fractures is using cerclage. Besides its (loop) traditional presentation, authors describe original variations.

METHODS

The authors show pictures of hand fractures radiographs before and after treatment, using cerclage in its original variations: simple cerclage and partial circular cerclage. Surgical method is also presented by pictures.

RESULTS

Applying cerclage original and variations some kinds of fractures can be treated: transverse, short oblique, long oblique and comminuted ones. Simple cerclage refers to its use to repair transverse fractures by uniting dorsal cortical only (and allowing flexor tendon strength to stabilize volar cortical) (figures 8 and 9). Partial circular cerclage refers to uniting short or long oblique fragments without being necessary to circulate them, by drilling mid lateral corticals with an 1 mm. Kirschner wire and passing the flexible wire through it (figures 1 to 7). Drilling can be performed from outside skin (during reduction) and the flexible steel wire is then hooked from bone sides, through the surgical incision, for soft tissue protection.

Clinical evaluation will guide if motion will take place in two (usual period) or three weeks. Comminuted and other fractures can be treated by traditional circular (loop) cerclage (figure 10). Circulating bone with the steel flexible wire is required. Both clinical and experimental results show that cerclage permits stability (some bone compression is achieved when cerclage is tied up) and blood flow is not compromised (3,6).

CONCLUSION

Despite not being a rigid internal fixation and do not permitting early motion its low cost, low profile, minimal soft tissue damage and easy way of using grant to cerclage (circular or variations) an available method to treat fractures. It should be considered as an additional method to be used alone or in association to other methods. Some health care financial specialists consider that there is not enough money – whether public or private – to support the hugely expensive healthcare system that everyone seems to want but no one wants to pay for (1). An ideal way to treat hand fractures should also consider that so.

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Figures



1. Fracture . 2. Skin, Tendon and Periosteum. 3. Reduction and Drilling. 4. Partial Cerclage 5. Preserved Tissues Suture. 6. Final Result w Partial Cerclage 7. Final Result w Partial Cerclage 8. Before Treat. a Transverse fract. 9. After Treatment w Simple Cerclage 10. Loop Cerclage Treatment.