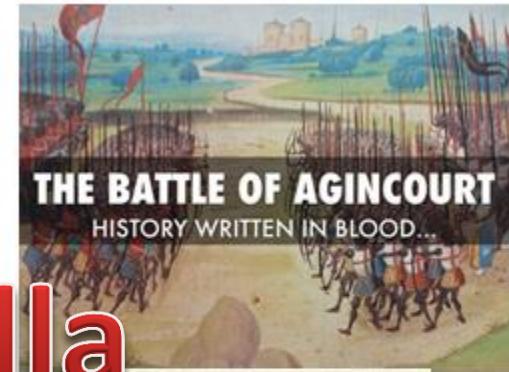


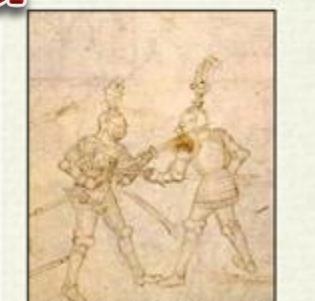


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# Fracture Patella





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# Fracture Patella

**A Comparison of Braided Polyester Suture Fixation vs.  
Metal Tension Band Wiring in Patellar Fractures**



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# Fracture Patella

**Mohammed Sufyan  
M Shah**



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# Comparison Fibrewire with Metal

Tension band wiring is a well established principle for fixation for patella fractures.



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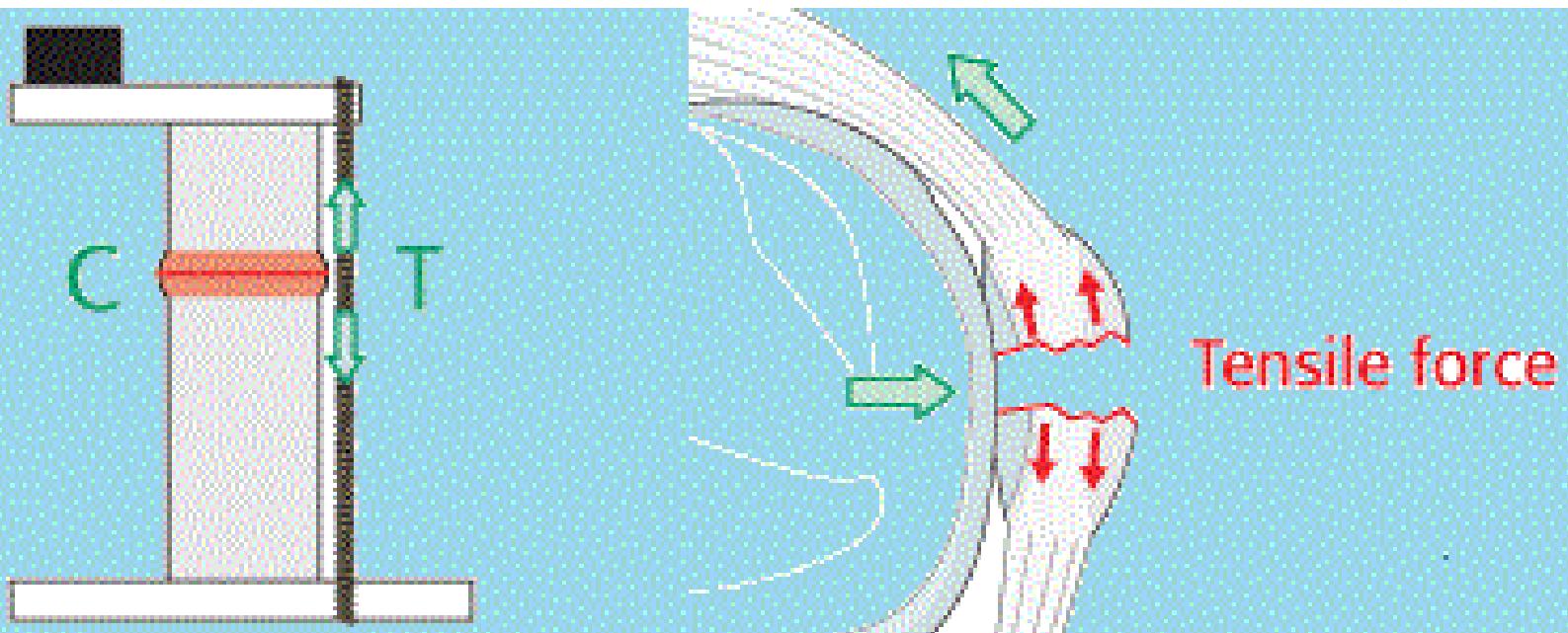


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# Comparison Fibrewire with Metal



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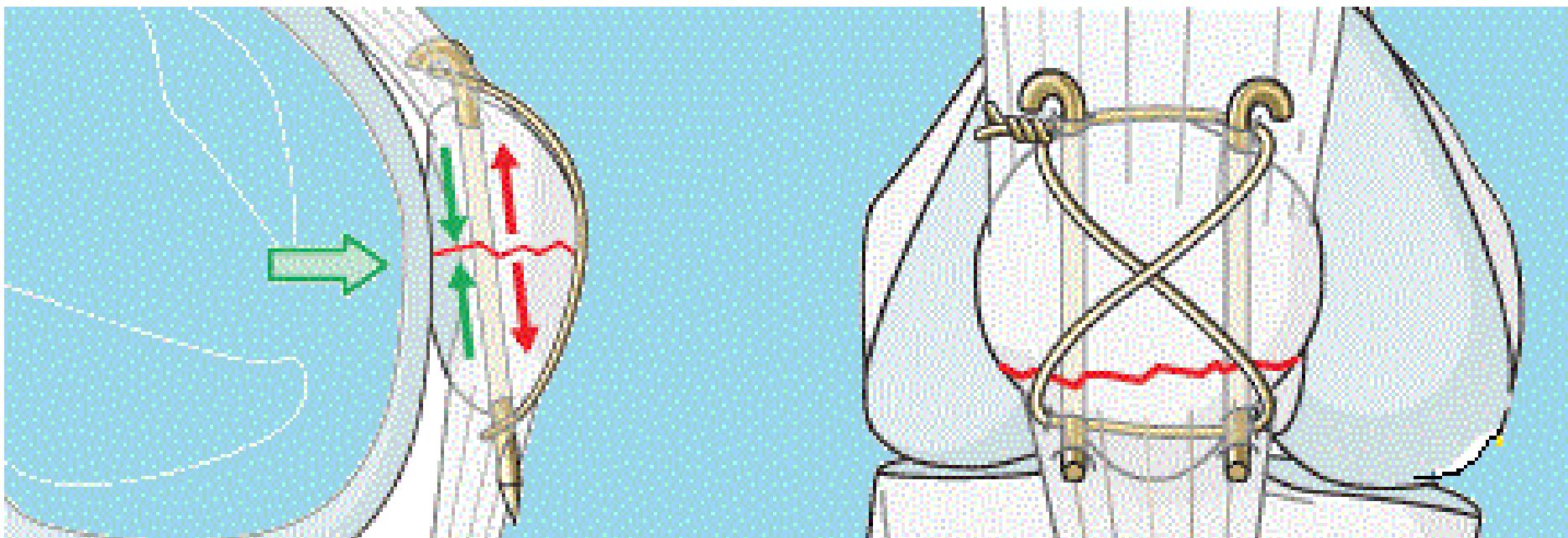


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# Comparison Fibrewire with Metal



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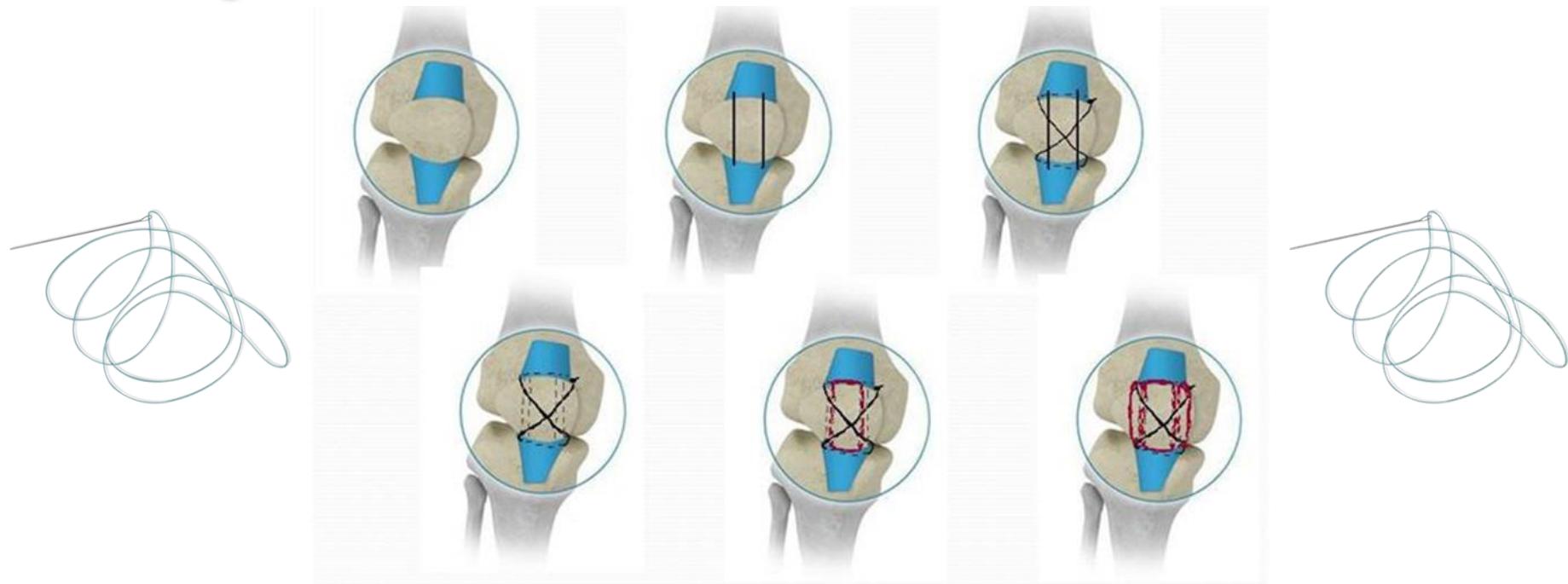


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# Comparison Fibrewire with Metal



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# Comparison Fibrewire with Metal



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# Comparison Fibrewire with Metal

The aim of the study was to look at the **outcomes** of surgery comparing the two groups and to assess the risks and **complications** associated with each procedure.





# Comparison Fibrewire with Metal

We performed a **retrospective** study of **all** patella fixations from **2004 – 2011**.

Case notes were reviewed and patients were assessed using **objective** and **functional** scores and complication rates compared





# Clever Stuff

**Graph Pad Prism v6.0b was used for statistical analysis.**

**Demographic data between 2 groups were tested using a Mann-Whitney test.**

**Comparison of complication rates were analysed using Fisher's exact test.**

**Statistical significance was taken at the 0.05 level.**





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# Comparison Fibrewire with Metal

**33 patients** were identified from the theatre registry.  
**09** patients underwent braided polyester suture fixation compared with **20** metal tension band wire (TBW) fixation.



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# Comparison Fibrewire with Metal

**Four were excluded – 3 were periosteal sleeve fractures, 1 was a revision of a metal tension band wire fixation.**



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# Comparison Fibrewire with Metal

The **mean age** at the time of injury was **53.2** years of age (range 20 – 87, SD – 21),

with a **male: female** ratio of **18:11**.





# Comparison Fibrewire with Metal

Mean follow-up was 29 months (range 1 – 84, SD – 29.6).

8 were lost to follow-up. 6 were deceased.





# Comparison Fibrewire with Metal

Mean range of movement was comparable in both groups – mean extension was 0.7 degree in the braided polyester suture fixation group vs. 2.7 degrees in the metal TBW group ( $p>0.05$ ).





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# Comparison Fibrewire with Metal

Mean flexion was 98.1 degrees in the braided polyester suture fixation group vs. 98.8 degrees in the metal TBW ( $p>0.05$ ).

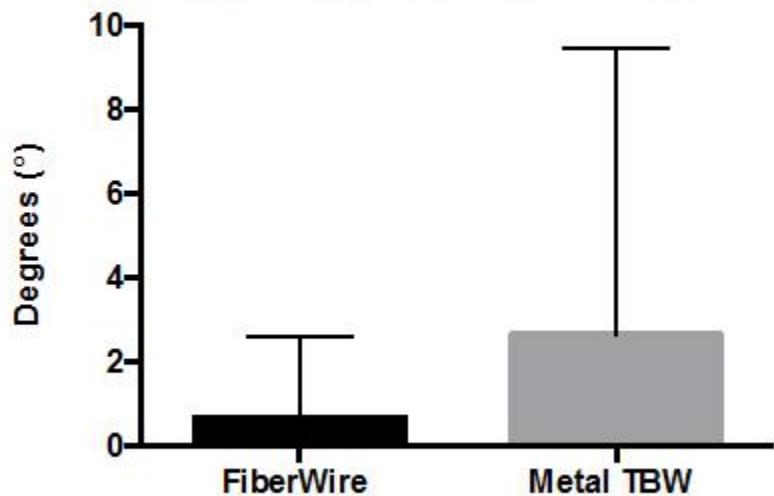


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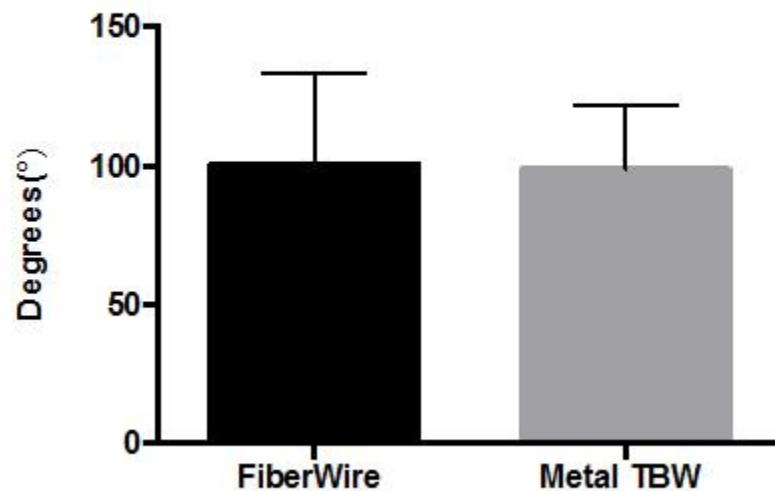


# Comparison Fibrewire with Metal

Range of movement - Extension



Range of movement - Flexion





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# Comparison Fibrewire with Metal

Mean Knee Injury and Osteoarthritis Outcome Scores (KOOS) was 80.6 in the braided polyester suture fixation group vs. 72.6 in the metal TBW group ( $p>0.05$ ).



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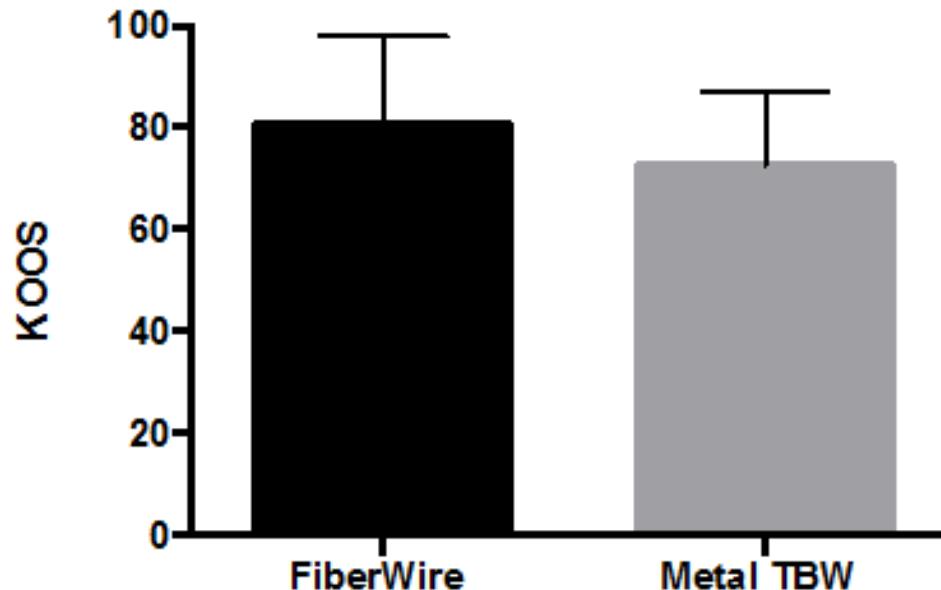
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# Comparison Fibrewire with Metal

KOOS Overall



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# Comparison Fibrewire with Metal

1/9 (11%) of braided polyester suture fixations failed secondary to trauma.



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# Comparison Fibrewire with Metal

There were no early failures in the metal tension band wiring group but 45% were removed at a later date due to sequelae of prominent metalwork ( $p=0.03$ ).



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# Conclusion

Results of braided polyester suture fixation showed that **outcomes are comparable**. The main advantage is that there is no soft tissue irritation in the braided polyester suture fixation group **and no need for 2<sup>nd</sup> surgery**





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# Conclusion



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