

# Treatment of sternoclavicular joint injury with Teflon thread suspension arthroplasty - initial experiences

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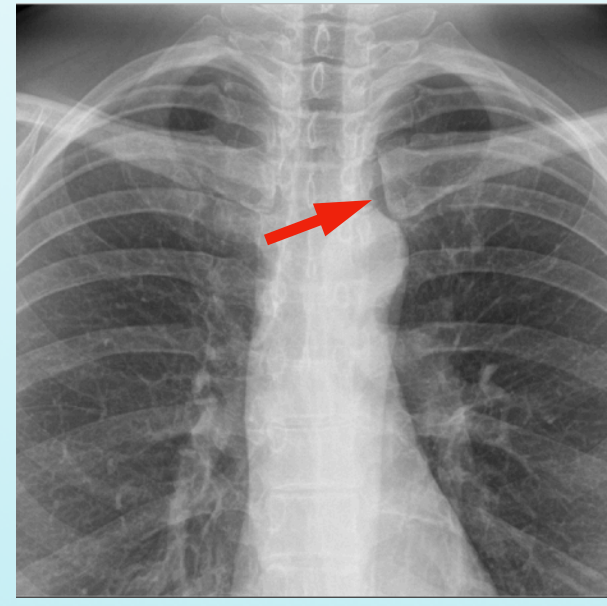
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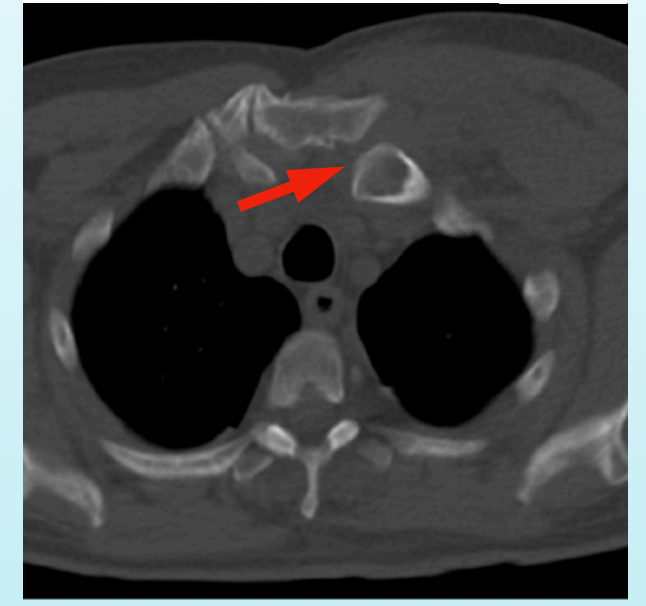


## Problem

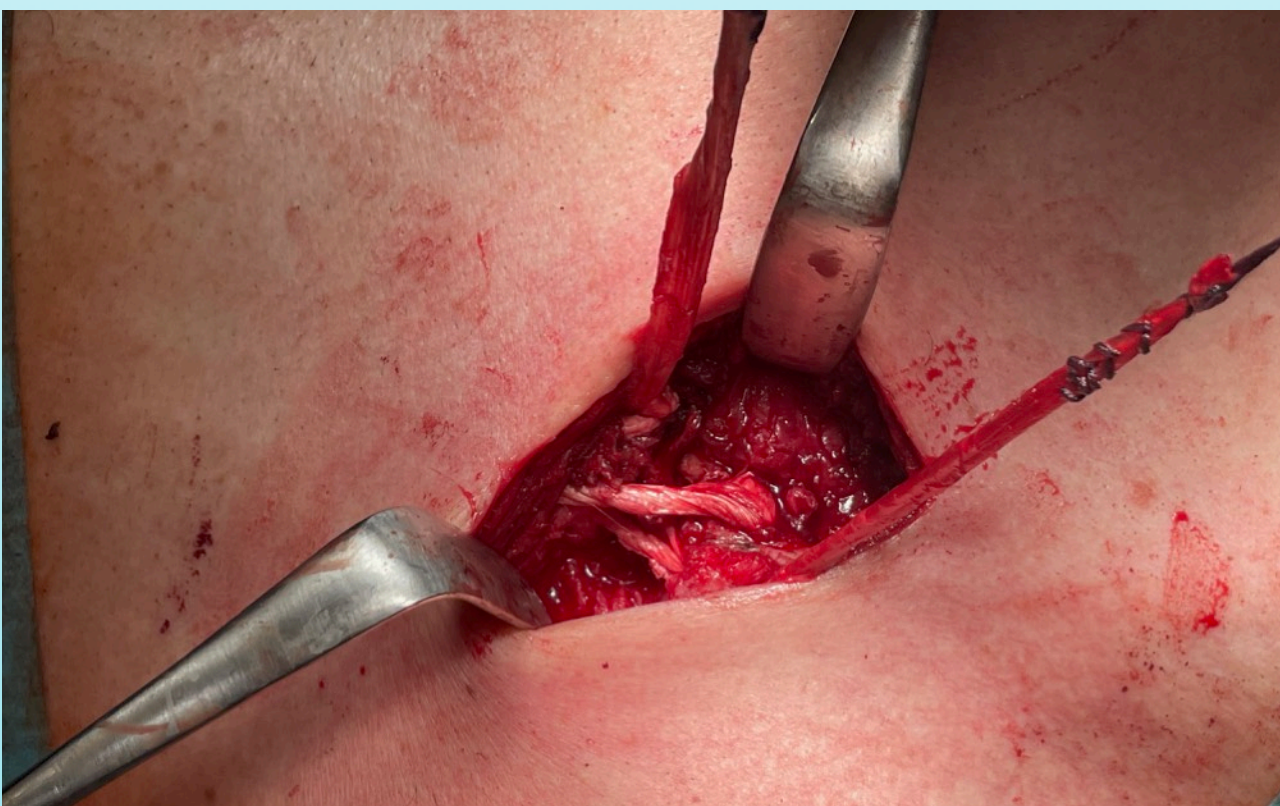
Injuries to the sternoclavicular (SC) joint represent 3% to 5% of all injuries to the shoulder girdle. Most patients are active youngsters. Most common cause is motorbike accidents, followed by athletic injuries in contact and collision sports and then fall. Several surgical treatments are widespread, one of these is the “figure of eight arthroplasty”. This procedure requires the removal of an autologous graft (Hamstring tendon, palmaris longus tendon). Pictures 1,2,3



Picture 1: SC injury on X-ray



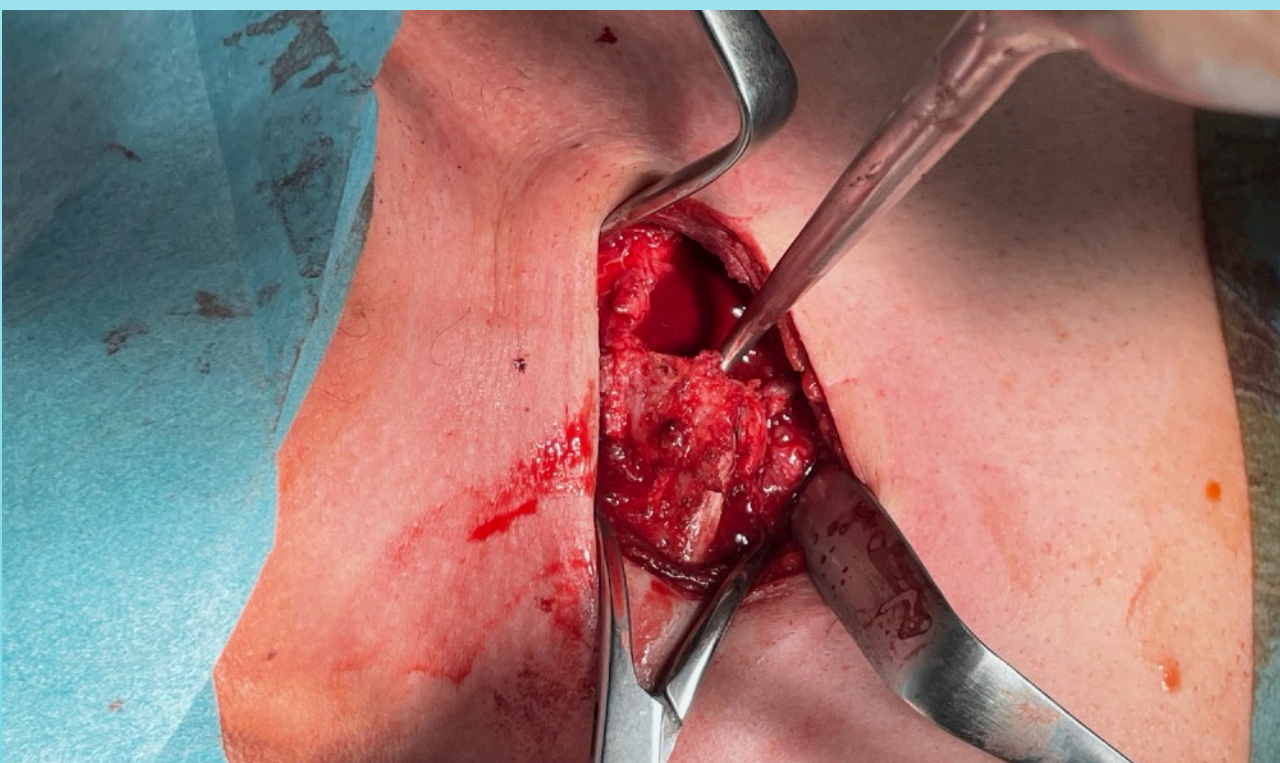
Picture 2: SC injury on CT



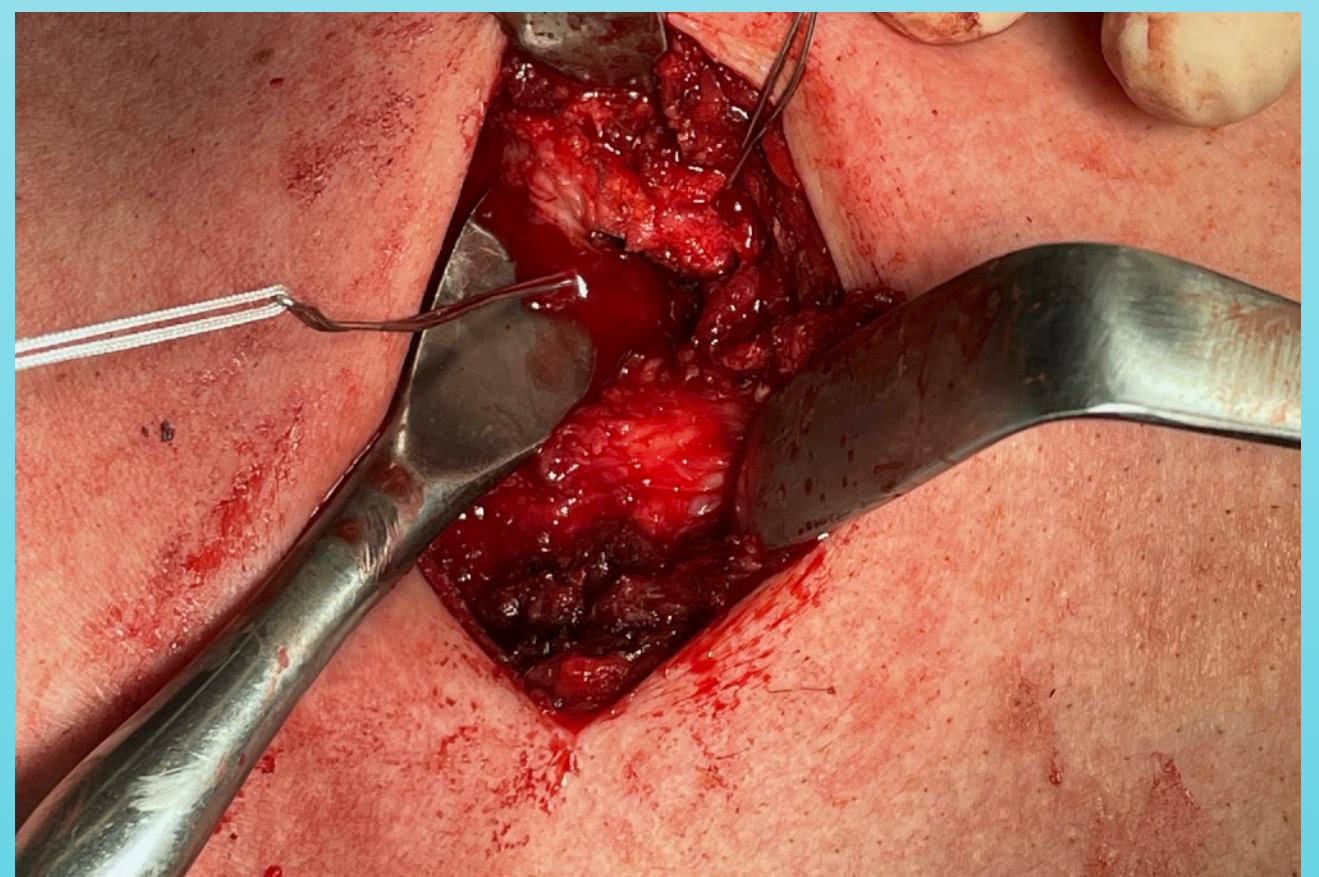
Picture 3: “Figure eight arthroplasty” with Hamstring tendon

## Methods and Patients

Between June 1, 2022 and February 1, 2024 10 patients were treated by us. After direct trauma luxation was diagnosed in 3/10 cases; only degeneration were in 2/10 cases; 5/10 cases were mixed. The surgical approach after 4cm incision involved resecting 4mm slide from the medial end of clavicle, excising the injured and / or degenerated disc and osteophytes. The medullary canal of the clavicle was opened with a 6mm drill. Two 2.5mm perforations were created in both the clavicle and the sternum, through which Teflon suture was in “figure of eight” threaded. The thread has been knotted to itself. Following a three-week period of immobilization, postoperative care was supplemented with guided physiotherapy. Documented upper limb range of motion, pain level with visual analog scale (VAS) and any associated complications. Pictures 4,5,6



Picture 4: Elevated clavicle after resection



Picture 5: Threading Teflon thread into the hole

## Results

In all ten cases, patients reported a notable reduction in pain on the first day following the procedure: preoperative VAS 4.3/10 ( $\pm 1.6$ ), postoperative VAS 2.6/10 ( $\pm 1.75$ ). There was no difference in the range of motion of the shoulder joint compared to the opposite side after six-week from surgery. On one instance, localized swelling was on the surgical site. Subsequently responded to physiotherapeutic intervention. 3 months after surgery 9/10 patients returned to work. Picture 7



Picture 6: Teflon thread after knotting

## Discussion

The application of Teflon suture yields favourable postoperative outcomes. The results correlate with those described in the literature regarding “figure of eight arthroplasty”. It is also suitable for the treatment of degenerative SC joint injuries and non-degenerative injuries, as well as for surgery due to degenerative pain in SC joint without luxation.

## Conclusion

A good outcome can be achieved with “figure of eight arthroplasty” without the use of an autologous graft.



Picture 7: 6 weeks after surgery (left side arthroplasty)

## Author access / further information

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## References

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