

Statement from the Regional HTA Centre of Region Västra Götaland, Sweden

Active mobilization after flexor tendon repairs in zone II of the hand

Question at issue

After repair of flexor tendon injury in zone II of the hand, does active mobilization give a better result than current treatment with passive flexion and active hold, according to the method of Silfverskiöld/May, or any other method with passive flexion, regarding risk of rupture and range of movement?

PICO (Patient, Intervention, Comparison, Outcome)

P = Patients \geq five years of age, undergoing repair of flexor tendon(s) within zone II up to 14 days after the trauma, injuries in the thumb and concomitant fractures excluded.

I = 2-, 4- or 6-string suture technique with active flexion mobilization.

C1= Current treatment according to Silfverskiöld/May (2-string core suture, criss-cross suture and rubber band training with active extension, passive flexion and active hold in maximum flexion).

C2= Other method with passive flexion.

O = Primary outcome:
Rupture

Secondary outcomes:

Range of motion

Grip strength

Re-operation

Infection

Quality of Life

Patient satisfaction

Summary of the health technology assessment:

Method and patient category

Patients with injured flexor tendon(s) within zone II of the hand undergo surgery with suturing of the tendon(s). The present post-operative mobilization regime includes active extension and passive flexion with active hold. A more active mobilization regime including active flexion might result in a better range of motion and function of the hand, provided that the risk of rupture is not increased.

Level of evidence

The literature search identified one RCT of high quality, one systematic review, four cohort studies of low quality and three case series. None of the included studies examined passive mobilization identical with the method of Silfverskiöld/May.

Controlled active mobilization with active flexion compared with passive flexion does not seem to increase the risk of rupture, while increasing the range of motion measured after one year and patient satisfaction/VAS (low level of evidence, GRADE ⊕⊕).

Only the randomized study has contributed to the grading of evidence.

The level of evidence for evaluating the outcomes grip strength, re-operation and patient satisfaction/DASH is very low (GRADE ⊕).

Ethical aspects

It may be an ethical problem to introduce a method with active controlled flexion when the risk of rupture has been analyzed only in comparison with studies of passive flexion. The current method includes passive flexion with active hold.

Economical aspects

There are no major differences in costs between the techniques. The total cost for surgery, hospital stay and rehabilitation is estimated at 4 000 €.

Concluding remarks

Mobilization with early active flexion after repair of flexure tendon injuries in zone II of the hand does not seem to increase risk of rupture but results in a larger range of motion compared to methods with passive flexion. A direct comparison between active flexion and passive flexion with active hold according to Silfverskiöld/May is not available.

On behalf of the Regional HTA Centre of the Western Region in Sweden

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The Regional Health Technology Assessment Centre (HTA-centrum) of Region Västra Götaland, Sweden (VGR) has the task to make statements on HTA reports carried out in VGR. The statement should summarise the question at issue, level of evidence, efficacy, risks, and economical and ethical aspects of the particular health technology that has been assessed in the report.

Director Anna Elander and Section manager Louise Bentley, Dept of Hand Surgery and Plastic Surgery, SU/Sahlgrenska Hospital requested the present HTA. The HTA was accomplished during the period of 2011-01-26 – 2011-06-15. Last search updated in February 2011.

A working group under the chairmanship of Joakim Strömberg, MD, Dept of Hand Surgery, Sahlgrenska University Hospital (SU)/Sahlgrenska Hospital produced the HTA-report. The other members of the working group were Arvid Ejeskär, MD, PhD and Anders Nilsson, MD, PhD, both at the Dept of Hand Surgery, SU/Sahlgrenska Hospital.

The participants from the HTA-centre were Annika Strandell, Associate professor and Henrik Sjövall, Professor, Therese Svanberg, HTA-librarian, and Maud Eriksson, librarian.

Yuri Kartus, Professor, NU-health care and Urban Wingren, MD, PhD, Vascular Surgery, SU/Sahlgrenska Hospital have critically appraised the report.