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# Superiore Capsular Reconstruction Using the Long Head Of Biceps Tendon With Good Clinical and Radiographical Outcome

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Sporthopaedicum Regensburg/Straubing



No conflict of interest  
related to this e-poster



# Introduction

- Superior capsular reconstruction (SCR) is an established procedure in the treatment of irreparable rotator cuff (RC) tears.
- There is still controversy regarding the best transplant for this operation.
- The aim of this study is to demonstrate structural and clinical results one year after SCR using autologous long head of the biceps (LHB) graft. (LHB-SCR).

The **hypothesis** is that there is a significant improvement in **clinical** score results one year after the intervention with a **radiographically intact graft**.

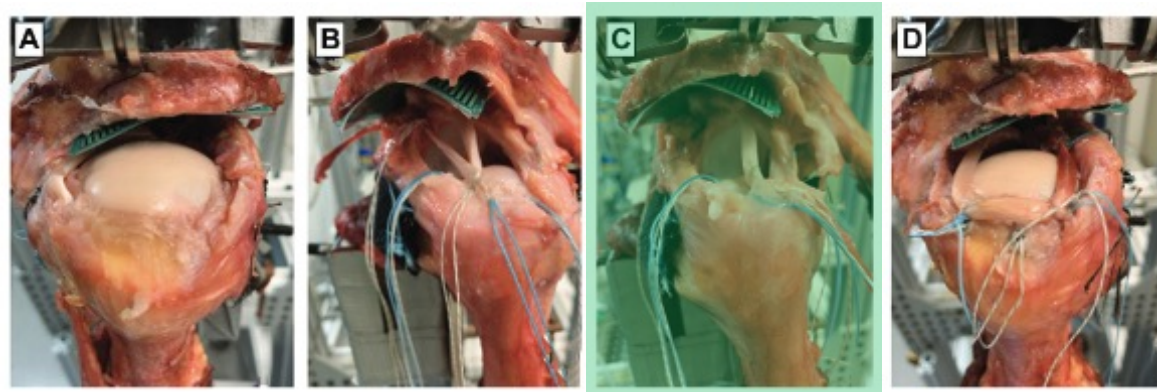


# Groundwork for clinical study

## Comparison of Different Fixation Techniques of the Long Head of the Biceps Tendon in Superior Capsule Reconstruction for Irreparable Posterolateral Rotator Cuff Tears

### A Dynamic Biomechanical Evaluation

Daniel P. Berthold,\* MD, Lukas N. Muench, MD, Felix Dyrna, MD, Bastian Scheiderer, MD, Eilifho Obopilwe, MS, Michael R. Kriffter, MD, Giuseppe Milano, MD, Ryan Bell, MS, Andreas Voss, MD, Andreas B. Imhoff, MD, Augustus D. Mazzocca, MS, MD, and Knut Beitzel, MD



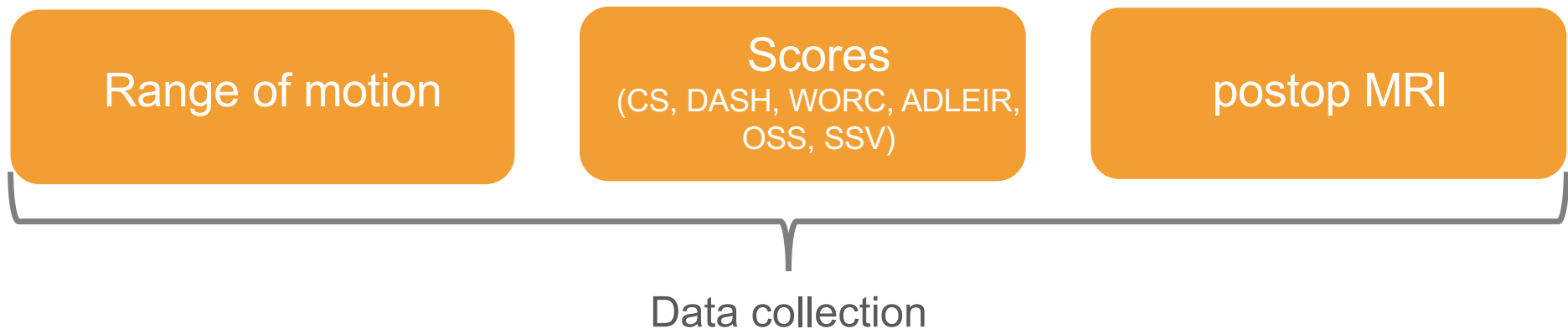
### Conclusion:

- In a dynamic biomechanical cadaveric model, using the LHBT for reconstruction of the superior capsule improved shoulder function by **preventing superior humeral migration, decreasing deltoid forces and sCP**. As such, the development of rotator cuff tear arthropathy in patients with irreparable psRCTs could potentially be delayed.

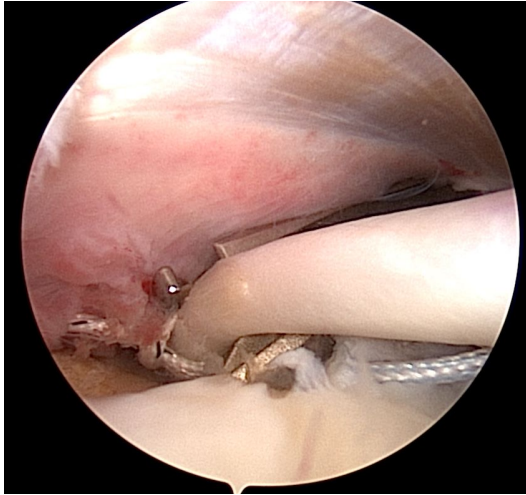


## Material & Methods

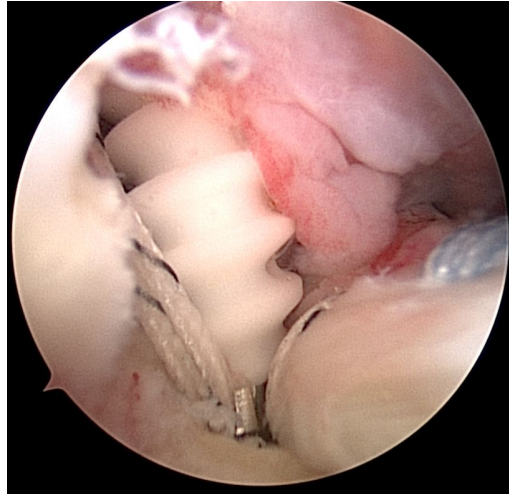
- Period of surgery: 2019-2020
- n = 23 with min. of 1 year follow-up
- Intervention performed: SCR with LHBT for irreparable posterosuperior RC tears (Bateman > 3, Patte > 2)



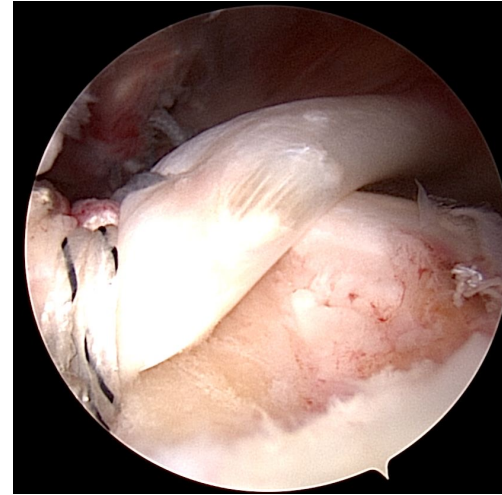
# Surgery



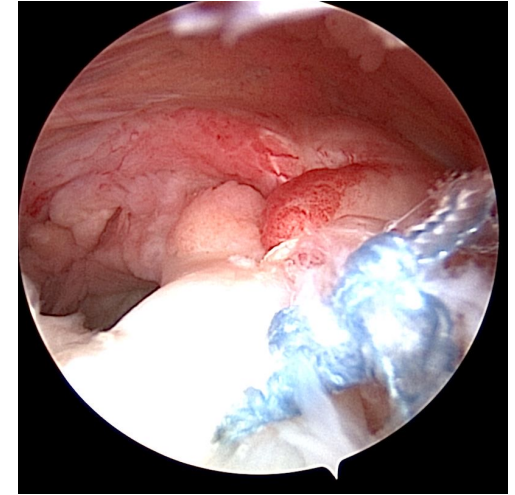
- Anterior suture attachment to LHBT



- Postero-lateral Anchor placement to stretch out the LHBT onto the footprint



- Final SCR with LHBT



- Margin convergence with remaining infraspinatus



# Results

- **Follow-Up:**  $14,9 \pm 3,9$  months
- **Age:**  $62,8 \pm 8,1$  (47-78 years)

<b>ROM active</b>	<b>Pre-OP</b>	<b>Post-OP</b>	<b>p-value</b>
Flexion	$110^\circ \pm 53,9$	$153,9^\circ \pm 26$	<b>0,002</b>
Abduction	$106,1^\circ \pm 54,3$	$146,1^\circ \pm 35$	<b>0,008</b>
External rotation	$39,4^\circ \pm 16,5$	$40,7^\circ \pm 15$	0,766
SSV	$42,4\% \pm 18,1$	$73,9\% \pm 14$	<b>&lt;0,001</b>



# Results

## Constant Score

<b>Total</b>	<b>66/100</b>
Pain	10,8/15
Daily activity	16/20
Mobility	32,3/40
Force	6,9/25
Gender & age adapted	<b>76,6%</b> (according to Gerber)





# Results

## Scores

DASH	$22,6 \pm 18,8$
WORC	$70,8\% \pm 22,5$
ADLEIR	$32,7 \pm 3,8$
OSS	$22,5 \pm 8,5$

## MRI (n=19)

16 out of 19 SCRs with LHBT intact = **84%**



# Summary

- Promising results at 1-year follow-up
- Cost- and time-saving method
- No withdrawal morbidity
- Longer follow-up + comparison with other surgical methods and transplants is still necessary



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## Thank you



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Priv.-Doz. Dr. med. Andreas Voss



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