

Long-Term Functional, Sports- and Work-Related Outcomes After Arthroscopic Capsulolabral Revision Repair for Recurrent Anterior Shoulder Instability: A Minimum 20-Year Follow-Up

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Presenter Disclosure Information

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Background

- **Recurrent shoulder instability** after primary repair **4% to 60%**
- **Revision surgery** in up to **15%**
- Risk factors: **bony glenoid defects**, **engaging Hill-Sachs lesions**, capsular redundancy, and traumatic events.
- Indication of **bone-block transfers**



In the absence of severe glenoid bone defects and engaging Hill-Sachs lesions, **arthroscopic capsulolabral revision repair (ACRR)** as a suitable approach.

Advantages:

- anatomic labral repair
- reduced morbidity
- intra-articular pathologies

Arner et al., Arthroscopy, 2022
Bartl et al., AJSM, 2011
Lau et al., OJSM, 2020
Rossi et al., AJSM, 2021
Waterman et al., JAAOS, 2020

Purpose & Hypothesis

Purpose:

To provide prospectively collected **long-term clinical outcomes**, sports activity, and work ability of patients undergoing **ACRR** for recurrent anterior shoulder instability at a **minimum of 20 years**.



Hypothesis:

Patients undergoing ACRR would **maintain significant functional improvement** along with a sufficient sports activity and work ability at a minimum follow-up of 20 years.

Methods

Inclusion criteria:

- ACRR for recurrent anterior shoulder instability between 09/1998 and 08/2003
- Anatomic soft-tissue index procedure
- Glenoid bone loss $< 20\%$
- Non-engaging Hill-Sachs lesion



Exclusion criteria:

- Non-anatomic index procedure
- Glenoid bone loss $> 20\%$
- Engaging Hill-Sachs lesion
- Concomitant full-thickness rotator cuff tear
- Multidirectional or voluntary instability



Methods

Functional Outcome Measures:

- **Rowe & Constant-Murley (CM)** preop, min. 2 years and min. 20 years postop
- **SANE, Simple Shoulder Test (SST)**, and **VAS** for pain at final min. 20-year follow-up

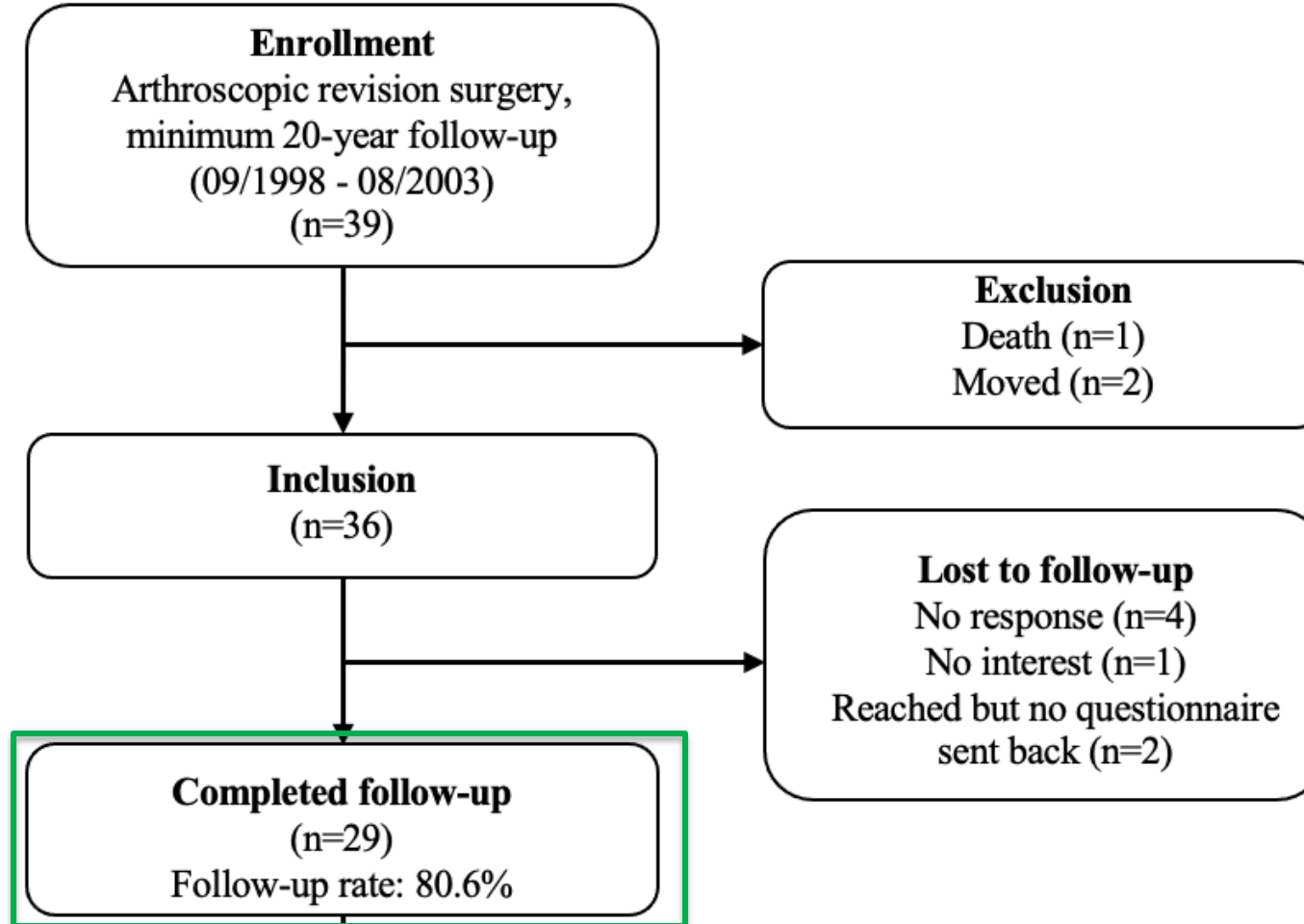
Sports Specific Outcomes:

- **Sports activity assessment tool**
- Activity level, discipline, subjective strength/mobility/endurance

Work Specific Outcomes:

- **Work ability assessment questionnaire** (occupation, level of physical strain)

Results



Results

1 Functional Outcome Measures

PROs	Preoperatively	Min. 2y FU	p-value	Min. 20y FU	p-value
Constant-Murley Score	73.7±9.9 (42.0-85.0)	87.9±8.0 (70.0-98.0)	<0.001	83.4±11.0 (57.0-100.0)	<0.001
Constant-Murley Score (age-adapted)	77.1±10.4 (42.9-90.3)	94.3±9.4 (74.2-105.6)	<0.001	90.0±12.0 (59.0-114.0)	<0.001
Rowe Score	22.6±13.2 (0.0-40.0)	86.7±18.7 (35.0-100.0)	<0.001	86.9±15.8 (50.0-100.0)	<0.001

- ✓ PROs were **significantly improved**
- ✓ **No significant difference** in PROs between 2-year and 20-year FU
- ✓ **MCID** for Rowe: **79.3%** at 2-year and 20-year FU
- ✓ **PASS** for Rowe: **51.7%** at 2-year and **48.3%** at 20-year FU
- ✓ Rate of **recurrent instability** 27.6% (n = 8)

Results

2 Sports Specific Outcomes

- ✓ **Return to sports 100%, with return to preinjury level 81% at 2-year and 42.9% at 20-year FU**
- ✓ **Decline in sport-specific capabilities** compared to preinjury
- ✓ **Amount of activity** and subjective **mobility** significantly decreased from 2-year to 20-year FU

Sport specific measure	Preinjury	p-value	Min 2y FU	p-value	Min 20y FU	p-value
Amount of Activity (%)	100.0±0.0	0.002	84.0±21.2	<0.001	62.0±34.0	0.022
Strength (%)	100.0±0.0	0.011	87.9±19.8	0.002	84.3±19.6	0.594
Endurance (%)	100.0±0.0	0.029	90.0±19.5	0.003	81.6±23.6	0.250
Mobility (%)	100.0±0.0	<0.001	87.9±10.2	<0.001	74.8±23.6	0.021

Results

3 Work Specific Outcomes

- ✓ No change in **type of employment** and **physical strain at work**
- ✓ **Working ability** “excellent” (71%) and “good” (24%)

		Preoperatively	Min. 20y FU	p-value
Type of employment	School/university/training	3 (14%)	2 (10%)	0.892
	Employed	17 (81%)	18 (86%)	
	Self-employed	1 (5%)	1 (5%)	
Physical strain load at work	None	9 (50%)	9 (50%)	0.884
	Light	2 (11%)	2 (11%)	
	Medium	3 (17%)	5 (28%)	
	Heavy	2 (11%)	1 (6%)	
	Very heavy	2 (11%)	1 (6%)	

Limitations & Conclusion

Limitations:

- Limited sample size
- No radiographic imaging



Conclusion:

- Significant improvement in functional outcomes at a minimum FU of 20 years
- Favorable sport activity and work ability
- Rate of recurrent instability 27.6%

Thank you for your attention !

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