

Comparison study of patients older and younger than 70 years of age with the same stemless anatomic total shoulder replacement

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Disclosures

- **Coghlan JA & Bell SN:** Mathys financial assistance for data collection and statistical support from the University of Melbourne.
- **Simon MJK** certifies that they have **no commercial associations** (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted manuscript.



Background

- Common surgical treatment of patients with painful and debilitating osteoarthritis of the glenohumeral joint is a total shoulder replacement (TSR).
- Anatomic TSR (aTSR) is usually performed when there is an intact good functioning rotator cuff, however when the patient reaches the 8th decade there is an increased tendency in these cases to do a reverse prosthesis.
- Aim: Comparison of patients with the same aTSR below and over the age of 70 years.

Methods

- **Consecutive patients prospectively studied** with glenohumeral osteoarthritis managed with the **same stemless aTSR** below (n=86) and above (n=75) the **age of 70 years**.
- Minimum follow-up of 2 years
- Clinical pre- and postoperative assessment:
 - ASES score, Constant score, SPADI score, DASH score,
 - Range of motion (ROM), VAS pain and patient satisfaction.
- Yearly radiological assessment



Results

- Inclusion (min 2 Y; max 9 Y):
 - $< 70Y = 86$
 - $\geq 70Y = 75$
- Follow-up loss:
 - $< 70Y = 14$ (7 Withdrawn, 3 Lost, 2 Deceased, 2 Revision)
 - $\geq 70Y = 13$ (5 Withdrawn, 6 Lost, 2 Deceased, 2 Revision)

$< 70Y$		$\geq 70Y$
86	N	75
63.16	Age (Y)	74.07
5.47	SD	3.26

	Gender	
48	Female	51
38	Male	24

170.33	Height (cm)	166.41
10.98	SD	7.91

86.21	Weight (kg)	79.55
23.91	SD	14.60

30.07	BMI (kg/m ²)	28.76
8.07	SD	5.86

	Op Arm	
45	Left	31
41	Right	44

Results

Follow-up < 70Y

< 70Y	n	Excluded	No Data*	Total
Constant Y1	59	1	26	86
Constant Y2	65	4	17	86

DASH Y1	59	1	26	86
DASH Y2	64	4	18	86

ASES Y2	53	4	29	86
ASES Y5	35	13	38	86
ASES Y7	15	13	58	86
ASES Y8	14	14	58	86

SPADI Y1	59	1	26	86
SPADI Y2	66	4	16	86
SPADI Y5	36	13	37	86
SPADI Y7	25	13	48	86
SPADI Y8	22	14	50	86
SPADI Y9	7	14	65	86

Follow-up ≥ 70Y

≥ 70Y	n	Excluded	No Data*	Total
Constant Y1	55	2	18	75
Constant Y2	59	6	10	75

DASH Y1	55	2	18	75
DASH Y2	58	6	11	75

ASES Y2	38	6	31	75
ASES Y5	32	13	30	75
ASES Y7	18	13	44	75
ASES Y8	9	13	53	75

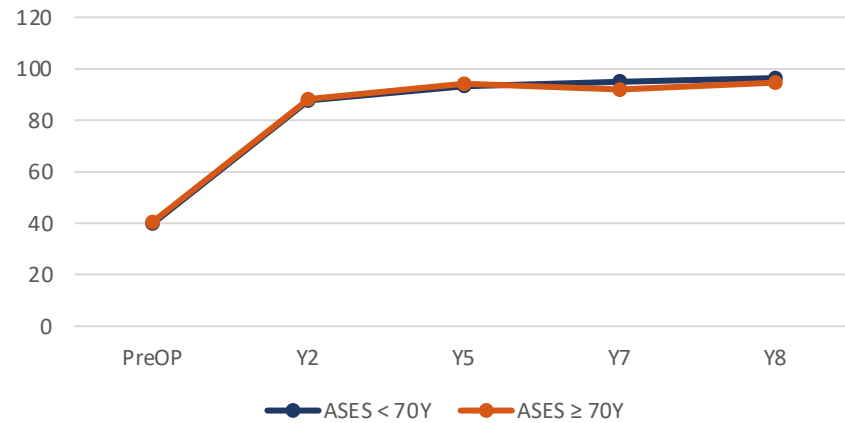
SPADI Y1	53	2	20	75
SPADI Y2	58	6	11	75
SPADI Y5	32	13	30	75
SPADI Y7	25	13	37	75
SPADI Y8	13	13	49	75
SPADI Y9	4	13	58	75

*No Data = Missing data or Follow-up Time point not yet reached (from Y7 and onwards)

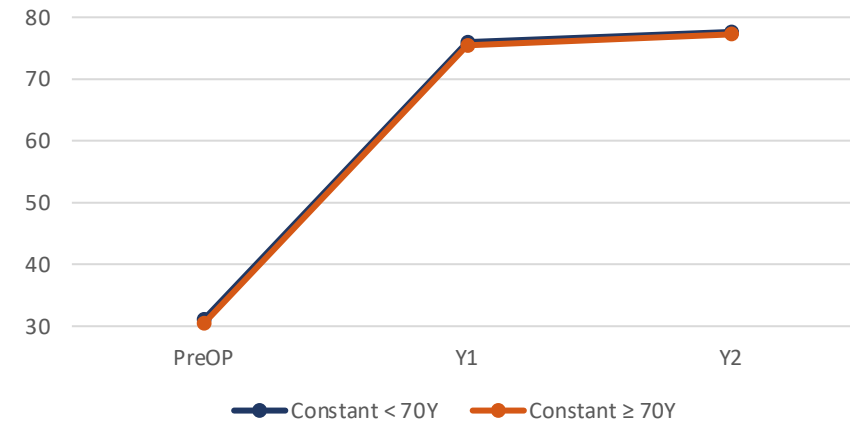


Results

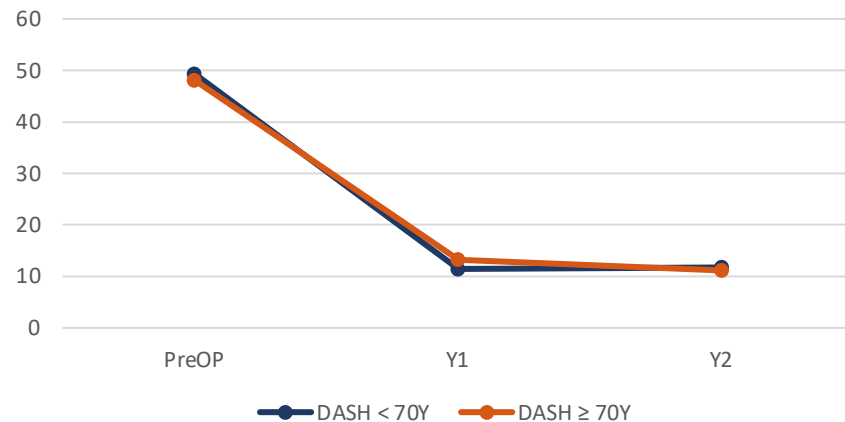
ASES



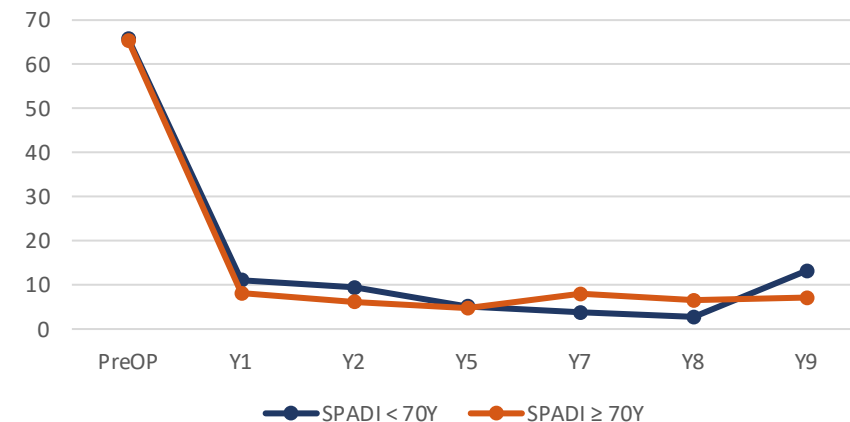
Constant



DASH



SPDAI

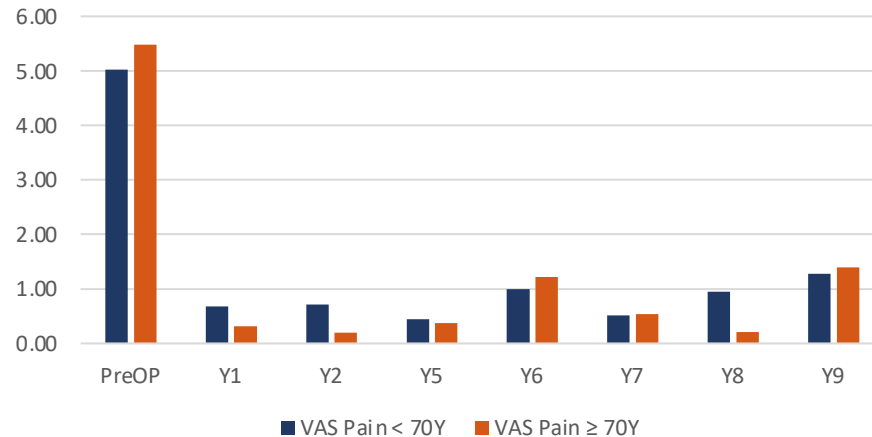


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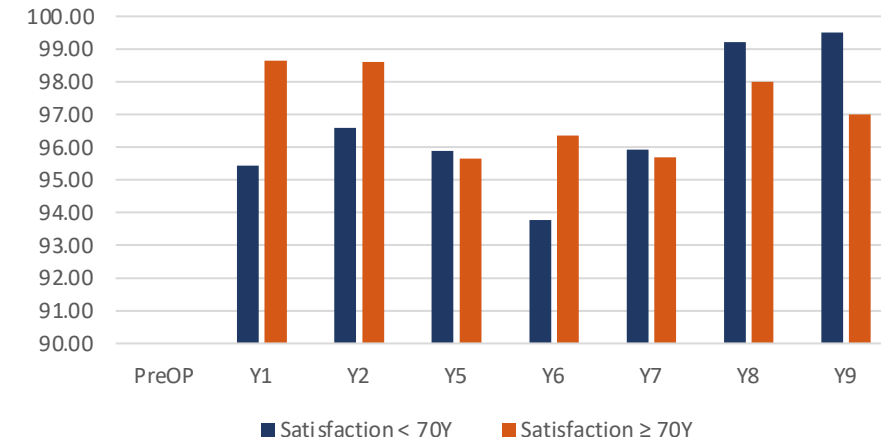


Results

VAS pain



Satisfaction [%]



Radiographs overall minor osteolysis at latest follow-up:

- < 70Y: Only Lazarus 0 and 1
- ≥ 70Y: Only 1 case with a Lazarus 2. Rest Lazarus 0 and 1

Complications:

- Two cases in the < 70 group had to be revised to a reverse TSR (cement failure)
- One case in the ≥ 70 group had a supraspinatus failure, but did not need a revision

Conclusions

- Results demonstrate
 - patients ≥ 70 years of age with the same stemless aTSR have as **good clinical and radiological outcomes** as
 - patients younger than 70 years of age **when carefully selected for good rotator cuff muscle function.**
- Age is not the **main factor** but the **individual biology** for implantation of an **aTSR.**