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Time of Return to Work (RTW) May Not Correlate with Patient-Reported Outcomes Measurements (PROM) at Minimum One Year Post Arthroscopic Bankart Repair

Authors

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1 Introduction

Shoulder surgery, as with any other surgical procedure, is one of the conditions that inevitably impacts patients' lives. Current data focus on restoring the range of motion, strength, and the patients' activity. Bankart repair is one of the common procedures among shoulder surgeries, pioneered by Bankart in 1923 and still being innovated by another generation of shoulder surgeons [1]. According to the American Board of Orthopaedic Surgery, from 2003 to 2008 a total of 4562 Bankart repair cases were reported, comprising 8.6% of the total number of shoulder surgery cases. It is also interesting to note that the number of surgeons performing arthroscopic Bankart repairs increased during the period of study from 123 in 2003 to 217 in 2008

2 Objective

The study aimed at analyzing the mean time of returning to work and physical activity, with assessment of their correlation with patient reported outcome measurements determined by GROC, SST and SANE scores after Bankart Repair.

SST:

1. **Is your shoulder comfortable with your arm at rest by your side?**
2. **Does your shoulder allows you to sleep at night?**
3. **Can you reach the small of your back to tuck in your shirt with your hand?**
4. **Can you place your hand behind your head with the elbow straight out to the side?**
5. **Can you place a coin on a shelf at the level of your shoulder without bending your elbow?**
6. **Can you lift 0,5 kg to the level of your shoulder without bending your elbow?**
7. **Can you lift 4kgs to the level of the top of your head without bending your elbow?**
8. **Can you carry 10kgs at your side with the affected extremity?**
9. **Do you think you can toss a tennis ball underhand 10 meters with the affected extremity?**
10. **Do you think you can toss a tennis ball underhand 20 meters with the affected extremity?**
11. **Can you wash the back of your opposite shoulder with the affected extremity?**
12. **Would your shoulder allow you to work full-time at your usual job?**

3 Methodology

A retrospective review of the hospital's database was performed to identify all the patients who underwent arthroscopic Bankart repair. Next, we excluded patients who did not match inclusion criteria. Inclusion criteria were: 1. Age over 17 years; 2. Follow-up of at least 12 months from the surgery; 3. No prior surgery of the affected shoulder; 4. Either email or phone number available in the hospital's database; 5. Surgery performed by the fellowship-trained shoulder surgeon. Exclusion criteria were: 1. Patient not working or retired prior to surgery; 2. Previous surgeries of the affected shoulder; 3. Surgery performed by other surgeons than the senior author; 4. Open Bankart procedure; 5. Bone procedure as for example Latarjet; 6. Follow-up of less than 1 year; 7. Lack of the phone number or email in the hospital database; 8. History of fractures around the affected shoulders

GROC - how would you rate your shoulder in comparison to the situation before the surgery, if -7 is much worst and 7 is much better?

SANE - how would you rate your shoulder in the scale from 0 to 100, if 100 is painless shoulder with full functionality?

4 Results

In our survey we asked our patients whether they managed to return to work (RTW) or not. All but one of the patients managed to return to work, which resulted in a 94% ratio of return to work. The only unsuccessful patient had complications due to COVID-19 infection; therefore, he could not return to his work duties. None of the complications were related to the shoulder surgery.

The study's patients managed to return to work at a median of 7 weeks, with the return-to-work period ranging from 1 week to 20 weeks.

The time of returning to work substantially varied depending on the type of work performed. Office workers returned significantly more quickly to work after an average of 2.5 weeks (range 1–17), so on average within less than 1 month after the surgery, while patients performing physical work returned to work after 12 weeks (4–20), so on average within 3 months after the Bankart repair. The difference between the groups was statistically significant, $p = 0.0239$.

5 Analysis

	df	R	p
Age vs. RTW	14	0.57	0.0220
Age vs. RTW	14	−0.26	0.3274
Age vs. SANE	15	−0.11	0.6673
Age vs GRoC	15	0.12	0.6448
Age vs. SIMPLE SHOULDER TEST	15	−0.41	0.1021
RTW vs. RTPA	14	−0.03	0.9069
RTW vs. SANE	14	−0.41	0.1164
RTW vs. GRoC	14	−0.16	0.5643
RTPA vs. SANE	14	−0.07	0.8009
RTPA vs. GRoC	14	−0.18	0.5078
SANE vs. GRoC	15	0.55	0.0216
SANE vs. SIMPLE SHOULDER TEST	15	−0.34	0.1783
GROC vs. SIMPLE SHOULDER TEST	15	−0.27	0.2859

(RTW—return to work, RTPA—return to physical activity).

Brief summary of all analyzed correlations for the whole cohort

	n	Median	1. Quartile	3. Quartile	Min	Max
age	17	30	24	34	17	57
RTW (weeks)	16	7	2.5	13	1	20
RTPA (months)	16	5	3	6.5	2	12
SANE (0–100)	17	90	85	95	80	100
GROC (−7–7)	17	6	6	7	0	7
SST (0–12)	17	12	12	12	7	12

(RTW—return to work, RTPA—return to physical activity).

Summary of most important findings

	Office Job			Physical Job			
	Median	Min	Max	Median	Min	Max	p
RTPA (weeks)	4.5	2	10	5.5	3	12	0.5635
RTW (weeks)	2.5	1	17	12	4	20	0.0207
SANE (0–100)	90	80	100	90	80	100	0.5286
GROC (−7–7)	6	0	7	6	3	7	0.9164
SIMPLE SHOULDER TEST (0–12)	12	12	12	12	12	12	0.9581

Descriptive statistics of the group by type of work performed

6 Conclusion

1. According to the assessment scales used, patients were satisfied with the postsurgical results.
2. This study reports that patients who underwent arthroscopic Bankart repair may expect to return to work within 7 weeks, meaning less than 3 months, from the surgery.
3. Office workers may require on average 2,5 weeks before returning to work.
4. Patient-reported outcomes may not correlate with time needed to return to job duties.

Related literature

1. **Hendawi, T.; Milchteim, C.; Ostrander, R. Bankart Repair Using Modern Arthroscopic Technique. Arthrosc. Tech. 2017,**