



Rotator cuff tear in highly Competitive athletes, is conservative treatment possible to regain the level of performance? Outcome of anatomical reconstruction surgery
Moataz Eldeeb MD, Basim Fleega MD
 Shoulder Service Global Orthopedic Clinic Giza, Cairo, EGYPT/ Alazhar University Medical College Hospital, Orthopedic Dept. Dumiat, EGYPT

Aim

Rotator Cuff Tears is a challenge for competitive athletes and may stop or delay the participation in competitive sports, and there is a lack in the literature when it comes to return to play or arthroscopic rotator cuff repair in high performance athletes, the purpose of this study to assess the capability of high-performance athletes to return to their competitive sports after transosseous rotator cuff repair.

Methods

35 high performance athletes who participate in national or international tournaments, had been through Arthroscopic Transosseous Rotator Cuff Repair and Standardized Arthroscopic Subacromial Decompression if needed, followed by guided Physiotherapy and Rehabilitation Protocol, 29 of the tears were small sized, 3 medium-sized, and 3 large sized tear.

383 Sport shoulder injuries treated in the GOC Clinics Al Salaam International Hospital 2014-2022

• Weight lifter, Body builder, Gym	81 (21%)	• Rugby	6
• Handball	39 (10%)	• Gymnastic Sprinter	5
• Tennis	32	• American Football	5
• Swimmer	29	• Wrestling	3
• Football	25	• Javelin thrower	3
• Water polo	23	• Hockey	2
• Boxer	20	• Table tennis	2
• Volleyball	19	• Kite Surfing	2
• Kick boxing	15	• Shooting	1
• Squash	15	• Skiing	1
• Basketball	15	• Aerobics	1
• Cross fit	14	• Sky diving	1
• Floor Gymnastic	8	• Speed ball	2
• Karate/Jaikundo	7	• Horse Riding	3
		• Biking	1

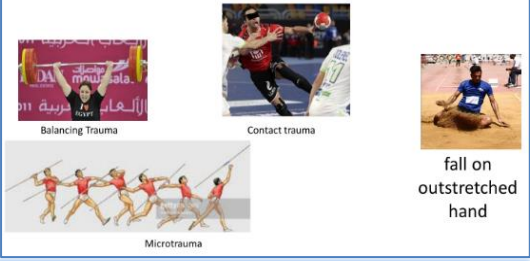
Most common shoulder injuries according to the number of cases

- Impingement Syndrome
- Shoulder Dislocation
- Glenohumeral Subluxation
- Rotator cuff tear
- Acromio-clavicular joint dislocation
- Fractures
- Glenohumeral Osteoarthritis

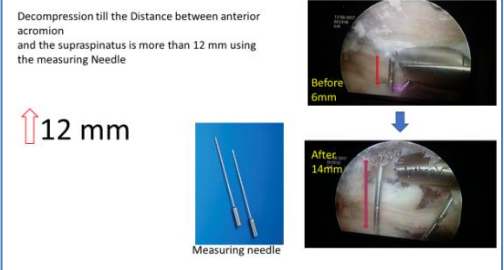
35 High Performance Athletes had Arthroscopic rotator Cuff Tear Repair
25 Acute Trauma and 10 Micro Trauma

• Weight lifter	5	2 Micro trauma	1 Outlet Impingement
• Volleyball	5	4 Micro trauma	1 Outlet Impingement
• Boxer	4		
• Handball	3	1 Micro trauma	
• Water polo	3		
• Football	3	1 Micro trauma	
• Athletics sprinter	3		
• Tennis	3	2 Micro trauma	1 Outlet Impingement
• Swimmer	2		
• Confu	1		
• Javelin	1		
• American football	1		
• Biking	1		

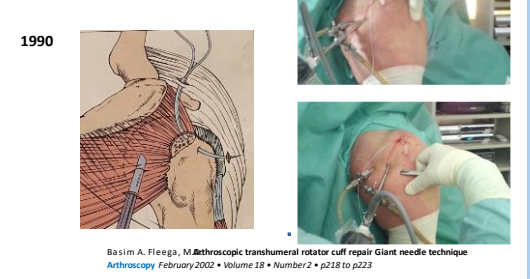
Mechanism of trauma



1995 STANDARIZED ARTHROSCOPIC SUBACROMIAL DECOMPRESSION



Giant Needle





Etiology of tear in HPA , is it different from average athletes and rest of population?

Etiology of tear in HPA

- Contact trauma 14/35 (40%)
- Balancing/fall Trauma 11/35 (31%)
- Microtrauma 7/35 (20%)
- Microtrauma + Outlet Impingement 3/35 (8%) (All av. 95%)
- Subacromial Narrowing(less than 12mm) 11/35 (32%)

STUDY 35 High Performance Athletes had Arthroscopic rotator Cuff Repair between 2014-2020

Average age at surgery 25.8 years (All av. Age 58y)

- 23 Partial tear (5 Spoon) (66%)
- 6 complete small tears (17%)
- 3 medium size complete tear
- 3 large tears
- All had rotator cuff tear arthroscopic repair surgery
- Transosseous in 31
- End to End in 4

Muscle Test, ROM, and Functional Measurements were done to the patients to see if the injured arm is equal to the non-injured arm following the surgery and physiotherapy.



Results

94% of the patients had returned to their competitive sports and participated in a national or international tournaments within 4 to 6 months, only 2 patients didn't return to their competitive sports.

POSTOPERATIVE PERFORMANCE
(One Boxer and one Am. football player did not continue in competitive sport)



World champion after tendon repair
بطولة العالم بوزو الأثينيون

بطولة واحسن لاعبة كرة طائرة في افريقيا
بطولة واحسن لاعب في افريقيا

ثالث العالم في التجديف
ثالث العالم في التجديف

Africa Champion after Surgery
Third place world champion after tendon repair
Third place world champion after tendon repair operation

Conclusions

Arthroscopic Transosseous Rotator Cuff Repair with guided rehabilitation program results in high probability to return to competitive sports in contact and non-contact sports

Arthroscopic Rotator Cuff Repair in High Performance Athletes (HPA)

- Etiology of tear in HPA , is it different from average athletes and rest of population?
YES, ONLY 8% ARE DUE TO OUTLET IMPINGEMENT
- Does RCT in HPA happens mostly in Contact Sports? NO ONLY 40%
- Types of tears in HPA? 83% PARTIAL AND SMALL TEARS
- Is SAD needed in RC Repair of HPA? WAS DONE IN ONLY IN 28%
- Special Rehab program and return to sport? EFFECTIVE EARLY PLAY
- Results and performance after transosseous arthroscopic RCR in HPA? 94% RETURN TO COMPETITIVE SPORT