



# Injury prevention and rehabilitation

Jintaek Kim

2023  
ASIA ARCHERY  
CHALLENGE





# Who am I

## Jintaek Kim

CEO, Connect Clinic & Team Physio 

Adjunct Professor, Dept. Physical Therapy, Daejeon University

Medical Sports Science committee of Korea Archery Association

Ph.D. Cand., IOC Diploma in Sports Physical Therapies

Previous Experience

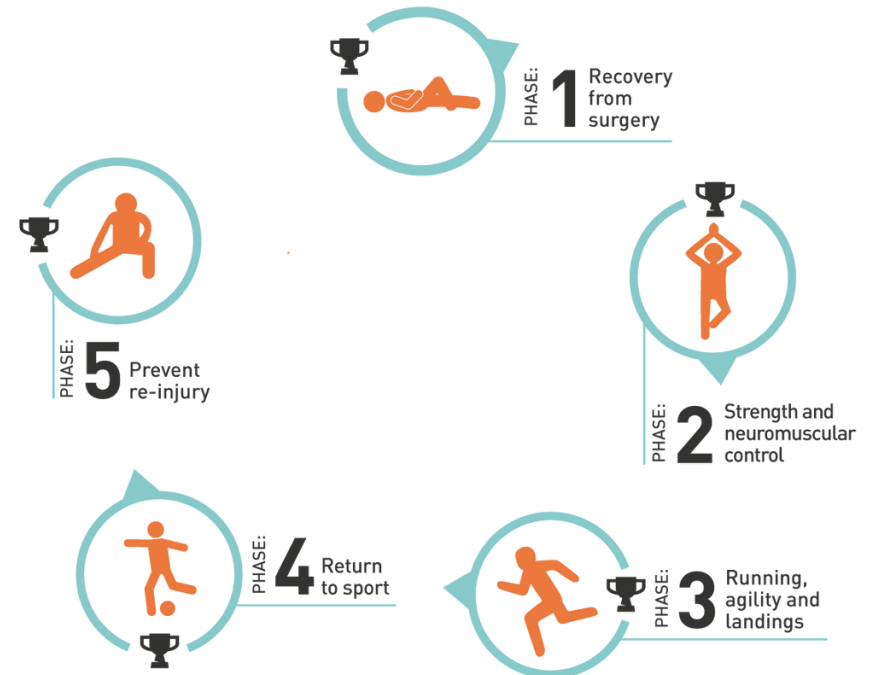
- Korea Canoe Youth National Team (2010)
- Korea Archery National Team(2011 ~ 2020)
  - 11', 13', 15', 17', 19 Worldchampionship
  - 14', 18' Asian Game
  - 12', 16' Olympic

Kim JT, Kim SY, Oh DW. An 8-week scapular stabilization exercise program in an elite archer with scapular dyskinesis presenting joint noise: A case report with one-year follow-up. Physiother Theory Pract. 2019;35(2):183-189.



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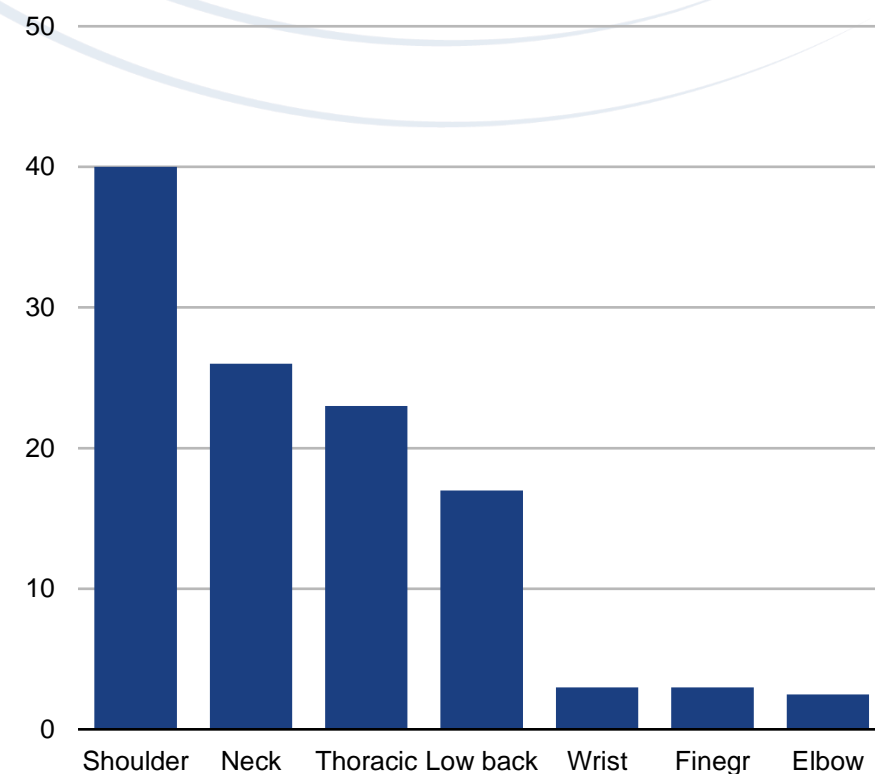
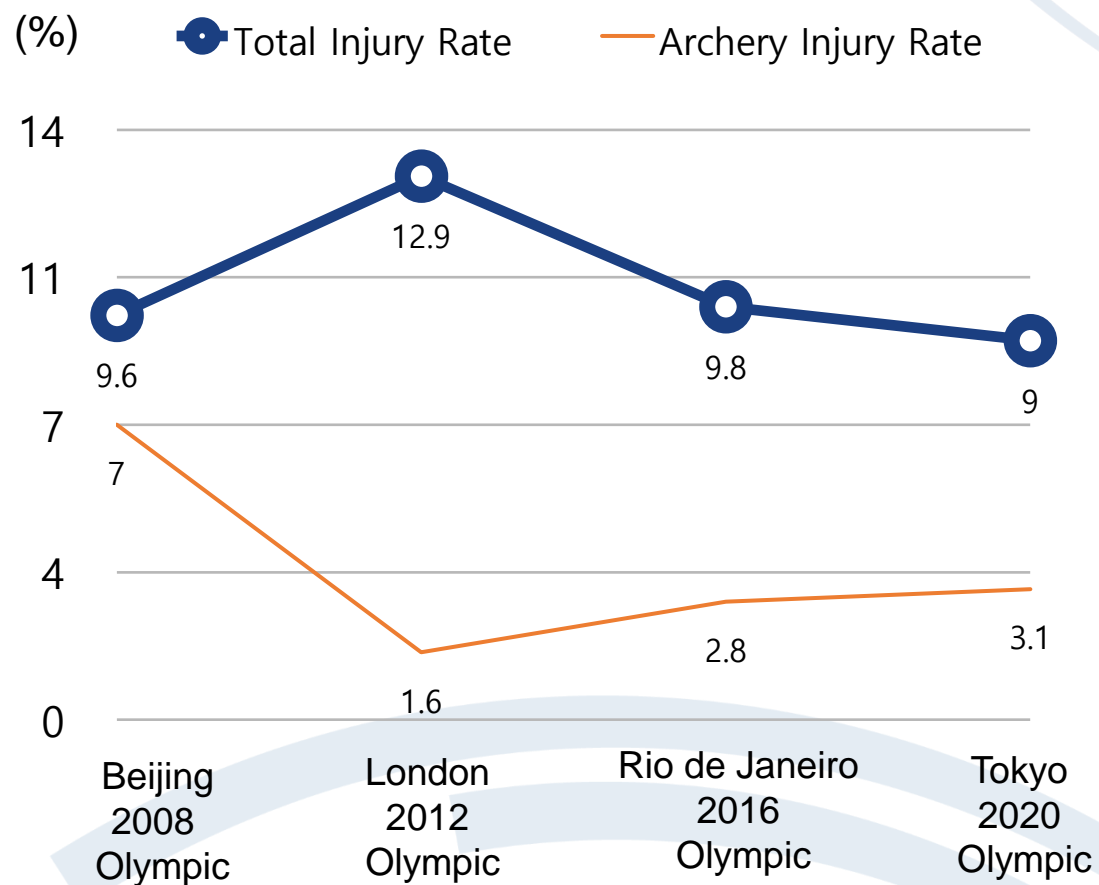
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**01**

# **Archery injury**



Please answer all questions regardless of whether or not you have problems in your (insert anatomical location here, eg, knees). Select the alternative that is most appropriate for you, and in the case that you are unsure, try to answer as best you can anyway.

The term '(location) problems' refers to (insert common symptoms or injury consequences here, eg, pain, ache, stiffness, clicking/catching, swelling, instability/giving way, locking) or other complaints related to your (location).

## Question 1—Participation

Have you had any difficulties participating in training and competition due to (location) problems during the past 7 days?

- a. Full participation without (location) problems
- b. Full participation, but with (location) problems
- c. Reduced participation due to (location) problems
- d. Could not participate due to (location) problems

## Question 2—Modified training/competition

To what extent have you modified your training or competition due to (location) problems during the past 7 days?

- a. No modification
- b. To a minor extent
- c. To a moderate extent
- d. To a major extent

## Question 3—Performance

To what extent have (location) problems affected your performance during the past 7 days?

- a. No effect
- b. To a minor extent
- c. To a moderate extent
- d. To a major extent

## Question 4—Pain

To what extent have you experienced (location) pain related to your sport during the past 7 days?

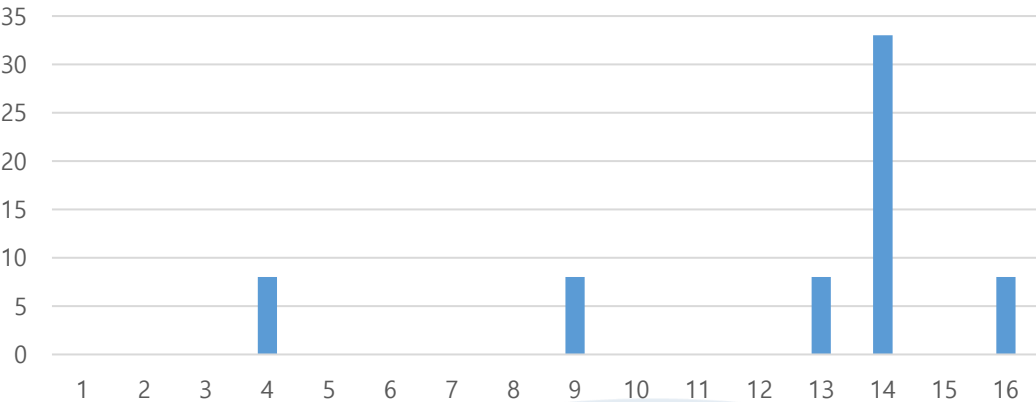
- a. No pain
- b. Mild pain
- c. Moderate pain
- d. Severe pain

(a=0, b=8, c=17, d=25)

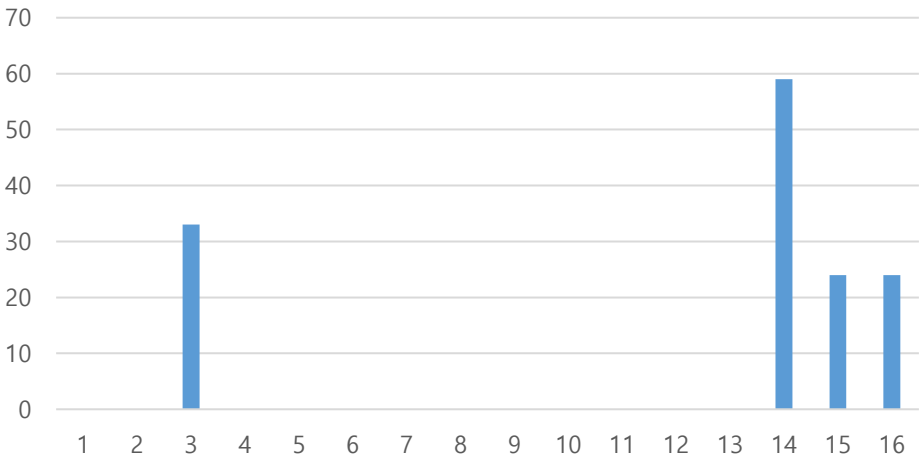
Complaint was defined as sum score of at least 20/100

Injury as a sum score of at least 40/100

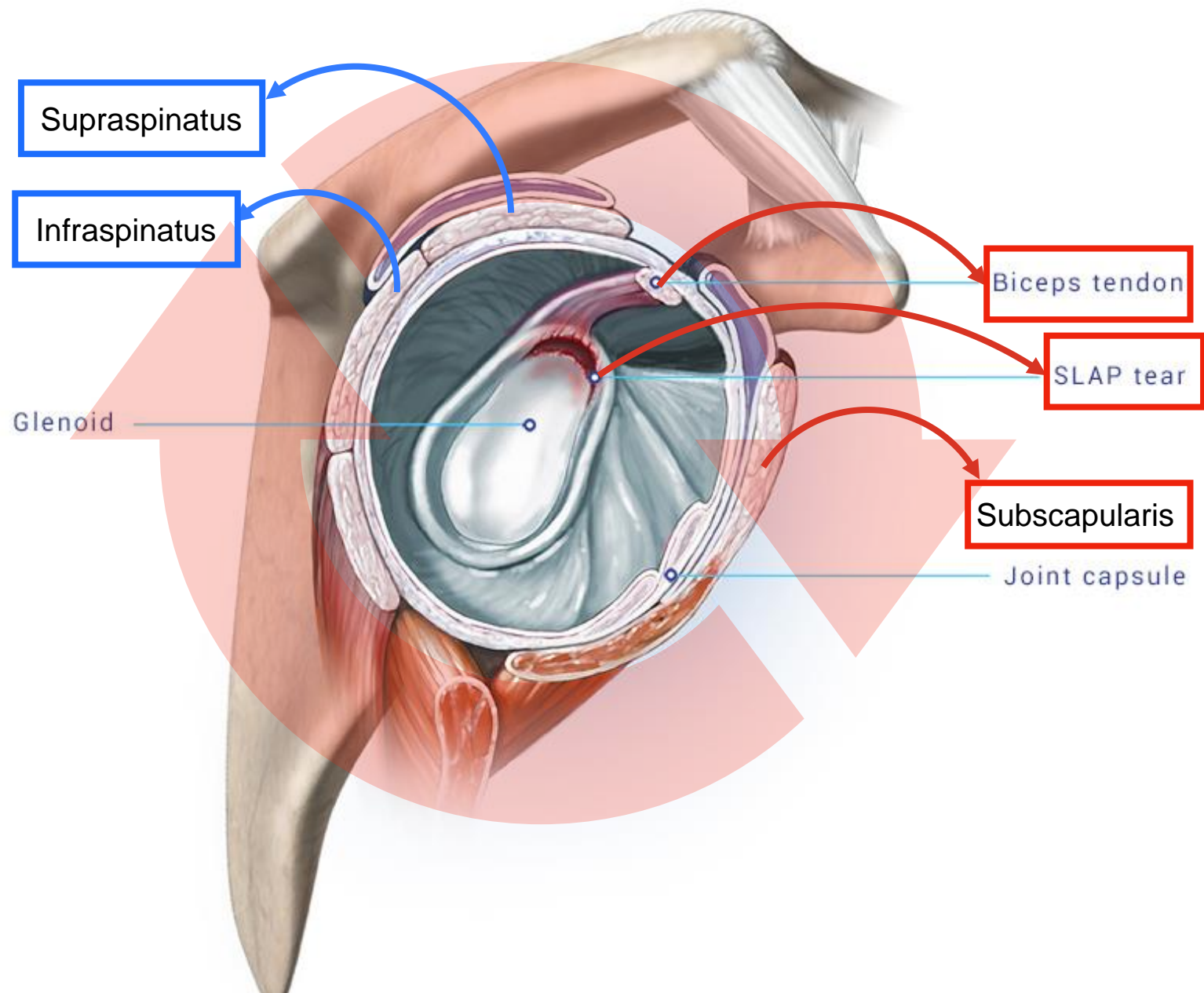
OSTRC-O



OSTRC-H







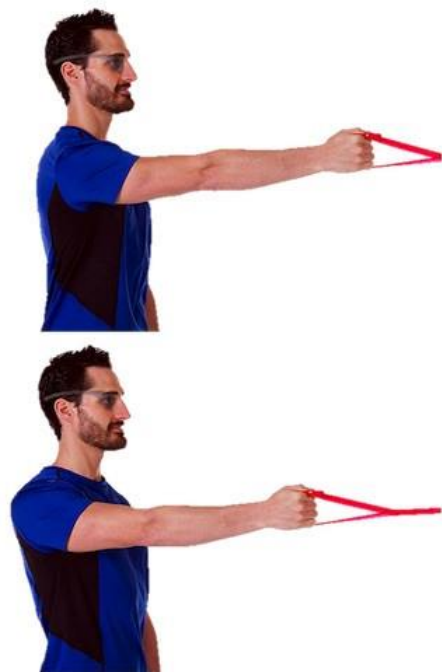
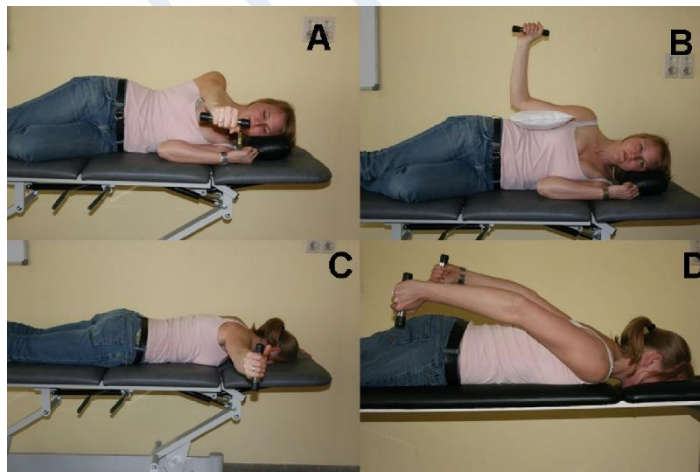


02

# Archery rehab

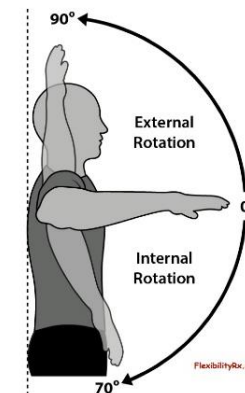
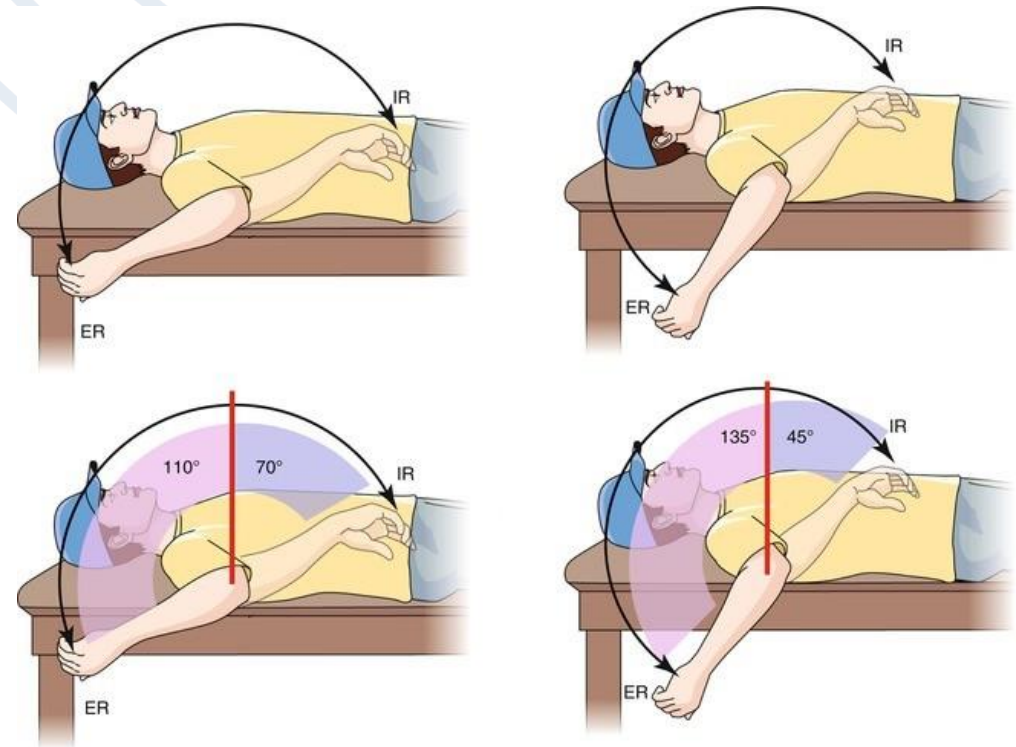
53% of healthy people / 61% of overhead athletes

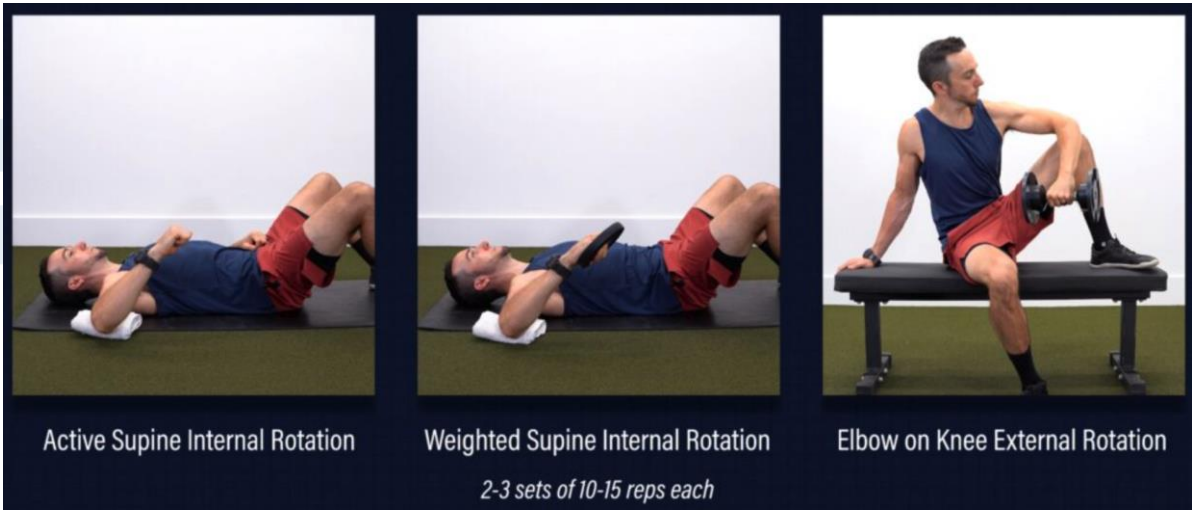
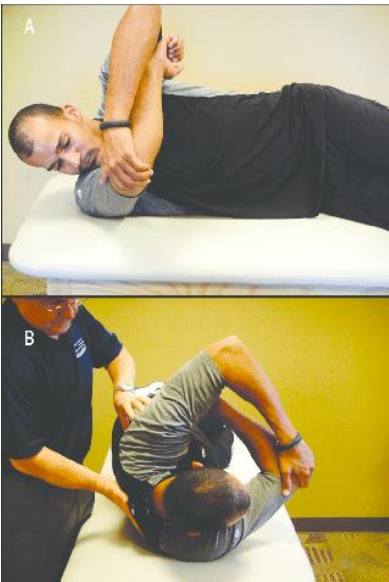
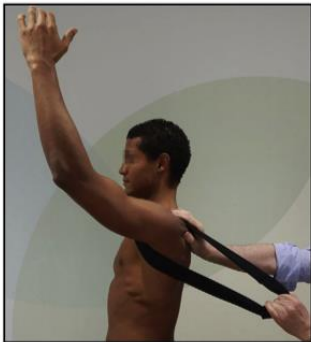






Key points here are stabilization of the scapula for internal rotation







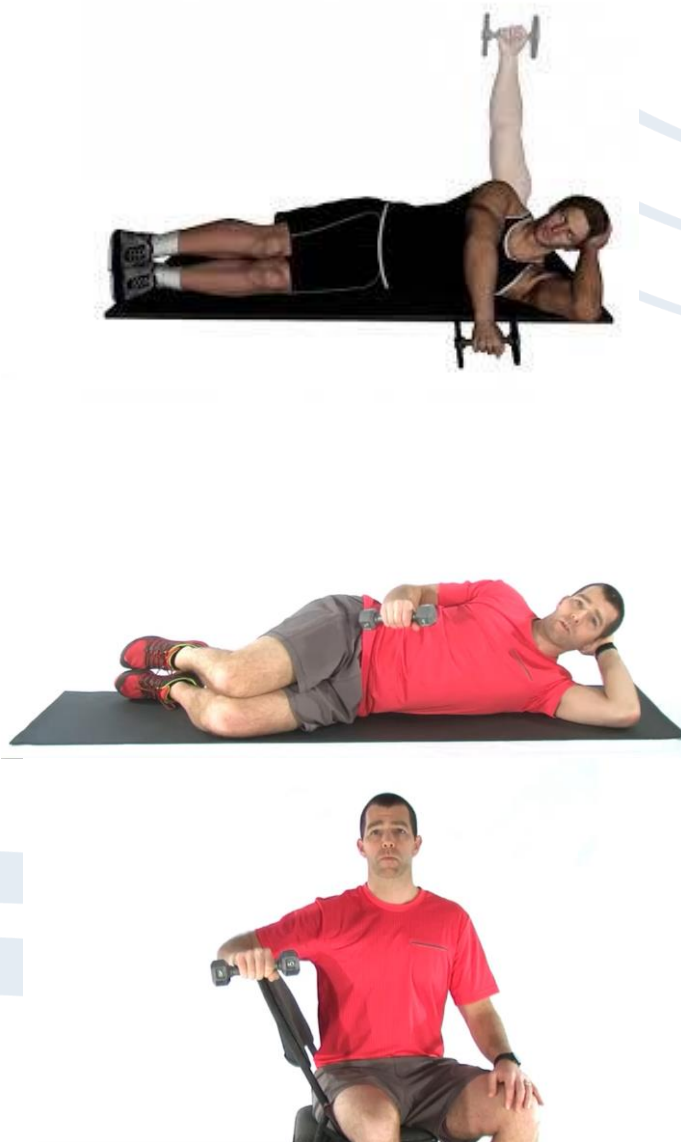
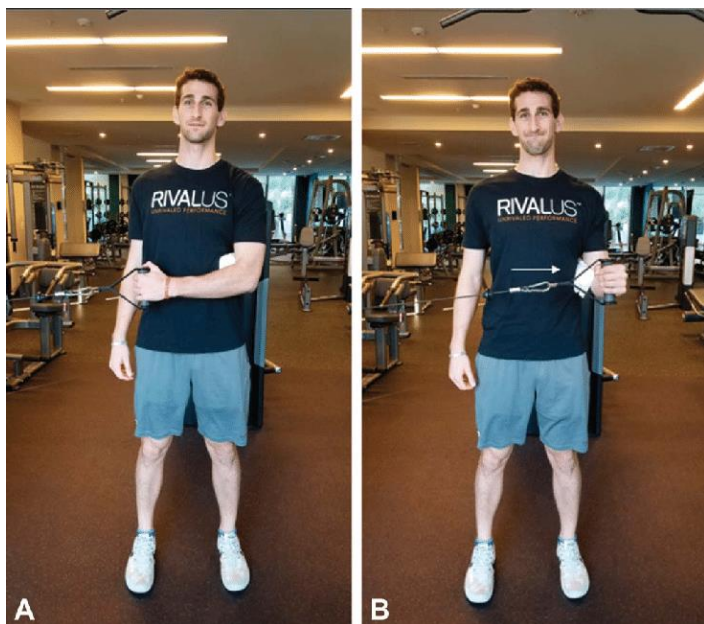
Absolute strength values also need to be considered to determine functional shoulder capacity.

ER/IR ratio : 0.70 to 0.75 (neutral supine)

0.90 to 1.00 (seated, with 90deg of abduction and neutral rotation)

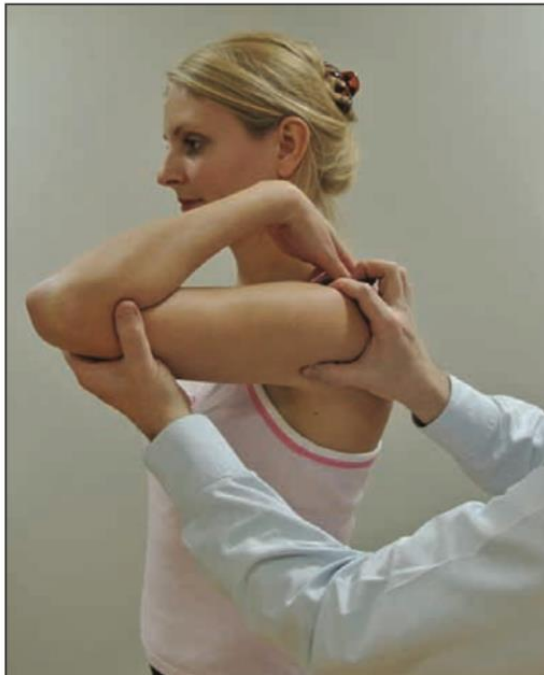
0.60 to 0.85 (seated, using abduction with ER)







Draw your arm bone up into its socket / suck the arm into its socket

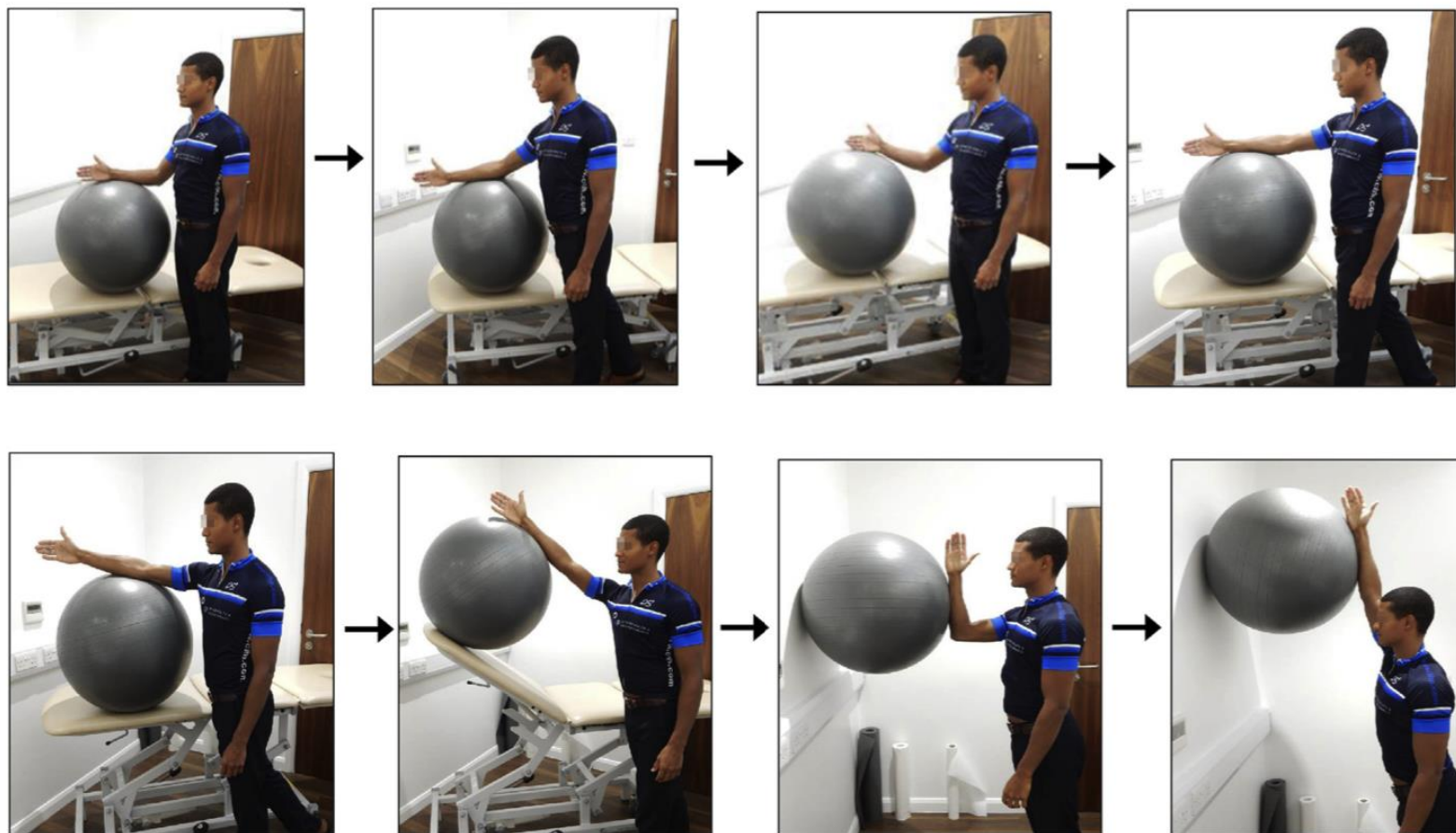


**Fig. 2**—Dynamic Relocation Test.



**Fig. 3**—Application of tape to the shoulder aimed at facilitation of the stabilizing activity of the rotator cuff.





**Fig. 7.** Graduated shoulder flexion exercises used in motor control training and in early stages of rehabilitation.





**03**

# **Archery prevention**

1. Shoulder deep muscle activation
2. Trunk rotation mobility & strength
3. Shoulder Internal Rotation vs. External Rotation
4. Front arm line vs. Back arm line
5. Upper arm line vs. Lower arm line
6. Sport specific training



<https://www.youtube.com/watch?v=bb1Jr-lb4t4&list=PLQAuwfx2O0Eavo5Cixin1ldd9UgHDPN7>

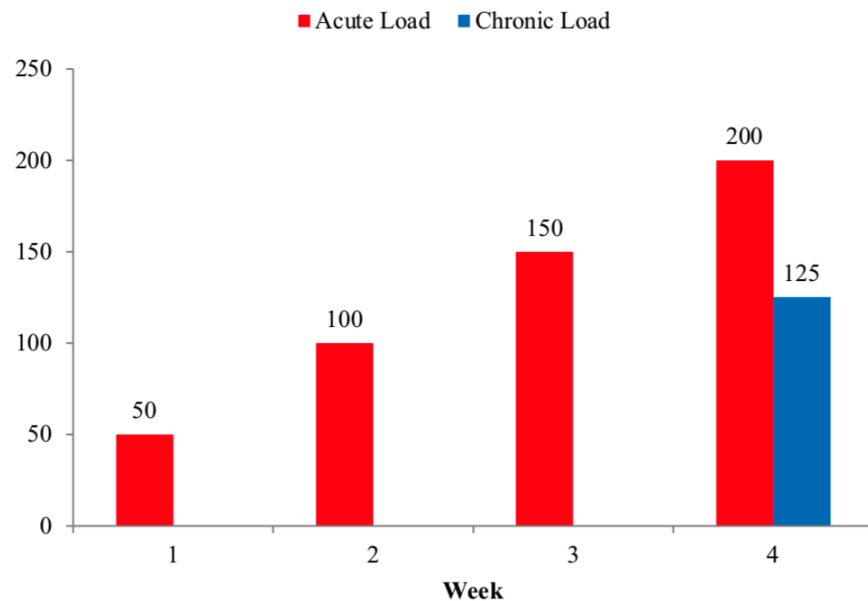


Load = sRPE x Duration (min)



Session rating of perceived exertion(sRPE)

Acute: chronic workload ratio > 1.68 → injury risk 5.8 times

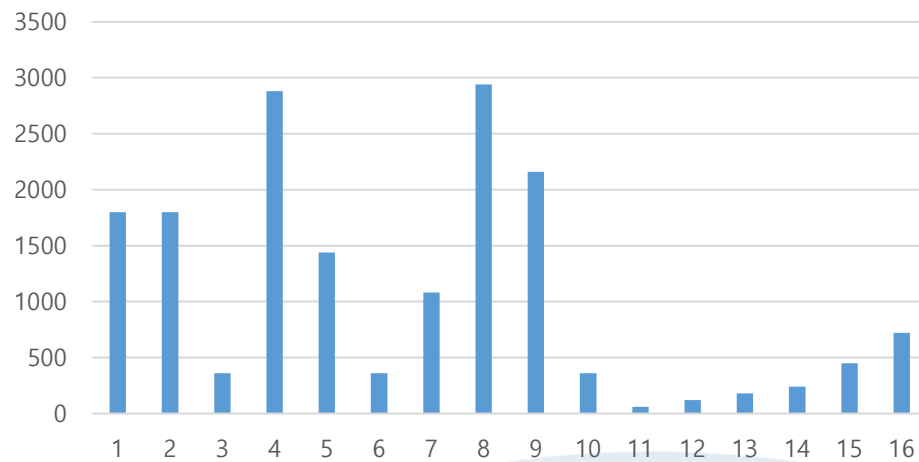
Shoulder-specific sRPE(total shooting x sRPE )



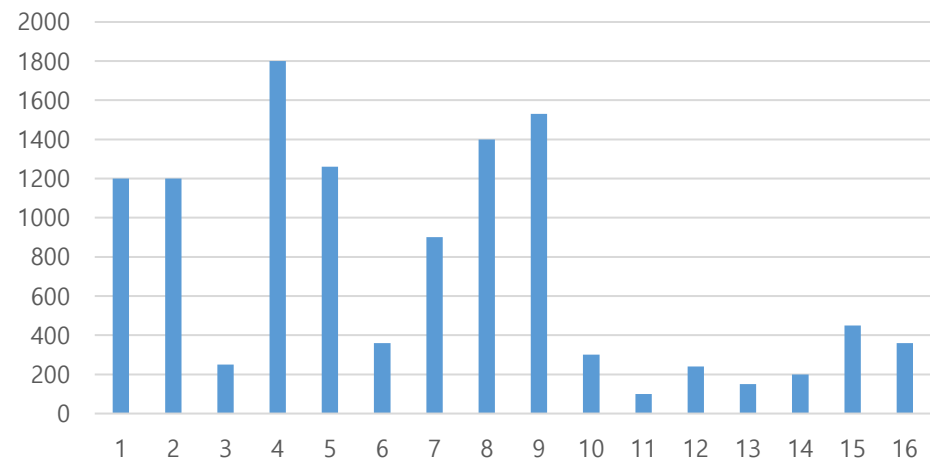
## How much rate the difficulty during training?

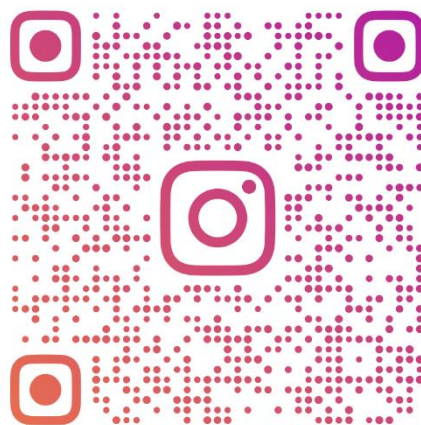
0	Nothing at all	
0.5	Very, Very Slight (Just Noticable)	
1	Very Slight	
2	Slight	
3	Moderate	
4	Somewhat Severe	
5	Severe	
6		
7	Very Severe	
8		
9	Very, Very Severe (Almost Maximal)	
10	Maximal	

Load=RPE\*Min



Shoulder-specific sRPE





**JINTAEK\_TREE**

E-mail: [kjintek@naver.com](mailto:kjintek@naver.com)

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**Thank you for your attention**