

*LATE REHABILITATION & RETURN TO  
PLAY FOR ANTERIOR SHOULDER  
DISLOCATIONS*



# INTRODUCTION

- Occurs when the humerus separates from the glenoid of the scapula
- The shoulder joint is unstable due to its shallow socket
- Accounts for 50% of all major joint dislocations, most susceptible joint to dislocation
  - Anterior dislocations are most common (~95%)
    - Can be partial or complete dislocation
  - Ligaments and joint capsule may also be torn

(Abrams and Akbarnia, 2023)

# *EPIDEMIOLOGY*

- Dislocations can occur in multiple directions
- Often a result of FOOSH or direct trauma
- Previous dislocation increases risk of reinjury
- Younger, active individuals and those with rotator cuff tears or glenoid fractures are at higher risk of dislocation

Abrams, R. and Akbarnia, H., (2023)

# **PHYSIOLOGICAL DEMANDS OF RUGBY UNION**

## **AEROBIC CAPACITY**

- Aerobic capacity supports repeated high-intensity efforts and enhances recovery

(Duthie *et al.* 2003)

- Elite players possess  $\text{VO}_2\text{max}$  values ranging from 50–65  $\text{ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$  (Roberts *et al.*, 2008)

## **ANAEROBIC CAPACITY**

- 20–40 sprints per match, often lasting 2–6 seconds, with 30 seconds or less of recovery
- The anaerobic alactic and lactic systems are both heavily used in repeated sprint efforts  
(Deutsch *et al.*, 1998)

## **BODY COMPOSITION**

- Forwards generally have greater body mass while backs have lower body fat percentages to facilitate speed and agility (Quarrie *et al.* 1995)

# **PHYSIOLOGICAL DEMANDS OF RUGBY UNION**

## **STRENGTH AND POWER**

- Strength and power characteristics are linked to tackle success and scrum performance
- Forwards tend to have higher absolute strength due to the contact demands, while backs prioritise relative power for sprinting (Comfort, Bullock and Pearson 2012)

## **SPEED AND AGILITY**

- Acceleration, top-end speed, and COD rapidly are critical, especially for backs.
- Backs cover more high-speed distance than forwards and are involved in more high-velocity actions Cunniffe *et al*, 2009)

## **REPEATED SPRINT ABILITY (RSA)**

- RSA is crucial as players execute repeated sprints with limited recovery, can lead to fatigue-related performance decline and injury (Gabbett 2005)

# MECHANISM OF INJURY



- The inferior glenohumeral ligament resists anterior translation
- 90° abduction with 90° external rotation is the most vulnerable position
- Limited ligament and muscular support in this position increases dislocation risk
- Frequently a tackle or clear out at ruck

# HEALING TIMEFRAMES

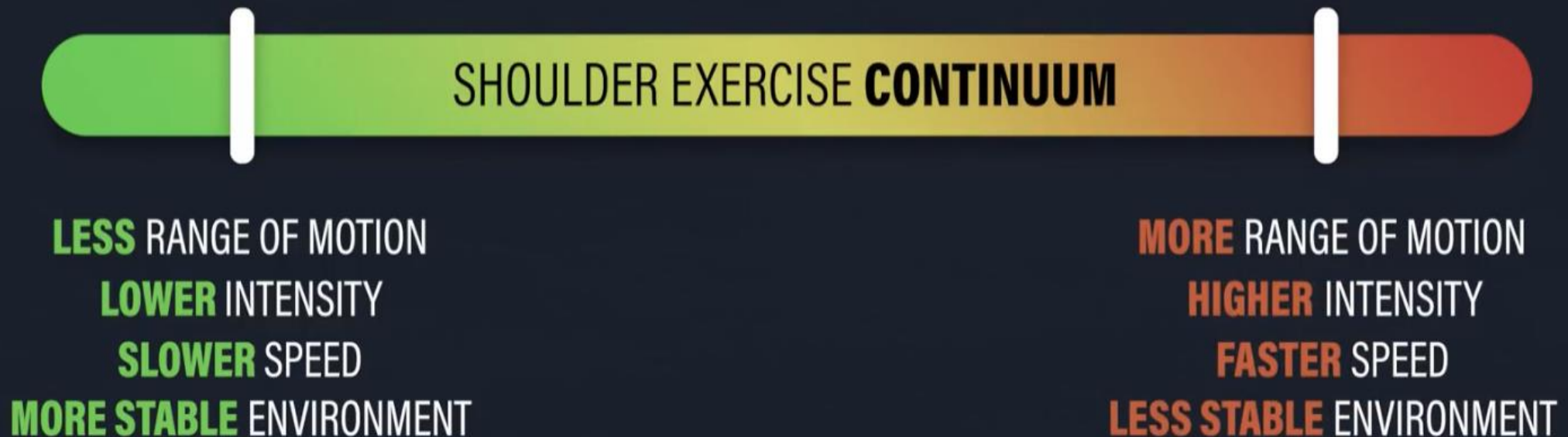
| Phase                | Timeframe    | Goals                                                                                                                                                   | References                                                   |
|----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Acute Phase          | 0–2 weeks    | <ul style="list-style-type: none"><li>- Pain &amp; inflammation control</li><li>- Sling use (1–2 wks)</li><li>- Begin gentle ROM if tolerated</li></ul> | Itoi <i>et al</i> , (2007)                                   |
| Sub-Acute Phase      | 2–6 weeks    | <ul style="list-style-type: none"><li>- Restore active ROM</li><li>- Begin rotator cuff &amp; scapular strengthening</li></ul>                          | Hayes <i>et al</i> , (2002)                                  |
| Strengthening Phase  | 6–12 weeks   | <ul style="list-style-type: none"><li>- Progressive resistance training</li><li>- Improve neuromuscular control</li></ul>                               | Wilk <i>et al</i> , (2009)                                   |
| Functional Phase     | 12–16+ weeks | <ul style="list-style-type: none"><li>- Sport-specific drills</li><li>- Plyometrics &amp; contact preparation</li></ul>                                 | Cools <i>et al</i> , (2015)<br>Reinold <i>et al</i> , (2008) |
| Return to Play (RTP) | 16–20+ weeks | <ul style="list-style-type: none"><li>- Full strength and ROM</li><li>- Contact readiness</li><li>- Psychological readiness</li></ul>                   | Robinson <i>et al</i> , (2006)                               |

# CRITERIA TO PROGRESS TO LATER STAGES



- Full, pain free PROM and AROM, especially in ER and Abduction. Bilateral symmetry
- Strength  $\geq$  80–90% of uninjured side, with emphasis on external rotators, deltoids and scapular stabilisers
- Good neuromuscular control & proprioception on OKC and CKC exercises
- Normal scapular movement and stability during shoulder elevation and loading tasks
- No pain or apprehension during sport-like tasks

# REHABILITATION CONTINUUM



# *REHABILITATION EXERCISES*

## Barbell Shoulder Press

### REGRESSION

Plate Loaded Shoulder  
Press



### PROGRESSION

Single Arm KB  
Press in lunge  
position

# REHABILITATION EXERCISES

## Power Press Ups on knees

### REGRESSION

Press on wall



### PROGRESSION

Press on feet

# REHABILITATION EXERCISES

## Supine Medball Throws

### REGRESSION

Floor Press with Medball  
without throw



### PROGRESSION

Medball Catch in varying  
planes

# REHABILITATION EXERCISES

## Bent Over Rows



## REGRESSION

Seated Cable Rows

## PROGRESSION

Pendley Row

# REHABILITATION EXERCISES

## Overhead KB Suitcase Carries

### REGRESSION

Suitcase Carries at  
hip height



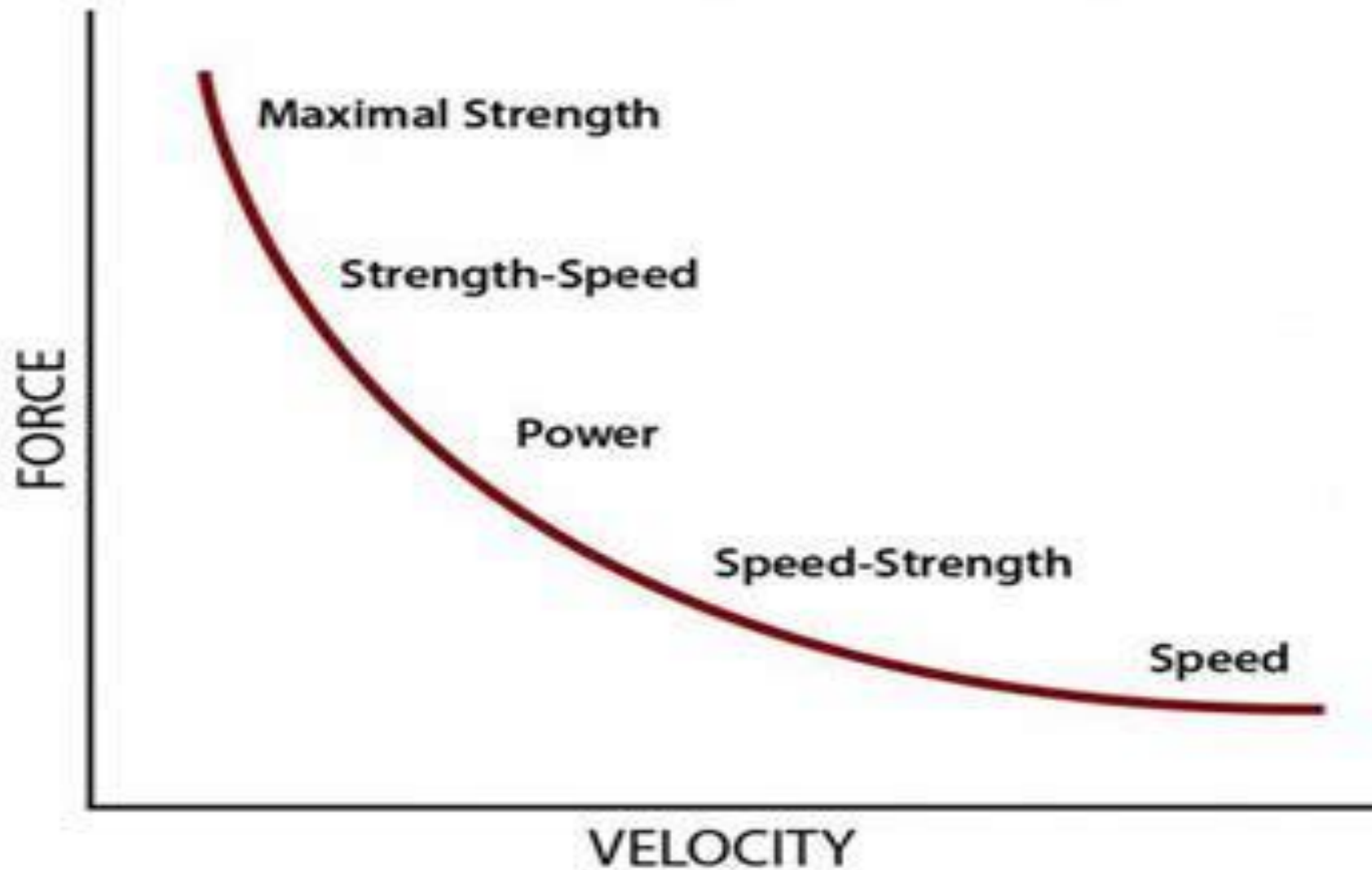
### PROGRESSION

Uneven Farmers Carries  
with Trap Bar

# LOADING PRESCRIPTIONS

| Training Goal  | %1RM    | Reps | Sets | Rest          | Tempo                     |
|----------------|---------|------|------|---------------|---------------------------|
| Max Strength   | 85–100% | 1–6  | 3–6  | 2–5 minutes   | Controlled                |
| Hypertrophy    | 65–85%  | 6–12 | 3–6  | 30–90 seconds | Moderate                  |
| Power          | 75–90%  | 1–5  | 3–5  | 2–3 minutes   | Explosive<br>(concentric) |
| Speed-Strength | 30–60%  | 3–6  | 3–6  | 1–2 minutes   | Very explosive            |
| Speed          | <30%    | 2–6  | 3–5  | 1–2 minutes   | Max velocity              |

# FORCE VELOCITY CURVE



# **RETURN TO FALL & TACKLE TRAINING**

## **RETURN TO FALL TRAINING**

- Teaches how to absorb impact
- Reduces likelihood of re-injury during contact situations



## **RETURN TO GRAPPLE TRAINING**

- Reintroduction to contact and body control
- Trains stability and isometric strength during contact

## **RETURN TO TACKLE TRAINING**

- Reinforces technical proficiency in safe tackling mechanics
- Builds confidence, reduces fear of contact, and prepares the player for match play

King *et al.* (2018)

# *RTP GUIDELINES*

## Western Ontario Shoulder Index

-  WOSI Score  $\geq 90$  – Indicates minimal symptoms and high function
-  Full, pain-free passive ROM – Especially in overhead and external rotation
-  Clinical exam shows no pain or apprehension – Negative instability tests
-  Ball Drop Test  $\geq 90\%$  compared to uninjured side – reflects endurance & control
-  Push-Up Test – More reps in second bout shows muscular endurance



# RTP GUIDELINES



- CKCUEST  $\geq 21$  reps – Indicates upper body stability & readiness
- Bench Press  $\geq 75\%$  of pre-injury 1RM – Performed with proper form
- Unilateral Push & Pull Assessments  $> 95\%$  – Symmetry in both directions
- Isokinetic Testing: Bilateral strength symmetry

Wilk *et al* (2020)

# ASSESSMENT

- The SSL screening tool is widely used as an ongoing assessment for players following injury
- Assesses flexibility, plyometric ability and rugby specific fitness
- Muscular strength and power
- Assessing power and agility through tests like 505 Agility Test and standing long jump
- Aerobic endurance through tests like the shuttle run and 100m sprint and 400m run
- Players who achieve standards for the triple horizontal broad jump, lateral depth jump, and vertical jumps are less likely to incur injuries

# OTHER ASPECTS TO CONSIDER



## **Nutrition**

Proper nutrition supports tissue repair, reduces inflammation, and promotes recovery

(Seth *et al.*, 2024)



## **Stress Management**

High stress can impair recovery by increasing cortisol levels, which may slow tissue healing and impact immune function

(Ebrecht *et al.*, 2004)



## **Sleep and Recovery**

Quality sleep is crucial for recovery, as it's during deep sleep that the body releases growth hormone to repair tissues

(Chennaoui, Leger and Gomez-Merino, 2020)

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