Direction-Specific Rehabilitation for Shoulder Instability: Progression Criteria for the Anterior and Posterior Rotator Cuff

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Current Clinical Concepts: Nonoperative Management of Shoulder Instability

Margie Olds & Tim Uhl

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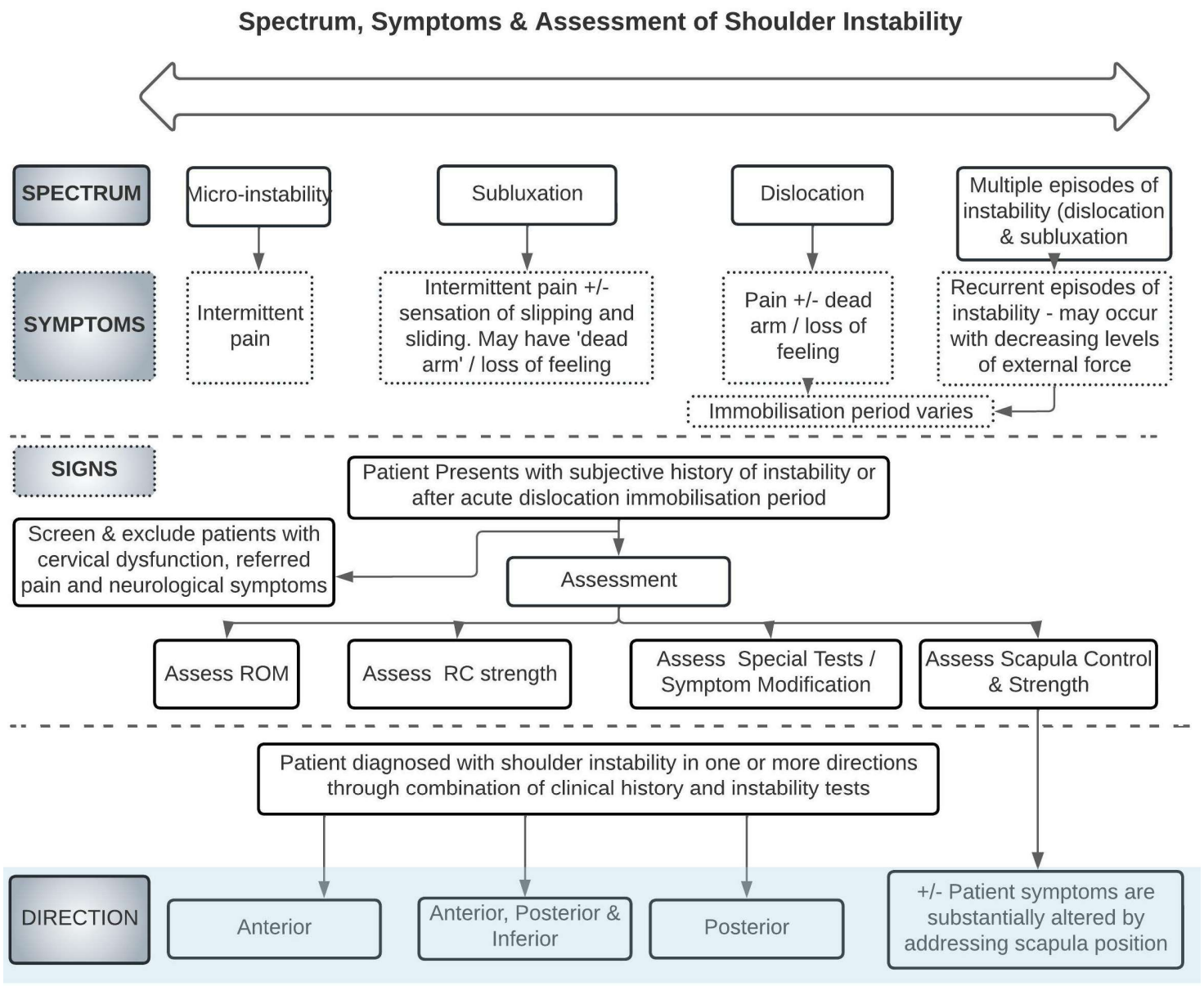
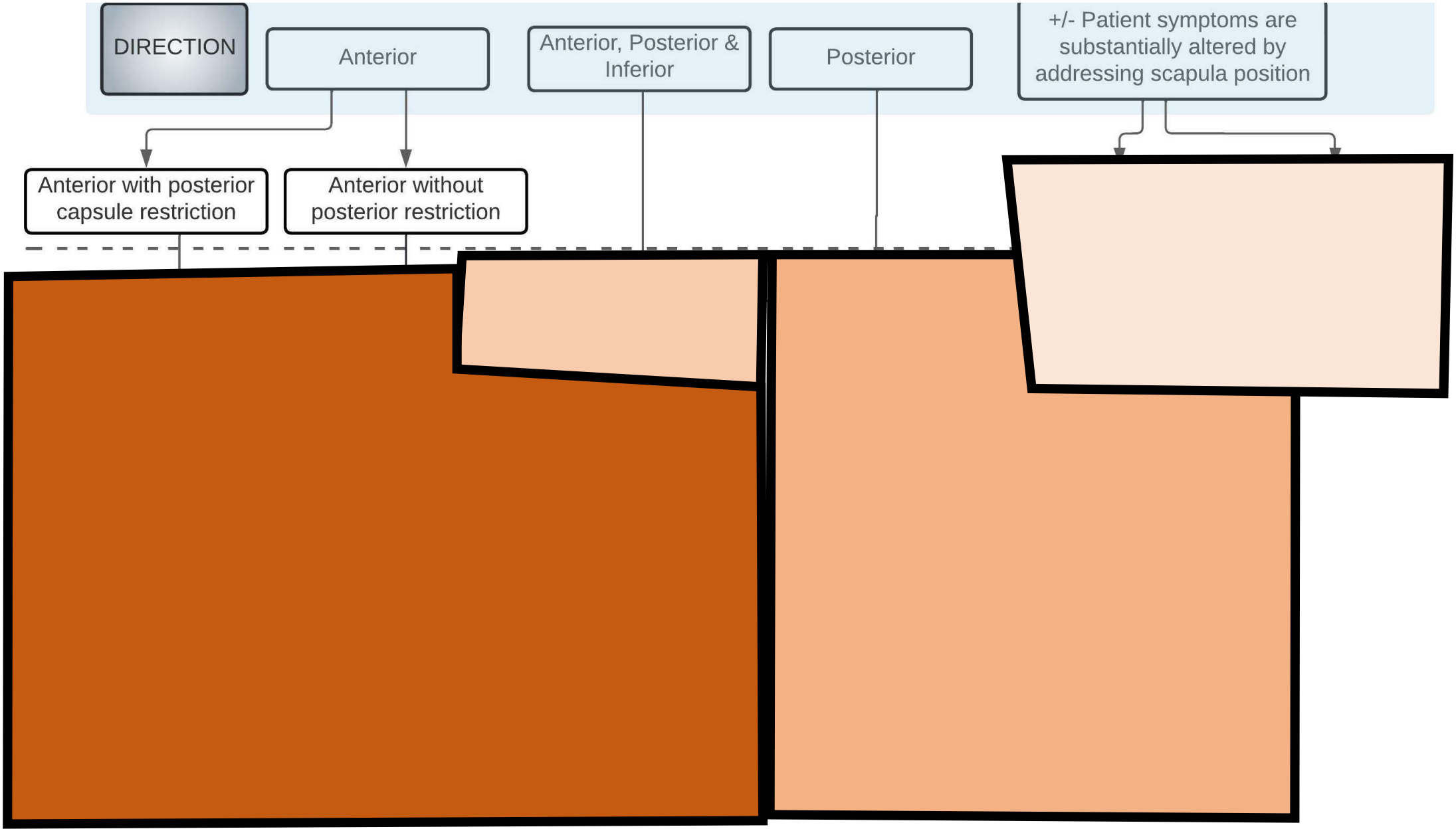
SHOULDER INSTABILITY FRAMEWORK



Direction of Shoulder Instability

Dr Margie Olds

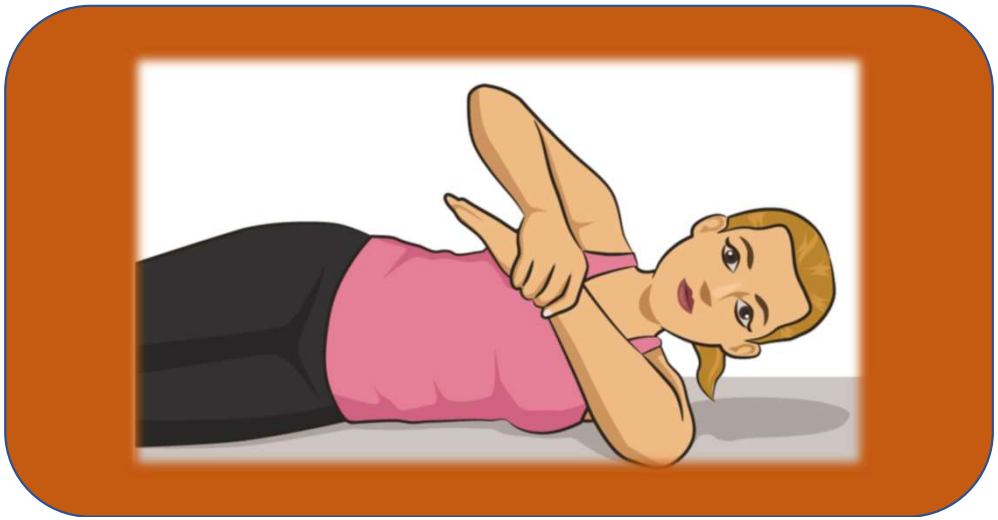

DIRECTION
Anterior
Anterior, Posterior & Inferior
Posterior
+/- Patient symptoms are substantially altered by addressing scapula position
Anterior with posterior capsule restriction
Anterior without posterior restriction

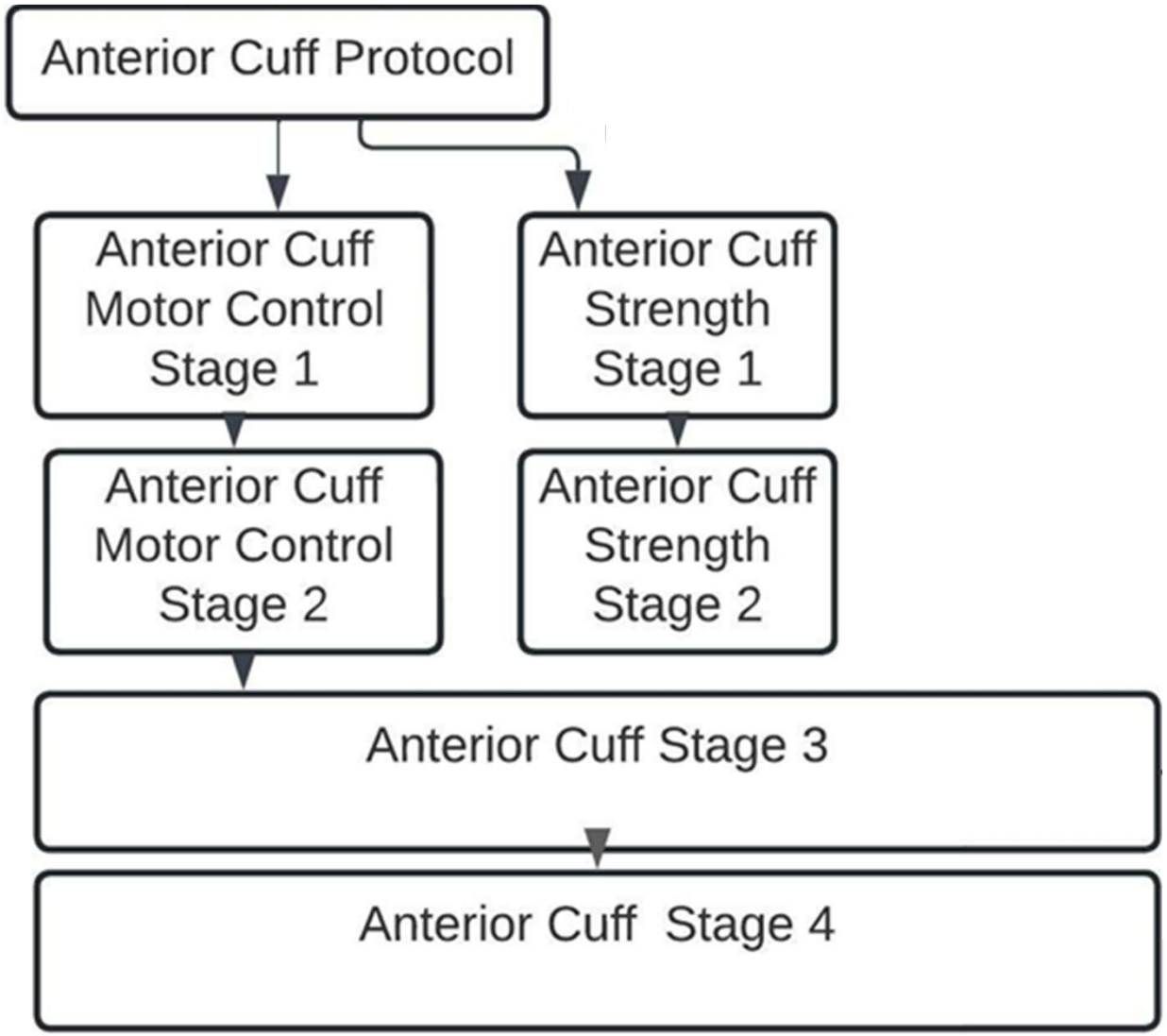
Anterior Cuff Protocol

Anterior Cuff Protocol

Anterior protocol with posterior shoulder restriction

- Address Anterior Instability
- Address posterior restriction
  - Sleeper Stretch
  - Cross Body Stretch
  - Joint mobilisation
  - Soft tissue release / fascial mobilisation
  - Eccentric strengthening
  - Contract / relax




Anterior Cuff Protocol
Anterior Cuff Motor Control Stage 1
Anterior Cuff Strength Stage 1
Anterior Cuff Motor Control Stage 2
Anterior Cuff Strength Stage 2
Anterior Cuff Stage 3
Anterior Cuff Stage 4

Anterior Cuff Motor Control Stage 1

Anterior Cuff Motor Control Stage 2

Criteria to Progress

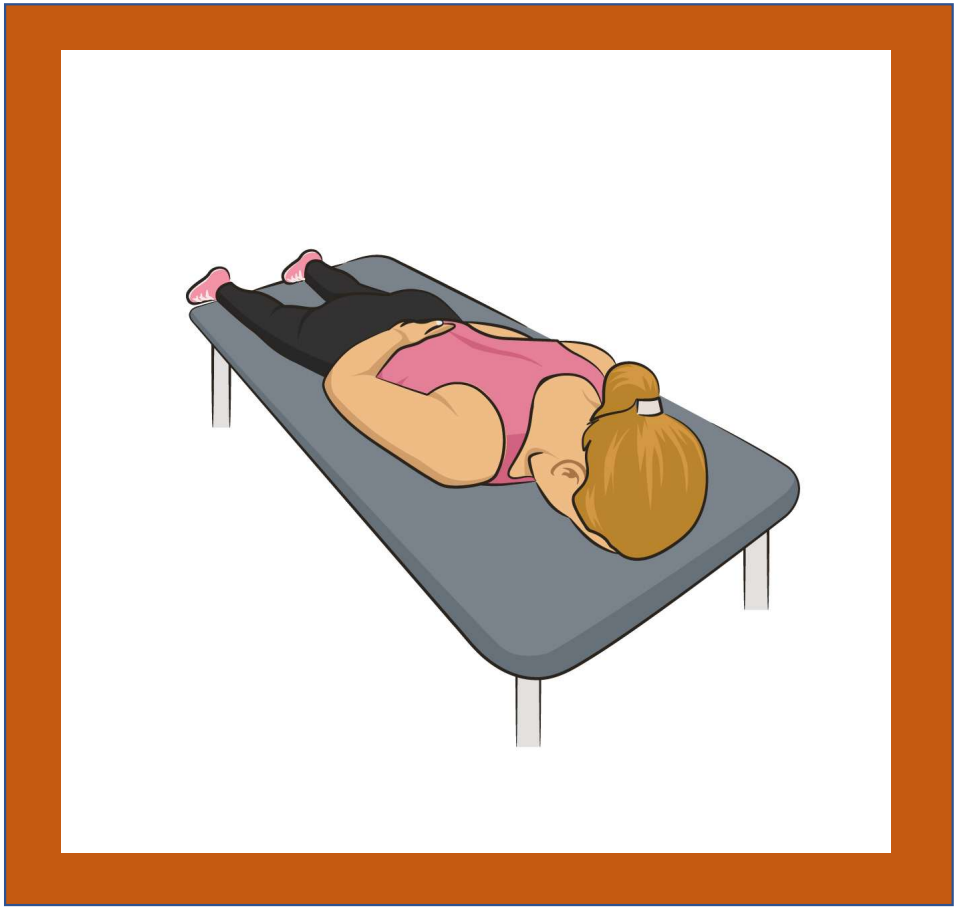
Motor Control – Stage 1

Patients demonstrates good motor control by activating and relaxing the subscapularis isometrically 15 times without difficulty.

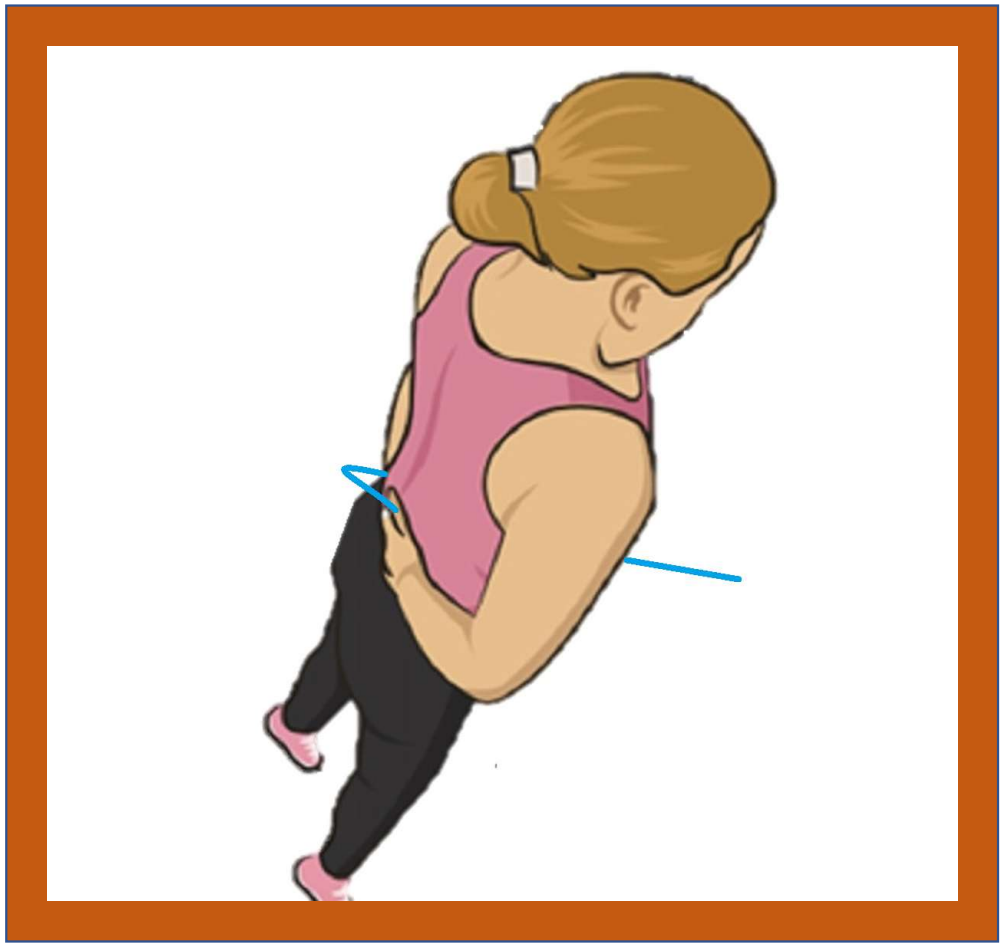
Motor Control – Stage 2

Patient should be able to demonstrate smooth eccentric and concentric movement through 0-90° with the arm abducted to 90° in supine with 1-1.5kg (2-3 pounds) load for 15 repetitions with continuous palpable subscapularis contraction.

Anterior Cuff Strength Stage 1



Anterior Cuff Strength Stage 2



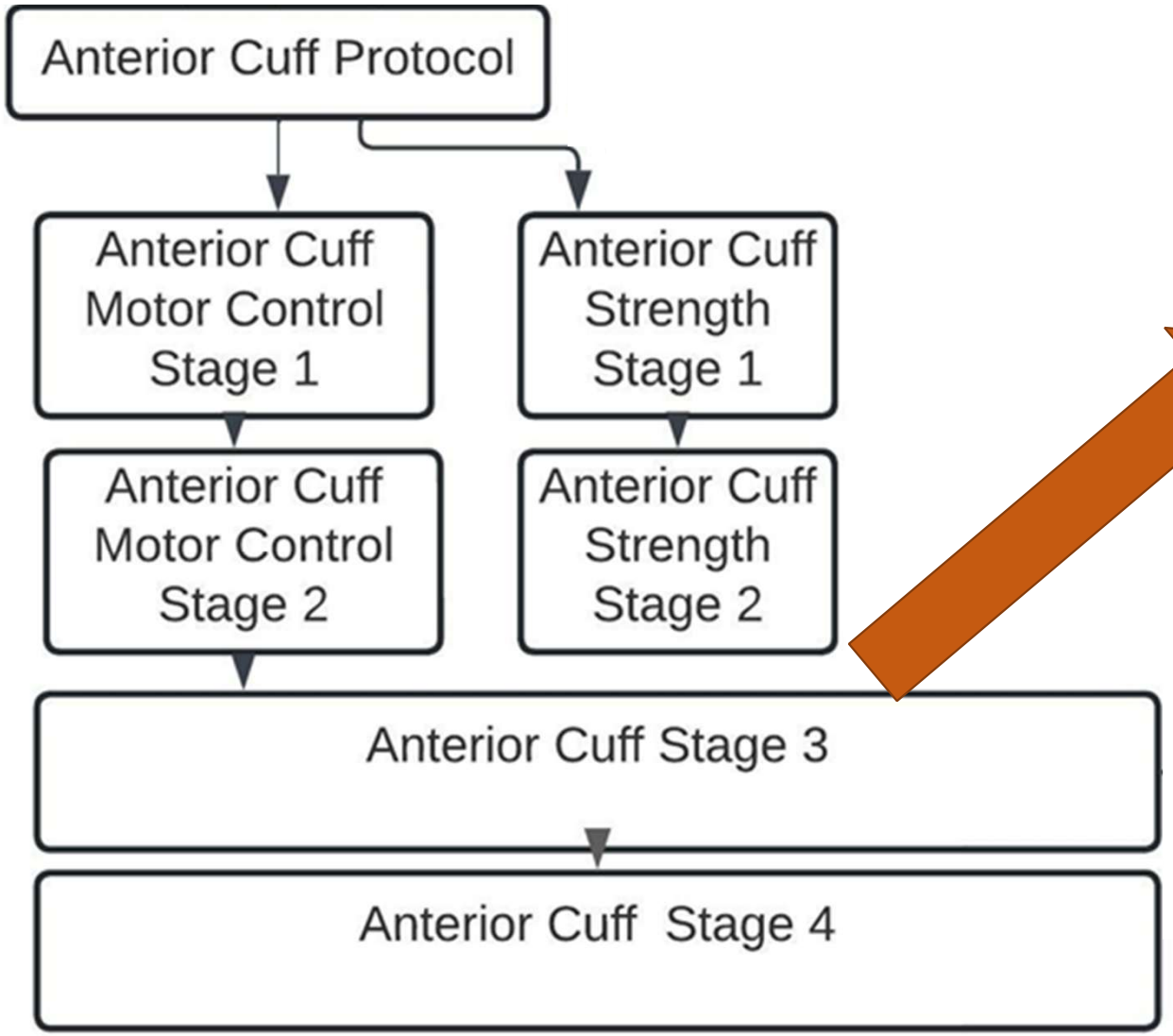
Criteria to Progress

Strength– Stage 1

Patient sustains 3 x 30-second isometric contraction in the prone lift-off position

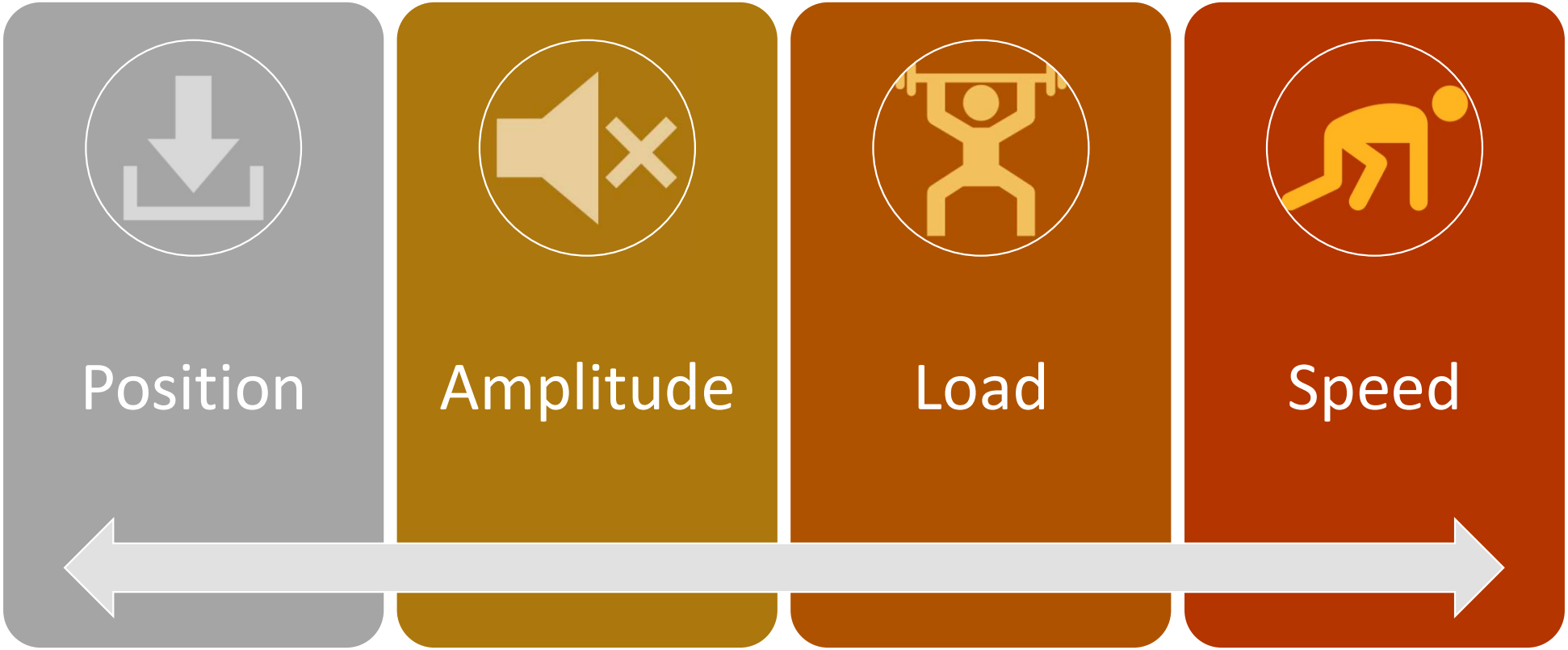
Strength– Stage 2

The patient can lift and hold their hand away from their spine (1-2 inches) using a 1-meter heavy resistance band (blue or black) for 30 seconds without losing control and pain free.

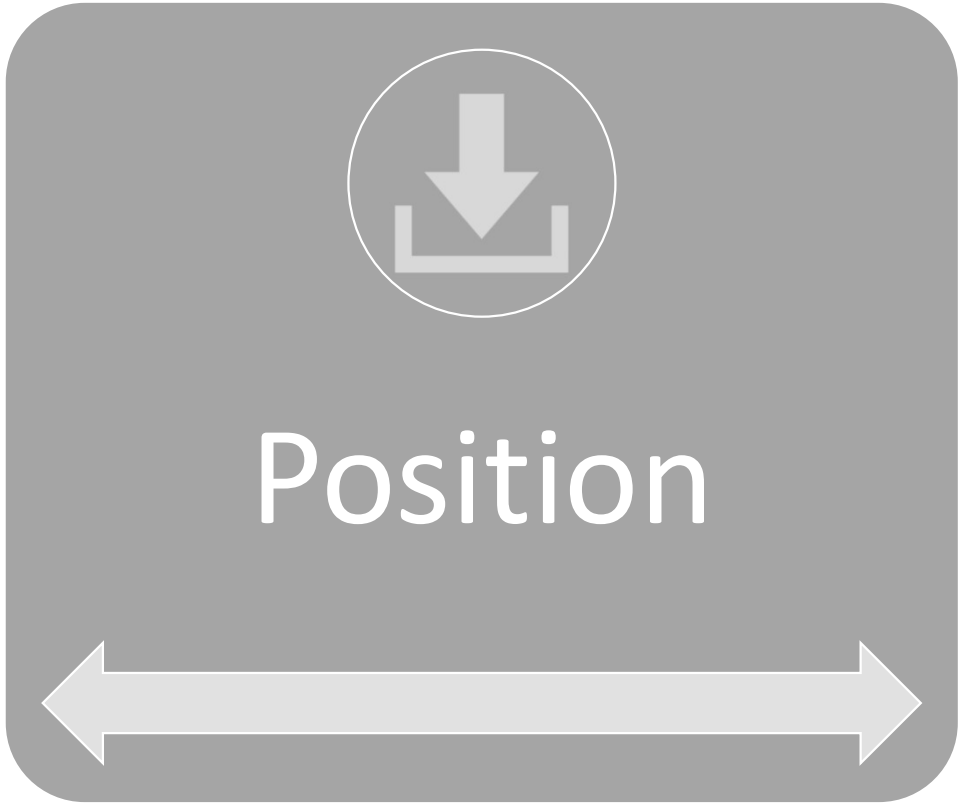


PATIENTS WITH ANTERIOR INSTABILITY PROGRESS TO POSTERIOR CUFF PROTOCOL ONCE HAVE MASTERED ANTERIOR CUFF 1 AND 2

Anterior Cuff Stage 3 - PALS

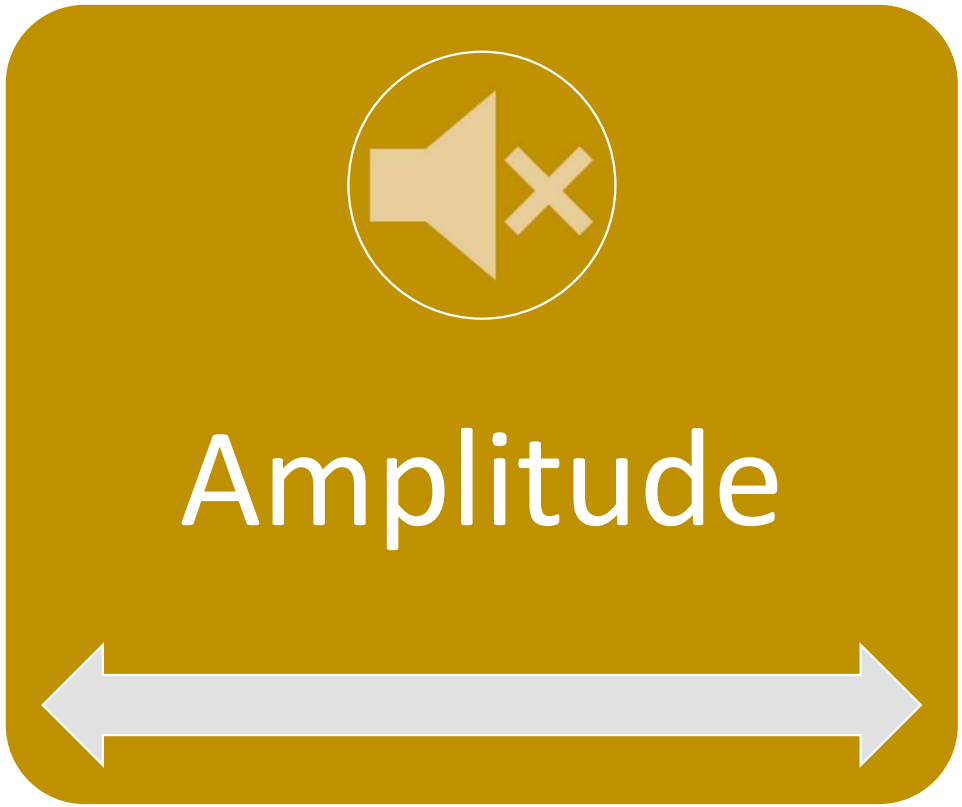


Anterior Cuff Stage 3 - PALS



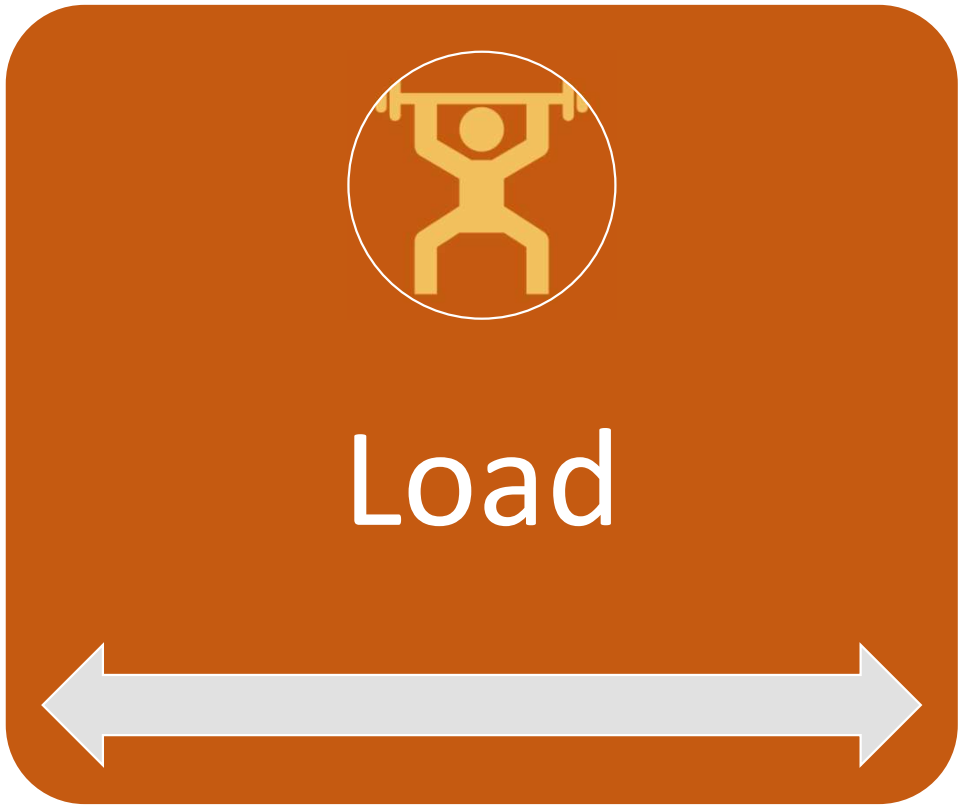
- POSITION
  - Strengthening should be undertaken in position of injury / risk

Anterior Cuff Stage 3 - PALS



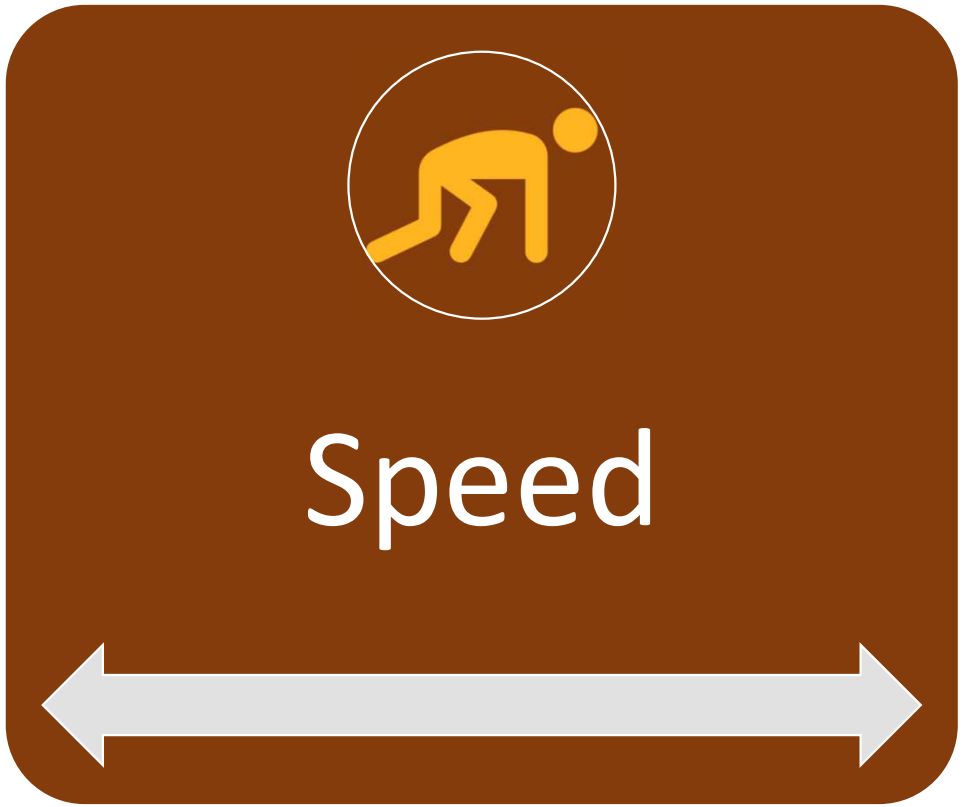
- AMPLITUDE
  - Amplitude of movement should replicate
    - patient's activity / risk

Anterior Cuff Stage 3 - PALS



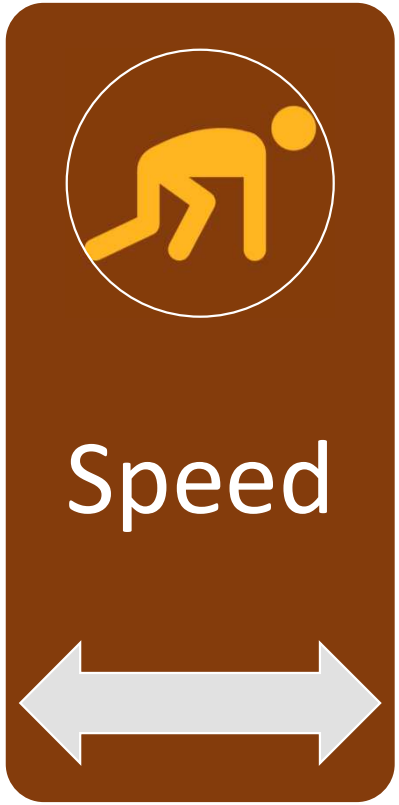
- LOAD
  - Level of load / force should replicate patient's activity
  - Progressive Load
  - Weight room activities commence
    - Arc of motion may be limited

Anterior Cuff Stage 3 - PALS



- SPEED
  - Speed of movement should replicate patient's activity

Anterior Cuff Stage 3 - PALS



Anterior Rotator Cuff Protocol											
IR at side through pain-free arc	No pace	30	50	70	90	120					
IR in scapula plane 0-90°				No pace	30	50	70	90	120		
IR in frontal plane 0-90°							No Pace	30	50	70	90	120
Assuming a 90° arc of motion 30 bpm = 45°/sec, 90 bpm = 135°/sec, 120 bpm = 180°/sec											

Criteria to Progress

Speed – Stage 3

Concentric and eccentric elastic resistance external rotation for 30 seconds, before the speed is increased.

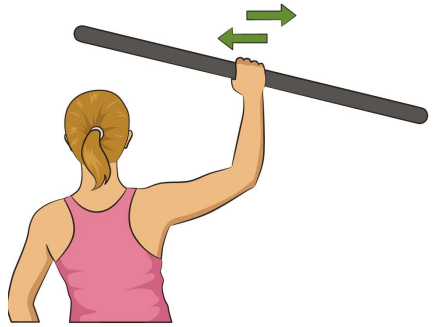
Usually increase their speed of movement every 5-7 days or every couple of visits based on patients' level of function and motor control.

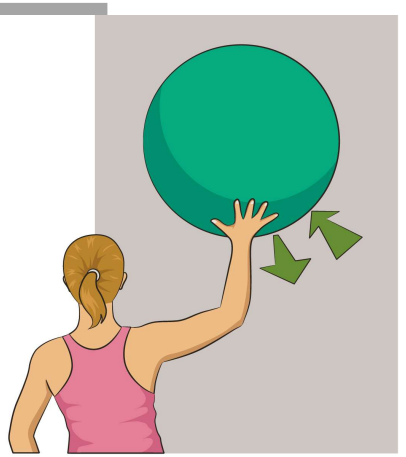
Anterior Cuff Strength Stage 4

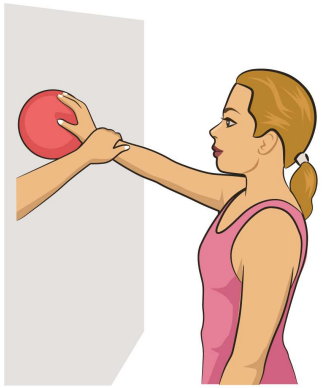
Physical

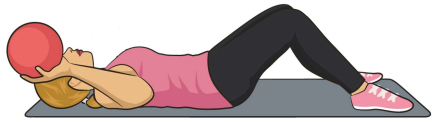
- Strength
  - Hypertrophy
  - Endurance
- Control
  - Motor Pattern Integration
- Speed
  - Reaction Time
    - Expected (Eyes Open)
      - Blazepods
    - Unexpected (Eyes Closed)
  - Perturbations
    - Sudden load of subscapularis
    - Perturbate into:
      - Abduction / ER / Horizontal Extn

Psychological

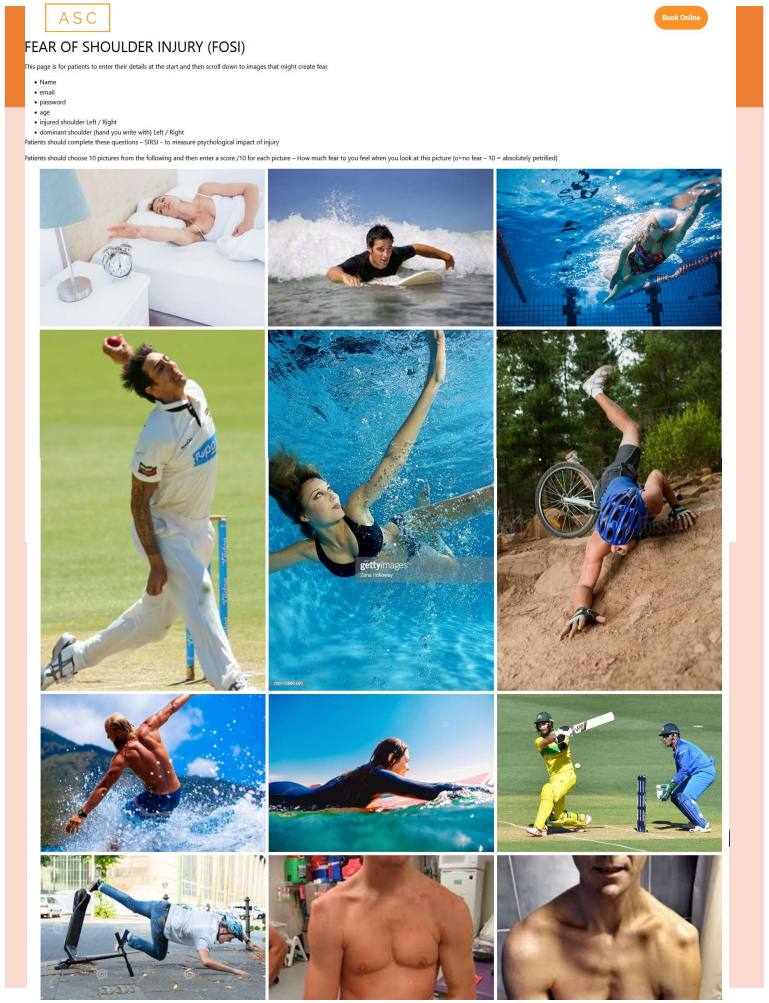








Anterior Cuff Strength Stage 4


ASC

Book Online

FEAR OF SHOULDER INJURY (FOSI)

This page is for patients to enter their details at the start and then scroll down to images that might create fear

- Name
- email
- password
- age
- injured shoulder Left / Right
- dominant shoulder (hand you write with) Left / Right

Patients should complete these questions – SIRSI – to measure psychological impact of injury

Patients should choose 10 pictures from the following and then enter a score /10 for each picture – How much fear to you feel when you look at this picture (0=no fear – 10 = absolutely petrified)

Psychological

- Fear
  - PHODA
- Confidence
  - Virtual Reality

Anterior Cuff Strength Stage 4

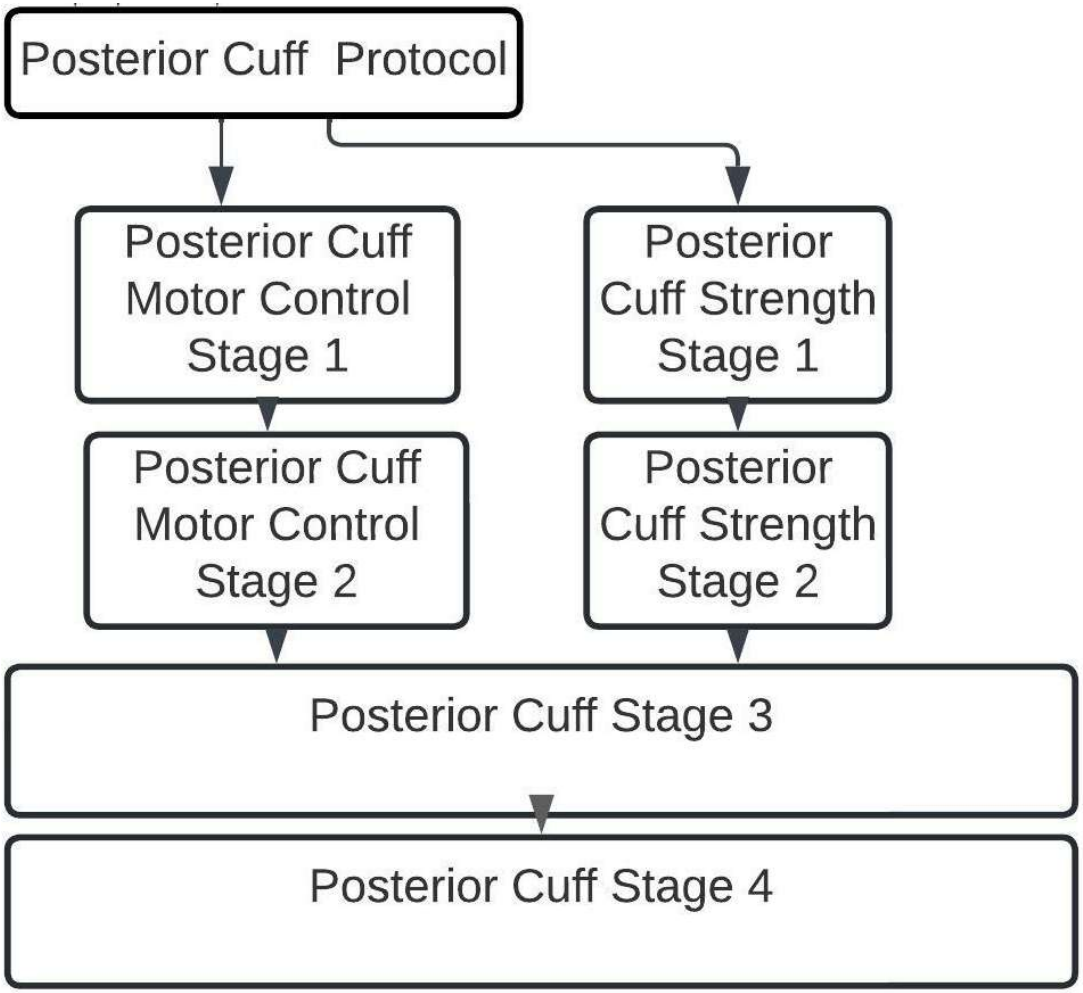
ogical

Criteria to Progress

Perturbations – Stage 4

Should be able to withstand one minute of perturbations with no pain before attempt return to sport testing

Posterior Cuff Protocol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Posterior Cuff Motor Control Stage 1
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Posterior Cuff Stage 3
Posterior Cuff Stage 4

Posterior Cuff Motor Control Stage 1 & 2

Posterior Cuff Motor Control Stage 1 & 2

Criteria to Progress

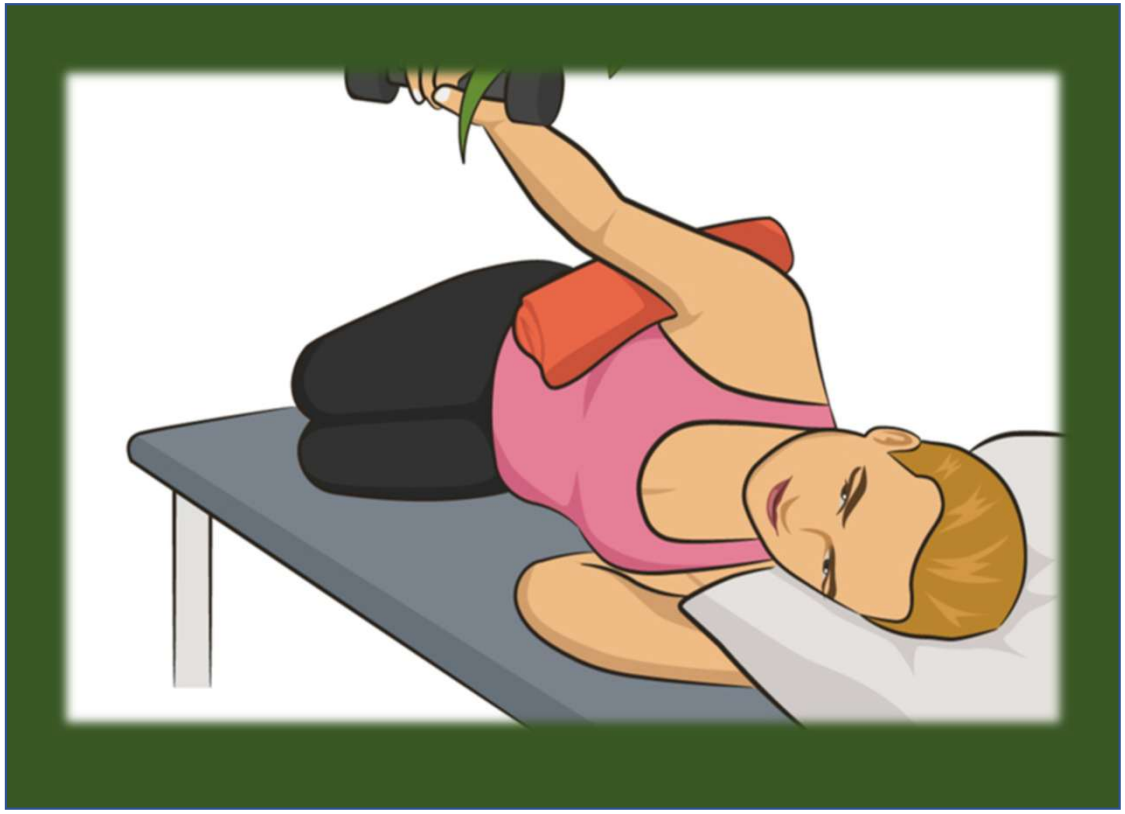
Motor Control – Stage 1

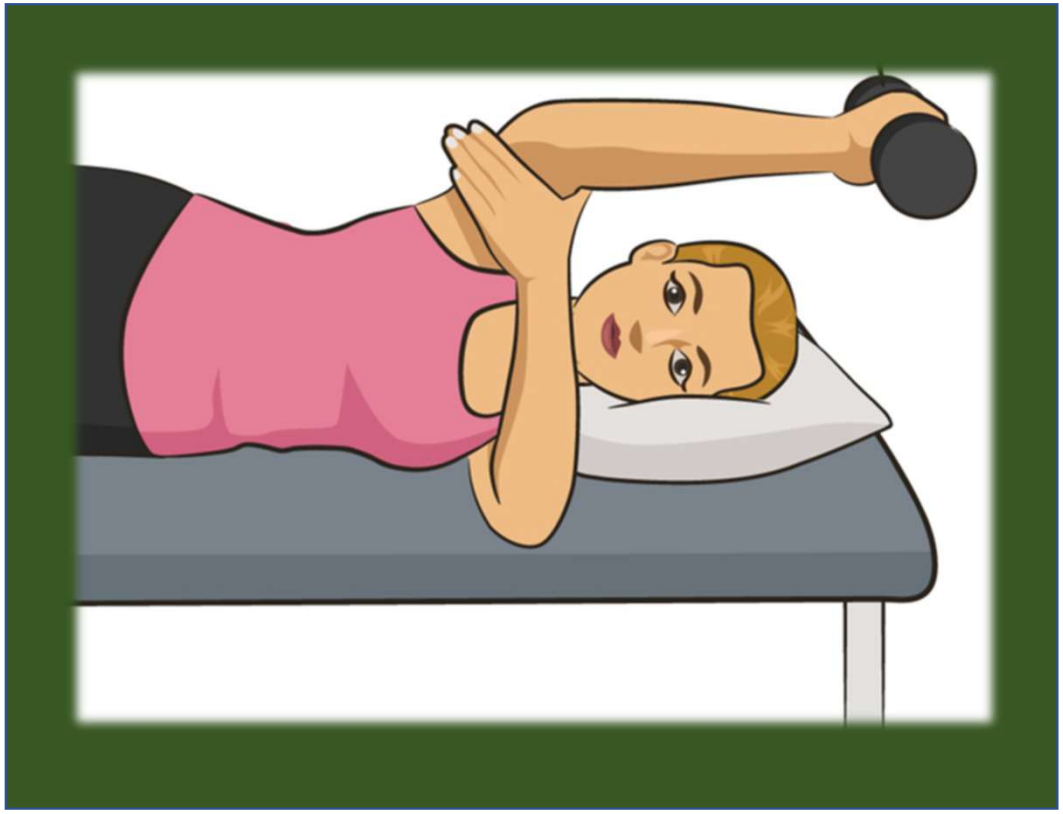
Patient in prone can hold their arm at 90° of abduction and 90° of external rotation for 30 seconds with no weight with minimal scapula movement to achieve this position.

Motor Control – Stage 2

Patients can perform 30 repetitions in prone from 0-90° with 1 kg weight. It is critical that the scapular remains relatively still and the motion of the HH is differentiated from scapula compensation.

Posterior Cuff Strength Stage 1





Criteria to Progress

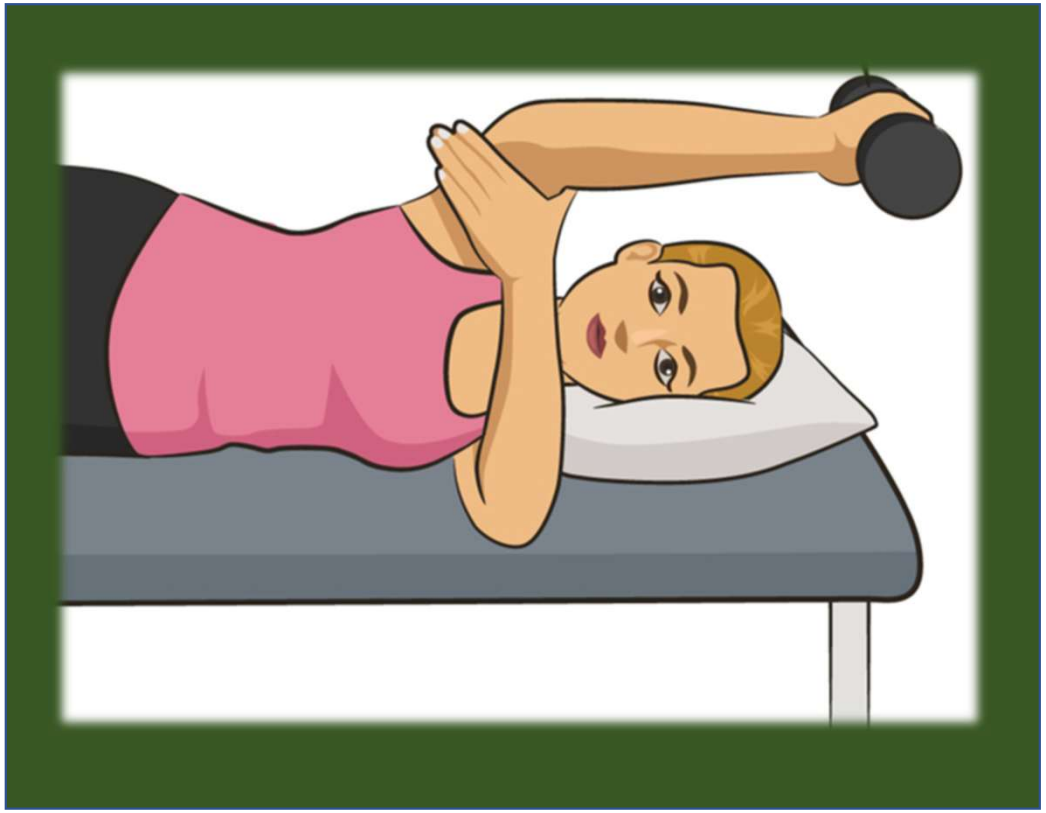
Strength– Stage 1

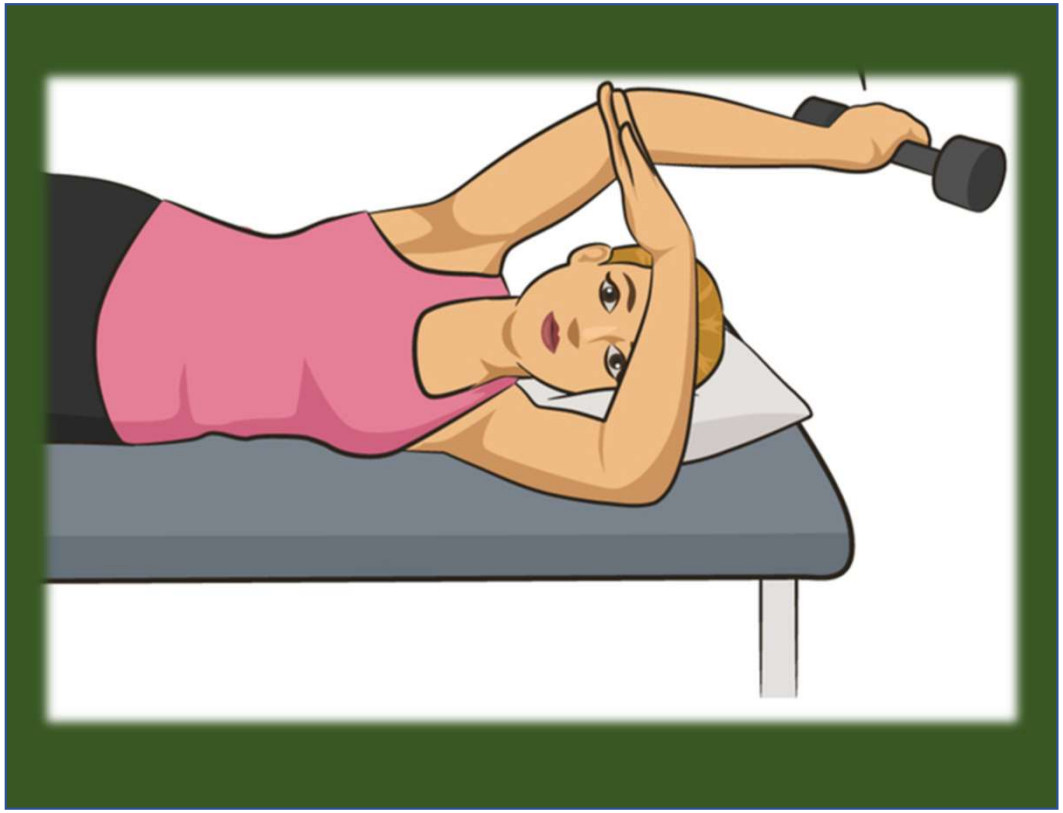
Patient can hold 1kg in 45 degrees of flexion for 30 seconds with 3 repetitions

Strength– Stage 2

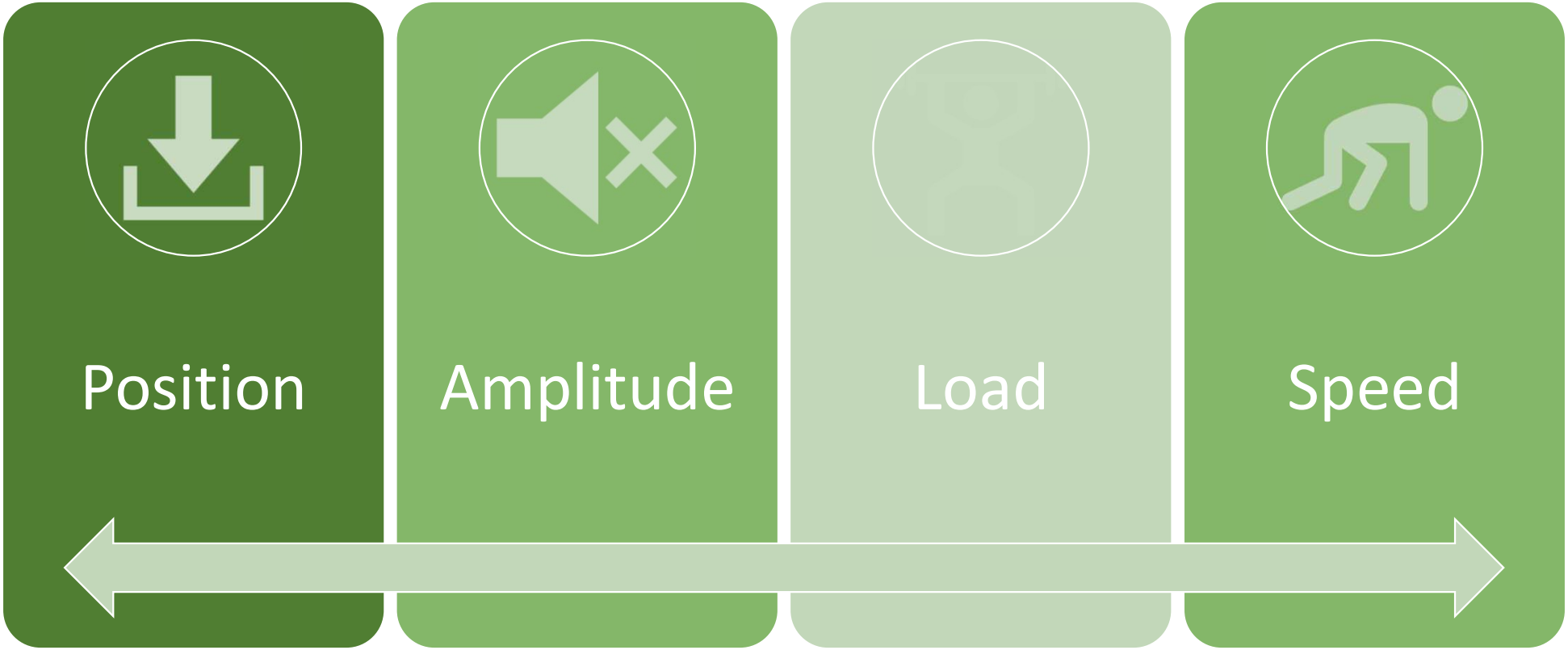
Patient can hold 1kg at 90 degrees of flexion for 3 sets of 30 seconds

Posterior Cuff Criteria to Progress



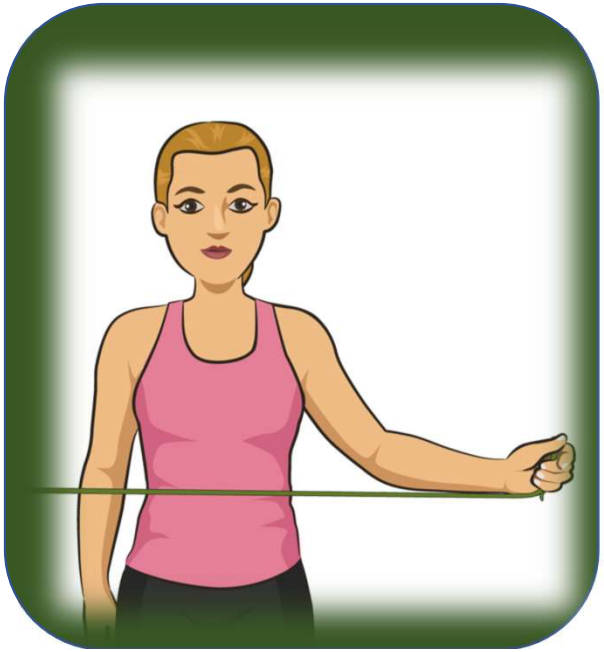


Posterior Cuff Stage 3 - PALS



Posterior Cuff Stage 3 - PALS

- POSITION
  - Strengthening should be undertaken in position of injury / risk



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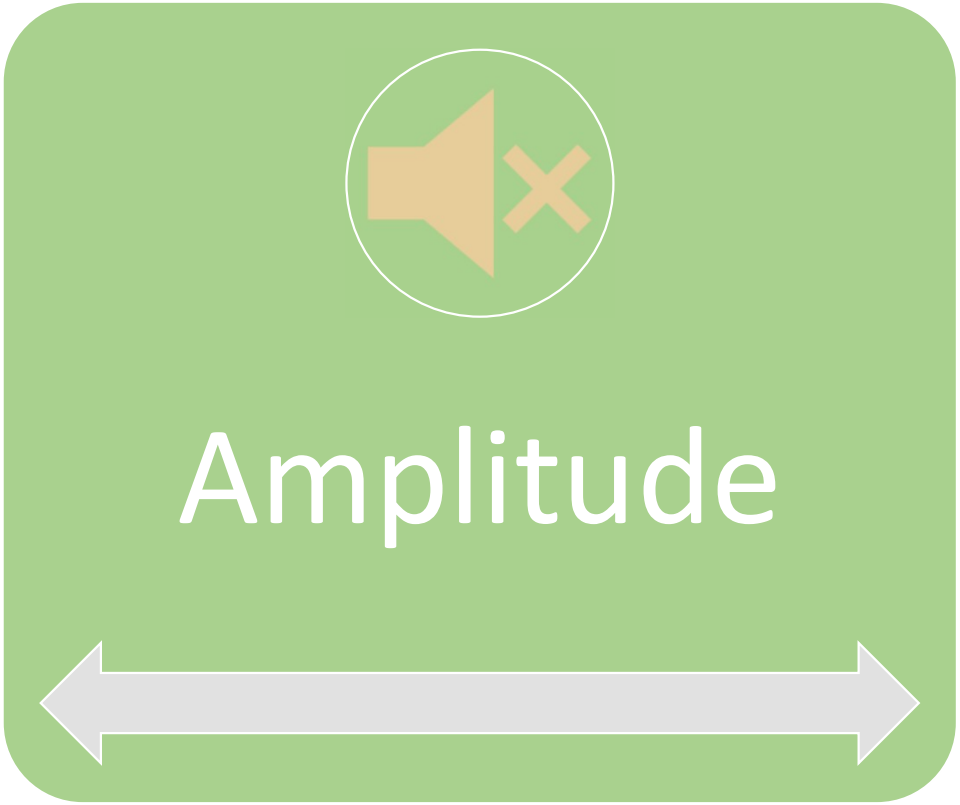
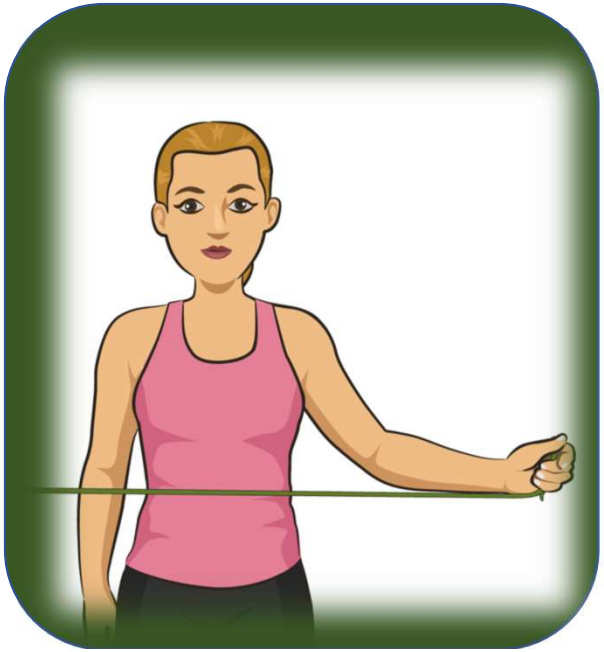


- AMPLITUDE
  - Amplitude of movement should replicate patient's activity / risk



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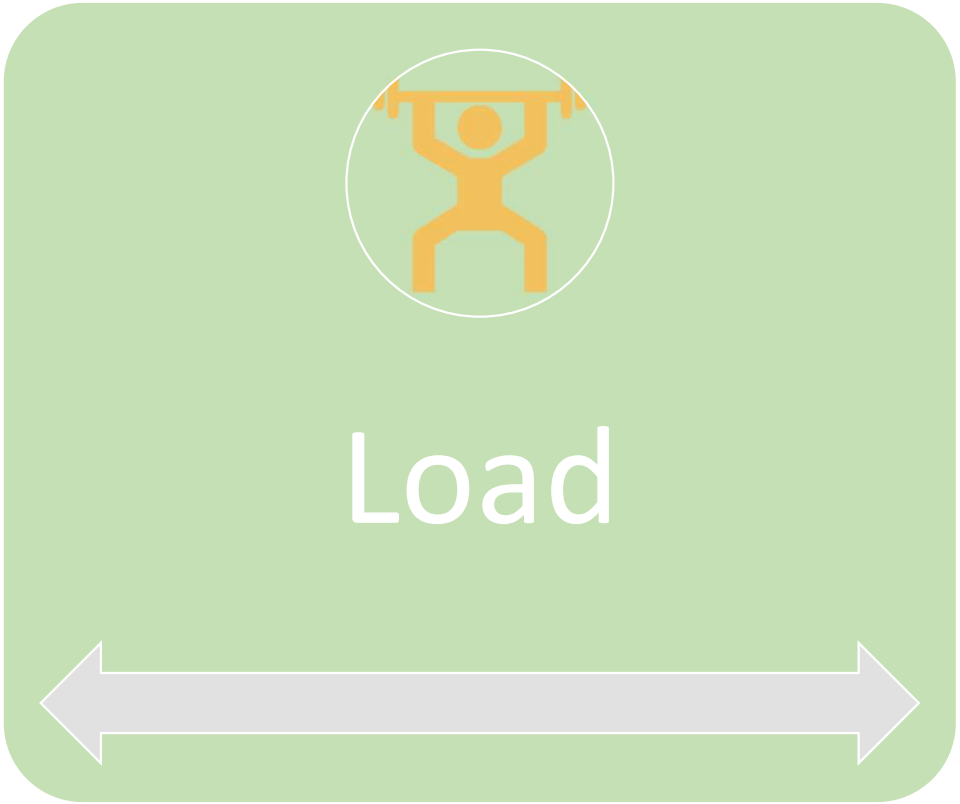

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  - Level of load / force should replicate patient's activity
  - Progressive Load
  - Weight room activities commence
    - Arc of motion may be limited

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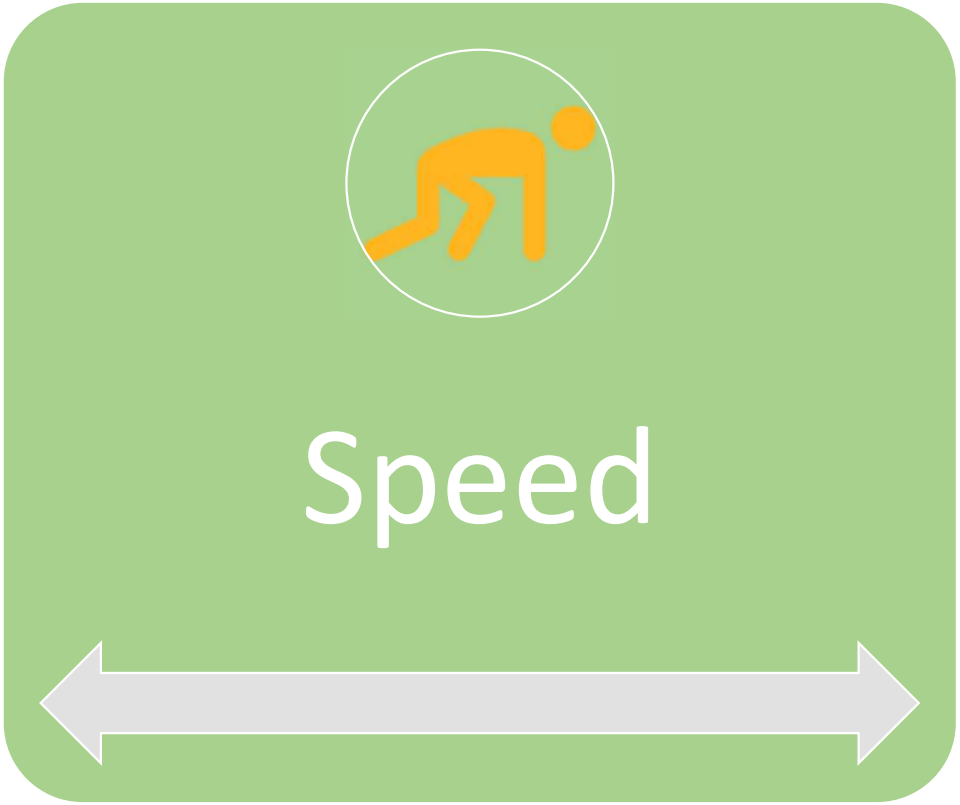

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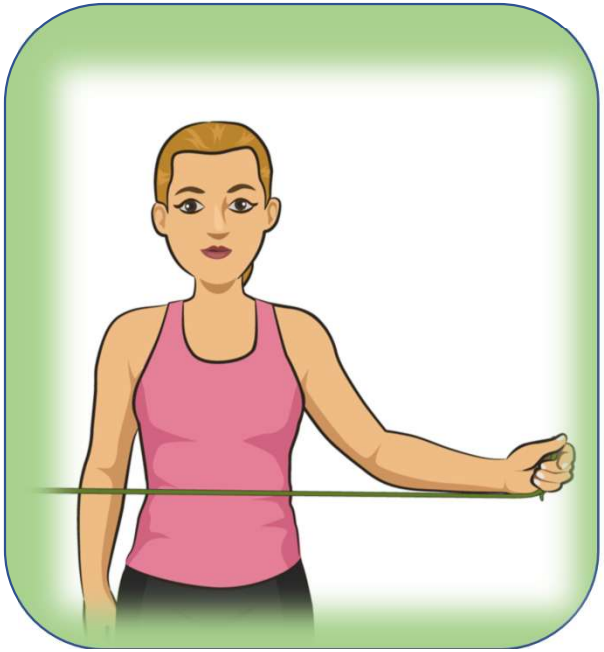
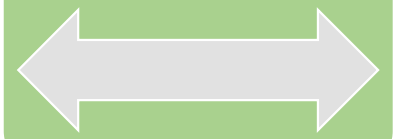


Posterior Cuff Stage 3 - PALS

Speed



Posterior Rotator Cuff Protocol												
ER at side through pain-free arc	No pace	30	50	70	90	120						
ER in frontal plane at 90° of abduction thru 0-90°				30 sec. holds †	30	50	70	90	120			
ER in frontal plane at 135° of abduction thru 0-90°							30 sec. holds †	30	50	70	90	120
Assuming a 90° arc of motion 30 bpm = 45°/sec, 90 bpm = 135°/sec, 120 bpm = 180°/sec												
† 30 second holds with elastic band (blue/black) in the described position												

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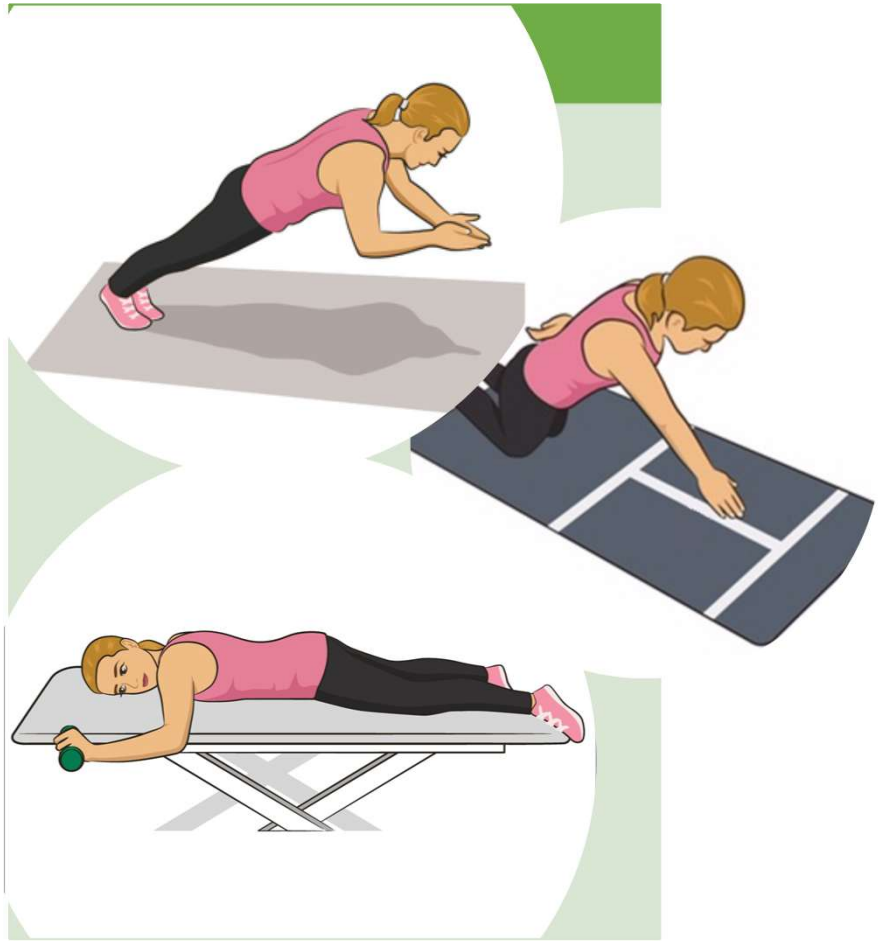
Concentric and eccentric elastic resistance external rotation for 30 seconds, before the speed is increased.

Usually increase their speed of movement every 5-7 days or every couple of visits based on patients' level of function and motor control.

Posterior Cuff Strength Stage 4

Physical

- Strength
  - Hypertrophy
  - Endurance
- Control
  - Motor Pattern Integration
- Speed
  - Reaction Time
    - Expected (Eyes Open)
    - Unexpected (Eyes Closed)
  - Perturbations
    - Into Horizontal Flexion/Flexion/IR
    - Sudden load of infraspinatus



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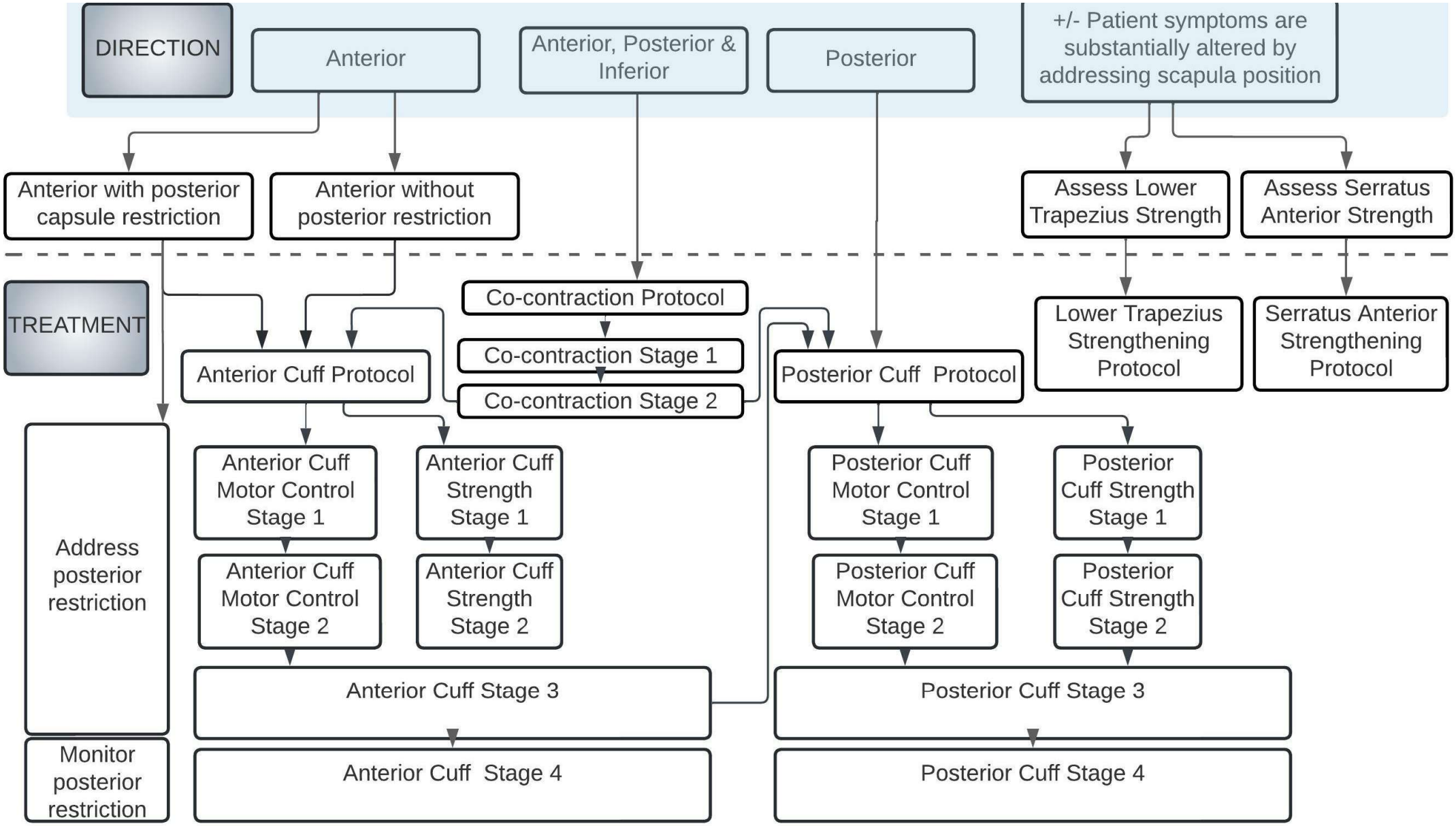
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Anterior without posterior restriction
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Assess Serratus Anterior Strength
TREATMENT
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Co-contraction Stage 1
Co-contraction Stage 2
Anterior Cuff Protocol
Posterior Cuff Protocol
Lower Trapezius Strengthening Protocol
Serratus Anterior Strengthening Protocol
Address posterior restriction
Anterior Cuff Motor Control Stage 1
Anterior Cuff Strength Stage 1
Posterior Cuff Motor Control Stage 1
Posterior Cuff Strength Stage 1
Anterior Cuff Motor Control Stage 2
Anterior Cuff Strength Stage 2
Posterior Cuff Motor Control Stage 2
Posterior Cuff Strength Stage 2
Anterior Cuff Stage 3
Posterior Cuff Stage 3
Monitor posterior restriction
Anterior Cuff Stage 4
Posterior Cuff Stage 4


Thanks
Dr Margie Olds
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