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Exercise Programming & Prescription

Module 7



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Exercise Prescription *Overview*

- Goals and benefits of exercise rehabilitation
- Exercise Prescription
- Exercise Selection
- Coaching & motivating our clients
- Sport, Work & ADL Specific ex prescription



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Goals & Benefits

Exercise Rehab Works IF:

- Rehab works if it's get done!
- Improves Function
- Reduces/manages pain
- Individualised



Prescription Principles

Individualise



Understand & Prescribe for the “whole person”

- Are they avoiding or enduring?
- Prescription towards or away from pain/fear based of opinions and beliefs
- Keep it simple, a good program is one that gets done!



Prescription Principles

Be effective



Get the most out of the program!

- Progressively Challenging vs Overcomplicate
- Use external cues
- Tolerable to the client vs painful
- Train all movements (Specific to work, ADLs, sport & Global movements)
- PLAN Progressions

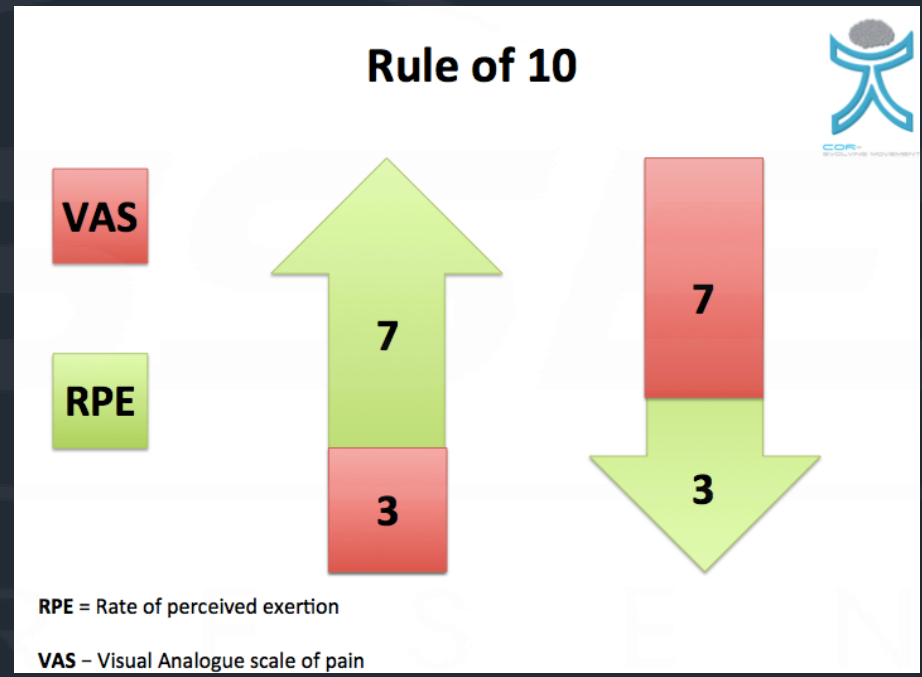


Loading Principles & Progression Timeline

How much?



How much & how hard?



SIMPLE REHAB GUIDE

A horizontal diagram with three arrows pointing left, center, and right. The left arrow is red and labeled 'TOO LITTLE'. The center arrow is green and labeled 'JUST RIGHT'. The right arrow is blue and labeled 'TOO MUCH'. Below these arrows are three columns corresponding to RPE ranges: 'RPE <4', 'RPE 5-8', and 'RPE >9'.

RPE <4	RPE 5-8	RPE >9
No change in pain	Temp increase in pain <i>for a few hours after</i>	Increasing pain
No change in function	Improving function	Reducing function
No change in sleep	Sleeping better	Sleep disturbed
Feels weaker	Feels stronger	Feels fatigued

➔
The Sports Physio @adammeakins

Loading Principles & Progression Timeline

Modify



Progress & Regress – make the right dosage achievable!

- Do this to suit the clients capacity and the program goals
 - Load – light, heavy, %RM
 - Sets/Reps – exposure/endurance/
 - ROM
 - Tempo and/or Intensity
 - Rest and frequency

Smith BW 2018



Lower Back Ex Prescription

Basics



What does the back do?

Flexion

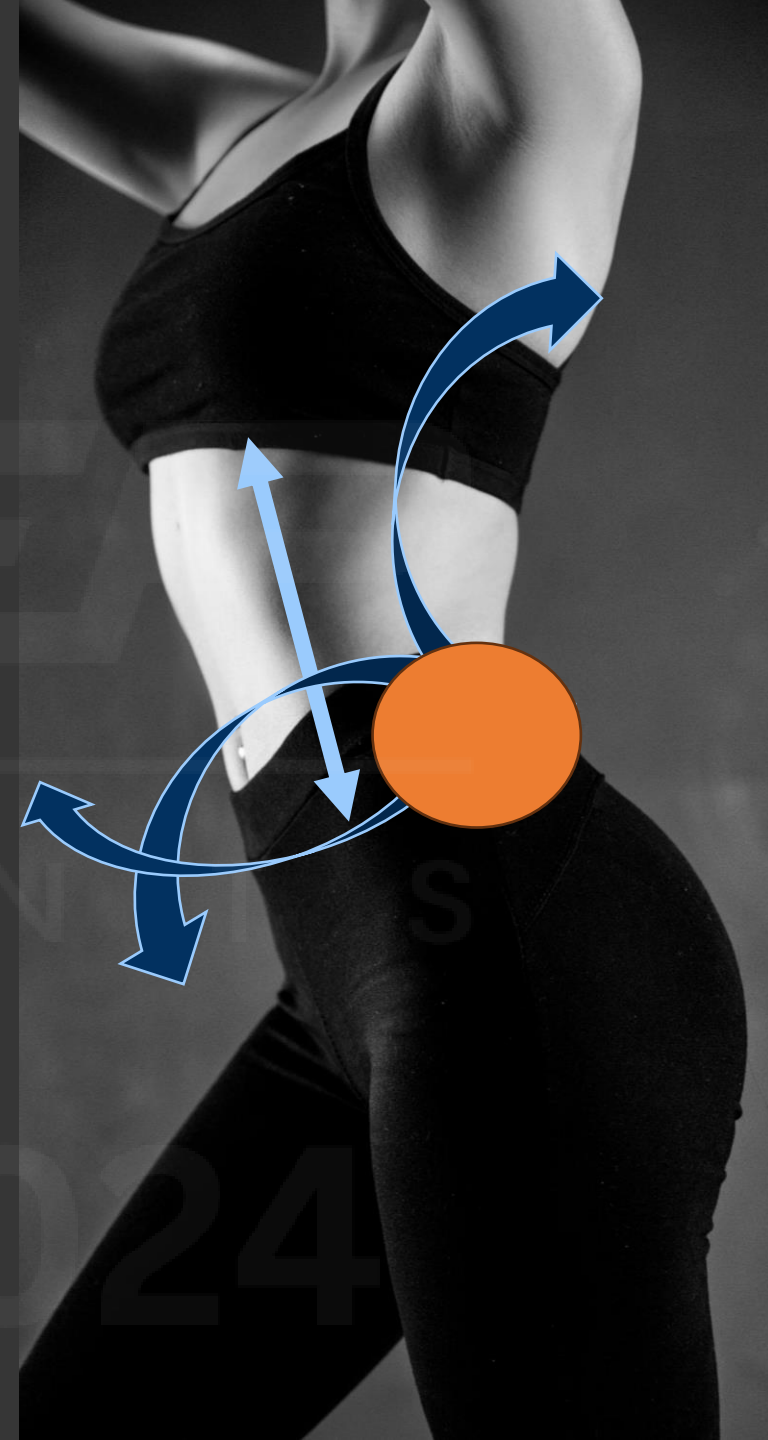
Extension

Rotation

Lateral Flexion

Neutral/Stable

& everything in between!



Lower Back Ex Prescription

Basics



What does the
upper & lower
limb do around
the back?

Upper Body – Horizontal
Push & Pull, Vertical Press
& Pulldown

Lower Body – Squat, Hip
Hinge, Hip Abd/Add, Calf
Raise

& everything in between!



Lower Back Ex Prescription

Simple Exercise Exposure

General exercise, comfort
with required mobility &
movements

Graded Exposure

*Direction, deficits,
fear/confidence specific*
Slow & Endurance

Increase Capacity & Tolerances

Strength/Conditioning
Accumulation

Return to Work, Sport, ADLs

Specific movements as
per goals and pre-injury
full function

Maintenance

Build healthy lifestyle
program/routine

*Capacity to start along the continuum
based on pathology and tolerance to
exercise load and adaption*

Lower Back Ex Prescription

General Exercise

Aerobic/Cardiovascular

- **Alter G-Treadmill**
- Bike
- Treadmill
- Water Walking/Hydrotherapy
- Swimming

Use the “Rule of 10” to determine intensity
Regular 1-3 x per day, low Duration > Higher
intensity, longer duration 2-4 x per week.

Lower Back Ex Prescription

Relaxed Bending

Relaxation Advice & Exercises for Guarded/Fear Avoidant Clients

- **Standing Relaxed bending**
- **Braced vs Exhale Lifting**
- Supine or Seated Breathing
- Review of relaxed postures

Regular completion to encourage relaxed movement patterns and avoidance of active and guarded postures – Complete regularly during ADLs and Work

Lower Back Ex Prescription

Lifting Advice

Lifting Advice

- Floor to waist lift

Regular completion to encourage relaxed movement patterns and avoidance of active and guarded postures – Complete regularly during ADLs and Work

Lower Back Ex Prescription

Mobility

Lumbar Mobility (1)

- **Flexion:** Knee to Chest DL or SL, **Childs Pose**, Seated Flexion, Gluteal Stretch Figure 4,
- **Extension:** Lumbar Extension Prone, Standing, Back Extension SB, Alt Arm/Leg Ext Prone, **Scorpion Mobility**

Regular completion to encourage confidence with movement and avoidance of rest and inactivity – Complete regularly as tolerable

Lower Back Ex Prescription

Mobility

Lumbar Mobility (2)

- **Rotation:** Knee Roll, Thoracic Mobility Archer, Leg Over Stretch, Thoracic Rotation in quadruped, **Semi-Supine Lumbar Rotation**, BOR Twists
- **Lateral Flexion:** Side Bend Wall, **Quadruped Lateral Reach**, Standing Lateral Bend
- **Lumbo-Pelvic Mobility:** Pelvic Tilts, Cat/Camel 4 Point & Standing Chair, LP Mobility SB Rolls

Regular completion to encourage confidence with movement and avoidance of rest and inactivity – Complete regularly as tolerable

Lower Back Ex Prescription

Core/Trunk Exercises

Flexion/Neutral

- **Modified Plate Press Sit Up**
- Supine Core Leg Extensions
- Supine SB Arm/Leg Extensions
- Glute Bridge Marching
- Plank Progressions

Complete as challenging/tolerable

Endurance Focus

2-4 x per week, 2-3 sets 10-25 reps



Lower Back Ex Prescription

Core/Trunk Exercises

Extension/Neutral

- 4 Point Alternate Arm/Leg Extensions
- **Back/Hip Extension over SB**
- Sitting Cable Row

Complete as challenging/tolerable

Endurance Focus

2-4 x per week, 2-3 sets 10-25 reps

Lower Back Ex Prescription

Core/Trunk Exercises

Lateral Flexion/Rotation, Anti- Rotation/Neutral

- **Side Bride**
- Cable Wood Chop
- SA Carry
- **Pallof**
- Dead bug Rotation

Complete as challenging/tolerable

Endurance Focus

2-4 x per week, 2-3 sets 10-25 reps



Lower Back Ex Prescription

Glute

Glute/Lateral Hip Progressions

- Glute Bridge
- Clams > Side Clam Bridge
- **Isometric SB External Rotation**
- Banded Crab Walks
- Fire Hydrants
- **SL Stance Glute Abductions**

Graded Exposure + Strength/Endurance

2-3 x per week, 3-4 sets 8-16 reps

Lower Back Ex Prescription

Squat

Squat Progressions

- Sit to Stand (High to low)
- Goblet Squat
- **Trap Bar Squat**
- Front Squat
- Step Ups
- **SL Squat Variations – STSs, Split Squat, Lunge, Bulgarian**

Graded Exposure + Strength/Endurance

2-3 x per week, 3-4 sets 8-16 reps

Lower Back Ex Prescription

Hip Hinge

Hip Hinge Progressions

- Glute > Hip Thrust > HS Bridge
- **Resisted Band Hip Hinge**
- Modified Broomstick Deadlift
- **FTW KB Lift**
- DB > BB Deadlift
- Hip Extensions (GHD)
- Back Squat
- SL Deadlift Variations

Graded Exposure + Strength/Endurance

2-3 x per week, 3-4 sets 8-16 reps

Lower Back Ex Prescription

Upper Body

Upper Body Progressions (1)

In neutral seated postures

- **Seated Cable Row**
- Seated Lat Pulldown
- Seated Chest Press Machine
- **Seated Landmine Press**
- Seated Lateral/Scaption Raise

Graded Exposure + Strength/Endurance

2-3 x per week, 3-4 sets 8-16 reps

Lower Back
Ex Prescription

Upper Body

Upper Body Progressions (2)

In standing positions

- **Standing SA Cable Row**
- Kneeling Pulldown
- Split Stance Landmine Press
- Standing Bent Over DB Row
- **Kneeling Pulldown**
- Bar Push Ups
- Assisted Gym Ups

Graded Exposure + Strength/Endurance

2-3 x per week, 3-4 sets 8-16 reps



Lower Back Ex Prescription

Early Acute/Irritable

Example week

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Focus	General Exercise	Mobility & Exercise Exposure	REST	General Exercise	Mobility & Exercise Exposure	General Exercise	REST
AM	Mobility + Walking Program 10 > 20mins	Lumbar Spine Mobility Exercises: Knee Roll, Knee Hug, Cat/Camel, Childs Pose	Easy Day	Mobility + Walking Program 10 > 20mins	Lumbar Spine Mobility Exercises: Knee Roll, Knee Hug, Cat/Camel, Childs Pose	Mobility + Walking Program 10 > 20mins	Easy Day
PM	Walking 20mins	Exercise Circuit: Glute Bridge, Sit-to-Stand, Seated Row, Step Ups, Wall Push Up, Core Heel Touches		Walking 20mins	Exercise Circuit: Glute Bridge, Sit-to-Stand, Seated Row, Step Ups, Wall Push Up, Core Heel Touches	Walking 20mins	

Lower Back Ex Prescription

Intermediate/Low Irritability

Example week

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Focus	Exercise Exposure & Capacity	Resistance Training	Active Recovery	Exercise Exposure & Capacity	Resistance Training	Active Lifestyle & Routine	REST
AM	Mobility + Walking 45-60mins	Mobility + Resistance Training Program 45mins: Squat, Hip Hinge, Core & Upper/Lower Body Progressions	Easy Active Recovery Day – Pool Walking/Swimming 20-30mins	Mobility + Walking 45-60mins	Mobility + Resistance Training Program 45mins: Squat, Hip Hinge, Core & Upper/Lower Body Progressions	Mobility + Endurance Circuit 30mins: Core Stability, Upper & Lower Body Progressions	REST DAY
PM	Endurance Circuit 20mins: Core Stability, Upper & Lower Body Progressions	Ride/Cycle 20-30mins	<i>Encourage social activities and involvement in hobbies</i>	Endurance Circuit 20mins: Core Stability, Upper & Lower Body Progressions	Ride/Cycle 20-30mins	Walking/Pool Session 30mins	<i>Encourage social activities and involvement in hobbies</i>

Lower Back Ex Prescription

Advanced/Maintenance

Example week

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday or Sunday	
Focus	Aerobic Fitness & Resilience	Resistance Training & Sport Specific	Active Recovery	Resistance Training & Sport Specific	Low Load Endurance Day	Sport Specific/Game /Competition Day	REST
AM	Mobility + Walk, Ride or Swim 45-60mins	Mobility + Resistance Training Program 60mins: Power/Plyo, Squat, Hip Hinge, Core & Upper/Lower Body Progressions	Easy Active Recovery Day – Pool Walking/Swimming 30-45mins	Mobility + Resistance Training Program 60mins: Power/Plyo, Squat, Hip Hinge, Core & Upper/Lower Body Progressions	Mobility + Walk, Ride or Swim 45-60mins	Sport, Competition or Extra Training Day	REST DAY
PM	Endurance Circuit 30mins: Core Stability, Upper & Lower Body Progressions	Sports Specific 45mins: May include Conditioning, Agility, COD, HSR, Skills etc	Encourage social activities and involvement in hobbies	Sports Specific 45mins: May include Conditioning, Agility, COD, HSR, Skills etc	Endurance Circuit 30mins: Core Stability, Upper & Lower Body Progressions	Active Recovery – Pool Walking, Mobility etc 15-25mins	Encourage social activities and involvement in hobbies

Got Your Back:
Making back pain
simple!

for Exercise
Physiologists

Presented by **Josiah Ayling**
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