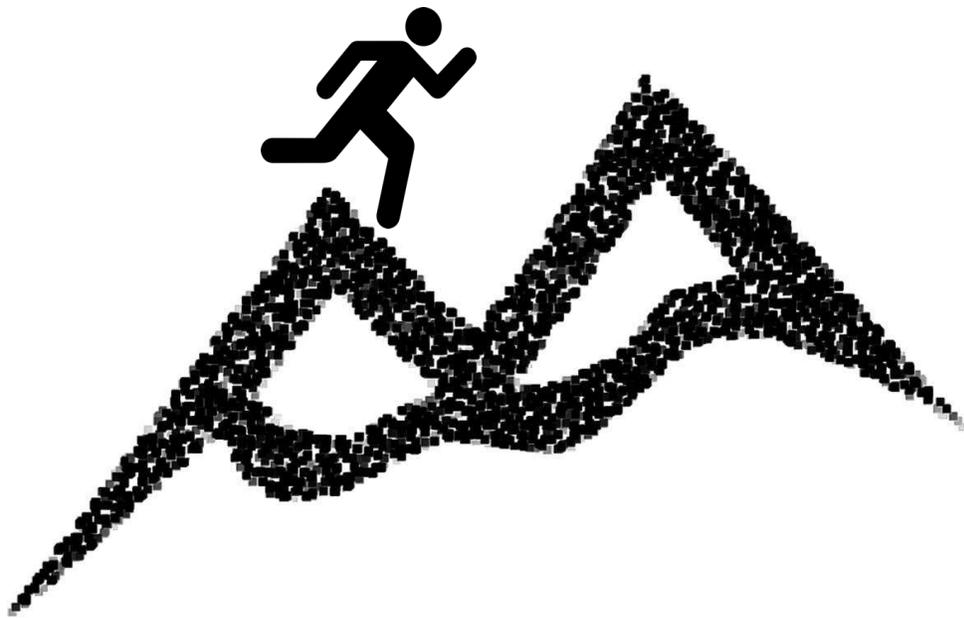


# RUNRAD

## Run Ready & Avoid Damage Manual



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## A Complete Program to Reduce Injuries

**Disclaimer** - The information provided in this document is educational in nature and is not intended to diagnose, treat, cure, or prevent any disease or health condition. You and your health care provider must make any final decisions as to what's best for you. See your health care provider for a diagnosis and treatment of any medical concerns you may have, and before performing the RUNRAD exercises.

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## INTRODUCTION

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Injuries associated with running are all too common and its not hard to understand why as jogging alone places forces on our body as much as 3 times our body weight and these forces increase with speed or running down a hill. An average 5 foot 6 female at 130 lbs would therefore have to tolerate almost 400lbs of force with every step and with 1200-1500 steps per kilometer this would amount to almost 500,000 lbs of force placed on the body. While there is no question running is good for us and we are built to run, make no mistake it is a skill and if we go by Malcom Gladwells 10,000 hour rule, if we were running 10 hrs per week it would take 20 years to master the skill. These repetitive forces are often compounded by the fact that many runners don't have the adequate skill or fit for run conditioning to tolerate the running volume or distances they are performing.

The nature of running will always have some inherent risk associated with participation, however most running repetitive / overuse injuries can be prevented through gradual build up, but also appropriate warm-up, fit for run conditioning and recovery strategies which will be addressed in this book.

Running shoes have been a hot topic with a huge variety of options. While there have been numerous studies investigating which type of shoe is best i.e. minimalist, motion control or extra cushioning, evidence continues to suggest that one is not necessarily better than the other but rather it is very individual and so one should be guided more by comfort above all else.



The clinical directors, all sport physiotherapists at Back in Action Physiotherapy, Whistler have developed the RUNRAD based on general exercise principles and years of clinical experience working with all types and levels of runners.



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## STRUCTURE OF THE RUNRAD

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The RUNRAD has three parts with a total of 47 sports specific exercises: Part 1 should be performed before running, while parts two and three are best done after running. All three parts could ideally be done on days off

### **PART 1: WARM UP (DYNAMIC MOBILITY & STABILITY)**

Eight exercise streams aimed at taking joints and tissues through functional range, while facilitating muscle activation, muscle balance and stability.

### **PART 2: STRENGTH, ENDURANCE, BALANCE, PLYOMETRICS & AGILITY**

Six exercise streams, each with three levels of increasing difficulty, aimed at developing specific performance and injury protection strategies.

### **PART 3: STRETCHING & FOAM ROLLER**

20 exercises aimed at recovery following work or exercise and to keep tissues and joints healthy and mobile.

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## KEY ELEMENTS FOR INJURY REDUCTION

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The key elements of effective injury reduction programs for runners include appropriate mobility and stability, core strength, posterior chain strength and recovery.

### ***Mobility***

Joint mobility is defined by the degree to which a joint (where two bones meet) is allowed to move before being restricted by surrounding tissues (ligaments, tendons, muscles). It is not uncommon to have reduced joint mobility, however increased mobility loss leads to local tissue strain and overload of other areas.

### ***Core Training***

The “core” is a functional unit which includes the muscles of the trunk (abdominals, back extensors) but also the pelvic–hip region. Maintaining appropriate “core strength” is essential for optimal functioning and effective load transfer of the upper and lower extremities.

### ***Posterior Chain Strength***

The “posterior chain” is the group of muscles at the back of the body, which include the calf’s, hamstrings, glutes and lower back. These muscles are important in balancing the often more sport related dominant anterior muscle groups of the quads/thigh muscles and abdominals.

Although it is difficult to prevent all injuries, there is undeniable efficacy in injury reduction for repetitive/overuse injuries with regular performance of specific exercises. Quality rather than quantity is the key as it takes roughly 300 repetitions to instill a new movement pattern, and at least 3,000 repetitions to break a bad one.

### ***Recovery***

Recovery is the strategy of assisting muscle recovery after completing the activity. Recovery helps reduce muscle fatigue, and muscle tightness while helping to restore muscle performance.

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## HOW TO LEARN THE RUNRAD

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The key to efficient learning is to follow the instructions detailed in the three parts of the RUNRAD. For Part 2 exercises start with Level 1 exercises and focus on performing them correctly, while carefully correcting all mistakes and ensuring good body position (using a mirror for feedback is often helpful). It is essential that quality is stressed over quantity. When the exercise can be performed without difficulty for the specified number and repetitions, the athlete may progress to the next level of the exercise.

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## THE RUNRAD EXERCISES:

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### PART 1 | WARM UP (DYNAMIC MOBILITY & STABILITY)

1. STEP BACK WARRIOR REACH
2. FROG SQUAT TO KNEE STRAIGHTNERS
3. STANDING FIGURE 4
4. ITB SIDE BEND
5. RUNNERS START TO FRONT KICK OPPOSITE TOUCH
6. BUM KICKS
7. TUCK TO TILTS
8. SQUAT TOUCH TO JUMP

The movement / mobility streams in the warm up dynamically take your major joints, muscles and nerves through range preparing them for activity. These are both activation and mobility exercises designed to prime your body for running. It is common to want to hold these movements; however prolonged stretches may increase your risk for injury if tissues are not yet warm. Hold-type stretches are better left for post exercises as they also increase muscle relaxation and promote recovery.

These particular mobility movements were selected in order to cover all the basic joint / muscle movements related to the activity of running to maximize unrestricted range and muscle activation, but by no means are they the only ones. These movements also act as **PRE-FLIGHT CHECKS** to ensure your body is feeling good with all movements being pain free before running. **If any movements are painful or the dynamic jumping movements don't feel springy this may be a sign your tissues need more recovery or some active treatment to ensure they don't develop into a sidelining injury.**

### 1.) STEP BACK WARRIOR REACH

- A. Step back and while feet are pointing foreword try to get back heel flat with knee straight
- B. Reach over your head and slowly lean back until a gentle stretch is felt at the front thigh/hip of the back leg
- C. To ensure stretching the front of the back leg, tuck your pelvic/tail under or flatten your lower back.

*Switch from one side then the other for 10 repetitions each*

**PRE-FLIGHT CHECK:** movement should be pain free through calfs and lower back

i)



ii)



### 2.) FROG SQUAT TO KNEE STRAIGHTNERS

- A. Bend knees and lean forward until your hands are comfortably resting on the ground
- B. While hands remain on the ground, slowly straighten your knees until a gentle stretch is reached and then release the stretch and repeat.

*Switch from one movement to the other 10 times each*

**PRE-FLIGHT CHECK:** movement should be pain free through hips, back and hamstrings

i)



ii)



### 3.) STANDING FIGURE 4

- A. Standing on one leg, cross the other ankle over the top of your knee and maintain balance
- B. Lower yourself into a squat while holding your ankle and pushing down on the raised knee until you feel a stretch while maintaining a low back arch.

*Switch from one side then the other for 10 repetitions each*

**PRE-FLIGHT CHECK:** movement should be pain free with balance mostly maintained

i)



ii)



B



### 3.) ITB SIDE BENDS

- A. Standing on one leg, cross your other leg as far as you can behind
- B. While maintaining balance, side bend and reach down the initial standing leg as far as you can until a stretch is felt and then return and repeat.

*Switch from one side then the other for 10 repetitions each*

**PRE-FLIGHT CHECK:** movement should be pain free with lateral bend

i)



ii)



B



**4.) RUNNERS START TO FRONT KICK OPPOSITE TOUCH**

- A. Step back into lunge until back knee gently touches the ground
- B. Step out and front kick the back leg while touching your opposite hand to foot

*Switch from one movement to the other 10 times each for both legs*

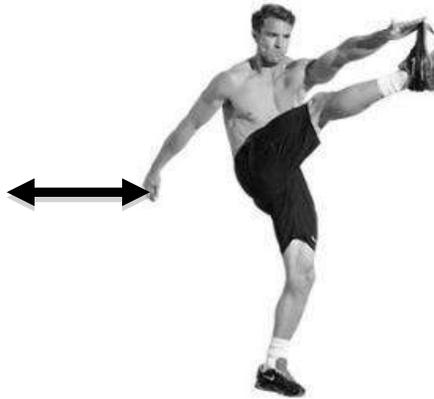
**PRE-FLIGHT CHECK:** movement should be pain free through knees and hamstring / back

i)



A

ii)



B

**4.) BUM KICKS**

- A. While running on the spot, attempt to kick your bum while maintaining hip extension
- B. Pushing your knee back will increase the stretch at the front of the hip

*Switch from side to the other 10 times each*

**PRE-FLIGHT CHECK:** movement should feel springy and pain free through calfs / Achilles

i)



A

ii)



B

## 5.) TUCK TO TILTS

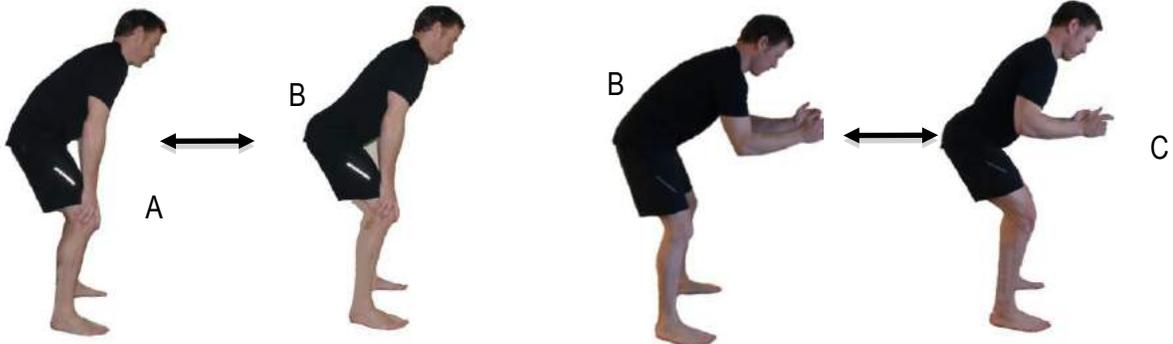
- A. In an athletic position, feet shoulder width apart and hands on thighs initially
- B. Perform pelvic tilts without moving upper body
- C. Attempt to perform the same pelvic tilts with your hands off to advance exercise

*Repeat movement for 10 repetitions*

**PRE-FLIGHT CHECK:** movement should have no pain

i) Modified

ii) Advanced

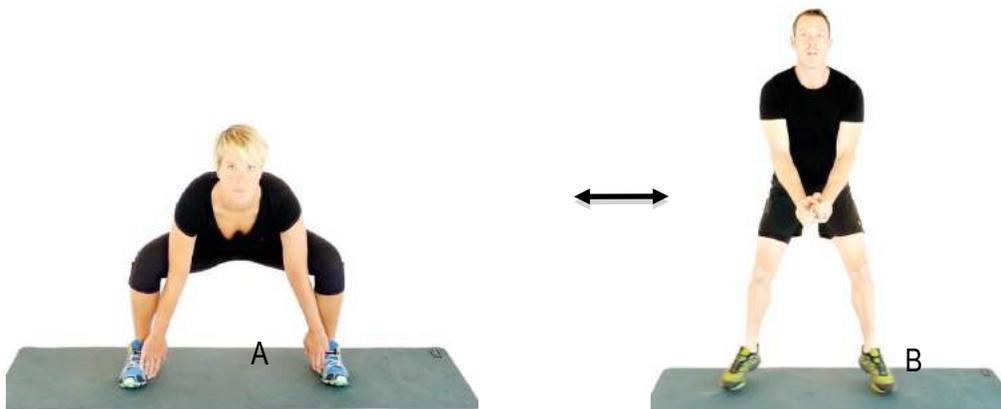


## 5.) SQUAT TOUCH TO JUMP

- A. In a squat position with hands touching feet
- B. Jump out of squat position and land softly, then quickly return to squat position touching toes and repeat.

*Repeat each movement for 10 repetitions*

**PRE-FLIGHT CHECK:** movement should feel springy with no pain on jump / land or deep squat



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## PART 2 | STRENGTH, ENDURANCE, BALANCE & POWER

- 10.1) STATIC PLANK
- 10.2) MARCHING PLANK
- 10.3) SUPERMAN PLANK

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- 11.1) SIDE PLANK BENT LEG
- 11.2) SIDE PLANK STRAIGHT LEG
- 11.3) SIDE PLANK TOP KNEE UP

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- 12.1) MARCHING BRIDGE
- 12.2) MARCHING BRIDGE CHAIR
- 12.3) MARCHING EXTENDED BRIDGE

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- 13.1) FRONT WALL SQUATS
- 13.2) HIP DOMINANT LUNGE
- 13.3) SINGLE LEG SQUAT TO SEAT

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- 14.1) SINGLE STANCE BALANCE HEAD TURNS
- 14.2) SINGLE STANCE BALANCE HEEL RAISE
- 14.3) SINGLE STANCE BALANCE EYES CLOSED

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- 15.1) REBOUND JUMP
- 15.2) TUCK JUMP
- 15.3) SINGLE JUMP 100 UPS

## 10. 1) LEVEL 1: STATIC PLANK

### **BENEFITS**

Develops abdominal, shoulder, and spinal stabilizer strength and stability as well as “core” muscle endurance which helps prevent low back pain.

### **DESCRIPTION**

- A. Support on elbows, shoulders at 90 degrees
- B. Support on toes, ankles at 90 degrees
- C. Maintain straight line though body or neutral spinal curves (flatten low back to further engage abs)

### **REPETITIONS**

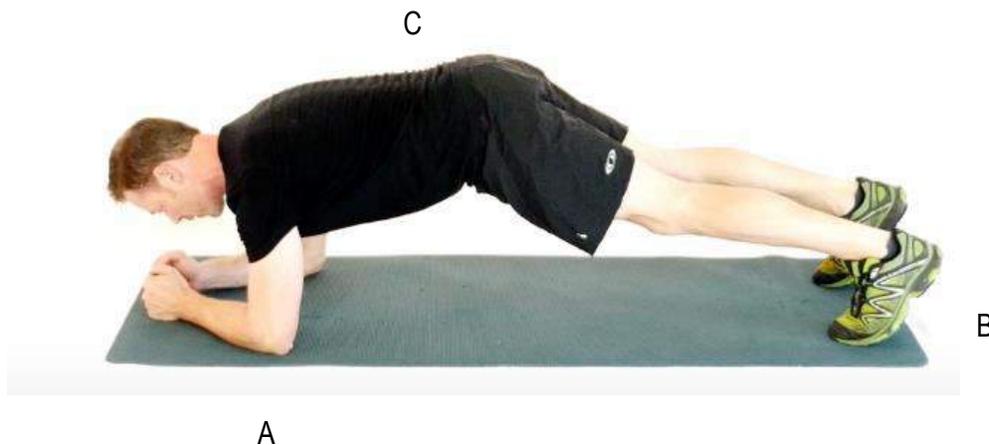
- Work up to 3 sets of 30 -60 sec holds

### **WHEN TO ADVANCE**

- 3 sets for up to 30 sec holds

### **AVOID**

- Poking bum too high or excessive arching of low back
- Not maintaining shoulders at 90 degrees



## 10.2) LEVEL 2: MARCHING PLANK

### **BENEFITS**

Develops abdominal, shoulder, and spinal stabilizer strength and stability as well as “core” muscle endurance which helps prevent low back pain. Alternating legs in a marching fashion challenges rotary stability strength across the spine.

### **DESCRIPTION**

- A. Support on elbows with shoulders at 90 degrees
- B. Alternate lifting one leg and then the other
- C. Maintain neutral spine throughout exercise (avoid letting water bottle roll off low back)

### **REPETITIONS**

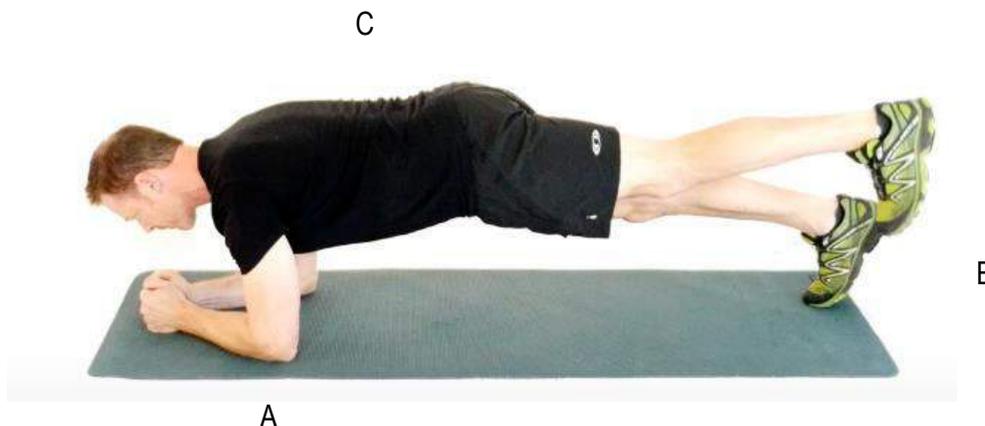
- Work up to 30 reps or 30 secs for 3 sets

### **WHEN TO ADVANCE**

- When you can maintain a water bottle on back for 3 sets of 30 reps or 30 sec

### **AVOID**

- Lifting head
- Poking bum too high or excessive low back arching
- Not maintaining shoulders at 90 degrees
- Rotating through hips and having water bottle roll off back



### 10.3) LEVEL 3: SUPERMAN PLANK

#### **BENEFITS**

Develops abdominal, shoulder, and spinal stabilizer strength and stability as well as “core” muscle endurance which helps prevent low back pain. Performing in superman fashion further challenges rotary stability strength across the spine and torso.

#### **DESCRIPTION**

- A. Support on elbows with shoulders at 90 degrees
- B. Support on toes with ankles at 90 degrees
- C. Lift one leg and opposite arm off floor and hold while maintaining water bottle on back

#### **REPETITIONS**

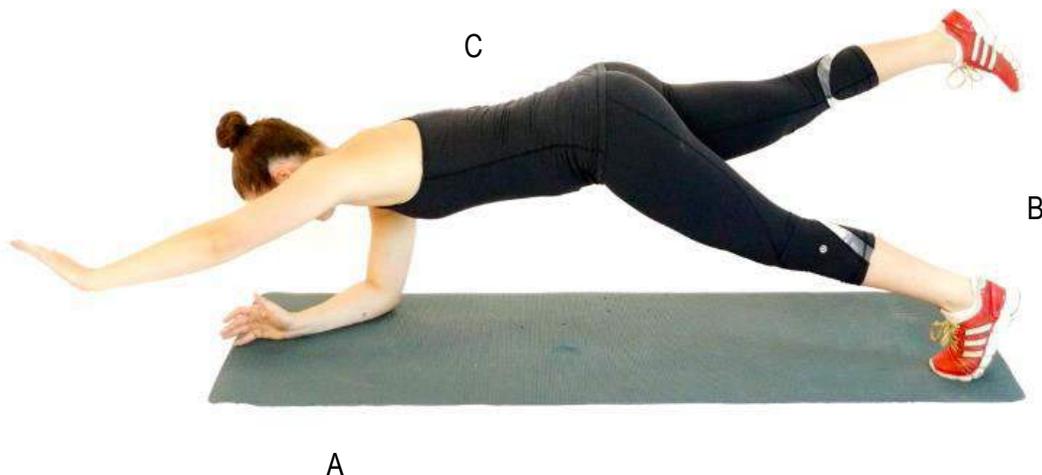
- Work up to performing 3 sets of 30 reps or 30 sec

#### **YOU'RE ADVANCED**

- When you can perform 3 sets of 30 reps or for 30 secs while maintaining water bottle on back

#### **AVOID**

- Lifting head
- Poking bum too high or excessive low back arching
- Not maintaining shoulders at 90 degrees
- Rotating through hips and having water bottle roll off back



### 11.1) LEVEL 1: SIDE PLANK BENT LEG

#### **BENEFITS**

Develops abdominal, shoulder, hip and spinal stabilizer strength and stability as well as “core” muscle endurance, which helps prevent low back pain.

#### **DESCRIPTION**

- A. Support on elbow, directly under shoulder
- B. Support on bent knees
- C. Raise hips off floor until body is straight

#### **REPETITIONS**

- Work up to 30-60 sec holds for 3 sets

#### **WHEN TO ADVANCE**

- When you can do 3 sets of 30 sec holds with good form

#### **AVOID**

- Rotating through body or losing straight line through body
- Not maintaining elbow under shoulder



## 11.2) LEVEL 2: SIDE PLANK STRAIGHT LEGS

### **BENEFITS**

Develops abdominal, shoulder, hip and spinal stabilizer strength and stability as well as “core” muscle endurance which helps prevent lower back pain. Performing with straight legs further challenges spinal and hip stabilizing muscles.

### **DESCRIPTION**

- A. Support on elbow, directly under shoulder
- B. Feet together or 1 foot in front of other
- C. Raise hips off floor until body is straight

### **REPETITIONS**

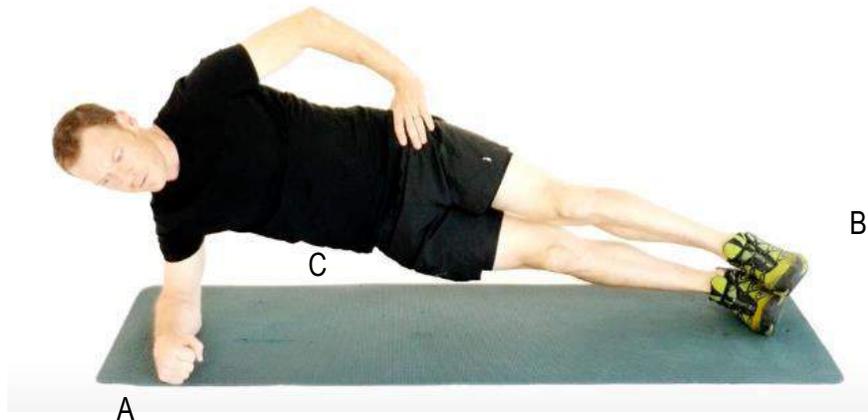
- Work up to 3 sets 30-60 sec holds

### **WHEN TO ADVANCE**

- When you can do 3 sets of 30 sec holds with good form

### **AVOID**

- Rotating through body or losing straight line through body
- Not maintaining elbow under shoulder



### 11.3) LEVEL 3: SIDE PLANK TOP KNEE UP

#### **BENEFITS**

Develops abdominal, shoulder, hip and spinal stabilizer strength and stability as well as “core” muscle endurance which helps prevent low back pain. Performing side plank and lifting top leg further challenges spinal and hip stabilizing muscles.

#### **DESCRIPTION**

- A. Support on elbow, directly under shoulder
- B. Feet together or 1 foot in front of other
- C. Raise hips off floor until body is straight and hold bend top leg/knee up then return

#### **REPETITIONS**

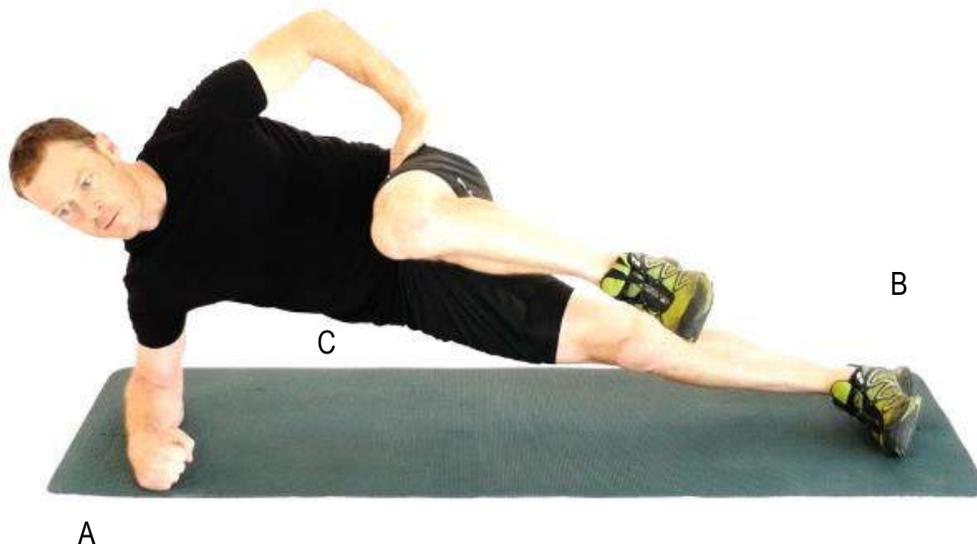
- Work up to 3 sets of 30 reps or 30 sec for each side

#### **YOU'RE ADVANCED**

- When you can perform 3 sets of 30 reps or 30 sec top knee up planks with good form

#### **AVOID**

- Doing exercise if you can not get body off floor to straight line position
- Rotating through body



## 12.1) LEVEL 1: MARCHING BRIDGE

### **BENEFIT**

Develops the posterior chain muscle strength-endurance (calves, hamstrings, glutes and low back).

### **DESCRIPTION**

- A. On your back knees and hips bent to 90 degrees with feet flat on the floor and arms crossed
- B. Raise both the hips off the ground,
- C. March from 1 foot to the other

### **REPETITIONS**

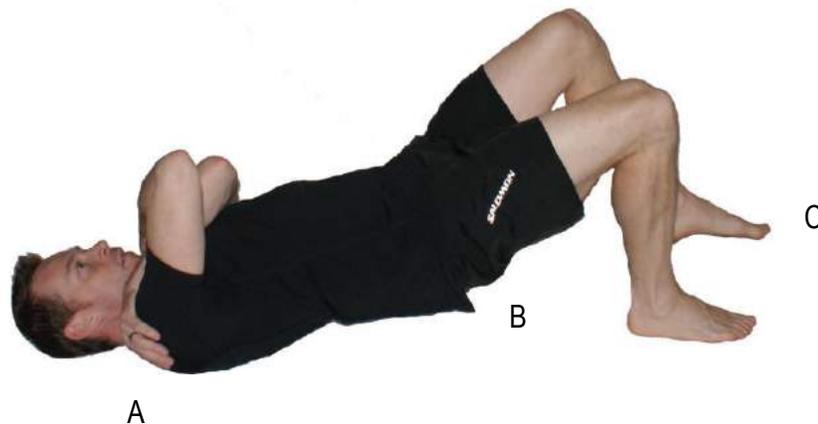
- Work up to 3 sets for 30 reps or 30 sec

### **WHEN TO ADVANCE**

- When you can perform 3 sets for 30 reps or 30 sec

### **AVOID**

- Letting your bum drop or hips rotate while alternating legs



## 12.2) LEVEL 2: MARCHIBG BRIDGE CHAIR

### **BENEFIT**

Develops posterior chain muscle strength (calves, hamstrings, glutes and low back). Off a chair/bench further challenges particularly the hamstring and glute muscles.

### **DESCRIPTION**

- A. On your back with your heels on a chair and arms crossed
- B. Lift your hips up until straight with knees bent
- C. March from 1 foot to the other

### **REPETITIONS**

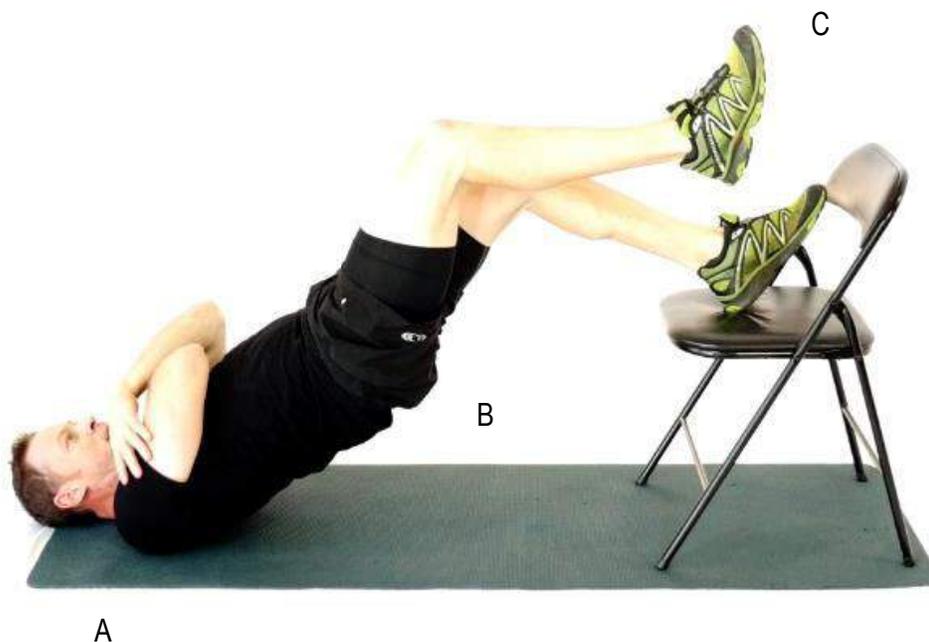
- Work up to 3 sets for 30 reps or 30 sec

### **WHEN TO ADVANCE**

- When you can perform 3 sets of 30 reps or for 30 sec

### **AVOID**

- Letting your bum drop or hips rotate while alternating legs



A

B

C

### **12.3) LEVEL 3: MARCHING EXTENDED BRIDGE**

#### **BENEFIT**

Develops posterior chain muscle strength (calves, hamstrings, glutes and low back). Extended knees further challenges the hamstring muscles at the knee.

#### **DESCRIPTION**

- A. On your back with your legs extended so knees are at ~10 degrees bend with arms crossed
- B. Lift your hips up until straight
- C. March from 1 foot to the other without dropping hips or rotating or bending knees further

#### **REPETITIONS**

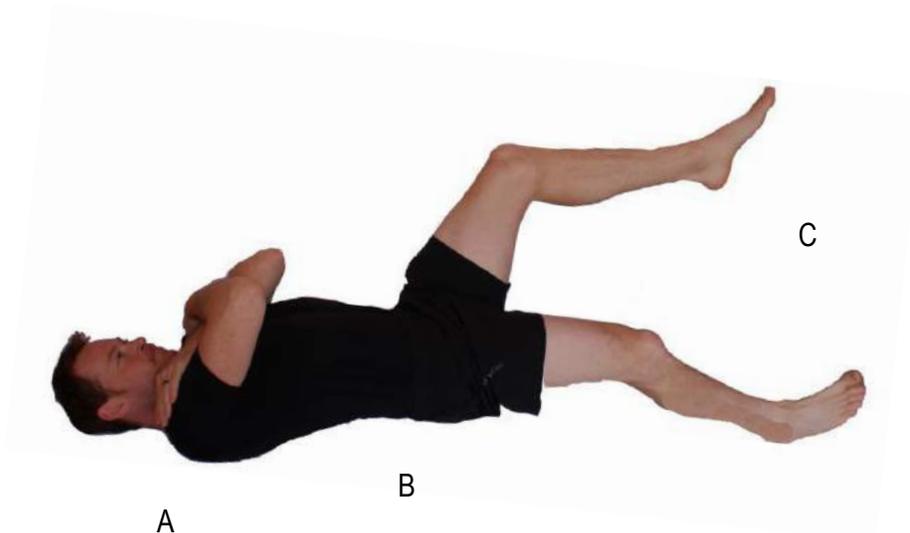
- Work up to 3 sets of 30 reps or 30 sec

#### **YOUR ADVANCED**

- When you can perform 3 sets of 30 reps for 30 sec

#### **AVOID**

- Letting your bum drop or hips rotate while alternating legs



### 13.1) LEVEL 1: FRONT WALL SQUATS

#### **BENEFIT**

Develops multi-joint coordination of the ankles, knees, hip and back while training balance. Performing this correctly ensures efficiency in movement with optimal muscle recruitment strategies essentially minimizing muscle overuse and reducing injury risk.

#### **DESCRIPTION**

- A. Hands on the wall with elbows straight
- B. Squat down until thighs are parallel to ground while maintaining neutral low back arch and with out knees falling in or losing balance
- C. Work up to 1 foot length distance from wall

#### **REPETITIONS:**

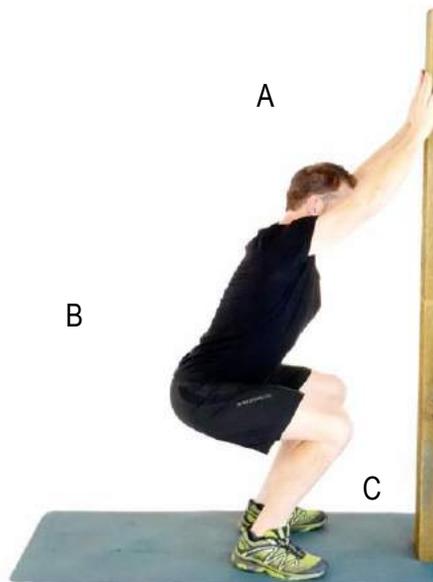
- Work up to 3 sets, 30 reps or 30 sec

#### **WHEN TO ADVANCE**

- When you progress to 1 foot length distance from wall and perform 3 sets of 30 reps or 30 sec

#### **AVOID**

- Losing neutral spine
- Letting knees turn in or loosing hip and knee alignment or bending elbows



## 13.2) LEVEL 2: HIP DOMINANT LUNGE

### **BENEFIT**

Develops multi-joint coordination of the ankles, knees, hip and back while training balance. Performing this correctly ensures efficiency in movement with optimal muscle recruitment strategies essentially minimizing muscle overuse and reducing injury risk. This exercises further challenges balance and coordination as well as posterior chain strength-endurance.

### **DESCRIPTION**

- Step forward until leading leg is 90 degrees at knee, without knee going over toes
- Keep chest and head forward over foot (eyes over toes) to challenge front leg maintaining neutral spine
- Gently lower back knee down to ground while maintain neutral low back arch and then return and repeat
- Ensure hip stays in line with knee (can use door frame as reference for hip position)

### **REPETITIONS**

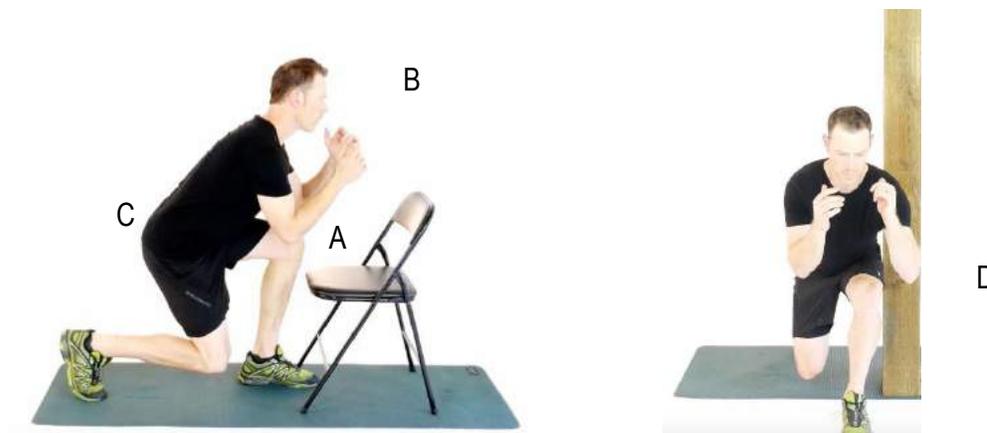
- Work up to 3 sets of 30 reps or 30 sec for each leg

### **WHEN TO ADVANCE**

- When you can maintain control for 3 sets of 15 reps
- If not feeling through the glutes then you are doing it incorrect (tuck hip under torso–refer to D in picture and bring front knee back towards heel)

### **AVOID**

- Turning knee in, or having hip poking out (loose alignment with knee) on front stance leg
- Losing neutral spin



### 13.3) LEVEL 3: SINGLE LEG SQUAT

#### **BENEFIT**

Develops multi-joint coordination of the ankles, knees, hip and back while training balance. Performing this correctly ensures efficiency in movement with optimal muscle recruitment strategies essentially minimizing muscle overuse and reducing injury risk. This exercises further challenges balance and coordination as well as strength-endurance of the loading leg.

#### **DESCRIPTION**

- A. Stand on 1 leg and maintain hip, knee and foot alignment
- B. Squat to 90 degrees touching your bum lightly to a chair as a reference point while keeping your knee behind your toes
- C. Maintain neutral spine while performing the squat
- D. Ensure hip stays in line with knee (can use door frame as reference for hip position)

#### **REPETITIONS**

- Work up to 3 sets of 15 reps

#### **YOU'RE ADVANCED**

- When you can perform 3 sets of 15 reps with good form

#### **AVOID**

- Losing back, hip and knee alignment
- Losing balance



### **14.1) LEVEL 1: SINGLE STANCE BALANCE HEAD TURNS**

#### **BENEFIT**

Develops the ability to maintain balance with decreased reliance on visual system to improve stability.

#### **DESCRIPTION**

- A. Stand on 1 leg and maintain hip and knee alignment and neutral spine position
- B. While maintaining balance turn your head slowly one way then the other and repeat

#### **REPETITIONS**

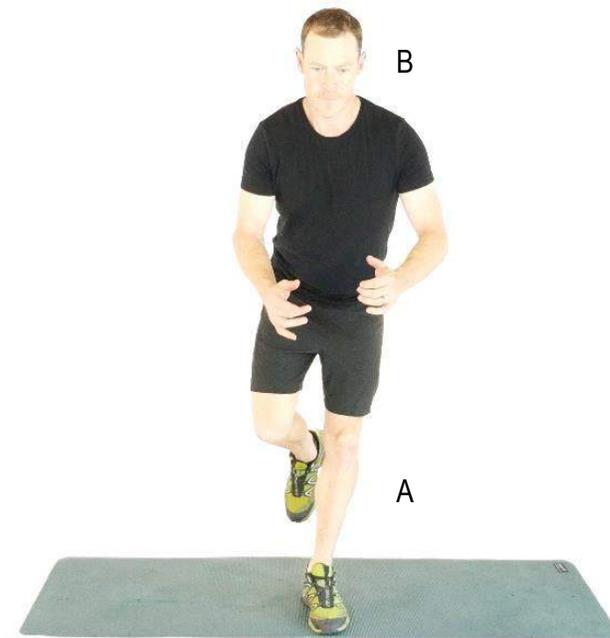
- Work up to 3 sets of 30 sec

#### **WHEN TO ADVANCE**

- When you can perform 3 sets of 30 secs

#### **AVOID**

- Losing hip and knee alignment on stance leg
- Losing balance



## 14.2) LEVEL 2: SINGLE STANCE BALANCE HEEL RAISES

### **BENEFIT**

Develops the ability to maintain balance with decreased base of support in order to improve stability.

### **DESCRIPTION**

- A. Stand on 1 leg and maintain hip and knee alignment and neutral spine position
- B. While maintaining balance raise heel off as high as you can go and repeat

### **REPETITIONS**

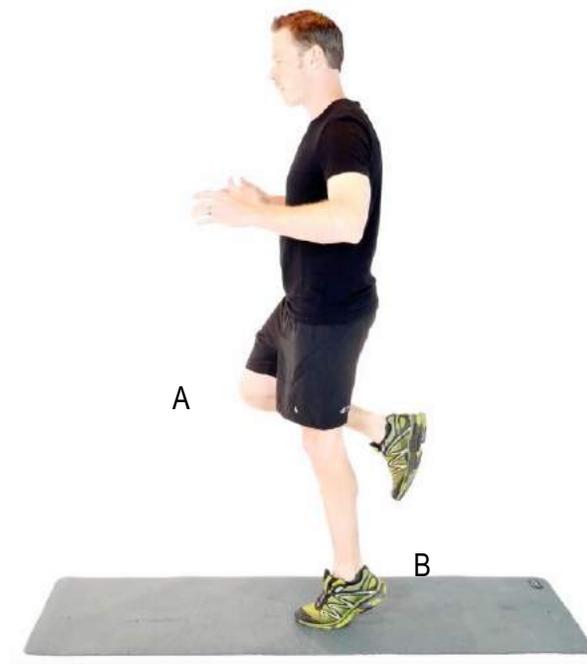
- Work up to 3 sets of 30 reps or for 30 secs

### **WHEN TO ADVANCE**

- When you can perform 30 reps or for 30 secs

### **AVOID**

- Losing hip and knee alignment on stance leg
- Losing balance



### **14.3) LEVEL 3: SINGLE STANCE BALANCE EYES CLOSED**

#### **BENEFIT**

Develops the ability to maintain balance with the absence of the visual system in order to improve stability.

#### **DESCRIPTION**

- A. Stand on 1 leg with hip flexed to 90 degrees
- B. While maintaining balance on one leg and hip raised, close your eyes

#### **REPETITIONS**

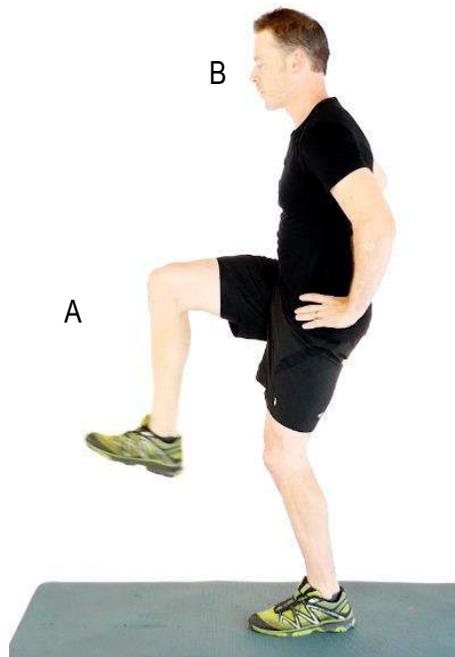
- Work up to 3 sets of 30 sec

#### **YOU ARE ADVANCE**

- When you can perform 3 sets of 30 sec

#### **AVOID**

- Losing hip and knee alignment on stance leg
- Losing balance



## 15.1) LEVEL 1: REBOUND JUMPS

### **BENEFIT**

Improves the lower limb movement mechanics with both force generation and landing

### **DESCRIPTION**

- A. Standing 2 feet shoulder width apart, jump just off the ground
- B. Land softly bending knees and hips greater than 30 degrees and maintaining knee and hip alignment

### **REPETITIONS**

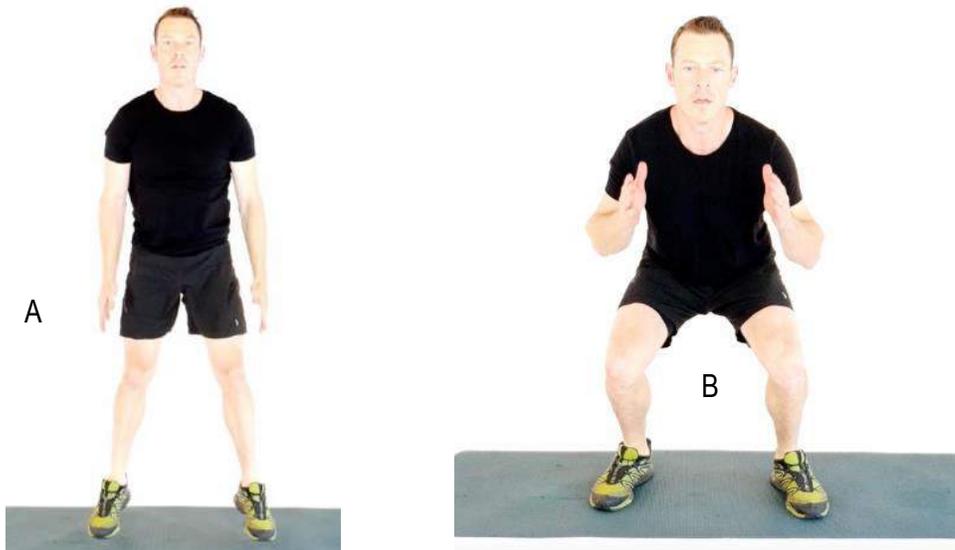
- Work up to 3 sets of 30 reps or for 30 secs

### **WHEN TO ADVANCE**

- When you can perform 3 set of 30 reps or 30 sec

### **AVOID**

- Losing balance or posture (neutral spine)
- Landing heavy or losing hip and knee control



## 15.2) LEVEL 2: TUCK JUMPS

### **BENEFIT**

Improves the lower limb movement mechanics with both force generation and landing. Tuck jumps further challenge lower limb strength, power and stability.

### **DESCRIPTION**

- A. Standing 2 feet shoulder width apart with hands at hip height, jump raising knees to hands at hip height
- B. Land softly bending knees and hips greater than 30 degrees and maintaining knee and hip alignment and quickly repeat

### **REPETITIONS**

- Work up to 3 sets 15 reps

### **WHEN TO ADVANCE**

- When you can perform 3 set of 15 reps

### **AVOID**

- Losing balance or posture (neutral spine)
- Landing heavy or losing hip and knee control



### **15.3) LEVEL 3: SINGLE HOP 100 UPS**

#### **BENEFIT**

Improves the lower limb movement mechanics with both force generation and landing. 100 ups further challenge coordination and lower limb strength, power and stability.

#### **DESCRIPTION**

- A. Standing on 1 foot with opposite hip flexed to 90 degrees
- B. Hop to opposite leg landing softly and maintaining hip and knee alignment and quickly repeat

#### **REPETITIONS**

- Work up to 3 sets of 100 reps

#### **YOU ARE ADVANCED**

- When you can perform 3 set of 100 reps

#### **AVOID**

- Losing balance or posture (neutral spine)
- Landing heavy or losing hip and knee control



## **PART 3 | STRECHES & FOAM ROLLER**

- 16.1) LYING EGYPTIAN
- 16.2) THREAD THRU TWIST
- 16.3) ITB FIGURE 4
- 16.4) BULGARIAN QUAD
- 16.5) HERO TO BACK
- 16.6) MODIFIED PIGEON
- 16.7) SITTING PIRIFORMIS
- 16.8) DOWN DOG CALF
- 16.9) FOOT ON WALL CALF
- 16.10) SITTING REACH
- 16.11) SLUMP NERVE GLIDES
- 16.12) KNEELING LUNGE ELBOW TOUCH
- 17) FOAM ROLLER MUSCLE RELEASE

**16.1) LYING EGYPTIAN**

- On your back, pull one leg over attempting to touch knee to surface
- Pull bottom ankle back attempting to touch bottom
- Work to bring top shoulder back and down to surface to feel full stretch

**16.2) THREAD THRU TWIST**

- On tummy leg bent up and under while reaching under and across body with opposite arm

**16.3) ITB FIGURE 4**

- Lying on your side pull ankle back until heel to bum
- With opposite heel place on the outside of knee and push to floor

**16.4) BULGARIAN QUAD STRETCH**

- In kneeling position with back foot on chair, straighten through hip and slowly bring your heel to your bum or until stretch is felt

**16.5) HERO TO BACK**

- Sit on your heels with feet pointed away and lean back until resting on elbows (avoid if painful using other stretches to assist in working up to achieving this flexibility)

**16.6) MODIFIED PIGEON STRETCH**

- With one leg bent underneath and across body attempt to bring your nose to your front toes

**16.7) SITTING PIRIFORMIS**

- In sitting position take one leg and place ankle on opposite thigh
- Lean forward as far as you can without rounding lower back – work to get chest on knees

**16.8) DOWN DOG CALF**

- In a down dog position attempt to get the stretching leg knee straight with heel flat on ground or as far as you can until stretch is felt

**16.9) FOOT ON WALL CALF**

- Place your toes on a wall with heel on ground and attempt to get your knee to the wall without foot sliding down (best with shoes on for grip)

**16.10) SITTING REACH**

- Sitting on the floor with legs straight, reach forward attempting to get your wrist creases to your toes or until stretch is felt.

**16.11) SLUMP NERVE GLIDES**

- In a long sitting position with knees slightly bent, chest to knees and chin to chest. Straighten one leg with toes pointed up until stretch is felt then return and do the other alternating back and fourth.

**16.12) KNEELING LUNGE ELBOW TOUCH**

- In a lunge position lean forward and attempt to slide your elbow down the inside ankle until touching the ground or until stretch is felt

**\* IT IS IMPORTANT ALL STRETCHES CAUSE NO PAIN, HOLD FOR 30-60 SECONDS**

\* Hold-type stretching exercises are best done after exercising or sufficient warm-up. Part 1 warm-up exercises can also be done first to help increase or maintain joint and soft tissue mobility prior to static stretches.

**PART 3: STRETCHING**

16.1) LYING EGYPTIAN



16.2) THREAD THRU TWSIT



16.3) ITB FIGURE 4



16.4) BULGARIAN QUAD



16.5) HERO TO BACK



16.6) MODIFIED PIGEON



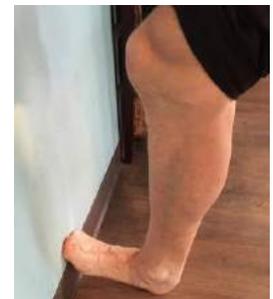
16.7) SITTING PIRIFORMIS



16.8) DOWN DOG CALF



16.9) FOOT ON WALL CALF



16.10) SITTING REACH



16.11) SLUMP NERVE GLIDES



16.12) KNEELING LUNGE ELBOW TOUCH



## 17.) FOAM ROLLER MUSCLE RELEASE

### *DESCRIPTION*

- With all 10 exercises, find tight/tender muscles and gently roll back and forth to release
- 1 set for 30-60 seconds

**PART 3: FOAM ROLLER MUSCLE RELEASE**

CALF



SHIN



ADDUCTORS



IT BAND



QUAD



PIRIFORMIS



HAMI



GLUTE



BACK



NECK



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## **APPENDIX**

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### **COMMONLY ASKED QUESTIONS:**

#### **WHAT IS THE RUNRAD?**

The RUNRAD is a supplemental training program that aims to reduce the most common injuries in running.

#### **WHO DEVELOPED THE RUNRAD?**

The RUNRAD was developed by the Clinic directors at BACK IN ACTION PHYSIOTHERAPY: BIANCA MATHESON, THERESE LEIGH & MIKE CONWAY based on their extensive experience working with all levels of riders.

#### **WHY USE THE RUNRAD?**

This is a simple but effective manual of exercises that do not require equipment to perform. It is a general running exercise program designed with different levels of intensity, which effectively train several aspects of the body. It includes a warm-up, which should be part of everyone's routine prior to running. There is good clinical and scientific evidence to support the efficacy of the selected exercises in the goal of injury reduction.

#### **WHO SHOULD DO THE RUNRAD?**

The RUNRAD is specifically designed for amateur and recreational athletes and for both male and females at all levels of play.

#### **WHEN SHOULD YOU DO THE RUNRAD?**

The RUNRAD should be performed as a warm up prior to running activities (Parts 1). Parts 2 and 3 should be done after participating in running or on days off so as not to overly fatigue muscles required for activity.

#### **HOW OFTEN SHOULD YOU PERFORM THE RUNRAD?**

The RUNRAD should be performed before every biking activity for Part 1 and/or at least 2 times per week with Parts 1-3 if not on the bike.

#### **HOW LONG DOES IT TAKE BEFORE THE RUNRAD HAS AN EFFECT?**

Depending how often people perform the RUNRAD, any where from 6-12 weeks, but doing the warm up even once will activate and limber up your joints and muscles before you run.

#### **WHEN CAN PEOPLE STOP PRACTISING THE RUNRAD?**

As long as people participate in running activities, they should perform the RUNRAD as the effects will diminish once training stops.

### **WHAT ABOUT OTHER PREVENTATIVE MEASURES?**

Other preventative measures are encouraged.

### **CAN THE RUNRAD BE PERFORMED IN ANY ORDER?**

Of course..

### **WHEN SHOULD PEOPLE PROGRESS TO THE NEXT LEVEL?**

People should begin with level 1 and only when they can complete the required sets and repetitions comfortably with good technique should they progression.

## **SUMMARY**

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The RUNRAD is a program to reduce injuries among people that partake in running activities.

The program was developed by the clinical directors of Back In Action Physiotherapy and is based on years of clinical experience working with recreational and elite level riders.

The program should be performed as a standard warm up (Part 1) at the start of every on biking activity. Part 2-3 should be performed after riding activities or on days off, with all 3 parts being performed at least 2-3 times per week for general improvement and/or maintenance.

For all exercises, correct performance is essential.