



# AAi coach

## INTERACTIVE COACHING



## E-coaching Manual

### Injury Prevention





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Page 2  
Foreword



Page 3  
Introduction  
AAi Coach injury prevention

Page 4

Factors that may contribute to injury  
Using AAi Coach injury prevention



Page 5 – Page 8  
Injury prevention level 1

Page 9 – Page 12  
Injury prevention level 2



Page 13 – Page 16  
Injury prevention level 3



Page 17  
Credits and contacts



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## Foreword



This is the second e-coaching manual in the AAi Coach interactive coaching project.

AAi Coach is aimed at developing coaching resources across a range of event groups. This manual is focused on injury prevention and pre-hab. It outlines a number of exercises which can be incorporated into warm-up and training programmes.



This resource has been developed in conjunction with the Sport Ireland Institute. We are indebted to Paul Carragher, Sport Ireland Institute physiotherapist, for his expertise and the Institute for their facilities.

Daniel Kilgallon has again driven the project for Athletics Ireland. Through the continued growth of the AAi Coach interactive coaching resource Daniel works to assist coaches and athletes maximise their potential.



Elizabeth Morland and Kevin McGrath demonstrated the programme. These young athletes have been prominent in international competition in recent years. Elizabeth achieved a national senior record when posting 5th place at the European U20 championships. Kevin has achieved a European title at youth level.



The purpose of the e-coaching manuals is to provide support to coaches. This is a strategic priority for Athletics Ireland. This is achieved by providing easy access to quality coaching material. The guidelines are outlined with video links providing footage of training tips, drills and coaching points. This particular manual includes links to 30 videos which complement the images and text. The interactive nature of the material is aimed at ensuring greater learning.



I hope you find this to be useful and benefit from its application.

Pat Ryan

Director of Coaching & Development

Athletics Ireland





## Introduction



Welcome to AAI Coach, Athletics Ireland's interactive coaching resource. AAI Coach e-coaching manuals provide event specific information and coaching theory together with practical coaching videos.



While complementing Athletics Ireland's coach education pathway, AAI Coach offers new and existing coaches throughout Ireland the opportunity to upskill and learn about specific event areas in the comfort of their homes and clubs.

AAi Coach e-coaching manuals are easy to navigate and accessible through PC, laptop and hand held devices



## AAi Coach Injury Prevention

This AAI Coach e-coaching manual will focus on injury prevention.

In track & field, consistency in training is one of the main factors in determining the success of an athlete's season. One of the biggest barriers to achieving consistency in training is injury.



This injury prevention programme was developed by the Sport Ireland Institute to help reduce the risk of injury in track & field athletes from the ages of 14 through to senior grade.

The programme has been adapted from the FIFA 11+ Warm Up which has been shown to reduce injuries in soccer players by up to 50%.



Athletics Ireland has worked closely with the Sport Ireland Institute to develop AAI Coach injury prevention.

We at Athletics Ireland envisage clubs and schools throughout Ireland will find AAI Coach injury prevention beneficial and that coaches will actively promote the exercises outlined and demonstrated.

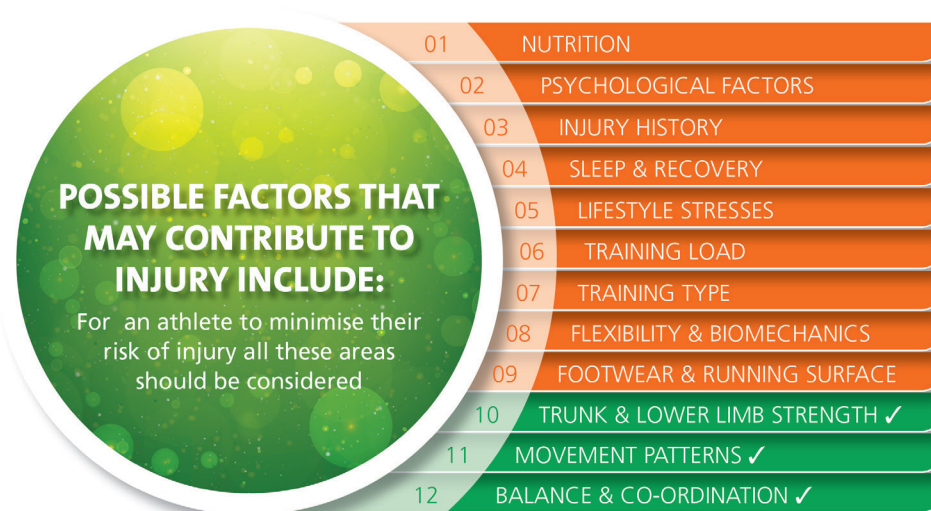


## Factors That May Contribute to Injury

Injury prevention programmes have been proven to be effective in reducing injury rates across a number of sports.

This is achieved by increasing trunk and lower limb strength, improving movement patterns and optimising balance & co-ordination.

It must also be remembered that a combination of factors may contribute to injury.



## Using AAI Coach Injury Prevention

The exercises in this AAI Coach injury prevention programme have been selected specifically to meet the demands of track & field athletes.

The programme should be completed 3 times per week as part of a warm up which should also include technical drills. The programme has 3 levels:

- ✓ Level 1 – Beginner
- ✓ Level 2 – Intermediate
- ✓ Level 3 – Advanced

Athletes using this programme should start each exercise at Level 1 and only progress to the next level when they can perform the exercise comfortably and with good technique.





## Level 1 Beginner



Click the PLAY icons 1-10 to access videos of each of the level 1 exercises.





## 1. GLUTES - Theraband Clam PLAY 1

- ✓ The arm is extended out parallel to the ground and the hand is open with the thumb pointing down.
- ✓ Side lying with knee bent.
- ✓ Miniband around knees.
- ✓ Neutral spine.
- ✓ Raise top knee through full range and then lower.
- ✓ Keep feet together.
- ✓ 10 repetitions x 2 sets.



## 2. THE PLANK - Static PLAY 2

- ✓ Starting position: Lie on front.
- ✓ Supported on forearms and feet.
- ✓ Elbows directly under shoulders.
- ✓ Exercise: Lift body up, supported by the forearms.
- ✓ Pull stomach in and hold the position for 20-30 seconds.
- ✓ The body should be in a straight line.
- ✓ Do not to sway or arch the back.
- ✓ 3 sets.



## 3. THE SIDE PLANK - Static PLAY 3

- ✓ Starting position: Lie on side.
- ✓ Knee of lowermost leg bent to 90 degrees.
- ✓ Support upper body by resting on forearm and knee.
- ✓ The elbow of the supporting arm should be directly under shoulder.
- ✓ Exercise: Lift the uppermost leg and hips until your shoulder hip and knee are in a straight line.
- ✓ Hold the position for 20-30 seconds.
- ✓ Take a short break, change sides and repeat.
- ✓ 3 sets on each side.





## 4. HAMSTRINGS - Beginner PLAY 4

- ✓ Starting position: Kneel on a soft surface.
- ✓ A partner is required to hold ankles down firmly.
- ✓ Exercise: Body should be completely straight from the shoulder to the knee throughout the exercise.
- ✓ Lean forward as far as possible, controlling the movement with the hamstrings and your gluteal muscles.
- ✓ When it is no longer possible to hold position gently take the weight of the hands.
- ✓ Fall into a push-up position.
- ✓ Complete a minimum of 3-5 repetitions and/or 60 seconds.
- ✓ 1 set.

## 5. SQUATS - Basic Squat PLAY 5

- ✓ Stand holding light weight to chest.
- ✓ Feet straight and shoulder width apart.
- ✓ Squat until thighs parallel to floor and return.
- ✓ 10 repetitions.

## 6. LUNGES - Split Squat PLAY 6

- ✓ Keep feet parallel and perform lunge from this position.
- ✓ At bottom of lunge maintain good alignment of shoulder, hip & knee of rear leg.
- ✓ 10 repetitions on each leg.

## 7. CALVES - 1 Leg Calf Raise PLAY 7

- ✓ Single leg stance.
- ✓ Use a wall / chair / hurdle for balance.
- ✓ Slight bend in knee.
- ✓ Rise up on toes through full range.
- ✓ 10 repetitions.





## 8. JUMPS - Counter Movement Jump

**PLAY 8**

- ✓ From a semi-squat position jump high in the air.
- ✓ Keep feet hip-width apart.
- ✓ Prevent knees coming together when jumping and landing.
- ✓ 10 repetitions.



## 9. HOPS - Forward Hop and Hold

**PLAY 9**

- ✓ Hop forward landing on a slightly flexed knee with weight on forefoot.
- ✓ Pause on landing and hold for 2 seconds.
- ✓ Upper body and hip should remain aligned.



## 10. MINI PLYOS - Pogos Double Leg

**PLAY 10**

- ✓ Stand tall with feet hip-width apart.
- ✓ Quickly bounce up and down on the balls of feet.
- ✓ Keep legs straight and pull toes up during jump phase.
- ✓ Small jump heights.
- ✓ Minimise ground contact time.
- ✓ 10 repetitions.



Click the PLAY icon below to access the level 1 video play-list.

**PLAY LEVEL 1**



## Level 2

# Intermediate



Click the PLAY icons 1-10 to access videos of each of the level 2 exercises.



## 1. GLUTES - Theraband Abduction

PLAY 1

- ✓ Side lying with legs straight.
- ✓ Miniband around your knees.
- ✓ Neutral spine.
- ✓ Raise top leg through full range and then lower.
- ✓ 10 repetitions x 2 sets.



## 2. THE PLANK - Alternate Legs

PLAY 2

- ✓ Starting position: Lie on front.
- ✓ Supported on forearms and feet.
- ✓ Elbows directly under shoulders.
- ✓ Exercise: Lift body up, supported by the forearms.
- ✓ Pull stomach in.
- ✓ Lift each leg in turn, holding for a count of 2 seconds.
- ✓ Continue for 40-60 seconds.
- ✓ Body should be in a straight line.
- ✓ Try not to sway or arch the back.
- ✓ 3 sets.



## 3. THE SIDE PLANK - Raise and Lower Hip

PLAY 3

- ✓ Starting position: Lie on side with both legs straight.
- ✓ Lean on the forearm and the side of the foot
- ✓ Ensure the body is in a straight line from shoulder to foot.
- ✓ The elbow of the supporting arm should be directly beneath the shoulder.
- ✓ Exercise: Lower your hip to the ground and raise it back up again.
- ✓ Repeat for 20-30 seconds.
- ✓ Take a short break, change sides and repeat.
- ✓ 3 sets on each side.





## 4. HAMSTRINGS - Intermediate PLAY 4

- ✓ Starting position: Kneel on a soft surface.
- ✓ A partner is required to hold ankles down firmly.
- ✓ Exercise: Body should be completely straight from the shoulder to the knee throughout the exercise.
- ✓ Lean forward as far as possible, controlling the movement with the hamstrings and gluteal muscles.
- ✓ When it is no longer possible to hold position gently take weight of the hands.
- ✓ Fall into a push-up position.
- ✓ Complete a minimum of 7-10 repetitions and/or 60 seconds.
- ✓ 1 set.

## 5. SQUATS - Prisoner Squat PLAY 5

- ✓ Stand with hands on head.
- ✓ Feet straight and shoulder-width apart.
- ✓ Squat until thighs parallel to floor and return.
- ✓ 10 repetitions.

## 6. LUNGES - Walking Lunge PLAY 6

- ✓ Step forward into the lunge position.
- ✓ Keep feet parallel to each other and maintain good alignment.
- ✓ Step forward and repeat with other leg.
- ✓ 10 repetitions on each leg.

## 7. CALVES - 1 Leg Calf Raise PLAY 7

- ✓ Single leg stance.
- ✓ Use a wall / chair / hurdle for balance.
- ✓ Slight bend in knee.
- ✓ Rise up on toes through full range.
- ✓ 15 repetitions.



## 8. JUMPS - Lane Jumps PLAY 8

- ✓ From a semi-squat position jump high in the air landing in the next lane.
- ✓ Keep feet hip-width apart.
- ✓ Prevent knees coming together when jumping and landing.
- ✓ 10 repetitions.



## 9. HOPS - Lateral Hop and Hold PLAY 9

- ✓ Hop sideways landing on a slightly flexed knee with weight on forefoot.
- ✓ Pause on landing and hold x 2 seconds.
- ✓ Upper body and hip should remain aligned.



## 10. MINI PLYOS - Pogos Single Leg PLAY 10

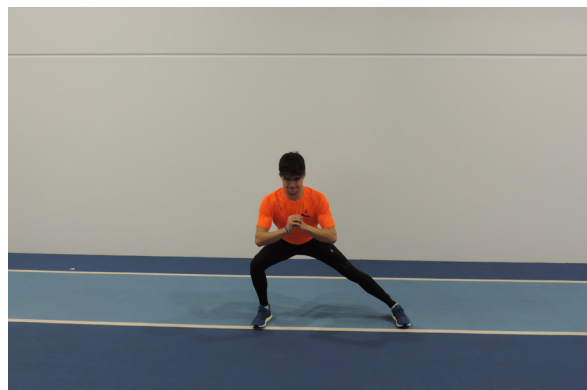
- ✓ Stand tall with feet hip-width apart.
- ✓ Quickly bounce up and down on the balls of feet.
- ✓ Keep legs straight and pull toes up during jump phase.
- ✓ Small jump heights.
- ✓ Minimise ground contact time.
- ✓ 10 repetitions.



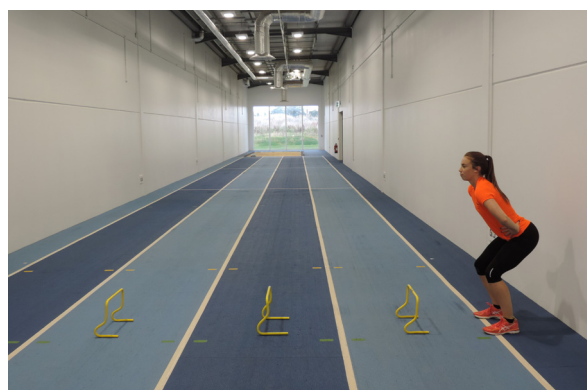
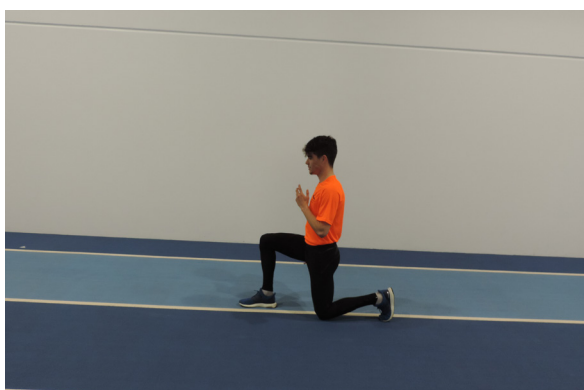
Click the PLAY icon below to access the level 2 video play-list.

**PLAY LEVEL 2**





## Level 3 Advanced



Click the PLAY icons 1-10 to access videos of each of the level 3 exercises.





## 1. GLUTES - Theraband Crab Walks

PLAY 1

- ✓ Side lying with knee bent.
- ✓ Miniband around knees.
- ✓ Lateral steps maintaining good positioning.
- ✓ Avoid knee valgus.
- ✓ 10 repetitions x 2 sets.



## 2. THE PLANK - One Leg Lift and Hold

PLAY 2

- ✓ Starting position: Lie on front.
- ✓ Supported on forearms and feet.
- ✓ Elbows directly under shoulders.
- ✓ Exercise: Lift your body up supported by forearms.
- ✓ Pull the stomach in.
- ✓ Lift one leg about 10-15 centimeters off the ground.
- ✓ Hold the position for 20-30 seconds.
- ✓ The body should be straight.
- ✓ Do not let the opposite hip dip down.
- ✓ Do not sway or arch the lower back.
- ✓ Take a short break, change legs and repeat.
- ✓ 3 sets.



## 3. THE SIDE PLANK - With Leg Lift

PLAY 3

- ✓ Starting position: Lie on side with both legs straight.
- ✓ Lean on the forearm and the side of the foot.
- ✓ Ensure the body is in a straight line from shoulder to foot.
- ✓ The elbow of the supporting arm should be directly beneath the shoulder.
- ✓ Exercise: Lift the uppermost leg up and slowly lower it down again.
- ✓ Repeat for 20-30 seconds.
- ✓ Take a short break, change sides and repeat.
- ✓ 3 sets on each side.





## 4. HAMSTRINGS - Advanced PLAY 4

- ✓ Starting position: Kneel on a soft surface.
- ✓ A partner is required to hold ankles down firmly.
- ✓ Exercise: Body should be completely straight from the shoulder to the knee throughout the exercise.
- ✓ Lean forward as far as possible, controlling the movement with the hamstrings and gluteal muscles.
- ✓ When it is no longer possible to hold position gently take weight of the hands.
- ✓ Fall into a push-up position.
- ✓ Complete a minimum of 12-15 repetitions and/or 60 seconds.
- ✓ 1 set.

## 5. SQUATS - Over Head Squat PLAY 5

- ✓ Stand holding stick or med ball over head.
- ✓ Feet straight and shoulder-width apart.
- ✓ Squat until thighs parallel to floor and return.
- ✓ 10 repetitions.

## 6. LUNGES - 3 Point Lunge PLAY 6

- ✓ Stand with feet shoulder-width apart.
- ✓ Step forward into forward lunge and then return.
- ✓ Step sideways into side lunge and then return.
- ✓ Step backwards into reverse lunge and then return.
- ✓ Maintain good alignment throughout.
- ✓ 4 repetitions on each leg.

## 7. CALVES - 1 Leg Calf Raise PLAY 7

- ✓ Single leg stance.
- ✓ Use a wall / chair / hurdle for balance.
- ✓ Slight bend in knee.
- ✓ Rise up on toes through full range.
- ✓ 20 repetitions.



## 8. JUMPS - Lane Jumps with Hurdles

[PLAY 8](#)

- ✓ From a semi-squat position jump high in the air landing in the next lane.
- ✓ Keep feet hip-width apart.
- ✓ Prevent knees coming together when jumping and landing.
- ✓ 10 repetitions.



## 9. HOPS - Diagonal Hop and Hold

[PLAY 9](#)

- ✓ Hop diagonally landing on a slightly flexed knee with weight on forefoot.
- ✓ Pause on landing and hold x 2 seconds.
- ✓ Upper body and hip should remain aligned.



## 10. MINI PLYOS - Pogos Left, Left, Right, Right Combos

[PLAY 10](#)

- ✓ Stand tall with feet hip-width apart.
- ✓ Quickly bounce up and down on the balls of feet.
- ✓ Keep legs straight and pull toes up during jump phase.
- ✓ Small jump heights.
- ✓ Minimise ground contact time.
- ✓ 10 repetitions.



Click the PLAY icon below to access the level 3 video play-list.

[PLAY LEVEL 3](#)

## Credits and Contacts

Athlete Demonstrators: Elizabeth Morland and Kevin McGrath



Click the green text below to access contact details.

**AAi Coach injury prevention:**

[Paul Carragher](#)

[Daniel Kilgallon](#)

**Video voice-over:** [David Gillick](#)

**Video production:** [nTrai](#)

**AAi Coach logo and e-manual design:** [Ian Finnerty](#)

**Videos recorded on location:** [Sport Ireland Institute](#)

[AAi Coach YouTube channel can be accessed here - AAi Coach](#)

**AAi Coach concept:** [Daniel Kilgallon 2017](#)

[Download AAi Coach e-manuals here - AAi Coach](#)



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