



Down to Earth

A practical guide to safe and effective landing in Netball



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SCHOOL OF HUMAN MOVEMENT AND SPORT SCIENCES

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This booklet is designed to demonstrate a progression of exercises over a six-week period to enhance the capability of players to land safely and effectively during game and training situations.

We make a large assumption in coaching because we presume our players know how to land correctly.

A safe and effective landing technique will reduce the chance of both ankle and knee injuries by helping to reduce the forces experienced by the body during the landing task.

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Where did the program come from?

The program detailed in this booklet outlines a training program devised by researchers at the School of Human Movement and Sport Sciences (University of Ballarat), based on the best available research findings from around the world. The program has been specifically adapted for netball as most of the programs sourced from research have been from sports such as basketball, soccer and European handball.

Why do the program?

There is growing evidence that how we land may increase the risk of injuries such as tears to the Anterior Cruciate ligament (ACL) in the knee. An effort by coaches to constantly emphasise a safer landing technique during training will hopefully lead to that technique being used automatically in a game and subsequently a reduction in injury rates.

What is contained in this booklet?

- > Suggested warm-up activities to warm-up the body's balance system;
- > A six-week program for coaches to implement in their normal training routines;
- > A home based program that coaches may ask their players to do in conjunction with the six-week program.

Your role as the coach

In order to alter technique it will require a good deal of feedback on your part. In the booklet we have provided guidelines for safe and effective landings which you should familiarise yourself with, before starting the program. As each session progresses, the amount of feedback you should give is suggested. It is important that feedback is reduced as the program progresses so that players are not totally dependent on your feedback. It is better that they get the "feel" of a correct landing and can correct their technique themselves towards the end of the program. Please follow the suggested feedback schedule provided for best results.

How often should the whole program be repeated?

It is important that the coaching of safe and effective landing techniques be part of every training session. You may choose to repeat the six-week program as often as you like. However, as players become more proficient at using a good technique, the amount of feedback given should be reduced. At this time, it may be appropriate to just have refresher sessions every three to four weeks and review players' landing technique. It may also be a good idea, at the beginning of each season, to run the six-week program again.

Acknowledgement

This resource has been funded by Sport and Recreation Victoria, Department for Victorian Communities.

Disclaimer

Information contained within this brochure is for the purpose of raising awareness in respect of correct landing techniques in netball. It is not intended as advice and persons should determine for themselves the suitability of any exercises or seek medical advice. The University of Ballarat shall not be liable for any damage (whether personal or property), liability, costs, loss of profits or consequential loss arising from any person attempting the exercises contained in this booklet.

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Our balance system allows us to adapt to different stresses we encounter during games. It is suggested that as well as a general body warm-up that we warm-up the balance system as well. We have included a series of exercises that can be used during any warm-up to ensure players are totally ready for the game or training. You will only need to choose two or three of these exercises each session.

The exercises are graded from easiest (1) to hardest (6). Coaches are encouraged to devise their own drills once the essential principles have been established.

Each exercise only requires about 60 seconds to complete.

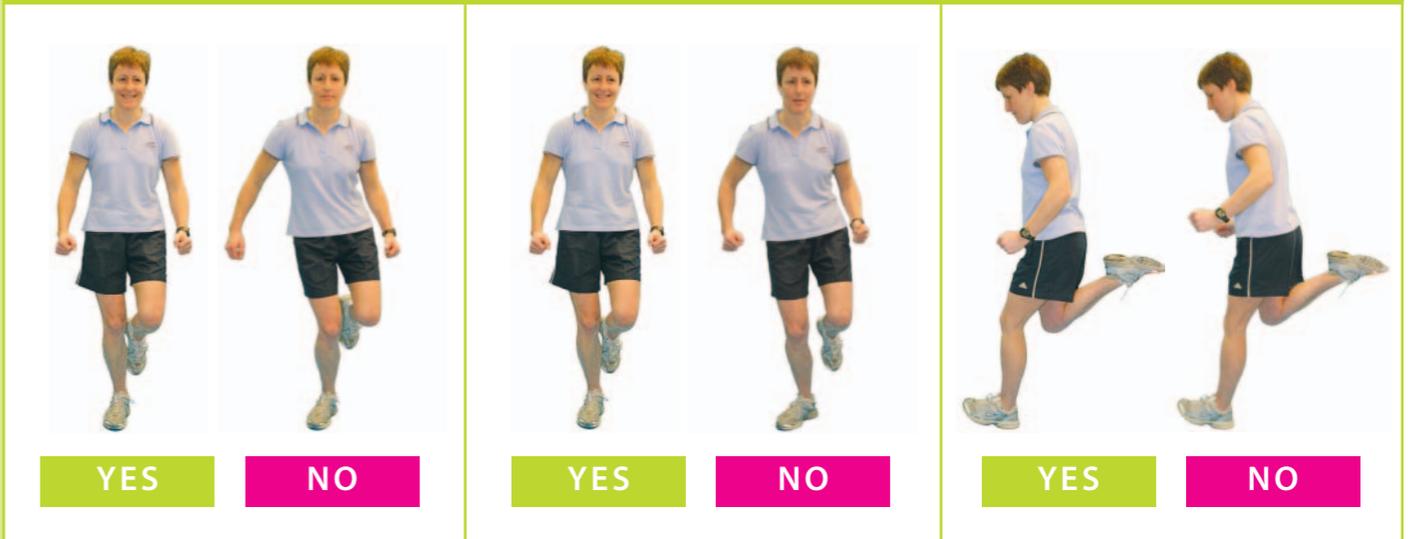
1. Stand on a line on one leg looking straight ahead for 15 seconds. Repeat this on the opposite leg. Then perform this exercise with your eyes closed. Try and maintain balance at all times.
2. Stand on one leg looking straight ahead. Bend down to touch the outside of the knee you are standing on and return to standing position. Repeat this five times on each leg and repeat the whole exercise twice. Keep your back as straight as possible when doing this exercise.
3. Stand on one leg side-on to a wall or another player (approximately one arm's length from the wall or player). Move out another 10 cms from the wall or player. Watching straight ahead, slowly move to touch the wall or player with your hand and then return to your original position. Repeat this five times on each leg. Repeat the whole exercise twice on each leg.
4. In pairs – quick chest passes directed at the body while they stand on one leg. Change legs every five passes during the 60-second period.
5. In pairs – quick one handed passes directed to the same side as the leg they are balancing on (so they are a little off balance). Change legs every five passes during the 60-second period. Start the pass close to the side of the body and after each set of ten passes, direct the pass further away from the body.
6. Stand on a line on one leg. Slowly raise your body up and down on your toes five times on each leg, then progress to small jumps or hops (5 cm) and do five on each leg, then to a 15 cm jump. Use landing technique suggested throughout this booklet. Try and remain on the line the whole time.

GUIDELINES FOR SAFE AND EFFECTIVE LANDING

1. Control the HIP and the KNEE when landing. **DO NOT** allow the hip and knee to swing inward or outward on landing.

2. Keep the knee and toe direction the same.

3. Ensure a 'soft' and slightly bent knee on landing.



1. Feedback

These guidelines form the basis of the feedback schedule. Reinforce these guidelines as directed throughout the training program.

2. Rest

Rest occurs at the end of each set.

3. Modifications for Team Training

A number of these exercises/drills can be modified to work in pairs.

4. Leap land

Leaping off one leg and landing on the other leg.

1. Standing on both feet, jump and land



2 x 10 repetitions
30s rest
feedback between sets

2. 2 feet jump, 1 foot land



2 x 10 repetitions for each leg
30s rest
feedback between sets

3. Stationary lunge

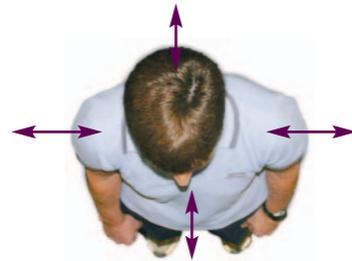
Starting position as per photo 1.
Slowly drop the rear knee to assume a lunge position.
Both knees should be at 90° at the lowest point of the exercise.



2 x 10 repetitions for each leg
30s rest
feedback between sets

4. 2 feet jump and land NSEW*

Stand on the spot with both feet.
Jump forward, then back to where you started.
Then jump to the right and return to the start.
Repeat this jumping backwards and then to the left.



2 x 5 NSEW cycles
30s rest
feedback between sets

5. 2 feet jump and land with ball

Pass and catch a ball while performing a 2 feet jump and land.



2 x 10 repetitions
30s rest
feedback between sets

6. 2 feet jump, 1 foot land with ball

Pass and catch a ball while performing a 2 feet jump, 1 foot land.



2 x 10 repetitions for each leg
30s rest
feedback between sets

1. 2 feet jump, 1 foot land with ball

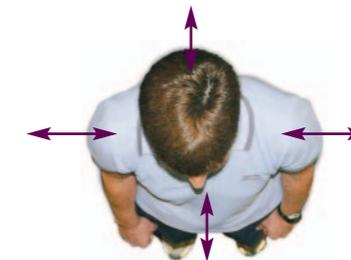
Pass and catch a ball while performing a 2 feet jump, 1 foot land.



2 x 10 repetitions for each leg
30s rest
feedback between sets

2. 2 feet jump and land NSEW

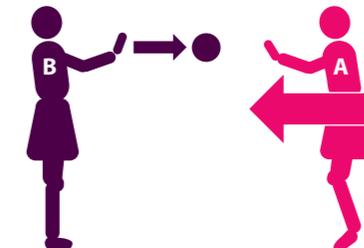
Stand on the spot with both feet.
Jump forward, then back to where you started.
Then jump to the right and return to the start.
Repeat this jumping backwards and then to the left.



2 x 5 NSEW cycles
30s rest
feedback between sets

3. Run up and land while catching a ball in the air

Player A runs towards player B. Player B passes the ball. Player A catches the ball whilst executing a leap land.



3 x 8 repetitions for each leg
30s rest
feedback between sets

4. 2 feet jump and 2 feet land with rotation

Starting on both feet, jump and rotate 90° in the air and land on both feet. Repeat this until you complete 2 full cycles.



2 x 2 cycles
30s rest
feedback between sets

5. Walking lunges

Step forward and lunge. Push off back leg and step through to another lunge. Repeat this for two-thirds of the court.



2 x two-thirds of the court
30s rest
feedback between sets

6. 2 feet jump, 1 foot land with rotation

Start on both feet, jump and rotate 90° in the air and land on one foot. Place other foot down and repeat this until you complete 2 full cycles.



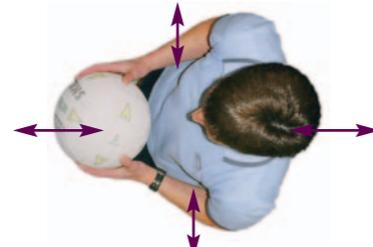
2 x 2 cycles for each leg
30s rest
feedback between sets

*NSEW (north, south, east, west) has been used to describe a sequence that would involve jumping forward, backward, left and right in a pattern defined in each exercise.



1. 2 feet jump and land NSEW with ball

Pass the ball back and forth to a wall or another player while performing the jumping and landing sequence.

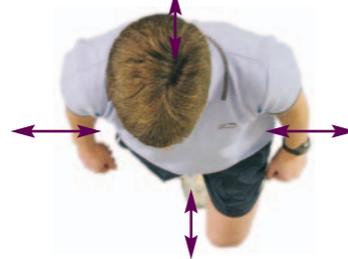


2 x 5 NSEW cycles

30s rest

feedback between each exercise

2. Hop NSEW



2 x 2 cycles for each leg

30s rest

feedback between each exercise

3. Run up, land, pivot – pass behind to known player

Player A runs towards player B.
Player B passes the ball.

Player A catches the ball whilst executing a leap land. Player A pivots and passes to Player C.



2 x 8 repetitions for each leg

30s rest between sets only

feedback between each exercise

4. Step lunge

Start with feet together, step forward and lunge. Push off front foot back to original standing position. Repeat with opposite leg.



2 x 10 repetitions for each leg

30s rest

feedback between each exercise

5. Quick feet and lunge

Perform 3 quick steps on the spot followed by a lunge. Push off front foot back to original standing position. Repeat with opposite leg.



2 x 10 repetitions for each leg

30s rest

feedback between each exercise

1. Step lunge with ball

Start with feet together, step forward and lunge while passing a ball back and forth to a wall or another player. Push off front foot back to original standing position. Repeat with opposite leg.



2 x 5 repetitions for each leg

30s rest

feedback between each exercise

2. Quick feet and lunge with ball

Perform 3 quick steps on the spot followed by a lunge. Pass a ball back and forth to a wall or another player as you step into the lunge. Push off front foot back to original standing position. Repeat with opposite leg.



2 x 5 repetitions for each leg

30s rest

feedback between each exercise

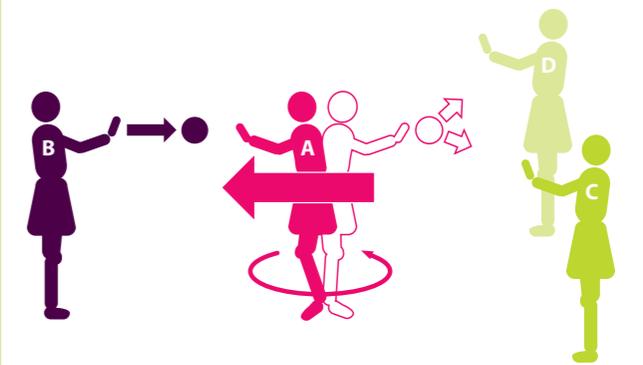
3. Run up, land, pivot – pass behind to UNKnown player

Player A runs towards player B.
Player B passes the ball.

Player A catches the ball whilst executing a leap land.

Player A pivots and passes to Player C or D.

As Player A lands, Player B calls out which player, C or D, to pass to.



3 x 8 repetitions for each leg

30s rest between sets only

feedback between each exercise

4. Quick feet and side step

Perform 3 quick steps on the spot followed by a side lunge. Push off back to original standing position. Repeat with opposite leg.



2 x 10 repetitions for each leg

30s rest

feedback between each exercise



1. Quick feet and lunge with ball

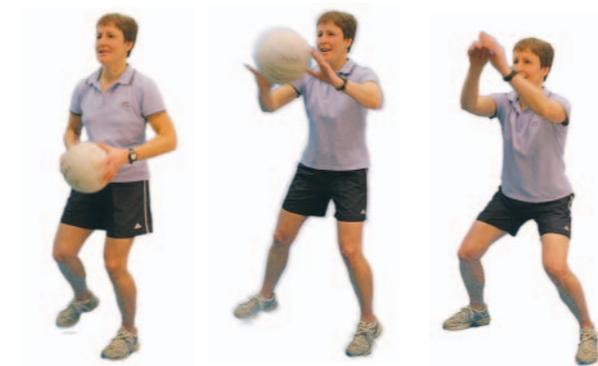
Perform 3 quick steps on the spot followed by a lunge. Pass a ball back and forth to a wall or another player as you step into the lunge. Push off front foot back to original standing position. Repeat with opposite leg.



2 x 5 repetitions for each leg
30s rest

2. Quick feet and side step with ball

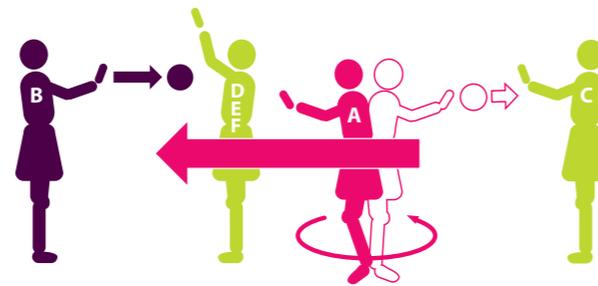
Perform 3 quick steps on the spot followed by a side lunge, while passing a ball. Push off back to original standing position. Repeat with opposite leg.



2 x 10 repetitions for each leg
30s rest
feedback after this exercise only

3. Break from a defender (DEF), run up, land, pivot – pass behind to known player

Player A breaks from a defender and runs towards player B. Player B passes the ball. Player A catches the ball whilst executing a leap land. Player A pivots and passes to Player C.



3 x 8 repetitions for each leg
30s rest

4. Jump lunge/land

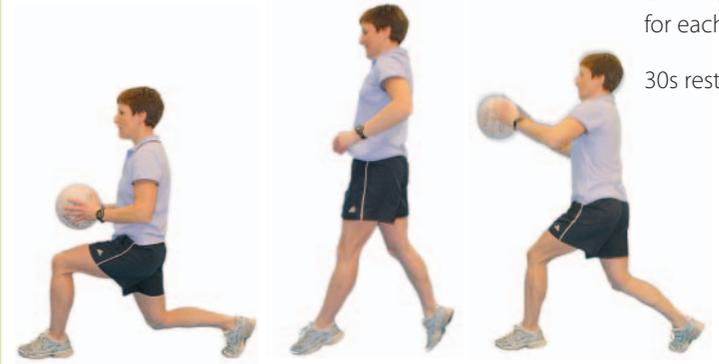
Start in a lunge position with the RIGHT leg forward. Jump and change legs in the air. Land in a lunge position with the LEFT leg forward. Repeat with LEFT leg forward.



2 x 5 repetitions with each leg starting forward
30s rest

1. Jump lunge/land with ball

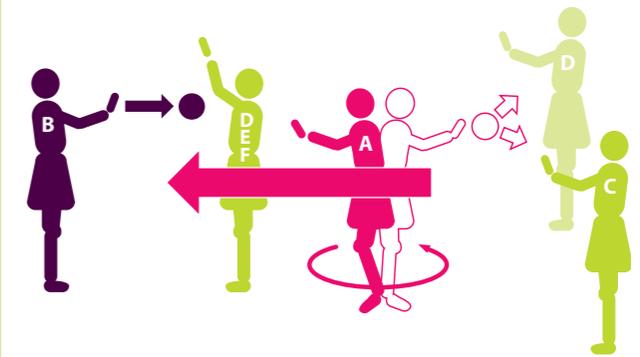
Start in a lunge position with the RIGHT leg forward. Jump and change legs in the air while passing a ball. Land in a lunge position with the LEFT leg forward. Repeat with LEFT leg forward.



2 x 5 repetitions for each leg
30s rest

2. Break from a defender (DEF), run up, land, pivot – pass behind to UNKNOWN player

Player A breaks from a DEF and runs towards player B. Player B passes the ball. Player A catches the ball whilst executing a leap land. Player A pivots and passes to Player C or D. As Player A lands, Player B calls out which player, C or D, to pass to.



3 x 8 repetitions for each leg
30s rest
feedback after this exercise only

3. Moving jump lunge/land

Start in a lunge position with the RIGHT leg forward. Jump and change legs in the air while moving forward. Land in a lunge position with the LEFT leg forward. Repeat with LEFT leg forward.



2 x 1/2 court for each leg
30s rest

4. Hop – NSEW



2 x 3 NSEW cycles
30s rest



GUIDELINES FOR SAFE AND EFFECTIVE LANDING

- 1. Control the HIP and the KNEE when landing. **DO NOT** allow the hip and knee to swing inward or outward on landing.
- 2. Keep the knee and toe direction the same.
- 3. Ensure a 'soft' and slightly bent knee on landing.



YES NO



YES NO



YES NO

To observe your technique you could:

- a) do exercises in front of a mirror
- b) use another person to provide feedback



EXERCISE 1:

Standing on both feet, jump and land.
Repeat 10 times.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3

EXERCISE 2:

Starting on both feet, jump and land on ONE foot
Repeat 10 times on each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 3:

Starting position — as per photo 1.
Slowly drop the rear knee to assume a lunge position.
Both knees should be at 90° at the lowest point of the exercise.

Return to starting position and repeat lunge 10 times with each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 4:

Stand on a spot with both feet.
Jump forward, then back to where you started.
Jump to the right, then back to where you started.
Jump backward, then back to where you started.
Jump to the left, then back to where you started.

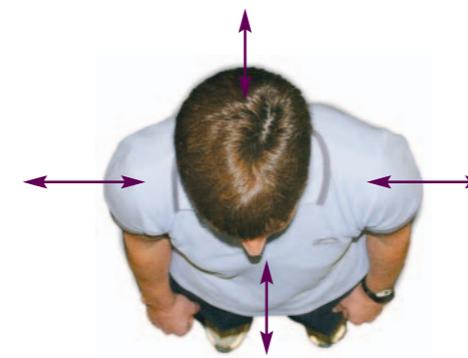
Repeat this so that you complete 5 full cycles.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



GUIDELINES FOR SAFE AND EFFECTIVE LANDING

1. Control the HIP and the KNEE when landing. DO NOT allow the hip and knee to swing inward or outward on landing.

2. Keep the knee and toe direction the same.

3. Ensure a 'soft' and slightly bent knee on landing.



YES

NO



YES

NO



YES

NO



EXERCISE 1:

Standing on both feet, jump and land on both feet, whilst throwing a ball against a wall.

Repeat 10 times.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 2:

Starting on both feet, jump and land on ONE foot whilst throwing a ball against a wall.

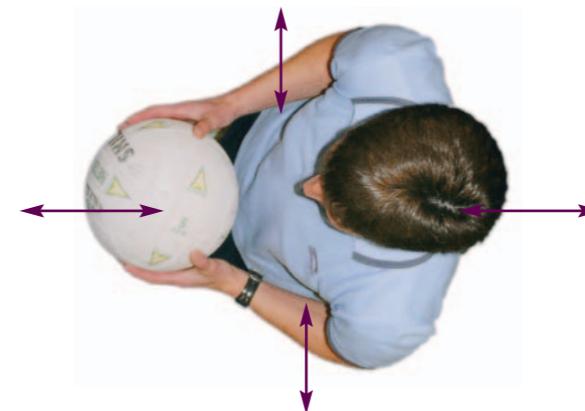
Repeat 10 times on each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 3:

Stand on a spot with both feet whilst passing a ball to a wall. Jump forward, then back to where you started. Jump to the right, then back to where you started. Jump backward, then back to where you started. Jump to the left, then back to where you started.

Repeat this so that you complete 5 full cycles

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 4:

Starting on both feet, jump and rotate 90° in the air and land on both feet.

Repeat this so that you complete 2 full circles.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3

GUIDELINES FOR SAFE AND EFFECTIVE LANDING

1. Control the HIP and the KNEE when landing. DO NOT allow the hip and knee to swing inward or outward on landing.

2. Keep the knee and toe direction the same.

3. Ensure a 'soft' and slightly bent knee on landing.



YES

NO



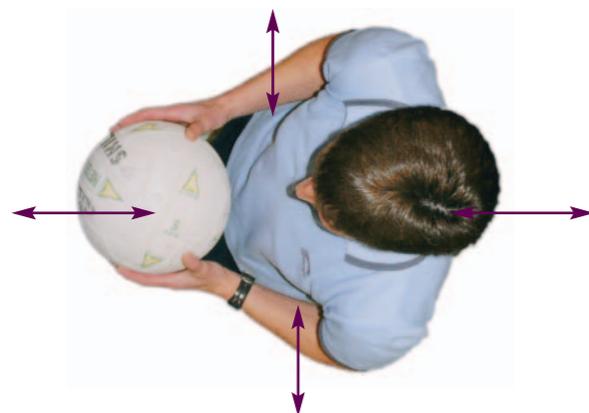
YES

NO



YES

NO



EXERCISE 1:

Stand on a spot with both feet whilst passing a ball to a wall.
Jump forward, then back to where you started.
Jump to the right, then back to where you started.
Jump backward, then back to where you started.
Jump to the left, then back to where you started.

Repeat this so that you complete 5 full cycles.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3

EXERCISE 2:

Starting on both feet, jump and rotate 90° in the air and land on one foot.

Repeat this so that you complete 2 full circles. Complete 2 full circles for each leg, rotating in both directions.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 3:

Starting in a standing position. Step forward, Slowly dropping the rear knee to assume a lunge position. Both knees should be at 90° at the lowest point of the exercise.

Return to starting position and repeat lunge 5 times with each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 4:

Start in a standing position. Perform 3 quick steps on the spot, followed by a lunge. Return to standing and repeat this 5 times on each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



GUIDELINES FOR SAFE AND EFFECTIVE LANDING

1. Control the HIP and the KNEE when landing. DO NOT allow the hip and knee to swing inward or outward on landing.

2. Keep the knee and toe direction the same.

3. Ensure a 'soft' and slightly bent knee on landing.



YES

NO



YES

NO



YES

NO



EXERCISE 1:

Start upright, step forward into lunge position whilst passing a ball.

Push off front leg back to upright position and repeat with opposite leg.

Repeat 5 times for each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 2:

Similar to exercise 1, however rather than starting from a stationary position, perform 3 small and quick steps on the spot, then drop forward into lunge position whilst passing a ball.

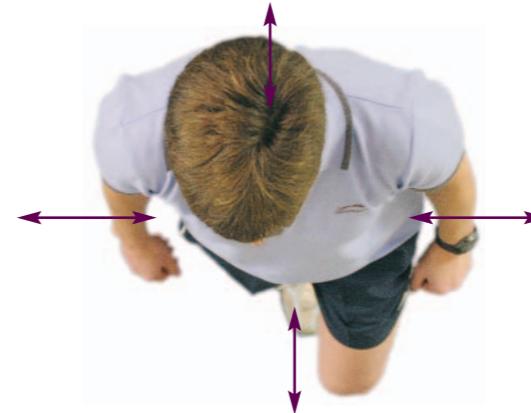
Using the front leg, quickly push back up to upright position and repeat with opposite leg. Repeat until 5 lunges have been performed with each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 3:

Stand on a spot with ONE foot. Hop forward, then back to where you started. Hop to the right, then back to where you started. Hop backward, then back to where you started. Hop to the left, then back to where you started.

Repeat this so that you complete 2 full cycles.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 4:

Start in an upright position. Perform 3 quick steps on the spot, followed by a side lunge. Return to standing and repeat this 10 times on each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3

GUIDELINES FOR SAFE AND EFFECTIVE LANDING

1. Control the HIP and the KNEE when landing. DO NOT allow the hip and knee to swing inward or outward on landing.

2. Keep the knee and toe direction the same.

3. Ensure a 'soft' and slightly bent knee on landing.



YES

NO



YES

NO



YES

NO



EXERCISE 1:

Perform 3 small and quick steps on the spot, then drop forward into lunge position whilst passing a ball.

Using the front leg, quickly push back up to upright position and repeat with opposite leg. Repeat until 5 lunges have been performed with each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 2:

Start in an upright position. Perform 3 quick steps on the spot, followed by a side lunge, whilst passing a ball. Return to standing and repeat this 10 times on each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 3:

Stand on a spot with ONE foot. Hop forward, then back to where you started. Hop to the right, then back to where you started. Hop backward, then back to where you started. Hop to the left, then back to where you started.

Repeat this so that you complete 2 full cycles.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 4:

Start in a lunge position with the RIGHT leg forward. Jump and change legs in the air. Land in a lunge position with the LEFT leg forward. Return to standing and repeat this 5 times on each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3

GUIDELINES FOR SAFE AND EFFECTIVE LANDING

1. Control the HIP and the KNEE when landing. DO NOT allow the hip and knee to swing inward or outward on landing.

2. Keep the knee and toe direction the same.

3. Ensure a 'soft' and slightly bent knee on landing.



YES

NO



YES

NO



YES

NO



EXERCISE 1:

Start in a lunge position with the RIGHT leg forward. Jump and change legs in the air, whilst passing a ball. Land in a lunge position with the LEFT leg forward.

Repeat this 5 times on each leg.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 2:

Starting on ONE foot, hop and rotate 90° in the air, landing on ONE foot.

Repeat this so that you complete 3 full circles.

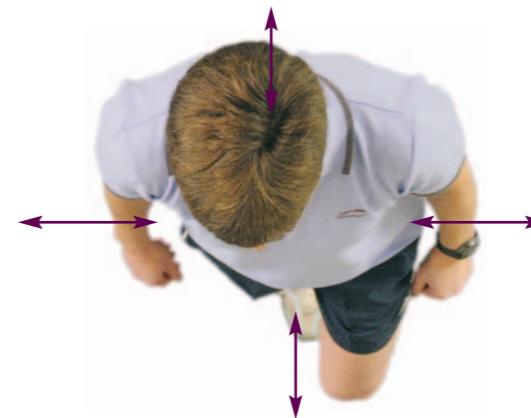
Complete 3 full circles for each leg, rotating in both directions.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



EXERCISE 3:

Stand on a spot with ONE foot. Hop forward, then back to where you started. Hop to the right, then back to where you started. Hop backward, then back to where you started. Hop to the left, then back to where you started.

Repeat this so that you complete 2 full cycles.

Step 1 – Complete the exercise

Step 2 – Rest for 30s

Step 3 – Review the GUIDELINES FOR SAFE and EFFECTIVE LANDING

Repeat steps 1, 2 & 3



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