



## The KNEE Program

### Preface :

According to National data, the knee has now surpassed the ankle as the most common injury sustained by Australian netball players. Netball Australia recognises that for players to be physically prepared for their participation in the sport there must be appropriate education and support for both players and coaches. Using the principles of existing Injury Prevention Programs, Netball Australia's KNEE Program has been designed and tailored specifically for netball by Australian Netball Diamonds Head Physiotherapist. Implemented effectively it has the potential to reduce not only ACL incidence by up to 70% but reduce the incidence of lower limb injuries generally.

### About :

The KNEE Program is an on court warm up program designed to enhance movement efficiency and prevent injury.

The program targets three specific player groups - *junior, recreational* and *elite* level athletes, with different exercises tailored to match the predicted capabilities of each group.

The KNEE Program has been designed to educate athletes, coaches and support staff.

### Key Principles :

There are four underpinning principles behind the KNEE Program.

**Good Technique - Take Off**

**Good Technique - Landing**

**Good Technique - Deceleration**

**Good Technique - Change of Direction**

The program targets safe take off and landing technique with specific attention to the overhead arm position. It also conditions the athlete for efficient deceleration and change of direction, equipping players with the skills needed to cope with the specific multi-directional demands of netball.

The success of the program is dependent on commitment from both coach and athlete. As a coach this resource will help you to identify and amend risky movement patterns. As a player it provides a visual reminder of ideal movement. It allows athletes who are participating in multiple teams to be consistently performing the one program.

### How To Use :

The KNEE Program includes a Warm Up, Strength, Balance/Landing, and Agility section.

It is ideal to complete the program before each court work or match play session. The ordering can be changed. For example, the Strength section can be completed before the Warm Up section if that flows better.

The KNEE Program needs to be completed at least twice a week for maximum effectiveness and must be continued for the effects to be maintained.

Not only must the program be continued, it must be done with correct technique to ensure risky movements are eliminated rather than reinforced.

***For more information, go to [perthnetball.com.au/coaching](http://perthnetball.com.au/coaching) and click on the Injury Management - knee program link.***

## NETBALL AUSTRALIA (NA) KNEE PROGRAM

- Each of the activities are shown on video at this web site <https://knee.netball.com.au/junior/>. It will help your coaching, and your players, if you look at all the videos to see how they are done correctly.

### RUNNING ACTIVITIES

#### SIDELINE JOG FORWARDS AND BACKWARDS

##### Starting Position

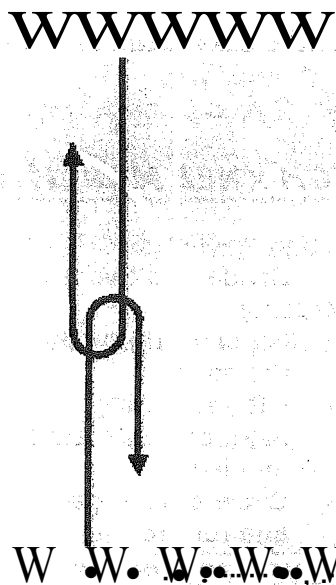
- Divide into two groups along opposite sidelines facing a partner.

##### Instructions

- Jog to the middle of the court.
- Circle around your partner.
- Stay facing same direction and run backwards to starting position.
- Repeat circling partner in opposite direction.
- 2 reps (1 each way).

##### Key Points for all running activities

- Stay tall.
- Eyes up.
- Light feet.
- Swing your arms.
- Ensure trunk remains upright and stable.
- Use opposite arms and legs to drive movement with arms bent at 90° swinging forwards and backwards.
- Ensure short ground contact.
- Bend through hips and knees when shuffling around partner.



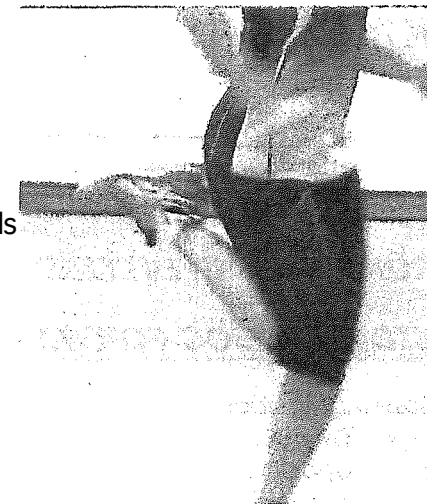
#### BUTT FLICKS FORWARDS AND BACKWARDS

##### Starting Position

- Divide into two groups along opposite sidelines facing partner.

##### Instruction

- While jogging towards middle of the court, kick heels towards buttock.
- Stay tall.
- Circle around your partner.
- Stay facing same direction to run backwards to starting position.
- Repeat circling partner the other way.
- 2 reps (1 each way).



#### HIGH KNEE MARCH AND HIGH KNEE SKIP

##### Starting Position

- Divide into two groups along opposite sidelines facing partner.

##### Instruction

- March to the middle of the court.
- Lift your swing knee high, opposite arms and legs.
- Circle around partner and turn to face direction you have come from.
- Skip back to sideline.
- Push up through toes to spring into the air.
- Lift your swing knee high.
- Repeat circling partner the other way.
- 2 reps (1 each way).



**SIDE SKIPPING**

## Starting Position

- Divide into two groups along opposite sidelines facing side onto partner.

## Instruction

- Sit backwards into a semi squat position.
- Side skip to middle of the court.
- Stay facing the same direction and shuffle around partner before side skipping back to sideline in semi squat position.
- Repeat side skipping circling partner in opposite direction.
- 2 reps (1 each way).

**FORWARD AND BACKWARDS SHUFFLE OVER THE LINE**

## Starting Position

- Divide into two groups along opposite sidelines facing partner.

## Instruction

- Sit backwards into semi squat position.
- Using fast, light feet take two steps forwards and backwards over sideline.
- Use your arms.
- 2 steps forwards.
- 2 steps backwards over sideline.
- 10 reps leading with left leg
- 10 reps leading with right leg.

**STRENGTH****QUADRICEPS 2 x.1.2 reps**

## Starting Position

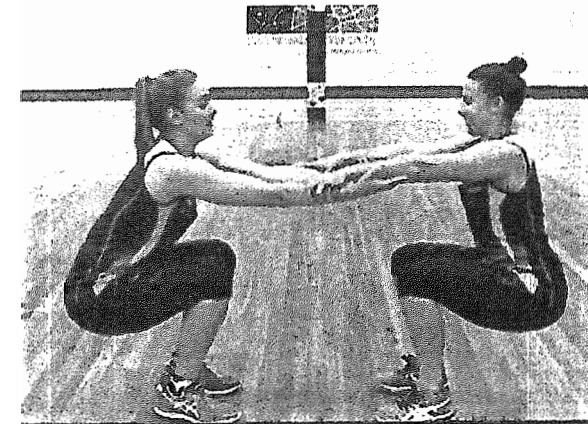
- Standing in pairs about arm's length distance from

## Instruction

- Start in the good technique take off position.
- Grip partner's arms at the wrist.
- Bend through hips and knees to squat backwards sticking buttocks out behind until arms are outstretched in partner's hands.
- Use your leg muscles to straighten up again.

**Key Points**

1. Use their legs as much as possible, only using arm grip for balance.
2. Keep knees wide and feet straight ahead.
3. Ensure knees do not roll in and that knees do NOT come forwards of feet.
4. Watch that lower back remains straight.
5. Do the exercise slowly with control.
6. Encourage athletes to observe partners position and give feedback.

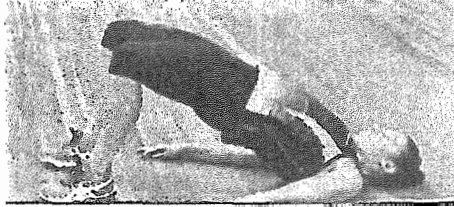


**GL:UJExtt:S,IHAMSTRINGS - BRIDGE 2x12 reps****Starting Position**

- Lying on your back with knees bent and feet flat on the ground pointing straight ahead.
- Arms on the ground beside you.

**Instruction**

- Pull in belly button.
- Tighten buttocks and lift buttocks up.
- Keep hips level.

**Key Points**

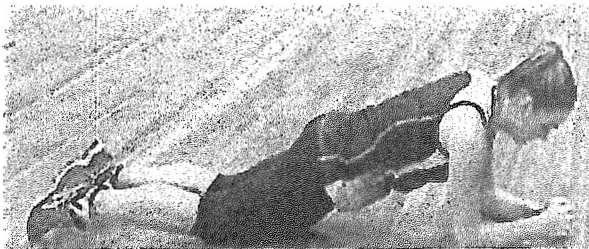
1. Try to make a straight line from knees to shoulders.
2. Keep the movement controlled.
3. Ensure lower back remains straight (do not allow to over arch) and that hips do not twist.
4. Do not rush the exercise.
5. Only once proficient place arms across chest.

**PLANK THROUGH KNEES****Starting Position**

- Face down, leaning through forearms and

**Instruction**

- Pull your belly in.
- Tuck buttocks under.
- Push through forearms and knees to lift your body off floor.
- Keep chest up. Chin tucked in. Back straight.
- Hold 2 x 30 seconds or as long as form is maintained.

**Key Points**

1. Tighten stomach and buttock muscles.
2. Try to form a straight line between knees and shoulders.
3. Stay strong.
4. Keep head in a neutral position (looking straight down and not poked forwards).
5. Shoulder blades are set backwards.
6. Back is flat and buttocks tucked under.
7. Once proficient lean through forearms and toes and ensure technique as above.

**SIDE PLANK THROUGH KNEES****Starting Position**

- Lying on one side with knees bent.
- Upper body leaning through forearm placed directly under shoulder.

**Instruction**

- Push through forearms and knees and use abdominal muscles to lift body up off the floor into a straight position.
- Keep everything aligned.
- Hold 30 seconds each side or as long as you can with good form.

**Key Points**

1. Try to form a straight line between knees and shoulders without rolling forwards or backwards.
2. Stay strong.
3. Ensure head is in a neutral position (looking straight down and not poked forwards).
4. Shoulder blades are set backwards.
5. Back is flat and buttocks tucked under.
6. Once proficient lean through forearms and toes and ensure technique as above.



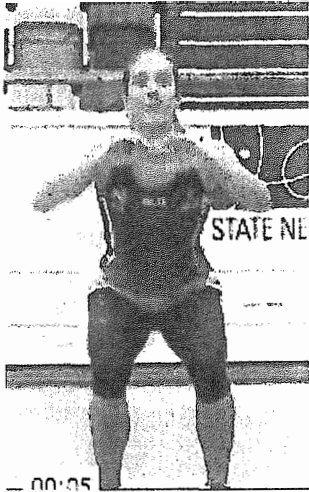
## **JUMP AND LAND TECHNIQUE**

### Starting Position

- Standing on both feet in the good technique take off position.

### Instruction

- ▮ Jump upwards and land in the good technique landing position.



## **DOUBLE LEG ACTIVITIES**

### **FORWARDS AND BACKWARDS+/- BALL**

#### Starting Position

- ▮ Standing on both feet in the good technique take off position.

#### Instruction,

- Jump forwards to land on both feet in good technique landing position with arms overhead, pause for one second.
- ▮ Jump backwards to start position.

## **Ball Alternative**

### Starting Position

- ▮ In pairs facing partner with one ball.

### Instruction

- Start in the good technique take off position.
- Repeat as above, catch a ball on landing in the good technique landing.
- 10 passes each athlete.

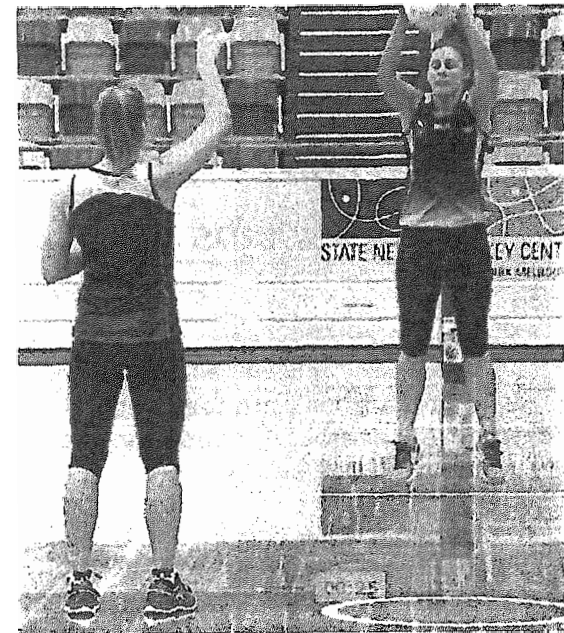
### Key Points

#### Players

1. Sit backwards slightly prior to taking off.
2. Land quietly with knees wide.

#### Coaches

1. Ensure good technique take off and good technique landing position.
2. Once proficient, progress by,
  - (a) increasing the height of the jump and/or
  - (b) reducing the hold time between jumps.



## CROSSES +/- BALL

### Starting Position

- Standing on both feet in the good technique take off

### Instruction

- Start in the middle.
- Double leg jump forwards to land on both feet in good technique landing position with arms overhead, pause for 1 second.
- Jump backwards to the middle.
- Repeat the jump and land to all four points of the cross.
- 2 Reps each direction.

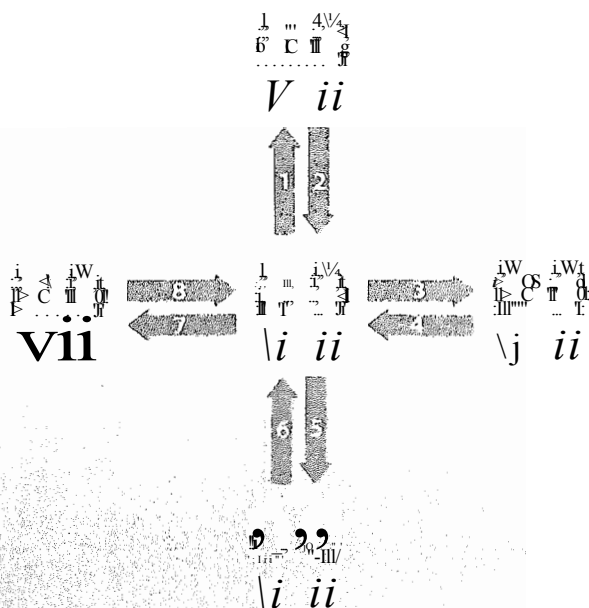
### Ball Alternative

### Starting Position

- In pairs facing partner with one

### Instruction

- Start in the good technique take off position.
- Repeat as above, catch and pass a ball on landing in the good technique landing.



## ROTATE 90° +/- BALL

### Starting Position

- Begin in good technique take off position.

### Instruction

- Jump off both feet turning 90° to right.
- Land in good technique landing position with arms overhead.
- Pause one second.
- Return to starting position.
- Repeat to left.
- 5 jumps each direction.

### Ball Alternative

### Starting Position

- In pairs facing partner with one ball.

### Instruction

- Jump off both feet turning 90° to right.
- Land in good technique landing position before immediately returning to starting position catching overhead pass on return.
- Repeat to left.
- 5 jumps each direction.





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## **MODIFIED TUCK JUMPS AND PAUSE**

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### Starting Position

- Start in the good technique take off position.

### Instruction

- Jump and land repeatedly on the spot.
- Lifting knees as high as you can in front.
- 5 jumps.

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## **DECELERATION TECHNIQUE**

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## **SLIDING SHUFFLE**

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### Starting Position

- Spread out along the goal line.

### Instruction

- Drive forwards 4-5 steps before decelerating over multiple steps to run backwards 5 steps.
- Change direction to repeat running forwards/backwards to halfway.
- Alternate the leg that you push off from.
- 2 x 1/2 court.

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## **PREDICTED CHANGE OF DIRECTION**

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## **ZIGZAG RUN**

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### Starting Position

- Form two lines on the goal line.

### Instructions

- Drive forwards to the right 4-5 steps.
- Then decelerate to plant outside foot and change direction to drive forwards to left.
- Repeat to half way.
- Defensive shuffle (below) on return.
- 2 x 1/2 court.

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## **DEFENSIVE SHUFFLE**

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### Starting Position

- Form two lines on the goal line.

### Instruction

- Sit backwards into semi squat position.
- Perform x 2 repeated diagonally backwards sidesteps in semi squat position.
- Keep arms overhead.
- Continue to goal line.
- Combine with Zig Zag Running.
- 2 x 1/2 court.

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## **LATERAL SHUFFLE**

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### Starting Position

- Athletes line up behind each other down the middle of goal third.
- Start compact and balanced in semi squat position with fast feet.

### Instruction

- On coaches command remain in semi squat position,
- Rapidly side step right,
- 5 steps before changing direction to return to the middle,
- Repeat to left.
- 3 in each direction.

# NETBALL KNEE PROGRAM (JUNIOR)

## WARM UP

Perform all exercises

### Jogging



- Jog forwards and then backwards to ½ court from the base line
- X 2 reps

### Butt kicks



- Heel kicks to ½ court
- X2 reps

### High knees



- High knees to ½ court
- Opposite arms and legs
- Push up through toes to spring into the air
- X2 reps

### Side stepping



- Side skip in a semi squat position to ½ court
- X2 reps

### Fast feet



- Fast feet, 2 steps forwards and 2 backwards over sideline
- x10 reps left leg first
- x10 reps right leg first

## STRENGTH

Perform all exercises

### Squat



- Bend hips and knees to squat backwards
- 2x12reps

### Bridges



- Lying on your back with knees bent and lift bottom up and down
- 2x12 reps.

### Plank



- Push through forearms and knees to lift your body off floor
- 2x30sec

### Side Plank



- Push through forearms and knees lift body up off the floor into a straight position
- 2x30sec

## BALANCE/LANDING

Perform 4 exercises in total

## SINGLE LEG ACTIVITIES

### Partner push



- Stand on one leg and push partner off balance
- 30sec each leg

### Partner Passes



- Hold your balance and pass the ball
- X10 passes each leg

### Ball Rolls



- Roll ball around body and legs, overhead etc while maintaining balance
- 30 sec each leg

### Single leg balance



- Balance while moving arms and legs in various directions.
- 30sec each leg

### Side step



- Jump from one leg and land on the other
- +/- ball x10

### Side jumps









- Jump off both feet diagonally and land on one foot. Repeat in a zigzag pattern.
- Repeat going backwards.
- +/- ball X10

### 2 leg jump 1 leg land



- Jump off 2 legs and land on one leg.
- Focus on good landing technique
- X10


## DOUBLE LEG ACTIVITIES AND REPEATED EFFORTS

<p><b>Jumping forwards and backwards</b></p>  <ul style="list-style-type: none"> <li>• Jump from one leg and land on the other</li> <li>• +/- ball x10</li> </ul>	<p><b>Jumping in all directions</b></p>  <ul style="list-style-type: none"> <li>• Diagonally, forwards &amp; backwards</li> <li>• Jump off both feet diagonally and land on one foot. Repeat in a zigzag pattern</li> <li>• +/- ball X10</li> </ul>	<p><b>Jump and rotate 90°</b></p>  <ul style="list-style-type: none"> <li>• Focus on good landing technique</li> <li>• X10</li> </ul>	<p><b>Repeated crosses</b></p>  <ul style="list-style-type: none"> <li>• Jump forwards twice, and then jump back again. Repeat in each direction</li> <li>• +/- ball X10</li> </ul>	<p><b>Repeated x3 side step</b></p>  <ul style="list-style-type: none"> <li>• Take 3 sideways steps Hold the 3rd landing and repeat to the other direction</li> <li>• +/- ball X5 each direction</li> </ul>	<p><b>Modified Tuck Jumps</b></p>  <ul style="list-style-type: none"> <li>• Jump and land on the same spot</li> <li>• X10</li> </ul>
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## AGILITY

Perform 4 exercises in total

## DECELERATION AND ANTICIPATED CHANGE OF DIRECTION

<p><b>Sliding Shuffle</b></p>  <ul style="list-style-type: none"> <li>• Drive forwards 4-5 steps before decelerating over multiple short steps</li> <li>• Run backwards 5 steps</li> <li>• Alternate the leg that you push off from.</li> <li>• 2x ½ court</li> </ul>	<p><b>Defensive Shuffle</b></p>  <ul style="list-style-type: none"> <li>• Perform x2 sidesteps diagonally backwards in semi squat position</li> <li>• 2x ½ court</li> </ul>	<p><b>Lateral Shuffle</b></p>  <ul style="list-style-type: none"> <li>• Rapidly side step right x5 steps before changing direction to return to the middle</li> <li>• Repeat to left.</li> <li>• x3 each direction.</li> </ul>	<p><b>Zig-Zag Run</b></p>  <ul style="list-style-type: none"> <li>• Drive forwards to the right 4-5 steps</li> <li>• Quickly decelerate and change direction and drive to the left</li> <li>• 2x ½ court.</li> </ul>
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## FOLLOW ON STEP AND NETBALL PLANE DRILLS

<p><b>Forward Run On</b></p>  <ul style="list-style-type: none"> <li>• Run forwards to catch ball</li> <li>• Do one step on and back peddle to start</li> <li>• x2 reps each leg</li> </ul>	<p><b>V Drill (change direction)</b></p>  <ul style="list-style-type: none"> <li>• Have 2 players drive diagonally to opposite corners of transverse line and decelerate over 3-4 steps before changing direction to return to start position</li> <li>• x2 reps each direction</li> </ul>	<p><b>V Drill (decelerate)</b></p>  <ul style="list-style-type: none"> <li>• Have 2 players drive diagonally to opposite corners of transverse line and decelerate over 3-4 steps to stop</li> <li>• x2 reps each direction</li> </ul>
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