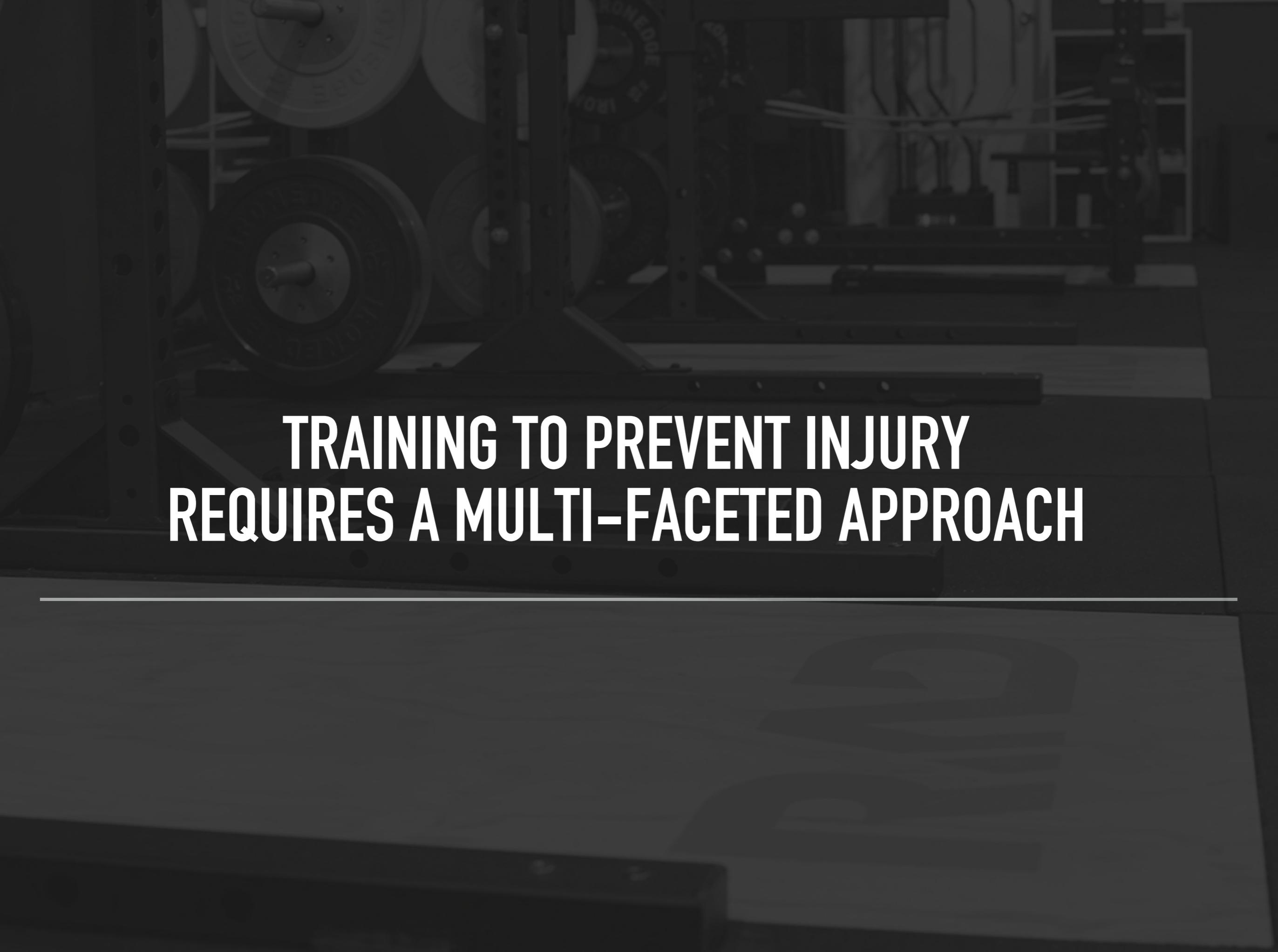


TRAINING TO PREVENT INJURY

CHRIS RADFORD

RAM



**TRAINING TO PREVENT INJURY
REQUIRES A MULTI-FACETED APPROACH**

SESSION OUTLINE

- ▶ Warm up protocols
- ▶ Training load - Periodisation
- ▶ Strength and power standards
- ▶ Injury prevention exercises
- ▶ Performance vs Prevention

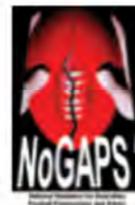
WARM UP PROTOCOLS

- ▶ As we all know warming up pre training or game is crucial in helping to reduce the risk of injury.
- ▶ The AFL have helped put together two fantastic resources that are free to download and use at local sporting clubs.
- ▶ Both resources are perfect for when the club doesn't have access to a strength and conditioning coach to take a thorough warm up.



**A training program to
prevent leg injuries in
community
Australian Football**

FootyFirst is designed to reduce leg injuries in community football. It is based on the latest and best scientific evidence.



- ▶ 5 level progressive exercise program
- ▶ Exercises increasing in difficulty over 20 weeks
- ▶ Focussing on reducing hip / knee / ankle injuries
- ▶ Approx 20minutes to complete pre training

LEVEL 1

Do FootyFirst Warm Up exercises first

AFL
WEEKS 1-4



Hamstring lower



→ Player kneels with a partner holding his ankles



Fall slowly

→ Slowly lean forward from the knees with hands by the side; keep the body as straight as possible for as long as possible before falling forward onto the hands



6
reps

→ To get back to the start position, push up with the hands rather than using the hamstrings

Ball squeeze



5
reps

- Lie on the back with the knees bent at 90°
- Place a ball between the knees and squeeze as if trying to squash the ball
- Tempo – 2-2-2 (2 second contraction, 2 second hold, 2 second release)
- Do 5 repetitions with 5 second rest between repetitions
- Repeat with the legs straight and the ball between the knees



5
reps

Side plank



- Lie on the side with one leg on top of the other; distribute the body weight evenly over the forearm
- Raise the hips and the top arm simultaneously to achieve a straight body
- Exercise Tempo – 2-2-2 (2 seconds to raise, 2 second hold, 2 seconds to lower)
- Lower arm and hips to floor simultaneously



5
reps
each
side

Single leg balance

- Two players stand about 3 m apart, both balancing on one leg
- Players handball to each other while maintaining balance
- Perform 12 handballs, alternating hands (6 right hand, 6 left hand)
- Repeat while balancing on the other leg



12
reps
each leg

Single leg shallow squat

- Two players stand about 1 m apart both balancing on one leg with one hand on each other's shoulder; both perform shallow (>90°) single leg squats
- Move about 3 m apart, balance on one leg and perform single leg squat
- Balance on one leg, facing each other, and do a single leg squat after receiving a handball from their partner
- 6 handballs, alternating hands (3 right and 3 left)
- Repeat on the other leg



6 reps each leg x 3 exercises

PREP TO PLAY FOUNDATION WARM-UP PROGRAM



**Recommended for first time participants
or those without exposure to a dynamic
warm-up program**

3 Parts

1. Mobility (5 mins)
2. Movement skills (5 mins)
3. Strength & activation (10 mins)

Every training session

Go to coach.afl for game-day warm up poster

6-8 Weeks

Then progress to Development program

**Enhance
performance**



**Reduce
injury by
up to 50%***

*based on similar programs

<https://coach.afl/prep-play-warm>

- ▶ 3 part warm up protocol
- ▶ 3 different levels to progress through depending on the athletes ability
- ▶ Approx 20min to complete

PREP TO PLAY FOUNDATION WARM-UP PROGRAM



Following Part 1, the warm up should include 5-10 minutes of movement skills and strength exercises



→ Deceleration and change of direction ACL injury mechanism



→ Landing on one leg ACL injury mechanism

Over 50% of serious knee injuries occur in position when decelerating and changing direction, or landing on one leg.

Part 2 Movement Skills

1. Jumping and landing 2. Deceleration 3. Change of direction

Jumping & Landing

Jump higher, be stronger in the air and land with balance.



SQUAT JUMPS

Squat, then jump up high, land in an athletic stance (bending at knees and hips). Keep knees in line with hips.

2 x 5 sets



Land in athletic stance



FORWARD JUMP

Jump forwards as far as you can, landing in athletic stance.

5x repetitions



Hip and knee collapse

Deceleration

Quick feet, respond to play, prepare for skills.



DOUBLE LEG STOP

Get low & use short quick steps to come to a stop at the 4th cone. Accelerate, repeat at last cone. Finish in athletic stance on 2 legs.



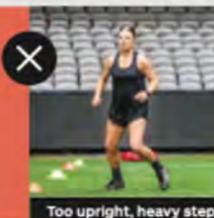
Busy feet & get low



SINGLE LEG STOP

Get low & use short quick steps. Finish in athletic stance on one leg.

1x each side



Too upright, heavy steps

Change of direction

Get low, dodge players and improve agility.



S-BENDS

Weave around, keeping close to the cones. Keep movements smooth & subtle.

Repeat 2x



45° ZIG-ZAG CUTS

Using short quick steps, get low and use outside leg to plant & push off.

Repeat 2x. Ensure body is leaning towards where you want to go like an ice-skater.



Over-striding too upright

Part 3 Strength (10 mins)

Can be performed prior to movement skills, or at the end of training. Can be player or coach led. If athletes are unable to do the full amount, let them have short break.



SQUATS

Keep knees in line with hips, bend hips & knees. Lower bottom to the ground like sitting on a low chair. Harder: hands above head.

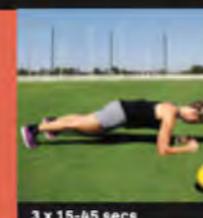
3 x 8-15 repetitions



BRIDGES

Lift your bottom off the ground as high as you can, pushing through your heels. Harder: hands across chest.

3 x 8-15 repetitions



PLANK

Hold your body by leaning on your elbows and feet. Keep your body straight and head tucked in.

3 x 15-45 secs

TRAINING LOAD

While following a well periodised program it is important to track some key variables and make sure their targets are being met:

- ▶ High speed running (*approx 30% of total session*)
- ▶ Change of direction
- ▶ Total volume
- ▶ Contact
- ▶ Kicking distance/volume

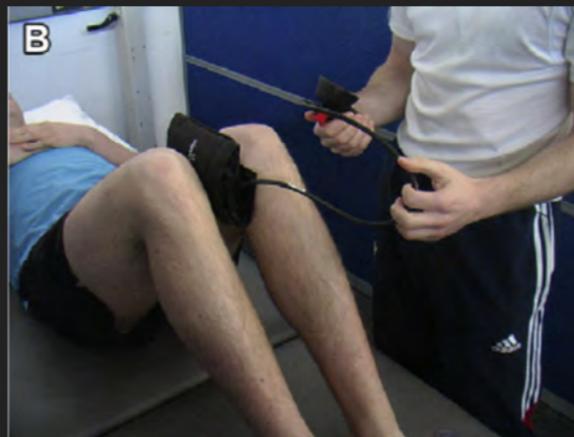


STRENGTH / POWER STANDARDS

- ▶ Eccentric hamstring strength - $<279\text{N}$ = Increase risk of injury (*Opar et al, 2014*)



- ▶ Adductor squeeze test - 45degree hip flexion - $<200\text{mmhg}$ = Increased risk of injury (*Delahunty et al, 2011*)



STRENGTH / POWER STANDARDS

As a general rule:

- ▶ 1.5 x body weight for Upper body (Bench press, Bench pull)
- ▶ 2 x body weight for Lower body (Squat, deadlift)

INJURY PREVENTION EXERCISES

A basketball player in a blue jersey is captured mid-air, jumping to shoot a ball. He is surrounded by other players in yellow jerseys, some of whom are also jumping. The background is a blurred indoor basketball court.

- ▶ Do play an important role - Need to stay on top of key areas - Hamstring (*hip and knee dominant movements*), Calf, Groin
- ▶ If there is a past injury history it is even more important - ACL - jump land work, Shoulder - extra strength and modified exercise selection

PREVENTION VS PERFORMANCE

- ▶ *Are we running a prevention program or a performance program?*



PREVENTION VS PERFORMANCE



- ▶ *In the world of high performance sport we need to be pushing boundaries as we try to maximise the athlete's abilities*

PREVENTION VS PERFORMANCE

- ▶ *In the pursuit of high performance there are going to be injuries.....*
- ▶ *The hard job is balancing the line between improving performance and pushing too hard and breaking down.*



PREVENTION VS PERFORMANCE

- ▶ *It is certainly important to keep in mind the “injury prevention exercises” as they have their time and place.*
- ▶ *Careful not to overload the athlete with 1000 different exercises*
- ▶ *A well planned high performance program will include these “IP” exercises in conjunction with the performance program.*

QUESTIONS:

- ▶ Contact details:
- ▶ chris.radford@radcentre.com.au

The logo for RAD, consisting of the letters 'RAD' in a bold, stylized, lime green font. The letters are thick and blocky, with a slight shadow effect. The background of the slide is a dark, grayscale image of industrial machinery, possibly a lathe or mill, with various components like wheels and metal parts visible.